Factors that influence nursing students' consensus about learning and end of life care: a multivariate approach

ABSTRACT

Background; Graduating nursing students' attitudes and behaviours towards learning about end of life nursing care are reflective of their personal values and educational preparation.

Aims; To identify factors predicting graduating nursing students' attitudes towards learning and practice of end of life nursing.

Methods; A non-experimental survey method using a convenience sample of third year undergraduate nurses in one university was employed. The consensus measures are confirmed by Rasch analysis and then estimated against a range of end of life nursing care practices, using Path Modelling.

Results; Outcomes demonstrated that 44 per cent of the nurses' consensus scores about their end of life nursing practices can be directly predicted by their self-rated knowledge about end of life care, prior learning, family experiences of death and dying and their religious beliefs. Other influences including their personal and professional values and their age have added indirect effects but the nurses' gender, country of birth, and their professional exposure to patients who were dying, demonstrated no influence on their final consensus scores. These outcomes suggest graduate nursing abilities about end of life care could be enhanced when nurse educators embrace alternative learning processes, other than predominantly using didactic processes.

Conclusions; Reliable consensus about end of life nursing practices can be scaled and reliable predictions can be generated about end of life nursing learning and practices

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INTRODUCTION

There are professional expectations that the nurse will be able to meet a range of end of life care needs (Leighton & Dubas 2009; Brajtman et al 2007). Nurses' roles and responsibilities in meeting these needs range from managing physical pain relief through to attending to patients' spiritual, emotional and psycho-social care, as well as communicating with the patient and their families (Steginga et al 2005).. These skills require that nurses have the requisite knowledge to provide effective end of life care to their patients (Leighton & Dubas 2009; Miyashita et al 2007). It appears, however, that the ability of a nurse to provide optimal end of life care is greatly affected by a number of factors (Iranmanesh, Savenstedt & Abbaszadeh 2008; Iranmanesh, Dargahi & Abbaszadeh 2007 including their attitudes, education, knowledge and experiences as a health care professional (Adesina, De Bellis & Zannettino 2014; Lange, Thom & Kline 2008; Iranmanesh, Dargahi & Abbaszadeh 2007). An exploration of these factors is vital to enhancing clinical practice and curriculum design for the education of nurses. Furthermore, from the available evidence, the literature shows that other factors such as the nurse's age, religion, gender, country of birth, level of education, knowledge etc. are all factors that can influence the end of life care she/he is able to provide to a patient (Braun, Gordon & Uziely 2010; Hughes et al, 2006; Dunn, Otten, & Stephens 2005; Wessel & Rutledge 2005). Nursing experience was one reported variable most likely to predict nurses' attitudes towards death and caring for dying patients (Lange, Thom & Kline 2008) and participants who viewed death as a natural aspect of life, together with an accepting approach, attended to have a positive attitude towards providing end of life care (Iranmanesh, Dargahi & Abbaszadeh 2008).

This article reports on a study that identified undergraduate nursing students' readiness to provide nursing care for dying patients by constructing and analysing a participant nurse consensus scale, as it applies to different aspects of end of life nursing care practices. With that data, the study sought to predict those factors that are likely to facilitate or become barriers to undergraduate nursing students' learning about clinical practice as it relates to death and dying.

METHODS

The questionnaire used in the study was designed to measure the attitudes, experiences, education and knowledge of undergraduate nursing students towards death and dying. Survey questions were adapted from previously validated questionnaires; The Frommelt Attitude toward Care of the Dying (called FATCOD) (Frommelt, 1991) and the Death Attitude Profile–Revised (DAP-R) (Wong, Reker & Gesser, 1994) scale. Table 1 identifies the thirty items that were used in the survey. To estimate the range and strength of undergraduate nurses' attitudes towards managing dying patients, one Likert scale was produced. The scale used estimates undergraduate nursing students' consensus using a four point scale (containing three thresholds) ranging from 'strongly disagree', 'moderately disagree', 'moderately agree' to 'strongly agree' to different statements about death and dying. It should be noted that the scale selected was not punctuated by the inclusion of an "unsure" category, as this category interferes with the reliability estimates of the scale as a continuum of participants' consensus (Linacre, 2002).

PARTICIPANTS

The participants selected for the study reported in this article were a cohort of undergraduate nursing students enrolled in their final topic in a Bachelor of Nursing Degree program provided by a School of Nursing and Midwifery (SoNM) at an Australian university. University ethics approval was obtained for the study. It was expected that this cohort of students would have had some clinical experiences of death and dying at this stage of their nursing education. Potential participants were drawn from approximately 412 internal and external third year nursing students enrolled in a nursing topic. A lower than expected response rate for the survey was achieved with a total of 87 nurses participating in the study (see persons reliability index below).

Data Analysis

The Partial Least Squares Path Analysis (PLS-PATH 3.01) program as developed by Sellin (1989), and later modified by Hansmans and Ringle (2004), was selected for the analysis. This program can explain the presence, the strength of, and the relationships between the variables that influence nursing students' learning about providing death and dying nursing care. The PLS-PATH procedure is highly appropriate for analysing and predicting relationships between educational data which are not normally distributed and it can also deal with relatively small

Table 1: Number and descriptions of items used in the end of life survey.

	Description of survey statement related to learning and end of life care		
1.	My own personal values and beliefs will influence the care I provide for a dying patient	16.	16. The time and effort invested in caring for a dying patient would be emotionally draining.
2.	I have a good knowledge base about end of life care.	17.	17. I would be uncomfortable if I entered the room of a terminally ill person and found them or their relatives crying.
3.	I am aware of the legislation pertaining to end of life care.	18.	18. Nurses should provide support to family and patient not only in the period of dying but at the moment of death and after death.
4.	I am aware of the legal and ethical aspects of death and dying.	19.	19. Bereavement and counselling for families should continue after the death of a patient.
5.	I have a good understanding of how to access the available resources for end of life care.	20.	20. The care of the family /significant other is important for the dying person.
6.	I would change the topic of conversation if a patient were to ask me if they were dying.	21.	21. Dying patients should be given honest answers about their condition.
7.	I would feel at ease listening to a terminally ill patient talk about death.	22.	22. The quality of life is more important than the quantity of life.
8.	I would avoid talking with a dying person about death if at all possible.	23.	23. I have no fear of death as such.
9.	The nurse should not be the one to talk about death with the person that is dying.	24.	24. I would hesitate to touch someone who is dying.
10.	As a patient nears death the nurse should withdraw from his or her involvement with the dying patient.	25.	25. I would rather not talk about death at all.
11.	I do not wish to nurse dying patients.	26.	26. The uncertainty of not knowing what happens after death worries me.
12.	It is difficult to form a relationship with a person who is dying or their family.	27.	27. Spirituality is important for a dying person.
13.	I would be uncomfortable, if I were assigned to care for a dying patient.	28.	28. The person that is dying should not be allowed to make decisions about his/her care.
14.	Providing nursing care to a dying patient is a valuable and useful learning experience.	29.	29. I am interested in terminally ill patients' care, death and the dying process.
15.	Caring for a dying patient can be satisfying.	30.	30. I am confident in my nursing a dying person and their family.

(Wong, Reker & Gesser, 1994; Frommelt, 1991)

numbers of cases, yet remain very robust (Falk & Miller 1992; Hair, Hult, Ringle & Sarstedt 2013). Using this program, a model can be constructed by sorting the survey responses (as described in Table 1) into either observable variables or factors, or unobservable (latent) variables, and then linking these with a theoretical or hypothetical model. This model can then be represented diagrammatically by a path diagram (also called an arrow scheme; see Figure 1), which shows how the various factors relate to and may influence one another. In Figure 1, it is hypothesised that all demographic variables will exert an influence on the participants' overall consensus in accepting or rejecting different nursing care strategies as appropriate in learning about and practising end of life nursing care.

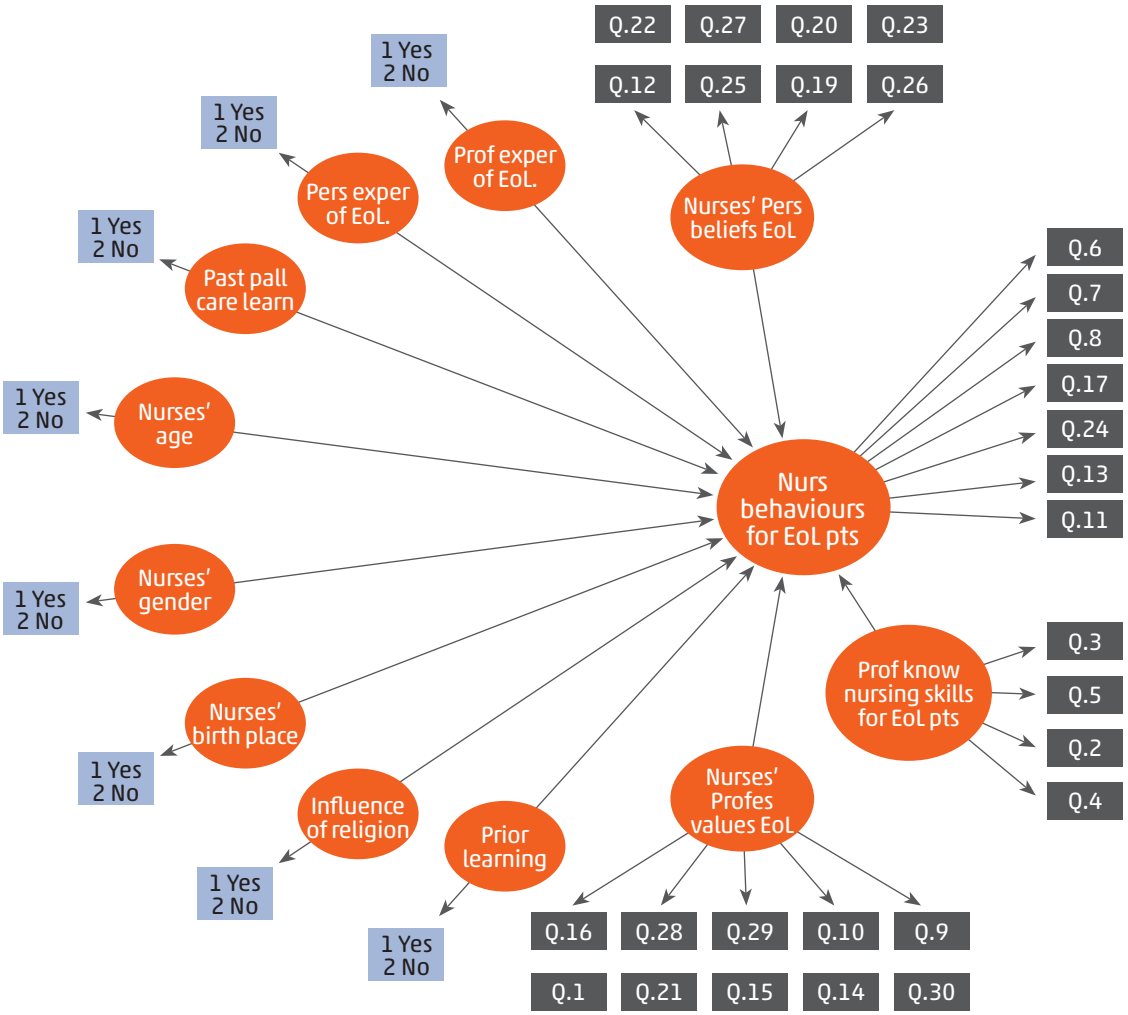

Figure 1: Hypothetical model showing variables that predict nursing students' consensus about end of life learning and nursing practices.

RESULTS

Validating the nurses' consensus scale about end of life learning and nursing care

The Likert scale used to estimate undergraduate nursing students' consensus about end of life nursing care are ordinal measures and are not able to be analysed traditionally to derive means and standard deviation values, without arriving at conclusions that may be misleading (Merbitz et al. 1989, Svensson 2001; Kahler 2008). The use of Cronbach alpha as a measure of reliability was also not selected on this occasion, as it has significant limitations due to being unable to confirm if the underlying constructs of the survey items are uni-dimensional and therefore measuring the same latent variable (Sitjsma 2009). Rasch analysis, on the other hand, is able to determine rating scale reliability very effectively. The Persons Separation Index was 2.01 (reliability 0.70) and the Items Separation Index for the survey used in this study was 5.62 (reliability 0.91) which confirms that the repeatability and reliability of the survey items are likely to be consistent, if they were to be used and re-tested again (Bond & Fox 2007).

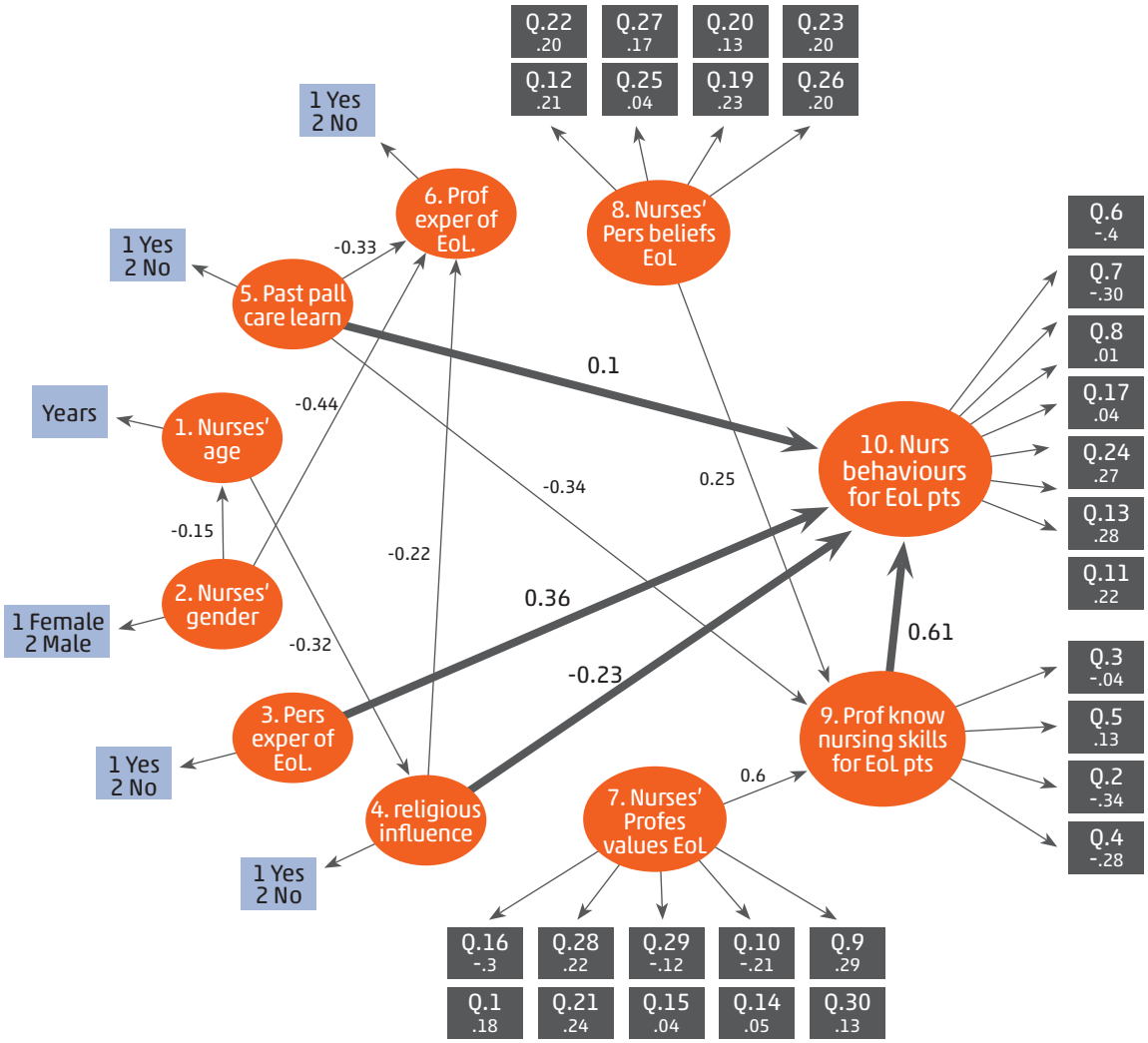

Figure 2: Final path model predicting undergraduate nurses' consensus about learning and end of life nursing practices.

Measuring factors that directly influence undergraduate nursing students' self-rated knowledge and practices in end of life nursing care.

Figure 2 demonstrates there are four statistically significant variables that have a direct influence on the total consensus scores of participants in relation to end of life care. These are identified by the four arrows arriving at the variable number 10. Together, these variables account for 43 per cent of the variance of scores predicting end of life nursing care practices by the completing undergraduate nursing students and summarised in Table 2.

There are additional indirect statistically significant influences that are likely to impact on the students' end of life nursing care learning behaviours that need to be explored. While the direct effects of variables that influence nursing practice behaviours have already been discussed, there are other variables that have indirect effects and do so by modifying those factors or variables that are known to have direct effects on undergraduate nursing students' behaviour and learning. These effects are highlighted in Table 3.

Table 2: Undergraduate nurses' variables having direct influence on end of life learning/ behaviour.

Variable number and name having direct effects on End of Life nursing behaviours/learning (variable 10)	Strength of influence (co-efficient)
9. Nurses' knowledge about end of life skills	+0.61
3. Nurses' family experience with death & dying	+0.36
4. Nurses' religious beliefs	-0.23
6. Nurses' prior learning about palliative care	+0.1

Table 3: Undergraduate nurses' variables having indirect influence on end of life learning/ behaviour.

Number and name of variable having indirect effects on student learning (variable 10)	Strength of influence (co-efficient)	Intervening variable number and name
7. Nurses' professional values about death & dying	+0.6	9. Nurses' knowledge about end of life skills
8. Nurses' personal beliefs about death & dying	+0.25	9. Nurses' knowledge about end of life skills
5. Prior learning	-0.34	9. Nurses' knowledge about end of life skills
1. Student nurses' age	-0.32	4. Nurses' religious beliefs

With reference to Figure 2 and Table 3, it can be seen that it is the younger nurses, and their personal beliefs about death and dying together with their own professional values, which are having an additional influence on their final learning and behaviours associated with end of life nursing care.

Discussion including implications for teaching and learning

The final path model confirms that undergraduate nurses' self–rated beliefs about learning and applying different aspects of end of life nursing care are strongly influenced not only by student demographic factors, but also by their concurrent personal beliefs and familial experiences with death and dying. It is also noted in this study that clinical experiences in end of life nursing practices had no influence on nurses' final beliefs about end of life nursing skills development and practice. It is argued therefore that any nursing education curriculum, in the construction of its end of life nursing skills, would do well to structure its content to initially focus on core end of life nursing care constructs before any greater exploration and knowledge application to clinical nursing practice is undertaken. A more integrated approach to teaching end of life skills based on a more considered learning taxonomy is suggested as this will maximise the transfer of student knowledge to practice (Castles, Goldrich & Hewett 2007). Additionally, it is argued that with a better grasp of the underlying constructs (which embrace end of life nursing care), students will find it easier to interact with the progressively more complex clinical issues that arise from contemporary end of life care, such as communicating with grieving relatives (Pappas, Clutter & Maggi 2007).

From an androgogical perspective, greater authenticity in end of life learning can be achieved by using group work as a learning process so that experiences of death and dying can be shared. This is particularly advocated if traditional end of life teaching practices are solely based on didactic methods. By using a group approach, undergraduate nursing students will be exposed to and have opportunities to manage conflict/consensus issues that arise within their learning groups. This is in turn will help students to cope better with the later demands of professional clinical life as it relates to end of life nursing care (Spencer & Monahan 2001). The use of reflective practice as a learning

medium is additionally recommended particularly when individual student values are in direct conflict with actions associated with professional practice, as is often the case in end of life issues. This mental processing facilitates experiential learning, allowing students to deal with the uncertainties that are frequently associated with application of end of life knowledge to clinical practice (Hinett 2002, Hoffman 2009).

Learning can be made more authentic when students have blended learning; where contemporary clinical experience is undertaken concurrently with formal learning about end of life care. The path model used in this study identified quite strongly that those undergraduate nursing students who had obtained previous experience as health care workers felt more comfortable with end of life care than students who had no such experiences. This was also supported by the qualitative arm of the study (Adesina, De Bellis & Zannettino 2014).

Because of intermittent and sometimes insufficient exposure to end of life clinical experiences, on line learning may offer a more predictable and effective methodology. On line learning is highly flexible and has great potential to enhance clinical experiences. A high level of understanding in applying end of life care is not necessarily dependent on the amount of pedagogical time and resources allocated to it. It is possible to deliver high quality end of life nursing instruction, usually teaching and learning strategies other than traditional didactic teaching methods. The use of a student centred approach, where adult learning or androgogical principles are employed to create a supportive learning environment for undergraduate students, is additionally advocated, especially for students who bring to their learning differing past experiences of death and dying (Eastel 2008).

Study limitations

The total scores given by participants on the modified death and dying self-efficacy scale provided useful information about how to better understand the relationships between factors that facilitate and hinder undergraduate nursing students providing end of life care. Rasch analysis suggests that the death and dying scale is a robust and reliable measure for nursing student consensus in end of life nursing behaviours. Additional studies using larger cohorts of newly registered nurses is warranted to ascertain if the consensus scale performs uniformly across other sub-groups, such as following years of nursing practice experience.

CONCLUSION

The self-report tool for estimating undergraduate nursing students' consensus about end of life nursing skills can directly predict self-rated knowledge about end of life care, prior learning in palliative care, family experiences of death and dying, and personal religious beliefs. New nursing graduates will require ongoing support to be able to provide effective end of life care as their professional exposure to such care as undergraduate nursing students is limited by their experience and the undergraduate curriculum.

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