AJAN

australian journal of advanced nursing

An international peer reviewed journal of nursing research and practice

35:1

THE AUSTRALIAN JOURNAL OF ADVANCED NURSING

The Australian Journal of Advanced Nursing aims to provide a vehicle for nurses to publish original research and scholarly papers about all areas of nursing. Papers will develop, enhance, or critique nursing knowledge and provide practitioners, scholars and administrators with well-tested debate.

The AJAN will:
- publish original research on all nursing topics
- publish original scholarly articles on all nursing topics
- process manuscripts efficiently
- encourage evidence-based practice with the aim of increasing the quality of nursing care
- provide an environment to help authors to develop their research and writing skills
- provide an environment for nurses to participate in peer review

Indexing
The AJAN is indexed in the CINAHL (Cumulative Index to Nursing and Allied Health Literature) Database, Current Contents, International Nursing Index, UnCover, University Microfilms, British Nursing Index, Medline, Australasian Medical Index and TOC Premier.

CONTENTS

AUSTRALIAN JOURNAL OF ADVANCED NURSING REVIEW PANEL: AUSTRALIA

AUSTRALIAN JOURNAL OF ADVANCED NURSING REVIEW PANEL: INTERNATIONAL

Graduate nurses' experience of feedback, support and anxiety: a pilot study

AUTHORS

Isabelle Gardiner
BNurs, BAppSc(Psych)(Hons)
Deakin University, 221 Burwood Highway
Burwood, Victoria, Australia
igga@deakin.edu.au

Dr Jade Sheen
B.App.Sc (Psych)(Hons), MClinFamTh, GCHE, DPsych(Health)
Deakin University, 221 Burwood Highway
Burwood, Victoria, Australia
jade.sheen@deakin.edu.au

KEY WORDS

feedback, support, graduate nurse, anxiety, experiences

ABSTRACT

Objective
The aims of this study were to investigate the association between feedback and anxiety, while also exploring the feedback and support experiences of graduate nurses.

Design
This study used a mixed methods approach.

Setting
Participants completed an online survey.

Subjects
The study included 107 Australian graduate nurses.

Main outcome measures
Anxiety and feedback.

Results
Using bivariate regression a negative relationship was identified between feedback and anxiety. Further analysis using one-way analysis of variance revealed that participants who received regular and quality feedback and support, reported the lowest anxiety. The second aim was assessed by reviewing participants' subjective comments regarding their experiences as graduate nurses. Results revealed high variability in feedback and support experiences. The data gathered suggests graduate nurses experience anxiety during their transition from university to professional nursing.

Conclusion
The provision of regular feedback and support was associated with reduced anxiety in graduate nurses. These preliminary findings highlight the importance of regular and appropriate feedback and support to facilitate learning, successful role transition and improved patient outcomes.

INTRODUCTION

It is well established that the transition to a new professional role can be difficult. This is particularly true for nursing graduates who have reported stress, disillusionment and anxiety related to their role transition from student to professional nurse (Duchscher 2009). After completing university and attaining registration, many first year graduate nurses (GNs) gain employment within a graduate nurse program (GNP). A GNP is intended to facilitate role transition and provide support to alleviate distress. Despite the objectives of these programs, many GNs continue to experience stress, emotional exhaustion, isolation, lack of support and concerns for their patients' safety. Support refers to the provision of assistance, guidance and responses to GNs needs by more senior nurses (Beecroft et al 2006). One component of support that has been reported to assist GNs is feedback. Feedback is defined as information provided to a student that describes their performance of a task. This information is intended to improve future performances (van de Ridder et al 2008; Ende 1983).

Literature Review

There is agreement that feedback is important, however, consensus regarding how best to deliver feedback is less clear (Nottingham and Henning 2014). Ende (1983) stated that feedback is crucial to the learning process, and with practice, is not hard to implement.
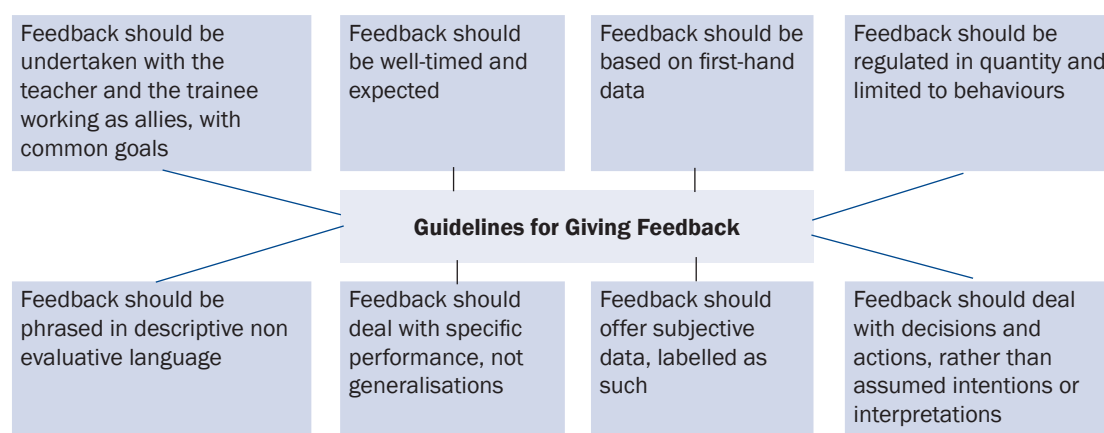
Figure 1: Ende's guidelines for giving feedback; Source: Ende, J. 1983.

These guidelines have been fundamental to research in the area of feedback and are used in a range of disciplines (Grover et al 2014; Nottingham and Henning 2014; van de Ridder et al 2008).

Consistent with Ende's guidelines, Duchscher (2009) stated that new nurses need frequent and regular feedback to help them develop professionally and reinforce their practice. Haggerty et al (2013) found that when GNs received support and appropriate feedback, not only were there improvements in GNs confidence and job satisfaction, but there were also improved patient outcomes. This is consistent with other reports of improved patient care when GNs received regular feedback and support from experienced nurses (Lewis and McGowan 2015; Pineau Stam et al 2015; Horsburgh and Ross 2013; Ferguson 2011; Martin and Wilson 2011; Johnstone et al 2008).

Ende (1983) noted that the absence of feedback can lead to errors and mistakes remaining unchanged, and good performance not being reinforced, thus hindering the transition to expert clinician. This delayed transition is often described in nursing literature, where GNs reported they lacked sufficient feedback during their GNPs (Parker et al 2014; Phillips et al 2014; Saghafi et al 2012; Duchscher 2009; Wangensteen et al 2008). Feedback may also have the potential to reduce disillusionment and anxiety associated with the transition to a new role (Duchscher 2009). Feelings of inadequacy and lacking confidence in one's nursing

performance can increase stress and anxiety, which in turn can lead to emotional exhaustion and ultimately resignation from the profession (Scott et al 2008).

Not only is feedback important for the individual GN, it may also be essential to promoting patient safety. The early months after graduation are associated with the highest rates of clinical errors for GNs (Martin and Wilson 2011; Saintsing et al 2011). Lack of feedback and unaddressed errors, can be harmful to patients and costly for hospitals (Cantillon and Sargeant 2008; Grover et al 2014). Feedback appears fundamental to supporting GNs. The provision of regular feedback also appears important to professional development, reduction of anxiety, and promotion of patient safety. While qualitative studies have noted incidental findings that feedback is important for GNs, there is a dearth of literature focused on GN's feedback experiences.

The aims of this pilot study were:

1. To explore the relationship between feedback and anxiety.

2. To investigate GNs experiences of feedback and support during their GNP.

METHOD

Participants were required to be a GN currently employed in a GNP in Australia, or have completed a GNP in Australia within the last two years.

Participants were recruited using a passive snowballing method via the social media site, Facebook. Participation was voluntary and anonymous with ethical approval from Deakin University HEAG. Recruitment was also aided by sending emails at two intervals, to a list of Alumni Bachelor of Nursing graduates, from the university where the study took place.

Participants were 107 registered nurses (female, n=101; males, n=6). Participants in this study were either currently undertaking a GNP (2015, n=37), or had completed one up to two years prior to participating in the study (2013, n=25; 2014, n=45); Participants ages were varied with 52% between 20-24 years. The majority of participants, (87%) completed a GNP within the public system. And (54%) of the sample had completed their GNP fulltime (40 hours per week).

The survey consisted of three sections, and included a total of 107 self-report questions.

Section A
This included ten questions addressing demographics and information regarding participants' GNP.

Section B
As no previous inventory to measure the variables of feedback and support in a quantitative way existed, the Experiences of Feedback and Support Instrument (EFSI) was developed. Questions were based on existing literature and were piloted for their face validity. The final EFSI had 57 questions. As this was a pilot of the instrument, a comments section was included to gain qualitative data from participants. Full details of the instrument development methodology is yet to be published. The authors are available to be contacted regarding further information about the instrument.

Section C
This section required participants to complete the State Trait Anxiety Inventory (STAI), (Spielberger et al 1983). The STAI consists of two sections, each containing 20 questions. These two sections measure participants' feelings at the time of the survey (state anxiety), while also measuring how participants generally feel (trait anxiety). Strong reliability (0.65 - 0.75) and construct validity have been shown for the STAI (Spielberger et al 1983). Participants were required to self-report using a 4-point Likert scale (1=Not at all; 2=Somewhat;

3=Moderately so; 4=Very much so) with the higher the score denoting higher levels of anxiety (Spielberger et al 1983).

Participants completed an anonymous online survey consisting of the three sections (repetitive). After collecting data, statistical analyses were conducted using SPSS Version 22. Additional data from the comments were (data is plural) hand sorted for predominant themes. Individual scores for the separate variables were added to create total scores for EFSI, state anxiety and trait anxiety.

FINDINGS

Relationship Between Anxiety and Feedback

A bivariate regression was used to test the hypothesis of the relationship between feedback and anxiety. The results are presented in table 1. Separate analyses were run for state and trait anxiety, as they measure different constructs. Although the total amount of variance explained by EFSI score was not large, it did show a significant medium negative relationship between anxiety and EFSI scores, as determined by $r > .30$ (Field 2014). This suggests that as the positive feedback experiences increase, anxiety decreases.

Table 1: Regression Analysis between Anxiety and EFSI Scores

Anxiety	β	R square	F value	p value
STATE	-.32	.10	11.88	<.001
TRAIT	-.34	.12	3.72	<.0001

To further explore this relationship, separate one-way ANOVAs were completed to determine if and where differences existed. For this analysis, cut offs were applied to EFSI scores to create three categories for this variable. Low feedback was defined as scores <128 (n=31) and included participants responses that disagreed or strongly disagreed with all questions and those who agreed with less than a quarter. Moderate feedback was defined as scores between 129 up to 155 (n=43); this included participant's responses that agreed with more than a quarter to 75% of questions. Finally, high feedback was defined as scores >156 (n=33). This would have been the score achieved if the participant agreed with more than 75% of the 57 items where each item was on a 4 point Likert scale. Mean anxiety scores from the ANOVA analysis are presented in table 2.

Table 2: Mean Anxiety Scores From ANOVA

	STATE		TRAIT	
Level of feedback	M	SD	M	SD
LOW	38.77	13.67	39.54	10.64
MODERATE	39.13	9.92	41.20	8.29
HIGH	32.32	10.18	33.63	9.63

State anxiety

A one-way ANOVA revealed there was a significant effect of feedback on state anxiety, $F_{(2, 104)} = 4.04$, $p=.02$, $=.07$. Using Cohen's criteria we can see that this is a small effect size (.01-.09). A Tukey post hoc test revealed that state anxiety score was statistically significantly higher in participants receiving moderate feedback compared to those who received high amounts of feedback ($p=.03$). There were no statistically significant differences found between the low and moderate feedback groups ($p=.99$) or low and high feedback groups ($p=.06$).

Trait Anxiety

A one-way ANOVA indicated there was also a significant effect of feedback on trait anxiety, $F_{(2, 104)} = 6.33$, $p=.003$, $=.11$. Using Cohen's criteria we can see this is a moderate effect size (.09-.25). A Tukey post hoc test revealed that trait anxiety score was statistically significantly higher in the moderate feedback group compared to the high feedback group ($p=.002$). Anxiety scores were also statistically significantly higher in the low feedback group compared to the high feedback group ($p=.04$). No statistically significant difference was found between the low feedback and the moderate feedback groups ($p=.74$).

Graduate Nurse Experiences of Feedback and Support

Specific questions from the EFSI that tapped directly into Ende's (1983) elements of feedback revealed trends that provided an indication of GNs experiences of feedback and support. These trends were assessed alongside the subjective comments (n=43). These comments revealed insights into GNs experiences of feedback and support. Recurrent and similar comments are presented here as two themes; 1) variation in the feedback GNs received and 2) the availability of staff to provide support.

Variation in feedback

It was evident there was high variability in feedback experiences, with many participants reporting vastly different experiences in the amount of feedback and support in different locations. One participant expressed this variation as:

> *In my first rotation I felt very much a part of the team… On my second rotation it was completely the opposite. All of the grads (8 of us) felt isolated and belittled…(Participant 52).*

Encouragingly, some GNs reported an abundance of support and feedback that helped them understand their role and improve their practice. GNs commented on how feedback helped them recognise gaps in their knowledge that led to improved performance and increased confidence. One participant stated:

> *…feedback was great, almost every day we had our educators floating around, reading our assessments, telling us how we can improve and how to better assess our patient…(Participant 44).*

The importance of feedback was highlighted by participants' responses to EFSI item 46 which asked whether: "Receiving feedback made me feel supported", to which 87% of participants agreed. Having goals is an important part of the feedback process, and 57% of participants reported their goals were regularly reviewed with their supervisor. Results indicated 52% of participants reported receiving regular feedback regarding their progress and performance. Some GNs reported receiving harmful feedback. This appeared to occur when feedback was given in a rude manner or in inappropriate locations, such as in public:

> *I had feedback by a senior staff member inappropriately in front of a patient which caused huge embarrassment… (Participant 71).*

I was once yelled at in front of a lot of staff in the nurses station... (Participant 2).

While these incidents were not the majority, (as 72% of participants reported receiving feedback in appropriate locations, it is concerning for the GNs to whom this did occur.

Responses from participants indicated that receiving judgmental feedback related to a participant's personality rather than their nursing performance was very damaging. GNs commented on the lasting negative feelings this provoked and the devastating impacts on their confidence:

Some negative feedback made me feel inadequate as a nurse (Participant 71).

The feedback I received was not constructive, more of criticisms and comparisons to my peers (Participant 2).

Conversely, many participants commented that respectful and constructive feedback made them feel supported by the nursing staff. This is reflected in 66% of participants reported that the feedback they received was descriptive of their performance. It was encouraging to find that 84% of participants reported receiving feedback in a respectful and supportive way.

...Feedback was given on specific tasks immediately after completion and the feedback was very focused...(Participant 78).

Availability of support

There were several comments relating to GNs being unable to find someone to help them. Numerous participants reported that other nurses were "too busy" to help them and further felt unable to ask for assistance or support when needed. This was stated as:

I asked for help on many occasions with tasks I was unfamiliar with, and most times ward staff would not help me because they were too busy (Participant 2).

Grads were left to their own devices to either sink or swim (Participant 80).

This was supported by 54% of participants who reported they lacked support during their GNP. This theme in particular, highlighted GNs need for clarification and assistance in managing complex and acutely unwell patients. This theme emphasised the potential risk to patients and how this can be a stressor for GNs who do not receive the appropriate support to care for them. This can lead to mistakes and errors in patient care:

I was not orientated, I was basically left on my own to manage patients of a surgical specialty even though I constantly asked and told staff I needed help and wasn't confident...(Participant 65).

The only time I received feedback was when I made a serious mistake, and I feel like it could have been prevented if I had more support (Participant 28).

Timing of feedback can influence its effectiveness; results here were mixed with 50% of participants reporting that the feedback they received was immediately after performing a task. Multiple GNs commented on the absence of supervision, and having to rely on their own assessments of their performance, as they did not

receive any feedback. There appeared to be an unsaid rule, that is, no feedback means you are doing well. One GN describes how this eventuated:

I was also told by other nurses that the fact I was often put in rooms at the end of the ward where I couldn't be observed, meant that I was doing a good job... (Participant 59).

Another concerning finding was the overall culture and environments GNs worked in. Participants reported negative environments including feeling excluded and described some nurses as being "clicky" or "bitchy". It was worrying to note that some GNs reported bullying and experienced depression due to lack of support. Just over half (51%) of the participants acknowledged experiencing stress as a result of insufficient support. Overall ward culture also impacted on GNs experiences:

The feedback I received reflected the lack of support and bitchy nature of the ward (Participant 88).

A great deal of the staff, throughout the hospital, appeared to be disgruntled and I heard several on my ward complain about their job and not wanting to be there... after a short while I tended to feel the same (Participant 80).

DISCUSSION

This study aimed to explore GNs experiences of feedback and support. In particular this study aimed to investigate if there was a relationship between anxiety and the feedback and support GNs received. Results indicated that high levels of feedback and support were needed, (as opposed to low and moderate levels), in order to be effective.

These results were supported by the comments from the survey that provided subjective information on GNs feedback and support experiences. While participants reported the supportive benefits of feedback, almost half reported not receiving feedback frequently enough. These findings resonate with previous research that found GNs reported receiving minimal amounts of feedback during their GNP (Parker et al 2014; Phillips et al 2014; Saghafi et al 2012; Duchscher 2009; Wangensteen et al 2008). These results are also supported by findings that GNs experience heightened anxiety in the absence of feedback (Marks-Maran et al 2013; Ostini and Bonner 2012; Wangensteen et al 2008). These principal findings revealed that GNs were reporting higher anxiety compared to the general Australian population (Crawford et al 2011). However, it was found that when GNs received positive feedback and support experiences, their reported anxiety was lower than the general population's anxiety levels. For feedback to be effective at reducing anxiety, large amounts of feedback are needed, as moderate amounts of feedback were still associated with high anxiety. This is consistent with previous research where GNs were requesting frequent and regular feedback to assist them in feeling supported and improving their ability to care for patients (Parker et al 2014; Saghafi et al 2012; Duchscher 2009). This could be linked to existing literature which reports that despite supervisors reporting they gave feedback, this same feedback was often not recognised by novices as feedback, and so was not effective in improving practice (Watling and Lingard 2012; Cantillon and Sargeant 2008; Clynes and Raftery 2008; van de Ridder et al 2008). It is possible that GNs are not recognising feedback, or potentially, feedback is provided in an unclear manner. There is literature suggesting feedback needs to be clearly labelled as feedback before it is provided in order for the student to understand the intended message (van de Ridder et al 2008). Such initiatives are recommended and supported by these results.

Participants reported how receiving feedback in inappropriate locations or in a way they perceived to be disrespectful caused significant distress. Previous research has emphasised the importance of timing, location and approach to provision of feedback in determining the effectiveness (Nottingham and Henning 2014a). If feedback is delivered abruptly or unexpectedly, it can be detrimental to a GNs confidence (Haggerty et al 2013; Wangensteen et al 2008). Comments also revealed GNs problematic experiences of trying to find support or help, with some participants reporting a lack of supervision and minimal opportunities to be observed. These findings are consistent with previous studies which found GNs reported problems in finding senior nurses to supervise and support them, with many GNs perceiving other nurses as unavailable or disinterested (Parker et al 2014; Saghafi et al 2012; Johnstone et al 2008; Beecroft et al 2006). This is concerning as accurate feedback is dependent on the observation of a behaviour or action (Grover et al 2014; van de Ridder et al 2008; Ende 1983).

The present findings add to existing literature investigating the variation of feedback and support experiences on different wards. These results add to the discussion on the benefits and disadvantages of rotations during GNPs. Some participants reported wards being complete opposites in terms of available support. This is similar to previous research that found GNs reported feeling like they were 'starting again' each rotation which was anxiety provoking (Johnstone et al 2008). The findings from the comments exploring feedback and support experiences appeared dependent on the ward environment. Experiences were highly variable; with some GNs forming strong relationships with other nurses while other participants experienced isolation and were bullied. One key element in the feedback process is the importance of the relationship between a novice and the supervisor (Watling and Lingard 2012; Cantillon and Sargeant 2008; Clynes and Raftery 2008).

LIMITATIONS

The greatest confound of this study was the lack of an existing inventory to measure feedback and support. The option to participate and leave comments was voluntary. This can lead to a disproportionate amount of participants selecting themselves to participate based on personal experiences of significant stress or anxiety. This could potentially be unrepresentative of the general nursing population. It may be useful for future ESFI to include the option to answer each question separately for different rotations as vast differences were reported. This tool requires further use in larger samples which will allow for more rigorous psychometric testing of validity.

CONCLUSION

This study found that frequent and positive feedback and support experiences are associated with lower anxiety levels in GNs. There are no current standards, guidelines or requirements for the amount of support or feedback GNs should receive; it is left to the discretion of each ward. Although GNs may remain in the same hospital throughout their GNP, wards vary significantly in the culture and degree to which the environment is supportive. Further research is needed to investigate how much feedback is optimal which may then lead to more effective ways to support GNs. Additional research may allow recommendations and policies to be created that guide education and orientation programs. GNs who feel supported and receive regular feedback report lower anxiety levels. An improved culture of support, which includes high levels of regular feedback for our novice professionals, is needed in our hospitals in order to improve GNs transitions. The benefits of this include reductions in anxiety and intentions to leave the nursing profession while, importantly, leading to safer patient care.

RECOMMENDATIONS

GNs may benefit from ward staff and educators being reminded of the importance of feedback and additional training in providing it. Positive feedback experiences might play out as presented in the following example. A GN receives information from a supervisor, (a senior nurse), in an appropriate location, (not in front of patients or other people). The information is respectful and descriptive of a specific performance, such as a patient assessment. It should occur immediately after the performance, and occur on a regular basis that allows the GN's goals to be reviewed and achieved.

REFERENCES

Allen, E. and Seaman, C.A. 2007. Likert Scales and Data Analyses. Retrieved from http://asq.org/quality-progress/2007/07/statistics/likert-scales-and-data-analyses.html/ (accessed 01.10.15).

Beecroft, P.C., Santner, S., Lacy, M.L., Kunzman, L.and Dorey, F. 2006. New Graduate Nurses' Perceptions of Mentoring: six-year programme evaluation. *Journal of Advanced Nursing* 55(6):736-747.

Cantillon, P. and Sargeant, J. 2008. Giving feedback in clinical settings. British Medical Journal (Clinical Research Ed.), 337:a1961-a1961.

Clynes, M. P. and Raftery, S.E.C. 2008. Feedback: an essential element of student learning in clinical practice. *Nurse Education in Practice,* 8(6):405-411.

Crawford, J., Cayley, C., Lovibond, P.F., Wilson, P.H. and Hartley, C. 2011. Percentile Norms and Accompanying Interval Estimates from an Australian General Adult Population Sample for Self-Report Mood Scales (BAI, BDI, CRSD, CES-D, DASS, DASS-21, STAI-X, STAI-Y, SRDS, and SRAS). *Australian Psychologist*, 46(1):3-14.

Duchscher, J.E.B. 2009. Transition shock: the initial stage of role adaptation for newly graduated Registered Nurses. *Journal of Advanced Nursing,* 65(5):1103-1113.

Ende, J. 1983. Feedback in clinical medical education. *Journal of the America Medical Association,* 250(6):777-781.

Ferguson, L.M. 2011. From the perspective of new nurses: what do effective mentors look like in practice? *Nurse Education in Practice, 11*(2):119-123.

Field, A. 2014. Discovering statistics using SPSS. Sage: London.

Grover, B., Hayes, B.D.and Watson, K. 2014. Feedback in clinical pharmacy education. *American Journal of Health-System Pharmacy,* 71(18):1592-1596.

Haggerty, C. Holloway, K.and Wilson, D.2013. How to grow our own: An evaluation of preceptorship in New Zealand graduate nurse programmes. *Contemporary Nurse,* 43(2):162-171.

Horsburgh, D. and Ross, J. 2013. Care and compassion: the experiences of newly qualified staff nurses. *Journal of Clinical Nursing, 22*(7/8):1124-1132.

Johnstone, M. Kanitsaki, O. and Currie, T. 2008. The nature and implications of support in graduate nurse transition programs: an Australian study. *Journal of Professional Nursing,* 24(1):46-53.

Lewis, S. and McGowan, B. 2015. Newly qualified nurses' experiences of a preceptorship. *British Journal of Nursing,* 24(1):40-43.

Marks-Maran, D., Ooms, A., Tapping, J., Muir, J., Phillips, S. and Burke, L. 2013. A preceptorship programme for newly qualified nurses: A study of preceptees' perceptions. *Nurse Education Today,* 33(11):1428-1434.

Martin, K. and Wilson, C.B. 2011. Newly Registered Nurses' Experience in the First Year of Practice: A Phenomenological Study. *International Journal for Human Caring, 15*(2):21-27.

Nottingham, S. and Henning, J. 2014. Feedback in Clinical Education, Part I: Characteristics of Feedback Provided by Approved Clinical Instructors. *Journal of Athletic Training (Allen Press),* 49(1):49-57.

Nottingham, S. and Henning, J. 2014. Feedback in Clinical Education, Part II: Approved Clinical Instructor and Student Perceptions of and Influences on Feedback. *Journal of Athletic Training (Allen Press)*, 49(1):58-67.

Ostini, F. and Bonner, A. 2012. Australian new graduate experiences during their transition program in a rural/regional acute care setting. *Contemporary Nurse: A Journal for the Australian Nursing Profession*, 41(2):242-252.

Parker, V., Giles, M., Lantry, G. and McMillan, M. 2014. New graduate nurses' experiences in their first year of practice. *Nurse Education Today, 34*(1):150-156.

Pineau Stam, L.M., Spence Laschinger, H.K., Regan, S. and Wong, C.A. 2015. The influence of personal and workplace resources on new graduate nurses' job satisfaction. *Journal of Nursing Management, 23*(2):190-199.

Phillips, C., Kenny, A., Esterman, A. and Smith, C. 2014. A secondary data analysis examining the needs of graduate nurses in their transition to a new role. *Nurse Education in Practice,* 14(2):107-111.

Saghafi, F., Hardy, J. and Hillege, S. 2012. New graduate nurses' experiences of interactions in the critical care unit. *Contemporary Nurse: A Journal for the Australian Nursing Profession,* 42(1):20-27.

Saintsing, D., Gibson, L.M. and Pennington, A.W. 2011. The novice nurse and clinical decision-making: how to avoid errors. *Journal of Nursing Management,* 19(3):354-359.

Scott, E.S., Engelke, M.K. and Swanson, M. 2008. New graduate nurse transitioning: necessary or nice? *Applied Nursing Research,* 21(2):75-83.

Spielberger, C., Gorsuch, M.L., Lushene, R., Vagg, P.R. and Jacobs, G.A. 1983. Manual for the State-Trait Anxiety Inventory for Adults: Sampler set. *Mind Garden Consulting Psychologist Press, Inc.*

van de Ridder, J.M.M., Stokking, K.M., McGaghie, W.C. and ten Cate, O.T.J. 2008. What is feedback in clinical education? *Medical Education* 42(2):189-197.

Wangensteen, S., Johansson, I.S. and Nordström, G. 2008. The first year as a graduate nurse - An experience of growth and development. *Journal of Clinical Nursing,* 17(14):1877-1885.

Watling, C.J. and Lingard, L. 2012. Toward meaningful evaluation of medical trainees: the influence of participants' perceptions of the process. *Advances In Health Sciences Education: Theory And Practice,* 17(2):183-194.

Potential drug–drug interactions in children with acute lymphoblastic leukaemia: a cohort study

AUTHORS

Daiana Carvalho Soccal
RN, MSc
University Hospital of the Federal University of Santa
Maria, 1000 Roraima Avenue, Rio Grande do Sul, Brazil
daiana.soccal@hotmail.com

Wendel Mombaque dos Santos
RN, PhD
University Hospital of the Federal University of Santa
Maria, 1000 Roraima Avenue, Rio Grande do Sul, Brazil
wendelmombaque@hotmail.com

Prof Marli Matiko Anraku de Campos
PHAR, PhD
Federal University of Santa Maria, Santa Maria,
Rio Grande do Sul, Brazil
marli.campos@ufsm.br

KEYWORDS

drug interaction; polypharmacy; precursor cell lymphoblastic leukaemia-lymphoma; neoplasms; paediatrics.

ABSTRACT

Objective
To evaluate the potential drug interactions in patients with acute lymphoblastic leukaemia in the remission induction period of treatment.

Design
A prospective cohort study.

Setting
A tertiary referral centre.

Subjects
Twenty-two children undergoing treatment for acute lymphoblastic leukaemia. The median age was 4.5 years (minimum of 1 and maximum of 18 years) with male predominance (54.4%).

Main outcome measure
Presence of potential drug interactions in patients undergoing treatment for precursor cell lymphoblastic leukaemia-lymphoma. The potential drug interactions term refers to the ability of a drug to affect the pharmacologic intensity as well as the therapeutic effect of another and cause adverse reactions, as well as the possibility of clinical manifestations.

Results
All participants were exposed to at least one potential drug interaction. About 60% of interactions classified as more severe. Every new drug included in the treatment increased the chance of potential drug-drug interactions by 0.4 times.

Conclusion
These results demonstrated the patients under chemotherapeutic care for lymphoblastic leukaemia-lymphoma have high potential for drug interactions of greater severity.

INTRODUCTION

After accidents, paediatric cancer is the second leading cause of infant mortality. About 1,250 children younger than 15 years old are expected to die from cancer in 2016. The acute lymphoblastic leukaemia accounts for 30% of all malignant neoplasms in children and 75% of all childhood acute leukaemia's (de Lima et al 2016; Jiménez de Samudio et al 2016; Cazé et al 2010).

The treatment period of acute lymphoblastic leukaemia is at least two years and is characterised by long periods of hospitalisation. In the first stage of treatment, named remission induction, patients undergo high-dose chemotherapy aiming for complete clinical remission of the cancer. Due to this treatment regimen, myelosuppression and other related clinical complications occur (Loghavi et al 2015; Pui et al 2015; You et al 2015).

The concomitant use of numerous medications is essential, making the incidence of polypharmacy inevitable. This is characterised by the use of five or more drugs generally used for the purpose of avoiding or reducing undesired effects and complications of treatment (Gillette et al 2015; Secoli 2010). The need to use polypharmacy makes it essential to assess potential drug–drug interactions (PDDI) related to its administration, as most drugs have interactive potential; this subject is not often discussed in the practice of health professionals (de Lima et al 2016; Sharifi et al 2014).

Drug interaction occurs when there is interference with the effect of a drug due to prior or concomitant administration of other drugs or food. Healthcare providers rarely consider potential drug interactions as a factor that may be responsible for ineffective therapy (Dai et al 2016; Miller et al 2015; Payne et al 2015).

Therefore, it is essential for the healthcare team to reflect on PDDI as they are responsible for the prescription and administration of medications, thus playing an important role in identifying potential drug interactions or reducing adverse reactions of these interactions (Dai et al 2016; Miller et al 2015; Payne et al 2015). Therefore, this study aimed to evaluate the potential drug interactions in children with acute lymphoblastic leukaemia in the remission induction period of treatment.

METHOD

This is a prospective cohort study conducted in the cancer centre at the University Hospital of the Federal University of Santa Maria, Santa Maria, Brazil, from April 2013 to April 2014. This is a reference centre in paediatric hemato-oncology for the southern region of Brazil. The study was approved by the Ethics Committee of the Federal University of Santa Maria.

A consecutive sample was composed of all patients with first hospitalisation during the data collection period, with confirmed diagnosis of acute lymphoblastic leukaemia. The choice of patients at first admission is justified by the fact that these patients are hospitalised for at least 30 days.

Data were collected daily by the researcher, using a questionnaire composed by demographics data, patient identification (name, age, and gender), data on hospitalisation (date of admission and length of stay), and information on prescription drugs (name, dose, route, administration times, and drug use time).

The dependent variable is the presence of PDDI. The PDDI term refers to the ability of a drug to affect the pharmacologic intensity as well as the therapeutic effect of another and cause adverse reactions, as well as the possibility of clinical manifestations (Secoli 2001).

Drugs were initially classified according to the Anatomical Therapeutic Chemical (ATC) of the World Health Organization, which allows active substances to be divided into different groups according to the organ or

system in which they operate and their therapeutic properties, both pharmacological and chemical. For the identification of PDDI, level 5 of the ATC, which corresponds to the chemical, was used (WHO 2013).

All drugs have been included for analysis of potential drug interactions, using the electronic database (Micromedex® Healthcare Series). This database allows the user to sort the potential drug interactions by second gravity, evidence, and onset of effect. Additionally, no description of the clinical impact of drug interactions is given (Hutchison et al 2003).

Descriptive statistics were used to present potential drug interactions. Linear logistic regression was used to obtain estimates of odds ratios (OR) and confidence intervals, with a significance level of $\alpha = 0.05$. Data analysis was performed using SPSS software (Version 21.0).

FINDINGS

The study included 22 children undergoing treatment for acute lymphoblastic leukaemia with the median age was 4.5 years (minimum of 1 and maximum of 18 years) with male predominance (54.4%). They were exposed to a median of 19.5 PDDI (minimum of 8 and maximum of 101 PDDI).

The median time of hospitalisation was 36 days (minimum of 30 and maximum of 63 days), during which 869 prescriptions were given and a total of 4,481 doses of medication were administered. The median days of treatment with potential drug interactions was 11 days (minimum of 4 and maximum of 41 days), resulting in a 39.7% prevalence of days with potential drug interactions.

Sixty-six different drugs were identified. According to the ATC, the majority of these (19%) belonged to the class of anti-infective drugs for systemic use (Group J), followed by drugs with action on the digestive system and metabolism (Group A), representing 15.9% and drugs with action on the cardiovascular system (Group C), with 14.3%, as shown in figure 1.

Figure 1: Distribution of the prescription drugs according to the classification Anatomical Therapeutic Chemical Code (ATCC) as level 1. Santa Maria, RS, Brazil, 2014
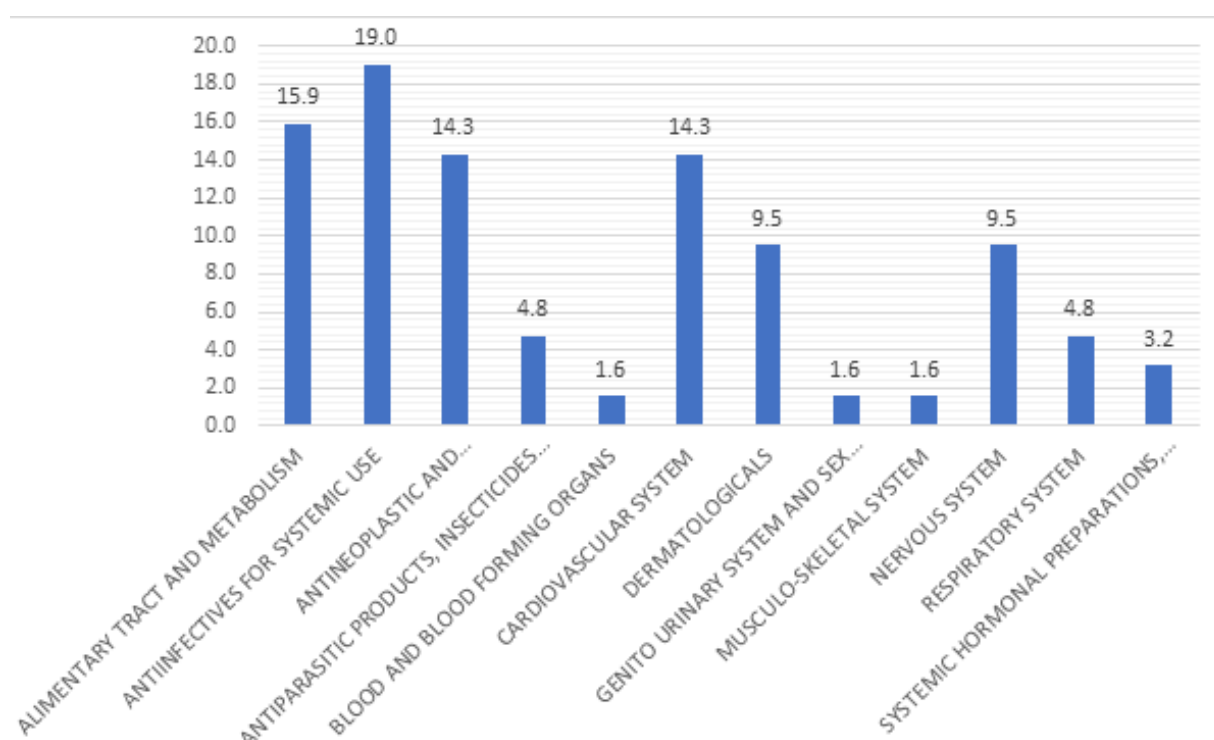
Medications that had a higher frequency of administration were sulfamethoxazole/trimethoprim (634 administrations), Omeprazole (495 administrations), prednisolone (405 administrations), and Dexamethasone (283 administrations).

They identified 758 PDDI in the study period. The most frequent potentially interactive combination was asparaginase x Prednisolone (more severe), followed by Fluconazole x sulfamethoxazole/trimethoprim (more severe) and Fluconazole x Omeprazole (moderate severity). Approximately 60% of potential drug interactions were more severe. The main potential drug interactions are described and listed in table 1.

Table 1: Potential drug–drug interactions in children with precursor cell lymphoblastic leukemia-lymphoma. Santa Maria, RS, Brazil, 2014.

Drug 1	Drug 2	Effects *	%
Asparaginase Erwiniachry Santhemi	prednisoLONE	Increased risk of asparaginase toxicity	10,0
Fluconazole	Sulfamethoxazole / Trimethoprim	Increased risk of cardiotoxicity	8,4
Fluconazole	Omeprazole	Increased plasma concentrations of omeprazole	8,4
Fluconazole	predniSONE	Decrease in the metabolic degradation of predniSONE and an increase in predniSONE efficacy	6,5
Dexamethasone	vinCRIStine Sulfate	Decreased vinCRIStine plasma concentrations	6,3
Enalapril Maleate	Sulfamethoxazole / Trimethoprim	Increased risk of hyperkalemia	5,5
Sulfamethoxazole Trimethoprim	Methotrexate Sodium	Increased risk of methotrexate toxicity	4,9
Hydrochlorothiazide	predniSONE	Hypokalemia and subsequent cardiac arrhythmias	4,5
Asparaginase Erwiniachry Santhemi	vinCRIStine Sulfate	Increased risk of toxicity	4,4
Omeprazole	Methotrexate Sodium	Increased concentration of methotrexate and its metabolite and an increased risk of methotrexate toxicity	4,1

A children data receive at least 5 drugs have 2 times more risk of occurrence of PDDI, because each new prescription medication added to the course of treatment grow 0.413 times (OR = 0.402, CI = 0.186 to 0.617) the risk of occurrence of PDDI. It can be verified by figure 2.

Figure 2: Association observed between drug administration and PDDI. Santa Maria, RS, Brazil, 2014
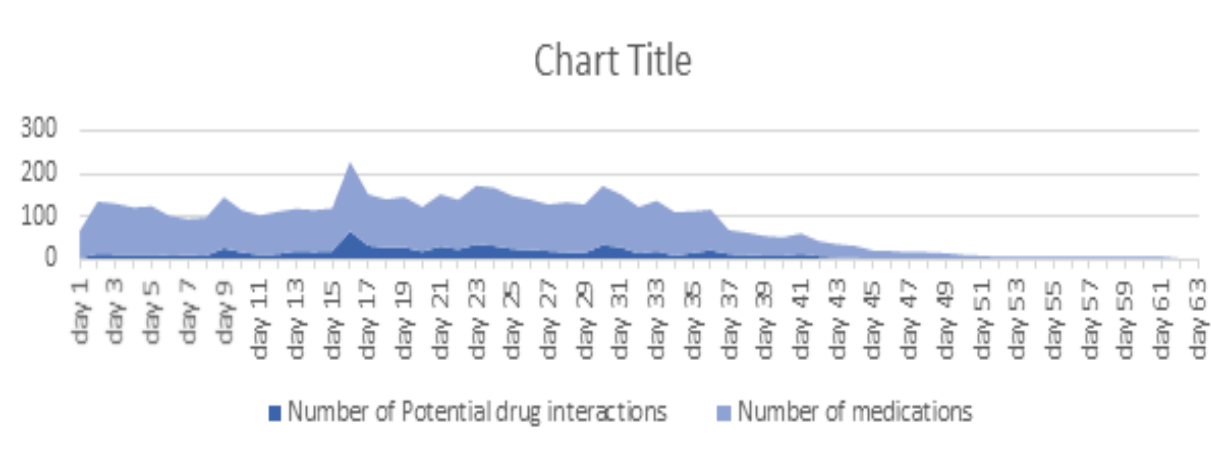
DISCUSSION

Despite evidence of international guidelines that guide the chemotherapy combinations for the treatment of acute lymphoblastic leukemia, addressing the PDDI and adverse events associated with them (Alvarnas et al 2015; Yeoh et al 2013; Cazé et al 2010), all study participants were exposed to at least one PDDI.

In line with other research, the association between polypharmacy and PDDI was confirmed (Sharifi et al 2014; Secoli 2010). Polypharmacy is a risk factor in patients undergoing different types of treatment and is especially related to those individuals who have in their therapeutic regimen, at least one chemotherapeutic drug (Sasaki et al 2013; Hohl et al 2001; Sheppardet al 1974). This may be exacerbated by the administration of more than one drug dose in which the study demonstrated 0.4 times greater risk of presenting PDDI per drug administered.

The addition of each drug increases the risk of adverse events by 10% (LeBlanc et al 2015). However, polypharmacy is a key strategy for the treatment of precursor cell lymphoblastic leukaemia-lymphoma. Initial treatment consists of the use of methotrexate, vincristine, Daunorubicin Hydrochloride, ELSPAR, Etoposide, and Cytarabine. In addition, in cases of opportunistic infections, comorbidity, or palliative character, polypharmacy is mandatory (Dai et al 2016; Alvarnas et al 2015; Wu and Li 2014).

Febrile neutropenia already presents with hemodynamic repercussions and signs of infection and is characterised by an urgent risk of dissemination and septic shock. The infection time frame, sepsis, septic shock, and organ and organ system dysfunction resulting from neutropenia are the main causes of mortality in children with cancer and the main reasons for indicating intensive care (Caniza et al 2015; Alexander 2014; Sasse et al 2005).

In this initial phase of treatment, a dose of chemotherapy will be reduced or delayed as a result of myelosuppression and/or presence of infection, necessitating the use of other medicines to control symptoms and other complications to continue the treatment (Irving 2016; Wu and Li 2014; Cazé et al 2010).

Independent of the time of treatment, 57.3% of PDDI were classified as moderate. As patients in treatment for precursor cell lymphoblastic leukaemia-lymphoma present vulnerability in terms of disease characteristics and also because most are children, this reaction can interfere in important ways in quality of life, leading to negative outcomes. In these cases, one has to consider modifying the therapy, as PDDI may result in increased toxicity, changes in plasma concentration, and changes in the metabolic degradation of drugs, as well as so many other systemic effects that can affect the outcome of therapy and interfere with the prognosis of the patient.

The daily prescriptions included an average of 4.9 medications per day, appearing to be in accordance with the clinical demands that the patients presented in the period due to the proposed therapy. Neutropenia caused by a strong chemotherapy regimen administered in the remission induction phase justifies the class of anti-infective drugs that has been the most frequently prescribed (Buie et al 2015; Schroder et al 2001). Similarly, drugs that act on the digestive system (second-most prescribed drugs) are fundamental in relieving nausea, vomiting, epigastric pain, and other common symptoms of post-chemotherapy.

Sulfamethoxazole/trimethoprim, which is provided in the treatment plan for all patients, was the most used drug and its management is maintained even after hospital discharge, since it is the first option for antimicrobial prophylaxis of infections in immunocompromised patients (Davis et al 2014; Schroder et al 2001). As to the administration of omeprazole, prednisolone, and dexamethasone, they are prescribed regardless of treatment response and potential complications.

Considering that the prescription is the point of origin for the use of the drug, a careful evaluation of the antineoplastic therapy regimen should be carried out to identify and predict potential drug interactions and adverse effects (LeBlanc et al 2015; Payne et al 2015; Sharifi et al 2014). Therefore, prescribers should consider the aspects related to patients to assess the risk-benefit of maintaining or not maintaining the drug combination. Furthermore, conducting biochemical and clinical examinations before and after the introduction of other drugs will certainly help to reduce PDDI.

Although there are contributions and a pioneering study in Brazil, it is important to note the limitations of the research. The evaluation of potential drug interactions was taken from a convenience sample of patients in hospital, an aspect that limits the applicability of the results. Some combinations of drugs identified as potential drug interactions were necessary due to the treatment regimen or unavailability of alternatives with less interactive potential.

Real outcomes of drug interactions have not been evaluated in this quite difficult aspect because the establishment of cause and effect is complex, especially due to the presence of polypharmacy and potentially interactive features of many antineoplastic agents.

Although the study has not evaluated the adverse drug reactions, the findings although limited, are relevant to patients with precursor cell lymphoblastic leukaemia-lymphoma, especially to present the clinical findings of potential drug interactions. In addition, the therapeutic regimens used in the induction of remission treatment step are similar throughout the world.

CONCLUSION

It was found that every new drug inserted in the treatment of precursor cell lymphoblastic leukaemia-lymphoma increases the chance of risk for the occurrence of potential drug interactions by 0.4 times.

The potential drug interactions identified in this study of moderate and higher severity are events that, in addition to influencing the therapeutic response causing changes in plasma concentrations of drugs, systemic toxicity, cardiotoxicity, and can interfere with the treatment provided in the period induction of remission of precursor cell lymphoblastic leukaemia-lymphoma.

RECOMMENDATIONS

Nursing should interfere in the occurrence of PDDI, since the time of administration and planning drug application ranges are medicated effective in eliminating or reducing the adverse effects of these interactions. The findings of this research can be applied in clinical practice, permitting the identification of potential drug interactions and adverse effects of medication.

REFERENCES

Alexander, S. 2014. Clinically defining and managing high-risk pediatric patients with acute lymphoblastic leukemia. *American Society of Hematology Education Program,* 2014(1):181-189.

Alvarnas JC, Brown PA, Aoun P, Ballen KK, Barta SK, Borate U, Boyer MW, Burke PW, Cassaday R, Castro JE, Coccia PF, Coutre SE, Damon LE, DeAngelo DJ, Douer D, Frankfurt O, Greer JP, Johnson RA, Kantarjian HM, Klisovic RB, Kupfer G, Litzow M, Liu A, Rao AV, Shah B, Uy GL, Wang ES, Zelenetz AD, Gregory K, Smith C. 2015. Acute Lymphoblastic Leukemia, Version 2.2015. *National Comprehensive Cancer Network (US),* 13(10):1240-1279.

Buie, L.W., Pecoraro, J.J., Horvat, T.Z. and Daley, R.J. 2015. Blinatumomab: A First-in-Class Bispecific T-Cell Engager for Precursor B-Cell Acute Lymphoblastic Leukemia. *Ann Pharmacother,* 49(9):1057-1067.

Caniza MA, Odio C, Mukkada S, Gonzalez M, Ceppi F, Chaisavaneeyakorn S, Apiwattanakul N, Howard SC, Conter V, Bonilla M. 2015. Infectious complications in children with acute lymphoblastic leukemia treated in low-middle-income countries. *Expert review of hematology,* 8(5):627-645.

Cazé, M.O., Bueno, D. and dos Santos, M.E.F. 2010. Estudo Referencial de um Protocolo Quimioterápico para Leucemia Linfocítica Aguda *Infantil*. 30(1):5-12.

Dai, D., Feinstein, J.A., Morrison, W., Zuppa, A.F., and Feudtner, C. 2016. Epidemiology of Polypharmacy and Potential Drug-Drug Interactions Among Pediatric Patients in ICUs of U.S. Children's Hospitals. *Pediatric Critical Care Medicicne,* 17(5):e218-228.

Davis, S.A., Krowchuk, D.P. and Feldman, S.R. 2014. Prescriptions for a toxic combination: use of methotrexate plus trimethoprim-sulfamethoxazole in the United States. *Southern medical journal,* 107(5):292-293.

de Lima, M. C., da Silva, D. B., Freund, A. P. F., Dacoregio, J. S., Costa, T. E. J. B., Costa, I., Silva, M. L. 2016. Leucemia Mielóide Aguda: análise do perfil epidemiológico e taxa de sobrevida. *Jornal de Pediatria,* 92(3):283-289.

Gillette, C., Prunty, L., Wolcott, J. and Broedel-Zaugg, K. 2015. A new lexicon for polypharmacy: Implications for research, practice, and education. *Research in Social and Administrative Pharmacy,* 11(3):468-471.

Hohl, C. M., Dankoff, J., Colacone, A., & Afilalo, M. 2001. Polypharmacy, adverse drug-related events, and potential adverse drug interactions in elderly patients presenting to an emergency department. *Annals of Emergency Medicine, 38*(6), 666-671.

Drugdex® System - Micromedex. Eg: https://www.micromedexsolutions.com/home/dispatch/ssl/true (accessed 01.12.16).

Irving, J.A. 2016. Towards an understanding of the biology and targeted treatment of paediatric relapsed acute lymphoblastic leukaemia. *British Journal of Haematology, 172*(5):655-666.

Jiménez de Samudio, A., Samudio, M. and Caniza, M.A. 2016. Factores de riesgo asociados a la sobrevida en niños y adolescentes con leucemia linfoblástica aguda. *Pediatría (Asunción),* 43:18-26.

LeBlanc, T.W., McNeil, M.J., Kamal, A.H., Currow, D.C. and Abernethy, A.P. 2015. Polypharmacy in patients with advanced cancer and the role of medication discontinuation. *The Lancet. Oncology,* 16(7):e333-341.

Loghavi, S., Kutok, J.L. and Jorgensen, J.L. 2015. B-acute lymphoblastic leukemia/lymphoblastic lymphoma. *American Journal of Clinical Pathology,* 144(3):393-410.

Miller, L., Steinmetz Pater, K., & Corman, S. 2015. The role of clinical decision support in pharmacist response to drug-interaction alerts. *Research in Social and Administrative Pharmacy,* 11(3):480-486.

 Payne TH1, Hines LE2, Chan RC3, Hartman S4, Kapusnik-Uner J5, Russ AL6, Chaffee BW7, Hartman C8, Tamis V9, Galbreth B10, Glassman PA11, Phansalkar S12, van der Sijs H13, Gephart SM14, Mann, G., Strasberg, H.R., Grizzle, A.J., Brown, M., Kuperman, G.J., Steiner, C., Sullins, A., Ryan, H., Wittie, M.A., Malone, D.C. 2015. Recommendations to improve the usability of drug-drug interaction clinical decision support alerts. *Journal of the American Medical Informatics Association,* 22(6):1243-1250.

Pui, C.H., Yang, J.J., Hunger, S.P., Pieters, R., Schrappe, M., Biondi, A., Vora, A., Baruchel, A., Silverman, L.B., Schmiegelow, K., Escherich, G., Horibe, K., Benoit, Y.C., Izraeli, S., Yeoh, A.E., Liang, D.C., Downing, J.R., Evans, W.E., Relling, M.V., Mullighan, C.G. 2015. Childhood Acute Lymphoblastic Leukemia: Progress Through Collaboration. *Journal of Clinical Oncology,* 33(27):2938-2948.

Sasaki, T., Fujita, K., Sunakawa, Y., Ishida, H., Yamashita, K., Miwa, K., Saji, S., Kato, Y., Sasaki, Y. 2013. Concomitant polypharmacy is associated with irinotecan-related adverse drug reactions in patients with cancer. *International Journal of Clinical Oncology,* 18(4):735-742.

Sasse, E.C., Sasse, A.D., Brandalise, S., Clark, O.A. and Richards, S. 2005. Colony stimulating factors for prevention of myelosupressive therapy induced febrile neutropenia in children with acute lymphoblastic leukaemia. *Cochrane Database Syst Rev*(3), CD004139.

Schroder, H., Agger, K.E., Rosthoj, S., Carlsen, N.T. and Schmiegelow, K. 2001. Antibacterial prophylaxis with trimethoprim-sulfamethoxazole during induction treatment for acute lymphoblastic leukemia. *Danish Medical Bulletin,* 48(4):275-277.

Secoli, S.R. 2001. Interações medicamentosas: fundamentos para a pratica clínica da enfermagem. *Revista da Escola de Enfermagem da USP,* 35(1):28-34.

Secoli, S.R. 2010. Polifarmácia: interações e reações adversas no uso de medicamentos por idosos. *Revista Brasileira de Enfermagem,* 63(1):136-140.

Sharifi, H., Hasanloei, M.A. and Mahmoudi, J. 2014. Polypharmacy-induced drug-drug interactions; threats to patient safety. *Drug Research,* 64(12):633-637.

Sheppard, C., Beyel, V., Fracchia, J., & Merlis, S. (1974). Polypharmacy in psychiatry: a multi-state comparison of psychotropic drug combinations. *Dis Nerv Syst, 35*(4), 183-189.

World Health Organization. 2013. Guidelines for ATC classification and DDD assignment 2013, vol 16th. *WHO Collaborating Centre for Drug Statistics Methodology, Oslo.*

Wu, M. and Li, Z. 2014. Understanding the guidelines for the diagnosis and treatment of childhood acute lymphoblastic leukemia. *Zhonghua Er Ke Za Zhi,* 52(9):645-648.

Yeoh, A.E., Tan, D., Li, C.K., Hori, H., Tse, E. and Pui, C.H. 2013. Management of adult and paediatric acute lymphoblastic leukaemia in Asia: resource-stratified guidelines from the Asian Oncology Summit 2013. *Lancet Oncol, 14*(12):e508-523.

You, M.J., Medeiros, L.J. and Hsi, E.D. 2015. T-lymphoblastic leukemia/lymphoma. *American Journal of Clinical Pathology, 144*(3):411-422.

Antipsychotic use for behaviours by persons with dementia in residential aged care: the relatives' perspectives

AUTHORS

Dr Anita De Bellis RN MN PhD
Senior Lecturer in Nursing
School of Nursing & Midwifery
Faculty of Medicine, Nursing & Health Sciences
Flinders University
GPO BOX 2100, Adelaide, SA, Australia
anita.debellis@flinders.edu.au

Dr Sandra L Bradley
RN MResearch PhD
Postdoctoral Researcher
Faculty of Medicine, Nursing and Health Sciences
Flinders University
GPO Box 2100, Adelaide, SA, Australia
sandra.bradley@flinders.edu.au

Dr. Lily Dongxia Xiao
RN MN PhD FACN, Associate Professor
School of Nursing & Midwifery
Faculty of Medicine, Nursing and Health Sciences
Flinders University
GPO Box 2100, Adelaide, SA, Australia
lily.xiao@flinders.edu.au

Dr Ingrid Belan
PhD, Senior Lecturer
School of Nursing & Midwifery
Faculty of Medicine, Nursing and Health Sciences
Flinders University
GPO Box 2100, Adelaide, SA, Australia
ingrid.belan@flinders.edu.au

Mr Tim Wallace
National Manager Severe Behaviour Response Team
HammondCare
Level 2, 447 Kent St, Sydney, NSW, Australia
twallace@hammond.com.au

KEYWORDS

relatives, dementia, behaviours, antipsychotics, residential aged care

ABSTRACT

Objective
To explore relatives' experience, knowledge and perceptions of challenging behavioural and psychological symptoms of dementia (BPSD) and association with antipsychotic use for persons with dementia in residential aged care.

Design
A qualitative Interpretive Description design using semi-structured interviews was used for understanding the construct and context of perceptions and experiences using a six-step process to analyse themes.

Settings
South Australia, Victoria and Western Australia.

Subjects
Six relatives of a person with dementia in residential aged care.

Main Outcome Measure
Themes describing relatives' experiences, knowledge and perceptions of antipsychotic medication use for the person with dementia in residential aged care.

Results
Three themes were identified: 1) lack of education and information - relatives found it difficult to differentiate between behaviours influenced by disease or antipsychotic medication; 2) need to be included in decision-making - relatives' believed challenging behaviours resulting from BPSD could be prevented with a more person-centred approach; and, 3) influence of aged care culture on attitudes towards use of antipsychotic medication - relatives' identified this could be problematic depending on use of agency staff and time pressures.

Conclusion
Relatives of persons with dementia require support and education about the progression of dementia, BPSD and the risks and benefits that antipsychotic medication may have on BPSD. Most importantly, relatives need to be involved in decision-making regarding the use of antipsychotic medication. Nurses have a role to educate care staff on the use of person centred care in preference to medication for better care of the person with dementia.

INTRODUCTION

Over 50% of residents living in residential aged care (RAC) have dementia (Australian Institute of Health and Welfare (AIHW) 2015). Caring for residents with dementia in RAC who display challenging behaviours resulting from Behavioural and Psychological Symptoms of Dementia (BPSD) is perceived by care staff as the most difficult aspect of managing the daily needs of these residents (Lawrence et al 2016; Ervin et al 2014). Behavioural and psychological symptoms of dementia can escalate in residents with dementia in the residential aged care setting due to neurobiological disease, staff or environmental factors, unmet needs, or chronic ill health, e.g. sensory loss, pain and urinary incontinence (Cohen-Mansfield et al 2015; Kales et al 2015). Brodaty et al (2003) found that up to 90% of residents in RAC will display BPSD based on these factors. To mitigate BPSD, antipsychotic medication may be used despite many recommendations for using non-pharmacological management first (American Psychiatric Association (APA) 2016; Kales et al 2015; Peisah and Skladzien 2014).

The use of non-pharmacological management is preferred as antipsychotic medication may elicit interactions with neuroreceptors that may adversely affect residents' health, e.g. postural hypotension and tardive dyskinesia (Kales et al 2015; Monthly Index of Medical Specialties (MIMS) 2015). For the person with dementia, antipsychotic medication may also increase morbidity and mortality (Park et al 2015; United States Department of Health and Human Services 2015; Kleijer et al 2009; Gill et al 2007) as well as mask non-dementia symptoms such as pain and delirium (APA 2016; Park et al 2015). Therefore, use of antipsychotic medication may not only be ineffective for addressing the cause of BPSD but, may act as a form of chemical restraint that can lead to physical and psychological harm (Peisah and Skladzien 2014).

To minimise the use of chemical restraint for the person with dementia, guidelines for non-pharmacological management have been generated by a number of professional organisations (APA 2016; National Institute for Health Care Excellence (NICE) 2015; World Health Organization (WHO) 2012). These guidelines emphasise the need to consider person-centred care as the initial non-pharmacological approach. Person-centred care considers the unique social context of a person's experience and how that experience may trigger behaviours associated with unmet needs, environmental factors or pain (Cohen-Mansfield 2001; Kitwood 1997).

It has been identified that limited training and education for staff in person-centred care compounded by low staffing levels impacts on the ability to use non-pharmacological management and contributes to antipsychotic medication use (Lawrence et al 2016; Cohen-Mansfield et al 2013; Ervin et al 2014; Productivity Commission 2011). Relatives of people who have dementia and live in a RAC setting have a key role to play in collaboration with care staff about behavioural management; yet, relatives' perspectives on the use of antipsychotic medication for the person with dementia in RAC remains largely unknown. The aim of this study, therefore, was to explore the relatives' perspectives on antipsychotic medication use to control BPSD for the person with dementia living in RAC.

METHOD

Thorne's (2008) Interpretive Description qualitative methodology was used to explore relatives' understanding of the use of antipsychotic medication for managing BPSD in their relative with dementia in the RAC setting. The primary objective of this methodology is creating knowledge and understanding for practice that incorporates societal contexts influencing practice and the person in care (Thorne 2008). Use of this methodology enabled development of a comprehensive understanding of when antipsychotic medications were being used for the person with dementia as well as the context of engagement with relatives in relation to decision-making around their use. For this qualitative methodology, no specific number of participants is required. Rather,

data is collected until no new material or information arises from within the context being studied. Guest et al (2006) have indicated a total of six interviews are sufficient to determine themes in qualitative data analysis. For this research six respondents met the inclusion criteria. The four themes identified covered all qualitative data provided by the participants leading to saturation of information such that no new information emerged.

Ethical approval for the study was provided by Flinders University South Australia Social and Behavioural Research Ethics Committee (Project Number 6789).

Recruitment for the study was conducted through and with permission of Alzheimer's Australia (SA) via offline and online newsletters and networks. Relatives expressing an interest to participate were sent a letter of introduction and participant information sheet. Informed consent was given in writing or verbally at the time of interview. To be eligible for the study, relatives needed to be the primary carer or have experience of the person with BPSD and knowledge of the medications used to control those behaviours. The person with dementia needed to have resided in RAC within the past two years at time of interview in 2015.

Audiotaped semi-structured interviews were conducted face-to-face in a mutually agreed location or by telephone for between 30 minutes and two hours. Semi-structured interviews used open-ended questions about dementia, behaviours, antipsychotic medications and person-centred care. Participants were probed to elicit more detail about how knowledge was gained, how this knowledge may have influenced their perspective on antipsychotic medication use or behaviour management and other elements of importance relating to the societal context of antipsychotic medication use. Audio-taped interviews were transcribed and then analysed using Thorne's (2008) Interpretive Descriptive methodology as a framework to develop an understanding of the societal context of relatives' viewpoints on antipsychotic use and how this applied in nursing practice. Further analysis to identify barriers and facilitators for the use of antipsychotic medication instead of person-centred care was undertaken using the six-step process of Braun and Clarke (2006). This six-step process involved: familiarisation with the data; generating initial codes; searching for themes; reviewing themes; defining and naming themes; and producing a report (Braun and Clarke 2006, p87).

Trustworthiness of the data was established through addressing credibility, transferability, dependability and confirmability as defined by Oman et al (2003). Credibility of the data was confirmed by comparing and contrasting the occasions when antipsychotic medication use was described from one participant interview to the next as it developed within the context of RAC management of people with dementia with BPSD. This was then compared with what was known about this phenomenon as described by the literature. Transferability was confirmed through clarification of experiences described by participants with other nursing colleagues working in RAC, who were not part of the investigation. Dependability was assessed through review of the research design and process from colleagues in the residential aged care community and the transcription of data verbatim. Confirmability was ensured by all investigators evaluating the interpretation of the data and themes through the use of the 6-step process of Braun and Clarke (2006). By establishing trustworthiness through credibility, transferability, dependability and confirmability, commonalities arising from within the interviews could be compared with any alternative constructs emerging being tested against relatives' and nursing staff knowledge and experiences of the RAC. Furthermore, all authors cross-checked and reviewed the transcripts, participated in the analysis and agreed on the final themes and sub-themes generated.

FINDINGS

Demographics of Participants

From ten respondents, six relatives from three different Australian states met the inclusion criteria and participated in the study (table 1). All of the relatives were female with ages ranging from 45 to 62 years.

Frequency of visitation to the person with dementia's RAC facility ranged from daily to three or four times a week or once a fortnight. All relatives held healthcare advance directive authority.

Persons with dementia included four mothers, one husband, one father-in-law and one friend. Types of dementia identified included Mixed, Vascular, Lewy Body with Parkinson's disease and Alzheimer's disease. Persons with dementia ranged in age from 54 to 81 years and were in RAC ranging from one to three years at the time of interview. All relatives identified the use of Risperidone, an atypical antipsychotic, as one of the medications given to their relative in RAC. Participants are quoted throughout using pseudonyms to maintain confidentiality.

Table 1 : Demographic information of participants (n=6) and persons with dementia (n=7)

Participants - Relatives					Person with Dementia			
Pseudonym	*Gender*	*Age (years)*	*Relationship*	*Length of time as carer*	*Age (years)*	*Gender*	*Type of Dementia*	*Length in RAC*
P1	F	61	Daughter	3 years	80	F	AD, LBD	<1 year
P2	F	56	Daughter–in-law Friend	3 years 3 years	71 54	M M	LBD VaD	1.5 years 2 years
P3	F	62	Wife	2 years	75	M	FTLD, AD	1 year
P4	F	45	Daughter	8 years	84	F	AD	2 years
P5	F	56	Daughter	3 years	78	F	VaD, AD	3 years
P6	F	50	Daughter	2 years	81	F	AD	1 year

AD = Alzheimer's Disease, LBD = Lewy Body Dementia, VaD = Vascular Dementia, FTLD = Frontotemporal Lobe Dementia

Themes

Three major themes were revealed relating to the societal context of antipsychotic use for the person with dementia in RAC. These themes are:

1. a lack of education and information;

2. the need to be included in decision-making; and

3. the influence of aged care culture on relatives' attitudes towards use of antipsychotic medication.

The description and analysis of these themes are elaborated further below.

Lack of education and information

Relatives' perceived they were lacking knowledge about their relatives' dementia, medication management and behaviour in RAC. The lack of disease knowledge was articulated by Participant 1:

I was never prepared for her getting up in the night and not knowing who I was…, for that lack of sleep and…, you know you put something down one day and give her something to eat that she would like… and the next day it would be "what's that"? I had no idea, I don't know how we managed (P1).

The majority of relatives had little knowledge about antipsychotic medication, indicators for its use or the effects that it might have on behaviour. However, Participant 2 articulated that person-centred care was a better approach to prevent and manage challenging behaviours resulting from BPSD: '*I do know that antipsychotics were used to basically modify behaviour when in fact changing to a person-centred way of caring would have been far more appropriate*' (P2). While Participant 3 understood that medication was preferentially used over person-centred care: '*Too often PRN (provide as necessary) is used instead of patient-centred management*' (P3).

Although relatives' knowledge about dementia, behaviours associated with dementia and antipsychotic medication use differed, they were all able to articulate a sense of knowing what normal behaviour was for their relative, when that normality was upset and why. One participant provided an example from her father-in-law and friend: '*A few times they'd (father and friend) both say - why am I feeling drunk all the time? I'm not drinking any wine - they won't let me'(P2).* While this relative understood that it was the antipsychotic medication making the relative feel differently, Participant 4 was less able to link behaviour to medication use:

> *She was just really placid. Sometimes she would just be like a really frightened child...some of the bizarre behaviour, [I didn't know if] that was just because of the drugs or was that just part of the behaviour, and I wouldn't be able to know that (P4).*

The inability to differentiate behaviours resulting from medication use versus disease progression created discomfort and confusion in the relatives with regard to antipsychotic medication use for the person with dementia:

> *It's also hard to know at each step, is it happening because of the disease or is she medicated? I don't know because she's become incontinent as well, so that's pretty tough on her too [be]cause a couple of times [when] I've been down for the weekend, she's soiled her pants and it really distresses her. I don't know if that's part of the lack of, is it being so relaxed that you haven't got control of your bowels or is it the disease? I don't know. (P6).*

After time, all of the relatives were able to distinguish medication effects from the regular behaviour of their relative after the person with dementia had been in RAC for a while:

> *I used to call it her Campari (Risperidone). Some of the nurses would give it to her before I got there and she would be asleep when it was teatime. And to be asleep at teatime in a nursing home is awful because you're [not] going to [get fed]. Mum is a foodie as well so I know [she's] going to wake up later and [she's] going to be hungry and [she's] not going to get anything to eat until 8 o'clock the next morning, so that would make you pretty cranky (P1).*

Nevertheless, relatives were still puzzled and conflicted about when it was appropriate to use antipsychotic medication for their relative. This was because the use of antipsychotic medication traded-off one behaviour, e.g. calling out in a raised voice and disturbing other residents, for another, e.g. being quieter and less agitated. Although many relatives understood there may be a need for this trade-off, it was not necessarily a comfortable one for relatives to accept.

The need to be included in decision-making

Lack of communication and education by care staff to relatives' about why antipsychotic medication was being used instead of non-pharmacological alternatives left relatives confused, anxious and frustrated as the personality and behaviour of their loved one changed. This did not engender trust in the process or staff as a participant described: '*Nobody volunteered information. In my memory, there wasn't a lot of volunteering, there was no counseling of her care. No, I don't think we ever got what we could expect' (P1).* Participant 1's experience was common although not universal.

Two of the relatives were willing to have care staff take the initiative for antipsychotic medication use, but for four of the relatives, not being communicated with about care management, led them to seek out additional knowledge about dementia, behaviour management and antipsychotic medication use so they could be more actively involved in the decision-making that occurred as described in the following excerpt.

Yes, I got a lot of information from their [Alzheimer's Australia] fact sheets and I got [some] from the care package through them so I used them a lot. Plus, I have a friend who is a lecturer's assistant so we both were skilled in dealing with problems from the wrong end and trying to sort back through it. So, Alzheimer's [fact sheet] was quite useful for that, and I would often refer a lot of people to 1800.... [Be]cause now that people knew Mum had it really bad and I'd have people saying can you talk to my Mum? And they'd come and talk to me or bring me to their house and I'd always say ring 1800 ... before you have a disaster, before someone gets hurt, before they wander away (P1).

Not only did relatives gain knowledge from Alzheimer's Australia for when and how antipsychotic medication should be used for the person who has dementia, they also accessed television, support groups, Google, YouTube, the Internet and conferences to inform themselves. Participant 2 described information she received when attending a conference on dementia:

Well, if you read the work that Brodaty (an eminent dementia researcher) has been doing with his study, he actually now says that dementia is the one contraindication to prescribing antipsychotics; that they should only be prescribed for people with true mental illness and dementia is not a mental illness (P2).

As relatives' knowledge about dementia, medication management and behaviours increased, several relatives began initiating ways of caring for their relative to mitigate the effect of the antipsychotic medication. One participant described that she: *'Never 100 per cent succeeded on this, but if she (her mother) had her medicine just before dinner, she could eat some of what I took her and then she could settle down and the medication would take effect' (P1).*

Some relatives, such as Participant 2, became vigilant in making sure antipsychotic medication was not being used without their consent:

They'd take him off (the medications) when we complained then the next pharmacy bill would come back in, and we'd find he'd been put back on. Then if we would forget to check or complain he would have just stayed on them (P2).

Some relatives like Participants 2 and 4 described being frustrated and upset when informed of antipsychotic medication use after it had already taken place. Often this communication came via a bill for pharmaceuticals as described by one participant: '*I thought "oh, what's that" and I got the bill from the chemist and I Googled it but it was never sort of oh, we're giving your mother this' (P4).*

Not all relatives, however, felt the need to participate in medication management with care staff. Participant 6 preferred to be guided by the expertise of the staff:

I'm guided by the professionals. They're very good at consulting, but they're also very good at getting their point across. They'll say, this is what we recommend and I'm sure if I said no it would be OK, but what if I said no and it wasn't the right decision? So, I sort of like to go with their opinion. I mean I feel it is a privilege that they are consulting with me really [be]cause they're the ones that are caring for her (P6).

This illustrated the dilemma that all of the relatives faced – they had relinquished care of the person with dementia to professionals who they thought would know how to manage them better, yet the use of antipsychotic medication often left the relative and their loved one upset and uncomfortable. Managing the tension this caused relatives was dependent on the professionalism of the care staff and the culture of the residential aged care facility.

Influence of aged care culture on relatives' attitudes towards the use of antipsychotic medication

Three of the relatives in this study had previous experience with the aged care system either personally or professionally (P1, P2 and P5) while for the others (P3, P4 and P6) their experience with RAC was new and associated with the entry of their relative to RAC. Participants with more experience, better understood different levels of care and felt more empowered to advocate for their relative as one relative described: '*I've had more ability to properly advocate for him in low care. The staff were more receptive. The staff were more willing to make changes or to be more person-centred*' (P2). This experience was not always able to overcome the administration of antipsychotic medication administration, however, and when relatives described inappropriate use of antipsychotic medication, they often referred to this as 'chemical restraint'.

Relatives describing antipsychotic medication use in this manner felt it was the RAC facility rather than the person with dementia who benefited as one participant described: '*They used to talk at the home quite often that they resisted any physical restraint or chemical restraint but you know, with the moods Mum used to have, sometimes she was chemically sedated or chemically restrained*' (P2). One relative felt the use of antipsychotics was: '*just a way of managing people… I suppose it does save them money so they don't have to have as many staff on if all the residents are just slumped in a chair or a bed*' (P4). Another participant was willing to concede that there might be times when it is beneficial to use antipsychotics: '*But I don't think it should be over-used like [staff thinking] 'we're too busy to deal with him, we'll just sedate him and put him to bed*' (P3). Nevertheless, one participant was able to describe the positive aspects of using antipsychotic medication as chemical restraint: '*She (Mum) was constantly on her feet walking everywhere, and I think that chemical restraint actually probably gave her a bit of a rest which I think was good for her*' (P5). Although some relatives accepted that antipsychotic medication may have had a place in the management of behaviour of their relative, it was more often the culture of the RAC that they emphasised as influencing its use.

According to all of the relatives, inadequate numbers of regular staff led to high rates of agency staff and the number of agency staff was a key indicator of antipsychotic medication use on their relative. If regular staff were present, one participant saw a marked difference in behaviour in her loved ones' when mainly agency staff were present rather than regular staff: '*In the early days, where Dad was, there was just this constant barrage of agency staff. Both Dad and my friend were just happier to see a person they knew. It's just that [they had that] level of being calmer because they knew people*' (P2). To alleviate the dependency of care staff on antipsychotic medication use, relatives offered ideas on alternative therapies and activities for their relative to mitigate BPSD behaviour. However, relatives often did not see these ideas acted upon as a participant explained: '*I gave them about 20 ideas for men, and I haven't seen any implemented. Sometimes I just feel the whole lot lack imagination*' (P3). Overall, not being able to sufficiently influence the care of their loved one, such that antipsychotic medication use could be avoided, left relatives feeling disempowered, ill-informed and dissatisfied with the care their relative received.

DISCUSSION

In this study, most of the participants interviewed struggled to identify whether the behaviour displayed by their relatives with dementia in RAC was representative of disease progression or antipsychotic medication use. However, once relatives learned that the person with dementia was being treated with antipsychotic medication, relatives improved their knowledge, not only about the disease, but also about the applicability of this medication for the person with dementia. Relatives did this to distinguish for themselves the difference between deteriorating behaviour resulting from disease progression or some other factor such as antipsychotic medication use. Bonner et al (2015) indicated that much of the use of antipsychotic medication for the person with dementia was for non-psychotic purposes. Relatives in this study provided evidence of this by describing

occasions such as mealtimes when antipsychotic medication was used inappropriately and articulated their concerns about when and how this medication was being applied in relation to the direct need or behaviour of their relative at the time.

The results of a systematic review by Brownie et al (2014) recommended that to make the transition from home to RAC easier for families and the person with dementia, it was important to: facilitate partnership with family members in dementia care; provide access to information and promote communication with residents, families, counsellors and social workers; help residents and their families build coping skills; and continue meaningful activities for engagement and preservation of the social role of the resident. If these guidelines had been followed, trust between relatives and the care staff may have led to shared decision-making such that when BPSD arose, the method of management could be agreed upon without administering antipsychotic medication.

Lee et al (2015) identified that four key factors influence good practice in care of the person with dementia, namely; leadership and management of care, integrating clinical expertise, continuity of care and use of guidelines. Participants in our study identified these factors were missing as indicated by a lack of consultation with the relative, inconsistency in staffing, apparent lack of person-centred care and lack of information to relatives about when antipsychotic medication should be used.

Cornege-Blokland et al (2012, cited in Petriwskyj et al 2013) found less than half of family members consulted about antipsychotic medication use felt adequately informed about potential side-effects before consenting to its use. Relatives in our study who informed themselves about dementia, antipsychotic medication and its side-effects, felt empowered to advocate for better care of their relative. Nurses in RAC who accept and respect such advocacy may enable relatives to become more confident in the professionalism and clinical expertise of the care staff and facility. However, as Cornege-Blokland et al (2012, cited in Petriwskyi et al 2013) discovered, request for antipsychotic medication was most often initiated by nurses. This situation may undermine trust by relatives if antipsychotic medication is seen to be used for the benefit of staff rather than the person who has dementia with BPSD.

In our study, when relatives felt confident to trust that carers had sufficient clinical expertise to integrate the use of medication in the care management of their relative, then they were more accepting of its use at times designated by the nurse or carer for managing BPSD in their relative.

Livingston et al (2005) found that one of the few effective strategies for enhancing care of the person with dementia was education of staff on dementia, changes in staff behaviour, and different forms of BPSD management. When care staff are taught to use guidelines, such as those advocated by the National Prescribing Service (2013) on appropriate use of person-centred care and antipsychotic medication for the person with dementia, then it may be possible that the person with dementia in RAC will have a better chance of living the rest of their life without the burden of additional symptoms that inappropriate use of antipsychotic medication can bring (Park et al 2015). However, a study by Ostaszkiewicz et al (2015) found nurses in RAC indicated that although they knew person-centred care was a preferred method for managing BPSD in residents with dementia, they often felt using this method was better accomplished when the resident was sedated or had some form of restraint. Petriwskyj et al (2013) suggested there is still much to be learned in both research and practice of when and how to use antipsychotic medication and person-centred care for the person with dementia displaying BPSD.

Although participants in our study expressed they would have appreciated more shared decision-making about antipsychotic medication use as well as seeing the adoption of alternative methods of management of BPSD for the person with dementia in RAC, nevertheless, all relatives in this study expressed gratitude for

the efforts of most of the care staff they encountered and understood the pressures on care staff of trying to provide person-centred care within the RAC setting.

CONCLUSION

This study identified three themes in relation to the societal context of practice affiliated with antipsychotic medication use for BPSD of people with dementia living in residential aged care (RAC) facilities. These themes were first, a recognition that relatives lacked sufficient knowledge to identify the source of undesirable behaviours occurring within the RAC setting; e.g. medication use or disease progression. To address this lack of knowledge, some relatives educated themselves about these issues to advocate for the person with dementia and prevent them from being subjected to use of antipsychotic medication rather than non-pharmacological care. Although knowledge and advocacy empowered relatives, this advocacy had limited success in decreasing the use of antipsychotic medication as the disease progressed as some relatives and care staff preferred the perceived benefits of the medication despite potential risks. The second theme identified barriers to provision of non-pharmacological management which relatives described as resulting from a lack of shared decision-making between staff and relative. Lack of shared decision-making led to the emergence of the third theme which centred on residential aged care practices influencing use of antipsychotic medication in RAC. Practices in favour of antipsychotic medication use were influenced by staff turnover, limited staff education and limited time to support non-pharmacological care management.

As a result of this study, it is recommended that nurses engage relatives in discussion about strategies for managing BPSD when this arises in the person with dementia in the RAC setting. To engage in such discussions, it is important for nursing staff and carers in RAC facilities to have knowledge about dementia, potential societal, physical, environmental and psychological causes of BPSD and to be prepared to offer non-pharmacological management of behaviour as first line treatment rather than depending on the expediency of antipsychotic medication administration. Discussions with family members should be conducted prior to the administration of the antipsychotic medication and in an informative and sensitive manner to avoid misunderstanding and negatively contributing to what is already an emotionally charged time for relatives and the person with dementia. This, in turn, engenders trust in relatives that staff are doing what is best for their loved one.

REFERENCES

Australian Institute of Health and Welfare (AIHW). 2015. Residential aged care and Home care 2013-2014, Australian Institute of Health and Welfare: Canberra. http://www.aihw.gov.au/aged-care/residential-and-home-care-2013-14/ (accessed 30.05.16).

American Psychiatric Association (APA). 2016. The American Psychiatric Association Practice Guideline on the use of Antipsychotics to Treat Agitation or Psychosis in Patients with Dementia. American Psychiatric Association: Virginia, USA.

Bonner, A., Field, T., Lemay, C., Mazor, K., Anderson, D., Compher, C., Tiia, J. and Gurwitz, J. 2015. Rationales that Providers and Family Members Cited for the Use of Antipsychotic Medications in Nursing Home Residents with Dementia. *Journal of the American Geriatric Society*, 63(2):302-308.

Braun, V. and Clarke, V. 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2):77-101.

Brodaty, H., Draper, B.M. and Low, L-F. 2003. Behavioural and psychological symptoms of dementia: a seven-tiered model of service delivery. *Medical Journal of Australia,* 178(5):231–234.

Brownie, S., Horstmanshof, L. and Garbutt, R. 2014. Factors that impact residents' transition and psychological adjustment to long-term aged care: A systematic literature review. *International Journal of Nursing Studies, 51(12):1654-1666.*

Cohen-Mansfield, J. 2001. Nonpharmacologic interventions for inappropriate behaviors in dementia - A review, summary, and critique. *American Journal of Geriatric Psychiatry,* 9(4):361-381.

Cohen-Mansfield, J., Juravel-Jaffe, A., Cohen, A., Rasooly, I.and Golander, H. 2013. Physicians' practice and familiarity with treatment for agitation associated with dementia in Israeli nursing homes. *International Psychogeriatrics,* 25(2):236-244.

Cohen-Mansfield, J., Dakheel-Ali, M., Marx, M.S., Thein, K. and Regier, N.G. 2015. Which unmet needs contribute to behavior problems in persons with advanced dementia? *Psychiatry Research,* 228(1):59-64.

Ervin, K., Cross, M. and Koschel, A. 2014. Barriers to managing behavioural and psychological symptoms of dementia: Staff perceptions, *Collegian,* 21(3):201-207.

Guest, G., Bunce, A. and Johnson, A. 2006. How many interviews are enough? An experiment with data saturation and variability, *Field Methods, 18(1): 59-77.*

Gill, S.S., Bronskill, S.E., Normand, S-L.T., Anderson, G.M., Sykora, K., Lam, K., Bell, C.M., Lee, P.E., Fischer, H.D., Herrmann, N., Gurwitz, J.H. and Rochon, P.A. 2007. Antipsychotic drug use and mortality in older adults with dementia. *Annals of Internal Medicine*, 146(11): 775-786.

Kales, H.C., Gitlin, L.N. and Lyketsos, C.G. 2015. Assessment and management of behavioral and psychological symptoms of dementia. *British Medical Journal,* 350:h369.

Kitwood, T. 1997. Dementia Reconsidered: The person comes first. Buckingham: Open University Press.

Kleijer, B., Marum, R., Egbert, A., Jansen, P., Frijters, D., Heerdink, E. and Ribbe, M. 2009. The course of behavioural problems in elderly nursing home patients with dementia when treated with antipsychotics. *International Psychogeriatrics*, 21(5):931- 940.

Lawrence, V., Fossey, J., Ballard, C., Ferreira, N. and Murray, J. 2016. Helping staff to implement psychosocial interventions in care homes: augmenting existing practices and meeting needs for support. *International Journal of Geriatric Psychiatry,* 31(3):284-293.

Lee, R., Bamford, C., Exley, C. and Robinson, L. 2015. Expert views on the factors enabling good end of life care for people with dementia: a qualitative study. *BMC Palliative Care*, 14:32.

Livingston, G., Johnston, K., Katona, C., Paton, J. and Lyketsos, C.G. 2005. Systematic review of psychological approaches to the management of neuropsychiatric symptoms of dementia. *American Journal of Psychiatry,* 162:1996–2021.

MIMS (Monthly Index of Medical Specialties Online). 2015. *Prescribing Notes: Anti-psychotics.* Haymarket Medical Media: United Kingdom. http://www.mims.co.uk/drugs/central-nervous-system/psychosis-mania/PrescribingNotes (accessed 30.05.16).

NICE (National Institute for Health and Care Excellence). 2015. *Low-dose antipsychotics in people with dementia. NICE: United Kingdom.*

http://www.nice.org.uk/advice/KTT7/chapter/Evidence-context (accessed 01.10.15).

NPS (National Prescribing Service). 2013. *Antipsychotic overuse in dementia – is there a problem? NPS Medicine Wise, Health News and Evidence Section: NSW.* http://www.nps.org.au/publications/health-professional/health-news-evidence/2013/antipsychotic-dementia (accessed 05.02.16).

Oman, K., Krugman, M., and Fink, R. 2003. *Nursing research secrets. Hanley & Belfus, Inc.: Pennsylvania.*

Ostaszkiewicz, J., Lakhan, P., O'Connell, B. and Hawkins, M. 2015. Ongoing challenges responding to behavioural and psychological symptoms of dementia. International Nursing Review, 62(4):506-516.

Park, Y., Franklin, J.M., Schneeweiss, S., Levin, R., Crystal, S., Gerhard, T. and Huybrechts, K.F. 2015. Antipsychotics and Mortality: Adjusting for Mortality Risk Scores to Address Confounding by Terminal Illness. *Journal of the American Geriatrics Society,* 63(3):516-523.

Peisah, C. and Skladzien, E. 2014. The use of restraints and psychotropic medications in people with dementia - A report for Alzheimer's Australia Incorporated. Alzheimer's Australia Inc: Canberra. Paper No. 387:1-36.

Petriwskyj, A., Parker, D., Robinson, A., Gibson, A., Andrews, S., and Banks, S. 2013. Family involvement in decision making for people with dementia in residential aged care: a systematic review of quantitative and qualitative evidence. *JBI Database of Systematic Reviews & Implementation Reports,* 11(7):131-282.

Productivity Commission. 2011. Caring for Older Australians, Report No 53, Final Inquiry Report, Canberra.

Thorne, S. 2008. *Interpretive Description*. Left Coast Press: California.

United States. Department of Health and Human Services. 2015. *Information on Conventional Antipsychotics.* United States Food and Drug Administration: United States. http://www.fda.gov/drugs/drugsafety/postmarketdrugsafetyinformationforpatientsandproviders/ucm107211.htm (accessed 01.10.15).

WHO (World Health Organization). 2012. *Conventional and atypical antipsychotics and antidepressant (trazodone) for behavioural and psychological symptoms in people with dementia*. World Health Organization: Switzerland http://www.who.int/mental_health/mhgap/evidence/dementia/q3/en/ (accessed 01.10.15).

The Art of Clinical Supervision: the Traffic Light System for the Delegation of Care

AUTHORS

Kylie Russell
PhD, MHSc(Ed), BN, RN
Postgraduate Coordinator School of Nursing and
Midwifery at The University of Notre Dame Australia,
Mouat Street, Fremantle, Western Australia
kylie.russell@nd.edu.au

Sarah Williamson
BN, RN
Registered Nurse Fremantle Hospital, Alma Street
Fremantle, Western Australia;
sessional tutor The University of Notre Dame Australia
Mouat Street, Fremantle, Western Australia
sarah.hobson@nd.edu.au

Ann Hobson
GradCert NsgEd, Dip Nsg, RN
Educator Art of Clinical Supervision,
Western Australian Department of Health (retired)

ABSTRACT

Objective
The Traffic Light System for the Delegation of Care was developed as a tool to assist student nurses and their
allocated clinical supervisor on clinical shift, to determine their scope of practice for the delivery of patient care.

Setting
Western Australian health services.

Primary Argument
With each clinical placement student nurses are required to determine their scope of practice according to
the health service polices and guidelines in conjunction with their own School of Nursing practice policies and
legislation. Health service nurses support students in this scope of practice determination, but often themselves are
perplexed by the different placement structure in each university course, and the lack of consistency across these.

Conclusion
Participant feedback and implementation of the tool supports its usefulness as a practical strategy to assist
decision-making in the delegation of care to student nurses.

INTRODUCTION

The Art of Clinical Supervision (ACS) is a one-day seminar for nurses facilitated by academic staff in the School of Nursing and Midwifery at The University of Notre Dame Australia. Initially designed as an intervention strategy for a PhD in 2013 with 200 participants, the programme has now been delivered to more than 3,000 health professionals across Western Australia (WA). Of significance, the ACS was developed to improve participant knowledge and attitude towards students and clinical supervision, as well as to provide practical tips to assist with clinical teaching and supervision (Russell et al 2016; Russell 2013). This article is the focus of one of these teaching tips – the Traffic Light System for the Delegation of Care.

DISCUSSION

Clinical supervision, in the context of entry to practice nursing education, is the relationship between the student nurse, and the registered nurse responsible for their practice on clinical placement. In Australia, a clinical supervisor is "an appropriately qualified and recognised professional who guides learners' education and training during clinical placements. The clinical supervisor's role may encompass educational, support and organisational functions. The clinical supervisor is responsible for ensuring safe, appropriate and high quality patient-client care" (Health Workforce Australia [HWA] 2014, pp.22). Other terms used to describe this relationship include preceptor, mentor, coach, buddy and facilitator (Dimitriadou et al 2015; Manninen et al 2015).

The clinical supervisor, in providing opportunities for practice, must determine what care can and cannot be performed by the student nurse. This discussion between the student and the clinical supervisor should sit within the delegation framework. The Nursing and Midwifery Board of Australia (NMBA) defines delegation as:

> the relationship that exists when a RN delegates aspects of their nursing practice to another person such as an enrolled nurse, a **student nurse** or a person who is not a nurse .... In some instances **delegation may be preceded by teaching and competence assessment** (2016, pp.6).

Through the delegation of care, the clinical supervisor (unit registered nurse) remains accountable; however, the accepter of the delegation, the student, also assumes responsibility and ensures that they are appropriately educated and able to complete the delegated task (NMBA 2016; NMBA 2013a).

Delegation of care by the clinical supervisor facilitates student nurse learning; delegation of clinical care facilitates student competence to support their professional development. These activities of delegation remain within the scope of the nursing role, and are learnt at appropriate times during the student's course of study. That is, dependent on where the student is within their course will influence what nursing activities the student can engage in. Due to the varied student placement experiences, and dependent on the institution of enrolment, students are ready at different times to perform aspects of nursing care. Thus, students do not always have a set of rules or a precise list of what can and cannot be practiced, at a particular point in their course, creating a sense of uncertainty for staff and students.

The Traffic Light System for the Delegation of Care was designed to assist clinical supervisors in their delegation of care to a student nurse. The tool is based on the NMBA Nursing Practice Decision summary guide (2013b) and the National Framework for Decision Making (2013a) for the allocation of care to members of the health care team, including student nurses. The framework provides clinical supervisors with a structure to decide if an episode of patient care can be delegated to a student, or another member of the health care team. The NMBA (2013a, pp.19) criteria for delegation to a student states:

- Performance of the activity is congruent with the educational goals of the program in which the student is enrolled, and with the professional role that the student will undertake once they graduate.

- The educational institution supports the performance of the activity by the relevant group of students.

- The student is competent and confident to perform the specific activity for the consumer in the current context.

Whilst these may seem straightforward, the ability to determine appropriate delegation in practice can be fraught with confusion. In delegating, the registered nurse must consider the knowledge and the ability of the student to safely undertake the task (Saccomando and Pinto-Zipp 2011); this can be confronting with multiple schools of nursing, each with their unique curriculum pathway, and students experiencing varying opportunities throughout their clinical placement journey.

Therefore in consideration and preparation of delegating care, both time and preparation are key. Thought must be given to how much time the clinical supervisor has to provide the necessary teaching to ensure safe practice, based on what the student already knows, and does not know (Saccomando and Pinto-Zipp 2011). Hasson et al (2012) refer to this action of delegation as "the right task, circumstance and person" (pp.229). That is, does the clinical situation allow for the safe delegation of care, and is the student equipped with the essential knowledge, skill and ability to practice within the current clinical context (NMBA 2016).

Further consideration of the delegation includes the level of student supervision. This supervision can occur 'directly' or 'indirectly' dependent on the student's experience and the complexity of the care. Direct supervision involves the presence of the clinical supervisor to provide direct observation, guidance and direction. Indirect supervision involves the clinical supervisor being available to the student should they need support. Therefore whilst the clinical supervisor does not directly observe practice they are accessible to provide assistance if required (HWA 2014). Despite these guidelines and frameworks for practice clinical supervisors have often struggled with the delegation concept.

TRAFFIC LIGHT SYSTEM FOR DELEGATION OF CARE

The Traffic Light System for the Delegation of Care was developed as a tool to assist clinical supervisors to determine a student's scope of practice and the type of supervision required. The tool is reviewed during the Art of Clinical Supervision seminar (Russell et al 2016), the seminar was an intervention for a doctoral research study. The study described the positive impact of the seminar on participant's knowledge and attitude towards the role of clinical supervision. Due to the success of the seminar, first presented in 2012, the seminar continues for all health service employees across WA on request. A further 3,000 participants have attended since the initial 200 doctoral participants. Attendees to the seminar are provided with a paper copy of the tool in a seminar resource pack. The tool is intended to be used as an A3 poster for display in key nursing locations, e.g. treatment room, and is available to participants in digital form on request.

The tool is to be used at a unit/ward level, this ensures consistency of delegation and supervision requirements; therefore reducing confusion for staff and students. Staff together discuss what students can do under indirect supervision 'Green Traffic Light', what they can do whilst directly supervised 'Orange Light', and what they cannot do 'Red Traffic Light'. Starting with the Red Light is often the easiest, in particular with those nursing actions unauthorised by legislation and hospital policy. For example in Western Australia, students cannot participate in patient restraint. Examples of a completed Traffic Light poster are provided in figure 2. Please note these examples relate only to the Western Australian health care context.

Figure 1: Traffic Light System for Delegation of Care

Acceptance and Delegation of Responsibilities

Student Clinical Placement <<Enter Clinical Area Here>>

The following table is a guide to the clinical knowledge, skills and behaviours that students may be able to perform in your clinical area. However, prior to delegating responsibility the student and the supervisor should consider the students:

- Stage of training (previous placements experience, related to the delegation)
- Appropriate level of clinical duties expected at stage of learning
- Feedback from other colleagues regarding student competence
- Student and patient/client willingness to engage in learning

- Speciality of ward/unit area
- School practice guidelines/polices
- Health service practice guidelines

the Art of Clinical Supervision

Indirect Supervision

"Is when the supervisor works in the same facility or organisation as the supervised person, but does not constantly observe their activities"

What can students be delegated to do under **indirect supervision**?

Direct Supervision

"Is when the supervisor is actually present and personally observes, works with, guides and directs the person being supervised"

What can students be delegated to do under **direct supervision**?

Observation Only

Students may not be able to take part in some activities because of legislation, standards or organisational policy. In this situation students may only observe.

What are students only able to **observe**?

© The Art of Clinical Supervision

Figure 2: Traffic Light System for Delegation of Care with Example

What can students be delegated to do under **indirect supervision?**

*Activities of Daily Living   * Patient Assessment   * Change simple dressing   * Documentation (Signed by RN)

                                                      * Patient Observations

What can students be delegated to do under **direct supervision?**

*Medication Administration   * Insertion of IDC   * Review Wound   *Initial mobilisation of a post op patient

                                                      * Change complex dressing

What are students only able to **observe?**

*Patient Restraint – rationale MH Act   * Medications: eg. IV Chemotherapy, IV schedule 8 Drugs, IV Cardiac Medications,
IV sedation – rationale outside scope of practice, these are an extension of scope for
the RN in particular to the area of work. Further education and assessment often required.

Indirect Supervision

"Is when the supervisor works in the same facility or organisation as the supervised person, but does not constantly observe their activities"

Direct Supervision

"Is when the supervisor is actually present and personally observes, works with, guides and directs the person being supervised"
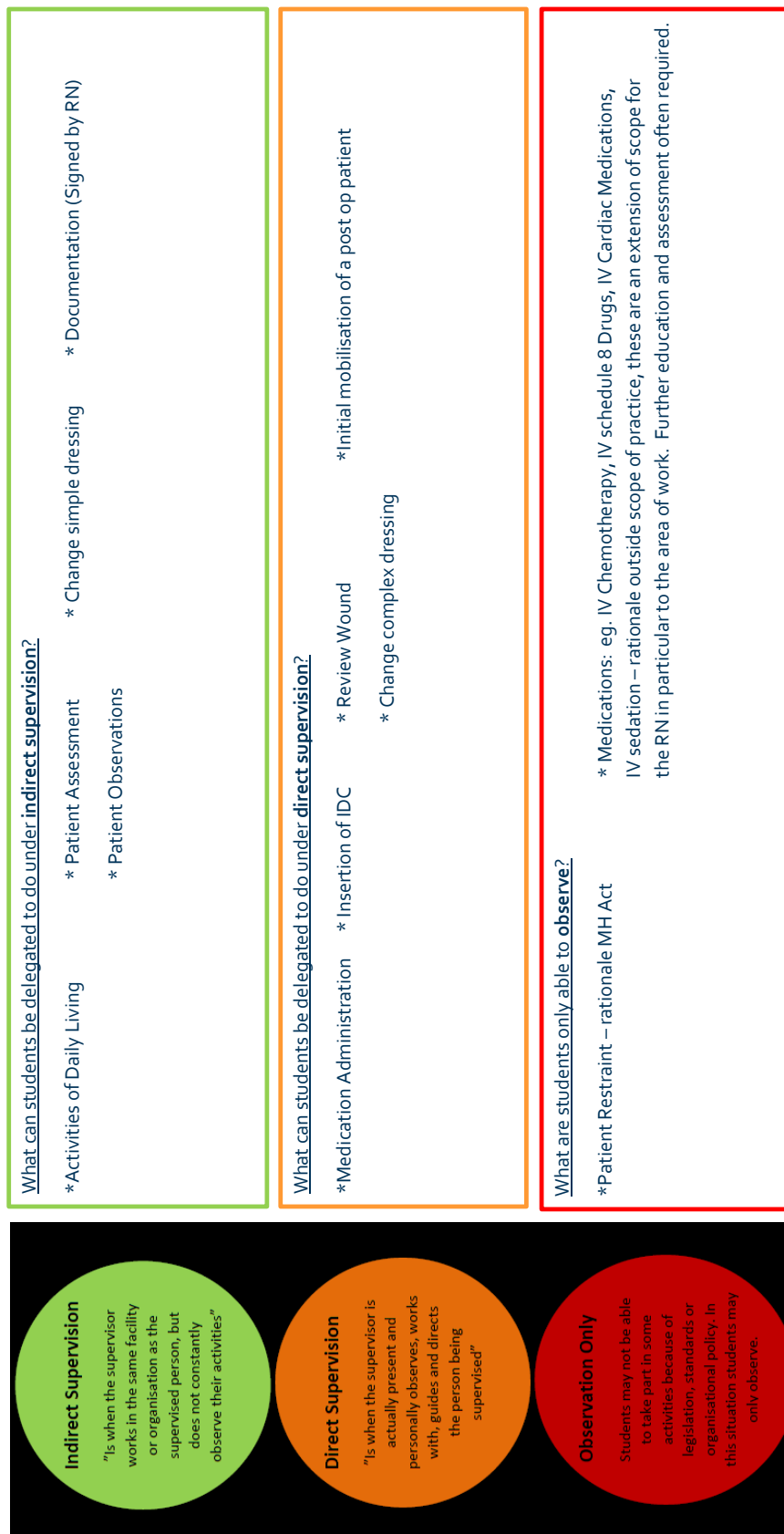
Observation Only

Students may not be able to take part in some activities because of legislation, standards or organisational policy. In this situation students may only observe

Implementation of the Traffic Light System for the Delegation of Care involves all nursing staff, including the staff development nurse and the ward/unit manager. Staff discussion about what students can and cannot do, and under what supervision must be agreed to. Through this discussion, the Traffic Light System brings consistency of the delegation of care to student nurses during their clinical placement. In teaching The Art of Clinical Supervision, participants often noted their workplace provided no direction about student delegation, and they could not comment with certainty that they delegated care in the same way as their peers. Many questioned what they 'did' or 'did not' allow a student to do, or the level of supervision provided was consistent, given the decision was made at an individual level, with no unit/ward input. This ward/hospital input only occurred through specific policies e.g.: students cannot administer intravenous cardiac medications (Russell 2013).

FEEDBACK

Feedback from the ACS participants, through ongoing survey evaluation, strongly endorses the Traffic Light System, with participants articulating it encourages discussion within the workplace, agreement on the allocation of nursing care to the different levels of supervision, and importantly provides clarification and direction for staff and students in the delegation of patient care. The following email statements are from two WA nurse educators who requested digital copies:

"I think this would be a fantastic tool for our nurses and instead of reinventing the wheel I was wondering if we could use your version" (2016), and "I really enjoyed the day, really keen to see a culture change, the traffic light sheet was the one we needed. We are going to mock up a clinical supervisor pack and give the guys some guidance as to where the students will be at" (2016).

CONCLUSION

Students on clinical placement have often described their frustration over the different perspectives held by nursing staff in what they can and cannot do. One day encouraged to partake in clinical care and the next told it is outside of their scope. This lack of consistency creates a sense of frustration and confusion. Creating a forum for discussion with all staff through the use of the Traffic Light System for the Delegation of Care promotes consistency of practice.

Ensuring staff consistency in delegation ensures patient safety, and a positive learning experience for students. A student entering a workplace with Traffic Light Posters immediately portrays to the student their role in the delivery of patient care and confirms any unsure expectations about the placement opportunities for practice.

The Traffic Light System provides a tool to assist with the delegation of care to student nurses. Such tools can be useful to create a sense of consistency, reduce confusion, and wasted time in determining what a student can and cannot do. Ultimately this ensures a clinical environment that promotes safety of practice for the student, which impacts on patient care and outcomes.

REFERENCES

Dimitriadou, M., Papastavrou, E., Efstathiou, G. and Theodorou, M. 2015. Baccalaureate nursing students' perceptions of learning and supervision in the clinical environment. *Nursing and Health Sciences,* 17(2):236-242.

Health Workforce Australia. 2014. *National clinical supervision competency Resource.* Health Workforce Australia. http://www.heti.nsw.gov.au/Global/Clinical%20Supervision%20Series/HWA_National-Clinical-Supervision-Competency-Resource_FINAL.pdf (accessed 21.03.2017).

Hasson, F., McKenna, H. and Kenney, S. 2012. Delegating and supervising unregistered professionals: The student nurse experience. *Nurse Education Today,* 33(3):229-235.

Manninen, K., Henriksson, E., Scheja, M. and Silen, C. 2015. Supervisors' pedagogical role at a clinical education ward – an ethnographic study, *BMC Nursing,* 14(55):1-8.

Nursing and Midwifery Board of Australia. 2013a. *A national framework for the development of decision-making tools for nursing and midwifery practice.* Nursing and Midwifery Board of Australia. http://www.nursingmidwiferyboard.gov.au/Codes-Guidelines-Statements/Frameworks.aspx (accessed 21.03.2017).

Nursing and Midwifery Board of Australia. 2013b. *Nursing practice decisions summary guide.* http://www.nursingmidwiferyboard.gov.au/Codes-Guidelines-Statements/Frameworks.aspx (accessed 20.03.2017).

Nursing and Midwifery Board of Australia. 2016. *Registered nurse standards for practice*. Nursing and Midwifery Board of Australia. http://www.nursingmidwiferyboard.gov.au/Codes-Guidelines-Statements/Professional-standards.aspx (accessed 20.03.2017).

Russell, K. 2013. *The Art of Clinical Supervision Program for Registered Nurses: Its implementation and influence on nursing staffs' knowledge and attitudes* (Doctoral dissertation).

Russell, K., Alliex, S. and Gluyas, H. 2016. The art of clinical supervision: Its development and descriptive mixed method review, *Australian Journal of Advanced Nursing,* 33(4):6-16.

Saccomando, S. and Pinto-Zipp, G. 2011. Registered nurse leadership style and confidence in delegation. *Journal of Nursing Management,* 19(4):522-533.

A nurses' guide to ethical considerations and the process for ethical approval of nursing research

AUTHOR

Rebecca (Becky) Ingham-Broomfield, J.P.
RN (NSW), ENB249 Cardio-Thoracic Nursing (London), Cert.Ed,
Dip.Nurs. (London), BSc. (Hons), MSc (Health Psychology)
Casual Lecturer in Nursing
Armidale Rural Referral Hospital, Armidale, NSW, Australia
beckybroomfield2011@gmail.com

KEY WORDS

ethics, ethical practice, nursing research, ethics committees, evidence-based practice (EBP)

ABSTRACT

Objective
A sound knowledge of the ethical principles that guide nursing practice and research are essential for any researcher. This article provides discussion regarding the principles as well as the history behind ethical practice in the construction of nursing research. The article also breaks down the process for achieving ethical consent and includes a simplified framework to guide the process of seeking ethical approval.

Primary Argument
Nurses new to the field of conducting research may benefit from an organised structure that helps them understand the sequence of events required to gain appropriate ethical approval and ensure an ethical approach is adopted. It is crucial for all researching nurses to understand, and adhere to, already well developed nationally and globally prescribed ethical and validated research study structures to be able to achieve ethical, valid and reliable research outcomes.

Conclusion
A framework is provided within this article to outline the process of gaining ethical consent for research. The information presented in the framework is based upon the discussion within the article and may assist the nurse researcher, who is unfamiliar with the process of obtaining ethics committee consent, to plan and prepare for their research approval, in a systematic logical manner. The framework reflects the National Health and Medical Research Council (NHMRC) criteria which guides Human Research Ethics Committees (HRECs). Nursing research needs to be able to ethically contribute to the body of Evidence Based Practice.

INTRODUCTION

There are two main areas to consider regarding ethics in nursing research. Firstly, there are the principles that guide the day-to-day practice of nurses (Stephens and Brighton 2015; Nursing and Midwifery Board of Australia 2013) and secondly, the important components to remember when conducting research. This paper will therefore define and apply the six ethical principles relevant to health professionals (Lumby 2016; Stephens and Brighton 2015), discuss the historical background that underpins the relevance of adhering to codes of ethics and conduct, particularly when researching human participants (Johnstone 2016), and lastly, provide an overview of the steps required to ethically undertake nursing research and gain ethical consent from the appropriate committees.

ETHICS, ETHICAL PRINCIPLES AND ETHICAL CONSENT FOR UNDERTAKING RESEARCH

Ethics refers to the moral principles that guide decision-making and behaviour (Stephens and Brighton 2015) or how to best live a life which is moral (Johnstone 2016). Harris et al (2014) further clarify the definition of ethics as the rules and standards by which a community regulates the behaviour of its members. Moral principles, therefore, arise from beliefs about what can be considered right or wrong, which may be socially, professionally or philosophically based (Stephens and Brighton 2015). Johnstone (2016) states there is no philosophically significant difference between the terms *ethics* and *morality* which can be used interchangeably however, Atkins et al (2014, p26) disagree, believing ethics differ from morals stating that moral principles are rule-like expectations or beliefs that a person considers to be ethical. Ultimately, the main message for nurses and nurse researchers is to live, work and research ethically and to follow a "good life" from which all humans can flourish physically, emotionally, psychologically, morally, interpersonally and socially (Atkins et al, 2014, p24).

The Nursing and Midwifery Board of Australia (NMBA) (2013) has a Code of Ethics by which all nurses should abide whether practising within a hospital setting, an educational institution or whilst undertaking any research to protect the moral interests and welfare of patients (Adrian and Chiarella 2016; Johnstone and Crock 2016) and act as advocate (Epstein and Turner 2015; NMBA 2013). If a researcher is specifically undertaking human research it falls under the label of Bioethics (Stephens and Brighton 2015) which is derived from the Greek *bios* meaning life (Johnstone 2016). Bioethics refers specifically to ethics that are applied to human life or health decisions (Johnstone 2016).

Ethical consent to undertake research is given by appropriate ethics committees. As one example of ensuring researchers, pursuing publication, have adhered to National and Global ethical standards, the British Medical Journal (2017) require every research article submitted to *The BMJ* to include a statement that the study obtained ethics approval (or a statement that it was not required), including the name of the ethics committee(s) or institutional review board(s), the number/ID of the approval(s), and a statement that participants gave informed consent before taking part. In addition they welcome detailed explanations of how investigators and authors have considered and justified the ethical and moral basis of their work. Hand in hand with this is the necessity to ensure that ethical principles are acknowledged within any research undertaken as discussed below. Through rigorous procedures following ethical standards both professions show a high commitment to quality and safety (Arries 2014).

Medical practice is guided by the Hippocratic Oath (Harris et al 2014) whilst nursing practice follows six main bioethical principles that underpin professional behaviour (NHS Scotland 2017; Lumby 2016; Stephens and Brighton 2015). Firstly, *autonomy* refers to the right for a person to make their own decisions (Stephens and Brighton 2015) which basically means that people should be respected as self – determining choosers

(Johnstone and Crock 2016) and be free to act upon their preferences (Johnstone 2016). This also applies to any person who is the subject of research. Every potential subject has the right to be fully informed and the right to refuse participation (Jirojwong et al 2013; 2014). Hand in hand with this is the principle of *justice*, broadly defined or known as, fairness (Johnstone 2016; Stephens and Brighton 2015). Whether patient or research subject, the nurse or nurse researcher, needs to weigh up and prioritise but remain as fair as possible. A component of the principle of justice is the subjects right to fair treatment and equal opportunity (Johnstone 2016). Specifically, there is a right to privacy which means that, both in nursing practice and whilst undertaking research, confidentiality should be afforded to each patient or subject (NMBA 2013).

With any research, ensuring the principle of *non-maleficence*, or to do no harm, is paramount (Johnstone and Crock 2016; Stephens and Brighton 2015) which entails a stringent obligation not to injure others (Johnstone 2016). Florence Nightingale, in her Notes on Nursing, stated the first duty of a hospital "is to do the sick no harm" (Robb 2014). Research in to human subjects should, therefore, have the ultimate intention of *beneficence*, defined simply "to do good" (Johnstone and Crock 2016; Stephens and Brighton 2015, p95; Perrin 2014) which entails a positive obligation to act for the benefit of others (Johnstone 2016). This specifically entails that the research ensures the subjects have freedom from harm, freedom from coercion and the risk of exploitation is avoided (Perrin 2014). The researcher should weigh up the risk to benefit ratio. There needs to be clear understanding of the risks and benefits that may be incurred in a study.

The remaining two principles are *fidelity* and *veracity*. Fidelity is to be faithful to agreements and promises (Stephens and Brighton 2015) which links strongly to ensuring the patient, or subject, remains autonomous and fully informed. Veracity refers to telling the truth (Stephens and Brighton 2015). The ethical nurse, or nurse researcher, is able to explain the rationale behind every action and recognises standards to be upheld. As nurses are accountable for their actions it is essential that these principles are understood and the research process follows accordingly (Adrian and Chiarella 2016; NMBA 2013;).

HISTORICAL BACKGROUND

Nursing codes for professional practice and ethics have been developed over the years to protect both the nurse and the patient or client. Codes underpin morality and consequently permission from an ethics committee is a pre-requisite to carrying out any research on human subjects (Liamputtong 2013). This requirement has been established due to a long and harrowing background of unethical behaviour and research that serves to highlight the enormous relevance and importance of human consent (Slowther et al 2006).

One of the most notorious examples of unethical medical research was carried out during the Second World War (WWII) in Germany by Dr. Josef Mengele, who became known as the Angel of Death (United States Holocaust Memorial Museum 2016; Cefrey 2001) or the 'White Angel' because of his coldly cruel demeanour (United States Holocaust Memorial Museum 2016). His experiments became infamous because of his interest in experimenting on twins (Cefrey 2001, p11). It is known that 1,500 pairs of twins were subjected to immoral research (Liamputtong 2013). Mengele's practice included injecting dye in to the eyes of the twins in a bid to change their colour (United States Holocaust Memorial Museum 2016). This was an attempt to ensure the future of the Aryan race desired by Hitler – tall, blonde with blue eyes (United States Holocaust Memorial Museum 2016). Twin research was seen as an ideal tool in weighing the variant factors of human heredity and environment. Mengele, with his mentor, had performed a number of legitimate research protocols using twins as test subjects throughout the 1930s. Now, at Auschwitz, with full license to maim or kill his subjects, Mengele performed a broad range of agonising and often lethal experiments with Jewish and Roma ('Gypsy') twins, most of them children (United States Holocaust Memorial Museum 2016).

Following WWII many members of the Nazi regime were brought to trial however Mengele managed to escape (Cefrey 2001). The Nuremberg Trials commenced in December 1946 (Jirojwong et al 2013), lasting until 1949, in response to the Nazi experimentation on innocent people who did not consent to participation in atrocious experiments during the Third Reich/Nazi regime (Jirojwong et al 2013; Slowther et al 2006). From the trials came the seven Nuremberg Principles which now form the bedrock of modern international criminal law and justice (International Nuremberg Principles Academy 2016). The formation of the principles led to the Nuremberg Code to control future trials involving human subjects, a set of research ethics principles for human experimentation. There are ten specific points in the Nuremberg Code that serve as a standard against which to measure individuals rights when participating in experimental and clinical research. The first point specifies the voluntary consent of human beings is absolutely essential (United States Holocaust Memorial Museum 2016). The fourth point is significant in that it asserts any experiment should avoid all unnecessary physical and mental suffering and injury (United States Holocaust Memorial Museum 2016).

Following the Nuremberg Code came the Declaration of Geneva (1948), a revision of the Hippocratic oath, which states "A physician shall act in the patient's best interest when providing medical care". The World Medical Association (WMA) developed the Declaration of Helsinki, which was adopted by the 18th WMA General Assembly in Helsinki in Finland, in June 1964 (WMA 2016). It contains 37 basic aims and principles for human research including research on identifiable human material and data (WMA 2016). The contents of the Nuremberg Code, and following declarations have, over the years, been filtered through to every profession to accept the responsibility of a Code of Ethics.

However, despite the promise of ethical behaviour in research, trials still went ahead which were immoral and unjust. There are many known unethical research studies which have left the non-consenting participants damaged beyond repair or dead (Brandt 2012). Disrespect for human life and paternalism are clearly evident in the following example of immoral research, namely the USA Government Tuskegee Syphilis Study. Paternalism by definition is where there is a relationship of uneven power between the recruiter and the individuals being recruited (Perrin 2014). The Tuskegee Syphilis Study was held between 1932-1972 and investigated the effect of syphilis on approximately 399 poor African Americans plus 201 as a control group (Perrin 2014; Liamputtong 2013; Brandt 2012). The men were never told they were in a research study and did not receive proper medical care to treat the syphilis (Perrin 2014). Treatment was deliberately withheld to study the course of the untreated disease despite penicillin having been found to be the cure in 1947 (Liamputtong 2013) and widely available in the 1950's (Brandt 2012). By the end of the study only 74 were alive, 28 had died directly of syphilis, a 100 due to related complications, 40 wives were infected and 19 children had been born with congenital syphilis (Perrin 2014). On 16 May 1997, after 65 years, President Clinton apologised for the USA Government's syphilis study in Tuskegee but the lack of respect for autonomy and indifference to informed consent left a legacy of mistrust (Perrin 2014).

Another later example of unethical behaviour is the prescribing and use of the medication Thalidomide. Thalidomide was marketed in the late 1950's as a wonder drug – a tranquiliser, pain killer, used for insomnia, coughs and headaches (Hajar 2011). It was given to pregnant women to help with morning sickness and was considered safe however more than 10,000 children in 46 countries were born with malformations or missing limbs (Woodruff Library 2016; Hajar 2011). No animal studies had been conducted to investigate the safety of Thalidomide on the unborn child (Hajar 2011). Many of the victims of Thalidomide did not survive more than a year. Later, Thalidomide underwent rigorous testing. On 26 May 2006, the U.S. Food and Drug Administration (USFDA) granted accelerated approval for Thalidomide (Thalomid), in combination with dexamethasone for the treatment of newly diagnosed patients with multiple myeloma (MM) (USFDA 2015). Thalidomide has also been found to reduce multiple symptoms commonly associated with cancer-related anorexia and improved quality of life (Davis et al 2012).

Given this background, it is essential, when choosing your topic, the nurse researcher needs to consider vulnerable subjects such as the elderly, children, people who are mentally, physically or emotionally disabled, people who are institutionalised, pregnant women or anyone in a position of limited power or input (Johnstone and Crock 2016; NMBA 2013). The nurse and nurse researcher can play a significant ethical role in supporting the person's trust and ensuring they are unharmed and their vulnerability is not further undermined (Atkins et al 2014; Slowther et al 2006). This has long been acknowledged as an important component of nursing and nursing research.

Nurse educators in the late 1980's such as Leino-Kilpi and Tuomaata (1989) noted scientists and scholars were paying more attention to the problems of research ethics. They stated two key questions in data collection were the accuracy with which the research design was followed and the treatment of the subjects who were the sources of information. The authors noted the most important requirement in the publication of research results is the necessity for honesty (Leino-Kilpi and Tuomaala 1989). Some years prior to their observations Sheehan (1985, p336) discussed that honesty is basic to all human relationships and whilst there may be conflicting interests, potential conflict and tension in both nursing practice and research, nursing in all its guises must be able to fundamentally sustain constant reflection and eternal vigilance to ensure moral integrity. This observation also applies to the storage of data ensuring patient confidentiality and protection from unwanted public viewing and hacking. When a nurse chooses to research they must make a moral commitment to care for all patients (Lachman 2012).

APPROACHING AN ETHICS COMMITTEE

The role of Human Research Ethics Committees (HREC's) is to make fair and just decisions to protect human subjects (Liamputtong 2013). Historically, in Australia, the Medical Council issued a statement in 1966 in a direct response to Helsinki, to make it a requirement that all proposed research involving human subjects be examined by an institutional ethics committee (Liamputtong 2013, p28). By 1985, human research without permission from an appropriate ethics committee could not be provided with public funding. This was followed by the establishment of The National Health and Medical Research Council (NHMRC) in 1992 which has established further guidelines including that an ethics committee be made up of research, health and social care professionals, a lawyer, lay members and someone from the pastoral community (Liamputtong 2013, p28; Hunter New England Local Health District 2016). Ethics Committees within hospitals have levels of research requiring different reviews from a HREC from low and negligible risk (LNR) to non-research activity which may simply be a presentation on medical procedures (Hunter New England Local Health District 2016).

There are more than 200 HRECs in institutions and organisations across Australia. They play a central role in the Australian system as they review research proposals involving human participants to ensure that they are ethically acceptable and in accordance with relevant standards and guidelines. In undertaking this role, HRECs are guided by relevant standards. Standards include those outlined in the National Statement on Ethical Conduct in Human Research issued by NHMRC. Researchers, Institutions and Human Research Ethics Committees (HRECs) are advised to use the NHMRC web site to ensure they are accessing the current version of the National Statement, and to check regularly for updates (NHMRC 2017). They also provide access to the appropriate forms for ethical consent of a research proposal as outlined in table 1.

CONCLUSION

Every nurse and nurse researcher has a duty to ensure they uphold the ethical principles to safeguard their patients (NMBA 2013). An appreciation of the history behind the development of codes of conduct and ethics can only reinforce the importance of ensuring patient safety when undertaking research. Following appropriate

guidelines and making certain the correct avenues are followed for gaining ethical research consent and permission will aid in protecting participants and researchers from inappropriate research. The framework below has been designed to simplify the process of gaining appropriate ethical consent to undertake research.

Table 1: Ethical considerations and the process for ethical approval of nursing research

Choosing your topic	What are the ethical implications of the topic for research? Think about power relationships and patient vulnerability. How will you ensure your participants are protected from harm? Consider the six ethical principles and how they are addressed in your research.
Choosing your research design	Will it be qualitative or quantitative? Think about how you will gain consent? Depending on the design this may be done electronically, face to face or through mail drop. How will you maintain privacy, anonymity and confidentiality? Think about your sample of respondents and their specific cultural, religious and language needs.
Approaching an ethics committee	This depends on your research topic and audience. You may need to approach a university ethics committee or a hospital based one. Find out from your supervisors who you need to approach.
Ethics forms and approaching your participants	The NHMRC (2017) provides information on Human Research Ethics Application (HREA) Resources at https://www.nhmrc.gov.au/health-ethics/human-research-ethics-application-hrea. Researchers of all disciplines can complete forms available on the website for submission to the appropriate HREC. Universities and hospitals are the most likely to have a Human Research Ethics Committee (NHMRC 2017). You will be asked to use the Human Research Ethics Application found at https://hrea.gov.au/ with a support site found at https://www.nhmrc.gov.au/health-ethics/human-research-ethics-application-hrea/hrea-support? The Aboriginal Health and Medical Research Council of NSW (2017) operates as a HREC to assess research proposals affecting the health and wellbeing of Aboriginal people and communities in NSW. You can find this information if you follow the link: http://www.ahmrc.org.au/ethics.html Standardised participant and information consent forms can be accessed from NHMRC at https://www.nhmrc.gov.au/health-ethics/national-approach-single-ethical-review/standardised-participant-information and hospital based HRECs, such as NSW Health (2017) have online information, found on the Intranet http://www.health.nsw.gov.au/ethics/Pages/contacts-hrecs.aspx including Participant Consent Forms. Other specific districts, such as Sydney Local Health District, have websites explaining how to access information from their Research Ethics and Governance Office http://www.slhd.nsw.gov.au/RPA/Research/
Storage of data	Where will you store your data? Think how you can keep it safe from public viewing or potential hacking. Is it safe, secure and backed-up? Will you be able to access it in 1 year, 2 years, 5 years? How will you ensure you remember the specifics of the data? Can it be made available for archiving, discovery, and possible publication or reuse?

(Aboriginal Health and Medical Research Council of NSW 2017; Hunter New England Local Health District 2017; NHMRC 2017; Deakin University 2015; Jirojwong et al 2014; 2013).

REFERENCE LIST

Aboriginal Health and Medical Research Council of NSW. 2017. Ethics Committee. http://www.ahmrc.org.au/ethics.html (accessed July 2017).

Adrian, A. and Chiarella, M. 2016. Transition into practice: the regulatory framewok for nursing. In Transitions in Nursing, edited by E. Chang and J. Daly. Chatswood, NSW: Elsevier.

Arries, E.J. 2014. Patient safety and quality in healthcare: Nursing ethics for ethics quality. Nursing Ethics (1), http://journals.sagepub.com/doi/abs/10.1177/0969733013509042?ssource=mfr&rss=1 (accessed July 2017).

Atkins, K., de Lacey, S. and Britton, B. 2014. Ethics and law for Australian Nurses. 2nd ed. Port Melbourne, Victoria: Cambridge University Press.

Brandt, A. 2012. Racism and Research: The Case of the Tuskegee Syphilis Study. The Hastings Centre Report 8(6).

British Medical Journal. 2017. Ethics approval of research. *British Medical Journal*, http://www.bmj.com/about-bmj/resources-authors/forms-policies-and-checklists/ethics-approval-research (accessed July 2017).

Cefrey, H. 2001. Dr. Josef Mengele: The Angel of Death. New York: The Rosen Publishing Group.

Davis, M, Lasheen, W, Walsh, D, Mahmoud, F, Bicanovsky, L, and Lagman, R. 2012. A Phase II DoseTitration Study of Thalidomide for Cancer Associated Anorexia. *Journal of Pain and Symptom Management* (1), https://www.ncbi.nlm.nih.gov/pubmed/21640548 (accessed July 2017).

Deakin University. 2015. Store your research data. http://www.deakin.edu.au/students/research/research-support-and-scholarships/eresearch/manage-data/store (accessed July 2017).

Epstein, B. and Turner, M. 2015. The Nursing Code of Ethics; Its Value, Its History. (2), http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Vol-20-2015/No2-May-2015/The-Nursing-Code (accessed July 2017).

Hajar, R. 2011. Animal Testing and Medicine. Heart Views 12(1):42.

Harris, P., Nagy, S. and Vardaxis, N. 2014. Mosby's Dictionary of Medicine, Nursing and Health Professions. 3rd ed. Sydney: Mosby Elsevier.

Hunter New England Local Health District. 2016. Hunter New England Human Research Ethics Committee. http://www.hnehealth.nsw.gov.au/ethics/Pages/Hunter-New-England-Human-Research-Ethics-Committee.aspx (accessed July 2017).

Hunter New England Local Health District. 2017. Participant Consent Form. http://www.slhd.nsw.gov.au/RPA/Research/pdfs/Participant_ConsentForm_09.pdf (accessed July 2017).

Hunter New England Local Health District.2016. Research Ethics. http://www.hnehealth.nsw.gov.au/ethics/Pages/Research-Ethics.aspx (accessed July 2017).

International Nuremberg Principles Academy. 2016. The Annual Nuremberg Forum 2016 - The Nuremberg Principles 70 years on. http://www.nurembergacademy.org/events/detail/the-annual-nuremberg-forum-2016-the-nuremberg-principles-70-years (accessed July 2017).

Jirojwong, S., Johnson, M. and Welch, A. 2013. Research Methods in Nursing and Midwifery - Pathways to Evidence-Based Practice. Edited by S. Jirojwong, M. Johnson and A. Welch. Sydney: Oxford University Press.

Jirojwong, S., Johnson, M. and Welch, A.2014. Research Methods in Nursing and Midwifery - Pathways to Evidence-Based Practice. 2nd ed. Sydney: Oxford University Press.

Johnstone, M. 2016. Bioethics - A Nursing Perspective. 6th ed. Chatswood, NSW: Elsevier.

Johnstone, M. and Crock, E. 2016. Dealing with ethical issues in nursing practice. In Transitions in Nursing, edited by E. Chang and J. Daly. Chatswood, NSW: Elsevier.

Lachman, V.D. 2012. Ethics, Law and Policy - Applying the Ethics of Care to Your Nursing Practice. *Medical Surgical Nursing*, 21(2):112 - 116.

Leino-Kilpi, H and Tuomaala, U. 1989. Research ethcs and nursing science: an empirical example. *Journal of Advanced Nursing*, 14(6):451-458.

Liamputtong, P. 2013. Research Methods in Health. South Melbourne: Oxford University Press.

Lumby, J. 2016. Caring for self: the role of collaboration, healthy lifestyle and balance. In Transitions in Nursing, edited by E. Chang and J. Daly. Chatswood, NSW: Elsevier.

National Health and Medical Research Council. 2015. National Statement on Ethical Conduct (2007) - Updated May 2015. http://www.nhmrc.gov.au/guidelines-publications/e72 (accessed July 2017).

National Health and Medical Research Council. 2017. Frequently asked questions (FAQ's) about Human Research Ethics Committees. https://www.nhmrc.gov.au/health-ethics/human-research-ethics-committees-hrecs/frequently-asked-questions-faqs-about-human-res(accessed July 2017).

National Health and Medical Research Council. 2017. Human Research Ethics Committees (HRECs). http://www.nhmrc.gov.au/health-ethics/human-research-ethics-committees-hrecs (accessed July 2017).

National Health and Medical Research Council. 2017. National Ethics Application Form. http://www.nhmrc.gov.au/health-ethics/national-ethics-application-form-neaf (accessed July 2017).

NHS Scotland. 2017. Advanced Nursing Practice Toolkit: Ethical Principles. http://www.advancedpractice.scot.nhs.uk/legal-and-ethics-guidance/what-is-ethics/ethical-principles.aspx (accessed July 2017).

Nursing and Midwifery Board of Australia. 2013. Code of Ethics for Nurses in Australia. http://www.nursingmidwiferyboard.gov.au/Codes-Guidelines-Statements/Professional-standards.aspx (accessed July 2017).

Nursing and Midwifery Board of Australia. 2013. Code of Professional Conduct for Nurses in Australia. http://www.nursingmidwiferyboard.gov.au/Codes-Guidelines-Statements/Professional-standards.aspx (accessed July 2017).

Perrin, K. 2014. Planning and Evaluation for Public Health. Burlington, MA: Jones and Bartlett.

Robb, E. 2014. From Florence Nightingale to the Francis Inquiry. https://www2.rcn.org.uk/__data/assets/pdf_file/0004/570343/Prof_Elizabeth_Robb_presentation.pdf (accessed February 2017).

Sheehan, J. 1985. Ethical considerations in nursing practice. *Journal of Advanced Nursing*, 10(4):331 - 336.

Slowther, A., Boynton, P. and Shaw, S. 2006. Research governance: ethical issues. *Journal of the Royal Society of Medicine*, (2), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1360492/ (accessed July 2017).

Stephens, M, and Brighton, R. 2015. Values, Ethics and Advocacy. In Kozier & Erb's Fundamentals of Nursing, edited by A. Berman, S. J. Snyder, T. Levett-Jones, T. Dwyer, M. Hales, N. Harvey, L. Moxham, T. Park, B. Parker, K. Reid-Searl and D. Stanley. Melbourne: Pearson Australia.

United States Holocaust Memorial Museum. 2016. Josef Mengele. https://http://www.ushmm.org/wlc/en/article.php?ModuleId=10007060 (accessed July 2017).

United States Holocaust Memorial Museum.2016. Nuremberg Code. https://http://www.ushmm.org/information/exhibitions/online-features/special-focus/doctors-trial/nuremberg-code (accessed July 2017).

US Food and Drug Administration. 2015. FDA Approves Thalomid (Thalidomide) to Treat Multiple Myeloma. http://www.fda.gov/AboutFDA/CentersOffices/OfficeofMedicalProductsandTobacco/CDER/ucm095651.htm (accessed July 2017).

Woodruff Library. 2016. All Americans will Pull Together... The Federal Government's Evolving Role in Dealing with Disaster: Thalidomide Drug Crisis 1960's. http://guides.main.library.emory.edu/c.php?g=50422&p=325039 (accessed February 2017).

World Medical Association. 2016. WMA Declaration of Helsinki - Ethical Principles for Medical Research Involving Human Subjects. http://www.wma.net/en/30publications/10policies/b3/index.html (accessed July 2017).

Assessment and management of acute pain in older people: barriers and facilitators to nursing practice

AUTHORS

Sally Fitzgerald
RN, BN, PGDipHealSc(Nursing), MHealSc(Nursing – Clinical)(Credit) (Otago)
Clinical Nurse Specialist, Acute Pain Management Service, Christchurch Hospital, Private Bag 4710, Christchurch, New Zealand
sally.fitzgerald@cdhb.health.nz

Henrietta Tripp
DipNS(CPIT), BN(Massey), PGDipHealSc(Nursing), MHealSc (Distn.), PhD Cand. (Otago)
Lecturer, Centre for Postgraduate Nursing Studies, University of Otago, P O Box 4345, Christchurch, New Zealand
Henrietta.trip@otago.ac.nz

Gillian Halksworth-Smith*
BA(Hons)(Sheff), MN(Wales), MSc(Glam), PGPC(Dist)(Wales), RN, RM

*At the time of the study, writing, and submission of this manuscript Ms Halksworth-Smith was employed by the Centre for Postgraduate Nursing Studies, University of Otago, New Zealand

ABSTRACT

Objective
The aim of this review was to examine the pain management practices of nurses, and identify barriers and facilitators to the assessment and management of pain for older people, within the acute hospital setting.

Design
Integrative literature review.

Setting
Acute care for inpatients in a tertiary hospital.

Subjects
Older people defined as 65 years of age or over.

Primary argument
A nurse's individual practice was found to significantly influence how pain is managed in the older patient; this encompassed nurses attitudes, communication, documentation, and the use of pharmacological and non-pharmacological strategies. Nurses' ability to provide optimal care was found to be influenced by organisational factors such as workforce planning and the workplace environment. Provision of knowledge and skills to both nurses and older patients through education was found to facilitate better pain management; whilst a model of care whereby the nurse has authority and the patient is perceived as a passive recipient, was found to be a hindrance to optimal pain management outcomes.

Conclusion
Findings indicate that nurses need to improve communication with older patients, increase their knowledge of pain assessment and management principles in regards to this population, and have a greater awareness of human and social influences. Whilst organisational factors can impact upon nursing care, pain management needs to be highly prioritised and promoted as essential. Targeted education is required to overcome many of the identified barriers, and is a key recommendation from this review.

INTRODUCTION

Populations are rapidly ageing worldwide (World Health Organization 2015). The progressive loss of function associated with ageing often carries a significant burden of pain; in the acute hospital system, older people have the highest rates of hospitalisation, surgery, injury and disease (Gibson and Lussier 2012). Therefore it is imperative that health professionals are familiar with pain management approaches for the older person (Herr 2010).

The negative effects of pain can be particularly compromising in the older patient (Wells et al. 2008), and management strategies differ significantly from other groups (McLeish et al 2009). As well as the physiological changes associated with ageing, older people may have co-morbidities, sensory or cognitive impairments, and/or be taking multiple medications (Prowse 2006).

Pain management in the acute hospital setting is primarily a nursing responsibility (Prowse 2006). Effective treatment of pain should be achievable for all (Catananti and Gambassi 2010); however it is well documented that pain in older patients is frequently poorly managed (Halaszynski 2013; Herr 2010). In the acute hospital setting, multiple audits conducted have shown that pain management for the older patient is inadequate (Mehta et al 2010; Niruban et al 2010; Herr and Titler 2009; McLeish et al 2009; Eid and Bucknall 2008; Hwang et al 2006).

Previous literature reviews have explored the prevalence of (Prowse 2006) and health professionals contribution towards (Brown 2004) postoperative pain in older people; both identified there is little research focused on older people within the acute hospital setting (Prowse 2006; Brown 2004). This review sought to review current literature, and further explore the assessment and management of pain for the older patient within the acute hospital setting, with an aim to identify both barriers and facilitators to nursing practice.

METHODS

The integrative review method allows the combination of quantitative and qualitative studies, drawing together various perspectives of the phenomenon of concern (Whittemore and Knafl 2005). The Joanna Briggs Institute [JBI] (2014) review guidelines were followed. The literature search was limited to articles published between January 2004 and March 2014, and available in the English language. Databases searched were: Medline, Pubmed, CINAHL, Proquest Nursing Database, the Cochrane Library, Joanna Briggs Institute [JBI] and Psychinfo. The internet search engine www.googlescholar.com was also accessed.

Keywords:

Aged, elderly, geriatric, gerontology, older person*, older adult*, older people

Acute setting*, acute hospital, inpatient*

Nurs*, nursing, nursing assessment, nursing management

Acute pain, pain score, pain scale, pain assessment, analgesia, post-operative, postoperative, surgical pain, self-report, pain management

Included studies were required to focus solely on adults aged 65 and above, as well as pain management. Studies were required to have been conducted within the acute or sub-acute inpatient tertiary hospital setting; studies conducted within specialty areas such as emergency departments were included. Studies were also required to examine the practice of nurses; studies that also looked at other health workers were able to be included if the data regarding nurse participants was grouped separately.

Due to differences in physiology and management, studies on chronic or cancer pain were excluded. As many older people have some cognitive impairment (Halaszynski 2013), it was decided to only exclude studies that focused on moderate to severe dementia. Studies that focused on community care or nursing homes were excluded. Whilst ethical approval was not required for this review, the included studies were examined for ethical considerations.

Retrieved studies were assessed for methodological quality using the JBI (2014) critical appraisal tools which corresponded to the respective methodology of the studies. Studies were subject to a secondary review by the second and third authors; those which met less than seventy percent of criteria were excluded.

Standardised JBI (2014) data extraction forms were used to extract key findings that were relevant to the review objectives. A thematic analysis approach was taken (Whittemore and Knafl 2005). All extracted findings were reviewed and grouped into a set of conclusions, on the basis of similarity in meaning. These conclusions were then analysed into themes, which were then grouped into categories according to sufficient similarity in themes, to form a single set of synthesised findings.

RESULTS

The results of the search strategy are presented in figure 1. Twenty-seven articles were sourced of which thirteen were included in the review. Across these studies, a total of 9,161 older patients, and 756 nurses were represented. A total of one hundred and one findings were extracted from the thirteen studies. These findings were synthesised into fourteen themes, which were grouped into four categories; nursing practice, organisational factors, knowledge and education, and power balance.

Fourteen studies were excluded; five were audits which did not identify specific barriers or facilitators to pain management for the older patient. A further six studies, and two expert opinion papers, were excluded as they did not meet inclusion criteria. One study was found to use research findings that were already included in the review.

Figure 1: Search strategy table
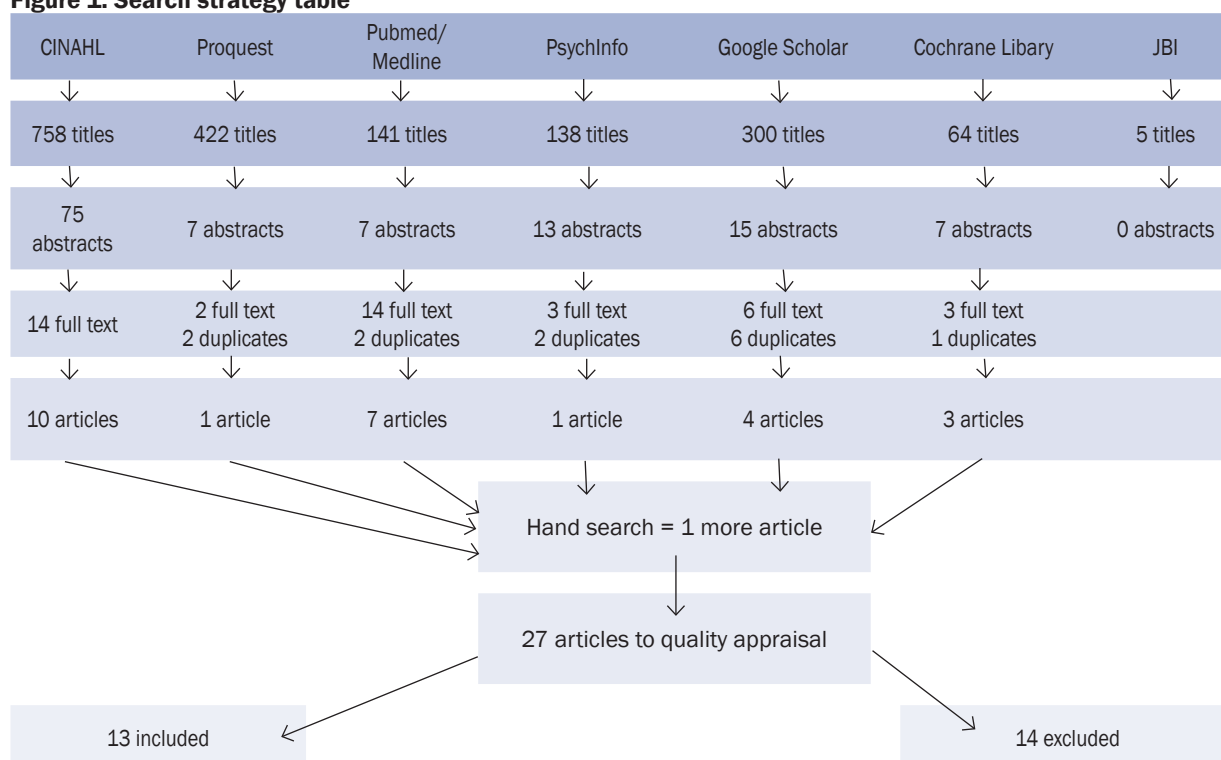
Table 1: Synthesised Results

Category	Themes	Number of Findings Extracted from Studies
Nursing practice	Attitudes of nurses	N= 6
	Communication between nurses and older patients	N=11
	Documentation of pain assessment findings	N=6
	Pharmacological strategies in pain management	N= 4
	Non-pharmacological strategies in pain management	N=6
Organisational factors	Collaboration within the multi-disciplinary team	N=5
	Cultural factors in the workplace	N=9
	Workforce planning	N=8
Knowledge and education	The impact of nursing education	N=9
	Nurses' knowledge, confidence, and experience.	N=7
	The complex needs of the older patient	N=8
	Patient knowledge and education	N=7
Power balance	Patient perceptions and expectations	N=12
	Nursing authority	N=4

Category one: Nursing practice

Four studies described attitudes of nurses that negatively influenced the assessment and management of pain in the older patient (Manias 2012; Coker et al 2010; Brown and McCormack 2006; Sauaia et al 2005). Nurses were observed to avoid and not respond to indicators of pain in older people (Manias 2012; Brown and McCormack 2006) and did not always believe the patient's self-report of pain (Manias 2012; Coker et al 2010; Sauaia et al 2005).

Communication was identified as an important influencing factor that negatively impacted upon pain management. Nurses used vague, ambiguous language when asking older adults about their pain (Manias 2012; Brown and McCormack 2006). Furthermore, assessment often lacked any in-depth questioning (Herr et al 2004) and for those patients with communication barriers, nurses did not always alter their approach (Manias 2012; Brown and McCormack 2006). Nurses' perceptions of pain intensity correlated poorly with patient reports (Coker et al 2008), and nurses demonstrated limited awareness of patients' pain, often missing cues that should have prompted further assessment (Manias 2012; Brown and McCormack 2006).

From the nurses' perspective, patient communication was reported to be a significant barrier to pain assessment (Herr et al 2004). Older patients often had trouble using pain assessment tools (Coker et al 2010), and the use of different language by older patients to describe pain, such as 'discomfort', was noted, which can potentially mislead the nurse into thinking that the pain is tolerable (Manias 2012; Coker et al 2010).

Documentation of a pain assessment was found to significantly improve the odds of a prescription for analgesia in older patients (Iyer 2011). Whilst identified as a potential facilitator, documentation may also be a barrier to pain management if it is not being completed to an adequate standard. Nursing documentation of pain assessment and management was found to be sub-optimal (Iyer 2011; Coker et al 2010; Coker et al 2008), particularly in those over seventy (Iyer 2011).

A lack of consistency in the use of pharmacological strategies in nursing practice was a further barrier to pain management (Manias 2012; Coker et al 2010; Gregory and Haigh 2008). The analgesia patients received was dependent upon each individual nurse; findings indicated that nurses preferred to utilise fixed-dose analgesia only, and can be reluctant to administer Pro-Re-Nata [PRN] analgesia (Manias 2012; Coker et al 2010; Gregory and Haigh 2008).

The use of non-pharmacological strategies was identified as a potential facilitator to managing pain in older patients (McCaffery and Locsin 2006). However, nurses also reported that non-pharmacological methods of pain relief were unavailable for them to use (Coker et al 2010). Findings within this theme were not homogenous; some indicated that nurses use non-pharmacological interventions regularly (Manias 2012; Sauaia et al 2005) whilst others found little use at all (Brown and McCormack 2006).

Category two: Organisational factors

Nurses in the acute hospital setting work as part of a multi-disciplinary team; the effectiveness of communication between team members may impact upon the care given to the older patient (Iyer 2011; Coker et al 2010; Brown and McCormack 2006). Nurses identified communication with medical staff as a barrier to pain management (Coker et al 2010; Brown and McCormack 2006) and their reliance on prescriptions from doctors sometimes limited what they could administer (Iyer 2011).

The culture of the acute care setting may be defined as "a sense of what is valued and how things should be done" (Scott-Findlay and Estabrooks 2006, pp.499). Nursing practice within the acute hospital setting is often regimented and task-orientated which may contribute to a lack of in-depth assessment and individualised care (Manias 2012; Brown and McCormack 2006). Findings also indicated a culture of reluctance amongst nurses and physicians to give strong analgesia to older patients (Manias 2012).

Observational findings suggested that the ability of nurses to deliver adequate patient care was influenced by staffing levels and availability (Manias 2012; Coker et al 2010; Brown and McCormack 2006). It was also found that disorganised and fragmented nursing practice contributed to the under-management of pain (Coker et al 2010; Brown and McCormack 2006). Tasks such as double checking medications (Coker et al 2010), and frequent interruptions when performing tasks, interfered with pain management and were deemed to be the result of workforce planning (Brown and McCormack 2006).

Category three: Knowledge and education

Three studies found that a lack of education may be a barrier, and the promotion of education a facilitator to improving pain management (Manias et al 2011; Jackson 2010; Titler et al 2009). Education provided to nurses covered evidence-based material relevant to pain management of the older patient, as well as the importance of documentation; this resulted in improved nursing practice, and better pain control for patients (Manias et al 2011; Jackson 2010; Titler et al 2009).

Nurses' knowledge and experience can influence how they manage pain; some nurses were found to have inadequate knowledge of analgesics (Gregory and Haigh 2008), and in situations where pain was poorly controlled in older patients, nurses appeared to have little confidence and management strategies (Brown and McCormack 2006). Conversely, Herr et al. (2004) concluded that nurses may be aware of best practice principles, but not necessarily implement these in practice.

Multiple co-morbidities added complexity to the process of pain assessment and management for older people (Manias 2012; Coker et al 2010). The presence of confusion in older patients was found to be challenging for nurses, and a significant barrier to pain management (Manias 2012; Coker et al 2010). Coker et al (2010) found that nurses with less experience were more likely to identify this as a barrier than senior nurses.

The older patients' level of knowledge may influence pain management, as they often received little education and/or involvement in decision making (Brown and McCormack 2006). Findings suggested that they may hold misconceptions such as fear of addiction or side effects, which can lead to anxiety and reluctance to take analgesia (Manias 2012; Coker et al 2010; Brown and McCormack 2006; Sauaia et al 2005).

Category four: Power balance
In a therapeutic relationship, when the patient puts their trust in a nurse, the resultant influence should enable patients to be empowered, rather than controlled (Stein-Parbury 2013). This concept emerged as two themes; patient's perceptions and expectations, and nursing authority.

Patient perceptions of nurses and expectations of care, may contribute to their pain being poorly controlled. Findings indicated a paradoxical relationship between pain severity and satisfaction with pain management; older patients appeared to have an expectation of severe pain (Sauaia et al. 2005). Under-reporting of pain was also identified; contributing factors included a fear of bothering busy nursing staff, being viewed as a nuisance, and a perception that nurses can only give analgesia at set times (Coker et al 2010; Coker et al 2008; Brown and McCormack 2006; Sauaia et al 2005).

Findings indicated that nurses may misuse the authority they have over the patient when making decisions, which can impact upon pain management (Manias 2012; Brown and McCormack 2006). Nurses were observed using dismissive, scolding language with older patients (Brown and McCormack 2006), excluding patients from decision making, and adopting a policing role when administering analgesia, aiming to give as little as possible (Manias 2012).

DISCUSSION

Nursing practice
This review identified that attitudes and perceptions of nurses towards older patients can impact upon pain management. When health professionals are regularly exposed to people in pain, responsiveness can decrease (Rupp and Delaney 2004); this may explain the observed lack of engagement. However, the needs of older people are often given lower priority than younger patients; such attitudes develop unconsciously over time from social and cultural influences (Higgins et al 2007). To address this, health professionals should maintain an awareness of their own personal beliefs and biases, and examine how these may influence their practice (Dunwoody et al 2008).

A lack of comprehensive and individualised pain assessment has been identified as a barrier to pain management. Older adults commonly experience sensory and cognitive deficits, may need more time to answer questions, and may use different language to describe pain (Butler-Maher et al 2012). Nurses should therefore consider using synonyms for pain and take an in-depth approach, which encompasses self-reported data and observations of pain-related behaviour (Hadjistavropoulos et al 2007).

The prescribing of PRN analgesia is common practice in acute settings; nurse's knowledge and utilisation of this can be sub-optimal, a finding supported by other research (Gordon et al 2008; McCaffery et al 2007). Whilst PRN analgesia allows flexibility in meeting individual requirements, fixed -dose prescribing may improve analgesic administration rates (Eid and Bucknall 2008). Older patients experience more adverse effects than younger patients, and may have lower opioid requirements, therefore a multi-modal approach is recommended whereby a combination of medications are used at a reduced dose, to maximise analgesia and minimise side effects (Halaszynski 2013; MacIntyre and Schug 2007).

The use of non-pharmacological strategies may potentially improve pain management. The findings here

were not homogenous; however it is recommended that non-pharmacological strategies, including cognitive-behavioural as well as tactile methods, be part of the treatment plan for pain in older adults (Butler-Maher et al 2012). Documentation of pain assessment may also facilitate better pain control (Iyer 2011); unfortunately this was found to be sub-optimal in nursing practice; a finding supported by other research (Eid and Bucknall 2008; Niruban et al 2010).

Organisational factors

A culture of reluctance to give strong analgesia to older patients was identified; this may be reflective of societal fears and attitudes around opioids (Rupp and Delaney 2004). Whilst older patients are more susceptible to the adverse effects of opioids, the chances of addiction and misuse are usually low (American Geriatric Society 2009). Hence such misconceptions and knowledge deficits held by some health professionals need to be addressed for optimal pain relief to be achieved (Horgas et al 2012).

Findings indicate that nurses may be limited by inadequate prescriptions for analgesia (Coker et al 2010; Brown and McCormack 2006). However Herr and Titler (2009) found that even when opioids were charted, they were often not administered by nurses. More effective collaboration between nursing and medical staff is recommended to ensure timely prescriptions as well as the safe and effective utilisation of analgesia (Herr and Titler 2009).

High nurse workloads, time pressures, staffing issues, distractions and interruptions can all impact upon the nurse's ability to manage pain (Campbell 2013). A potential problem with this is that nurses may be more regimented in their approach and assess patients in a routine manner (Stein-Parbury 2013). Both organisations and individual nurses should promote individualised care rather than ritualistic practice; however when time is short, this can be difficult to achieve (Campbell 2013).

Nurses may feel pressured to complete tasks within a certain time frame; this can moderate their patience and tolerance to older patients (Higgins et al 2007). The institution itself has a responsibility to provide adequate resources (Horgas et al 2012); however it needs to also be highlighted that each individual carries a legal, ethical and professional obligation to provide an adequate standard of care (Jones and Schofield 2011). Whilst time pressures are a barrier to pain management, the vulnerability of older adults may contribute to their needs not being prioritised (Higgins et al 2007).

Knowledge and Education

A nurse's previous experience and knowledge may impact upon how pain is managed in the older patient. To improve practice, nurses must feel supported, confident and competent in their abilities, and have access to resources. The provision of education for nurses may be key in improving these factors. Education provided to nurses has resulted in improved practice, reduced perception of barriers, and better patient outcomes (Jackson 2010; Titler et al 2009).

Poor health literacy amongst older patients was also identified as a barrier; the provision of accessible information to patients can be a significant factor in achieving effective pain relief (MacIntyre and Schug 2007). In older patients particularly, education may be helpful in addressing historical misconceptions and fears around opioids (Brown et al 2013). Whilst not every patient may want to be involved in their care, by giving them access to information, as well as support, nurses can promote both self-efficacy and health literacy.

Power Balance

This review highlighted the power imbalances that can occur in practice. When admitted to hospital, older people are vulnerable; they may be unwell, in pain, experience feelings of isolation and have poor social

supports (MacIntyre and Schug 2007). Hadjistavropoulos et al (2007) stated that "the single most important psychological mediator relevant to pain is the individual's perception of control" (pp32). Nursing practices identified in this review mimic a model of care where the nurse has the authority and the patient is a passive recipient (Stein-Parbury 2013). This model is discouraged in favour of a more holistic approach which promotes patient autonomy, self-determination and participation in decisions (Brown 2010).

Older patients have a tendency to under-report pain; this may be related to multiple factors, including their expectations of pain and stoicism (Jones and Schofield 2011; Dunwoody et al 2008). They may trust that the nurse will do all they can to manage their pain, have a fear of being viewed as a burden (Brown and McCormack 2006), and also fear the meaning of pain which could result in interventions, longer hospital stays, and a loss of independence (Hadjistavropoulos et al 2007). The promotion of self-efficacy is particularly relevant to older patients who may passively wait to be asked about pain. To address this, nurses need to be aware of their influence, and encourage patient participation (Butler-Maher et al 2012).

RECOMMENDATIONS

Findings from this review indicate that nurses need to improve their communication and interactions with older patients, as well as their knowledge of pain assessment and management principles. The implementation of compulsory in-service education on pain management with a specific focus on the older person is recommended. Such education should also cover barriers to pain management, assessment principles, the use of PRN and multi-modal analgesia, and the importance of documentation.

In order to address issues of power imbalance between nurses and older patients, the culture of nursing needs to be addressed. Education must therefore include discussions around the social construct of the older person, and the influence that nurses own attitudes, beliefs and values, as well as the culture of the ward, can have on the care that older patients receive. Nurses need to examine their own beliefs and attitudes; Higgins et al (2007) suggests a critical humanistic approach to education, with the use of case studies, to help nurses be more aware of the way they talk and think about older people.

In order to address the organisational factors that impact upon nurse's ability to provide individualised care, strategies are needed to optimise resources. A commitment to improve pain management practices is needed at both management and ward levels; patient-centred individualised care, rather than ritualistic practice, needs to be promoted within institutions. Pain management interventions need to be highly prioritised and seen as essential; the development of evidence-based guidelines, pathways and compliance standards, specific to pain management in the older person, may encourage nurses to be more aware of their accountability and improve their practice.

The studies in this review were predominantly focused on nurses' views and experiences, with only minimal representation of the older patients perspective on pain management in the acute setting. The authors therefore also recommend further research with a focus on the older persons perspective, in order to better identify their specific needs.

LIMITATIONS

It is possible that not all relevant studies were identified as this review was limited to studies printed in the English language. Had other languages been included, the findings of the review may have been strengthened.

CONCLUSION

The assessment and management of pain for the older patient is complex and multi-faceted, and remains a challenge within the acute hospital setting. This review has identified a need to improve multiple aspects of

nursing practice. Whilst organisational barriers were noted to impact upon nursing care, pain management for the older patient needs to remain a high priority in the acute setting. Nurses must engage older patients in their care, communicate effectively, complete comprehensive pain assessments, and be aware of their own beliefs and biases that can impact upon practice. Through the identification of barriers and facilitators, this review has identified a need for nursing education, and the promotion of individualised effective pain management within institutions, to overcome these barriers and promote better outcomes for the older population.

REFERENCES

American Geriatrics Society. 2009. Pharmacological Management of persistent pain in older persons. *Journal of the American Geriatrics Society*, 57(8):1331-1346.

Brown, C. 2010. Person-centred care in aged care, in Dr. P. Brown (ed). Health Care of the Older Adult. Woodslane Press: Warriewood, NSW.

Brown, C., Constance, K., Bedard, D. and Purden, M. 2013. Colorectal surgery patients' pain status, activities, satisfaction, and beliefs about pain and pain management. *Pain Management Nursing*, 14(4):184-192.

Brown, D. 2004. A literature review exploring how healthcare professionals contribute to the assessment and control of postoperative pain in older people. *Journal of Clinical Nursing*, 13(2):74-90.

Brown, D. and McCormack, B. 2006. Determining factors that have an impact upon effective evidence-based pain management with older people, following colo-rectal surgery: An ethnographic study. *Journal of Clinical Nursing*, 15(10):1287-1298.

Butler-Maher, A., Meehan, A.J., Hertz, K., Hommel, A., MacDonald, V., O'Sullivan, M.P., Specht, K. and Taylor, A. 2012. Acute nursing care of the older adult with hip fracture: An international perspective. *International Journal of Orthopaedic and Trauma Nursing*, 16(4):177-194.

Campbell, J. 2013. Administration of PRN analgesia: Older people. In JBI (2014). Best Practice: Evidence Based Information for Health Professionals. Retrieved from http://ovidsp.tx.ovid.com (accessed 01.02.14)

Catananti, C. and Gambassi, G. 2010. Pain assessment in the elderly. *Surgical Oncology*, 19:140-148.

Coker, E., Papaioannou, A., Kaasalainen, S., Dolovich, L., Turpie, I. and Taniguchi, A. 2010. Nurses' perceived barriers to optimal pain management in older adults on acute medical units. *Applied Nursing Research*, 23(3):139-146.

Coker, E., Papaioannou, A., Turpie, I., Dolovich, L., Kaasalainen, S., Taniguchi, A. and Burns, S. 2008. Pain management practices with older adults on acute medical units. *Perspectives*, 32(1):5-12. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/18623951 (accessed 01.02.14).

Dunwoody, C.J., Krenzischek, D.A., Pasero, C., Rathmell, J.P. and Polomano, R.C. 2008. Assessment, physiological monitoring and consequences of inadequately treated acute pain. *Journal of PeriAnesthesia Nursing*, 23(1):15-27.

Eid, T. and Bucknall, T. 2008. Documenting and implementing evidence-based post-operative pain management in older patients with hip fractures. *Journal of Orthopaedic Nursing*, 12(2):90–98.

Gagliese, L. 2009. Pain and aging: the emergence of a new subfield of pain research. *The Journal of Pain*, 10(4):343-53.

Gibson, S. and Lussier, D. 2012. Prevalence and relevance of pain in older persons. *Pain Medicine*, 13:23-26.

Gordon, D.B., Pellino, T.A., Higgins, G.A., Pasero, C. and Murphy-Ende, K. 2008. Nurses' opinions on appropriate administration of PRN range opioid analgesic orders for acute pain. *Pain Management Nursing*, 9(3):131-140.

Gregory, J. and Haigh, C. 2008. Multi-disciplinary interpretations of pain on acute medical units. *Nursing Education in Practice*, 8(4):249-257.

Hadjistavropoulos, T., Herr, K., Turk, D.C., Fine, P.G., Dworkin, R.H., Helme, R., Jackson, K., Parmalee, P.A., Ruby, T.E., Beattie, L.B., Chibnall, J.T., Craig, K.D., Ferrell., B., Fillingim, L.B., Gagliese, L., Gallagher, R., Gibson, S.J., Harrison, E.L., Katz, B., Keefe, F.J., Lieber, S.J., Lussier, D., Schmader, K.E., Tait, R.C., Weiner, D.K. and Williams, J. 2007. An interdisciplinary expert consensus statement on assessment of pain in older persons. *Clinical Journal of Pain*, 23(1):S1-43.

Halaszynski, T. 2013. Influences of the aging process on acute perioperative pain management in elderly and cognitively impaired patients. *The Ochsner Journal*, 13(2):228-247. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3684333/ (accessed 01.02.14).

Herr, K. 2010. Pain in the older adult: An imperative across all health care settings. Pain Management Nursing, 11(2):S1-S10.

Herr, K., Titler, M.G., Schilling, M.L., Marsh, J.L., Xie, X., Ardery, G. Clarke, W.R. and Everett, L.Q. 2004. Evidence-based assessment of acute pain in older adults: current nursing practice and perceived barriers. *The Clinical Journal of Pain,* 20(5):331–340.

Herr, K. and Titler, M. 2009. Acute pain assessment and pharmacological management practices for the older adult with a hip fracture: Review of ED trends. *Journal of Emergency Nursing*, 35(4):312-320.

Higgins, I., Riet, P., Slater, L. and Peek, C. 2007. The negative attitudes of nurses towards older patients in the acute hospital setting: A qualitative descriptive study. *Contemporary Nurse,* 26(2):225-237.

Horgas, A.L., Yoon, S.L. and Grall, M. 2012. Pain Management, in M. Boltz, E. Capezuti, T. Fulmer and D. Zwicker (eds). Evidence Based Geriatric Nursing Protocols for Best Practice (4th edn). Springer Publishing Company: New York.

Hwang, U., Richardson, L. D., Sonuyi, T. O., and Morrison, R. S. 2006. The effect of emergency department crowding on the management of pain in older adults with hip fracture. *Journal of the American Geriatrics Society*, 54(2):270–275.

Iyer, R.G. 2011. Pain documentation and predictors of analgesic prescribing for elderly patients during emergency department visits. *Journal of Pain and Symptom Management*, 41(2):367-373.

Jackson, S.R. 2010. The efficacy of an educational intervention on documentation of pain management for the elderly patient with a hip fracture in the emergency department. *Journal of Emergency Nursing,* 36(1):10-15.

Jones, D. and Schofield, P. 2011. Pain and Older People, in Tolson, D., Booth, J., and Schofield (eds). Evidence Informed Nursing with Older People. John Wiley: Chichester, England.

MacIntyre, P.E. and Schug, S.A. 2007. Acute pain management: A practical guide. Elsevier: London.

Manias, E. 2012. Complexities of pain assessment and management in hospitalised older people: A qualitative observation and interview study. *International Journal of Nursing Studies*, 49(10):1243-1254.

Manias, E., Gibson, S.J., and Finch, S. 2011. Testing an educational nursing intervention for pain assessment and management in older people. *Pain Medicine*, 12(8):1199-1215.

Manias, E., Bucknall, T. and Botti, M. 2005. Nurses' strategies for managing pain in the postoperative setting. *Pain Management Nursing*, 6(1):18–29.

McCaffery, R. and Locsin, R. 2006. The effect of music on pain and acute confusion in older adults undergoing hip and knee surgery. *Holistic Nursing Practice,* 20(4):218-224.

McCaffery, M., Pasero, C. and Ferrell, B.R. 2007. Nurses decisions about opioid dose. *American Journal of Nursing,* 107(12):35–39.

McLeish, P., Mungall, D. and Weichula, R. 2009. Are we providing the best possible pain management for our elderly patients in the acute care setting? *International Journal of Evidence Based Healthcare*, 7(3):173-180.

Mehta, S.S., Siegler, E.L., Henderson Jr, C.R. and Reid, M.C. 2010. Acute pain management in hospitalized patients with cognitive impairment: A study of provider practices and treatment outcomes. *Pain Medicine*, 11(10):1516–1524.

Niruban, A., Biswas, S., Willicombe, S.C. and Myint, P.K. 2010. An audit on assessment and management of pain at the time of acute hospital admission in older people. *International Journal of Clinical Practice*, 64(10):1453–1457.

Prowse, M. 2006. Postoperative pain in older people: A review of the literature. *Journal of Clinical Nursing,* 16(1):84-97.

Rupp, T. and Delaney, K.A. 2004. Inadequate analgesia in emergency medicine. *Annals of Emergency Medicine,* 43(4):494–503.

Sauaia, A., Min, S., Leber, C., Erbacher, K., Abrams, F. and Fink, R. 2005. Postoperative pain management in elderly patients: Correlation between adherence to treatment guidelines and patient satisfaction. *Journal of the American Geriatrics Society*, 53(2):274-282.

Scott-Findlay, S. and Estabrooks, C.A. 2006. Mapping the organisational culture research in nursing: a literature review. *Journal of Advanced Nursing*, 56(5):498-513.

Stein-Parbury, J. 2013. Patient and Person: Interpersonal Skills in Nursing (5th edn). Elsevier: Chatswood, NSW.

The Joanna Briggs Institute. 2014. The Joanna Briggs Institute Reviewers Manual (2014 edn). The Joanna Briggs Institute: Adelaide, SA.

Titler, M.G., Herr, K., Brooks, J.M., Xie, X.J., Ardery, G., Schilling, M.L., Marsh, J.L., Everett, L.Q. and Clarke, W.R. 2009. Translating research into practice intervention improves management of acute pain in older hip fracture patients. *Health Services Research,* 44(1):264–287.

Wells, N., Pasero, C. and McCaffery, M. 2008. Improving the quality of care through pain assessment and management, in Hughes, R.G. (ed). *Patient Safety and Quality: An evidence based guidebook for nurses*. Retrieved from http://www.ncbi.nlm.nih.gov/books/NBK2658/?report=printable (accessed 01.02.14).

Whittemore, R. and Knafl, K. 2005. The Integrative Review: updated methodology. *Journal of Advanced Nursing*, 52(5):546-553.

World Health Organization. 2015. *World Report on Ageing and Health*. World Health Organization: Geneva. http://who.int/ageing/events/world-report-2015-launch/en/ (accessed 01.05.16).