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The impact and importance of clinical learning experience in supporting nursing students in end-of-life care: Cluster analysis

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ABSTRACT

Background: Nursing students are often expected to provide end-of-life care to patients during clinical practice. Little research has been conducted to examine the heterogeneity of the students and how learning outcomes are affected by their education experience and other demographic factors.
Aim: The aim of this study was to identify and compare groups of nursing students based on their demographics, clinical experience, knowledge, perceived competency, and attitude towards end-of-life care.
Method: A group of 253 nursing students was asked to complete a cross-sectional survey to explore their clinical experience, knowledge, attitude, and perceived competency towards end-of-life care. Cluster analysis was used to determine whether specific groups of students could be identified within the study cohort.
Results: Three distinct clusters were identified. Students from the three clusters showed no significant differences in end-of-life knowledge. Significant differences were identified in clinical experience amongst the three clusters and in attitude and perceived competency within the clusters. The cluster of students that had greater clinical experience demonstrated higher perceived competency and a more positive attitude towards end-of-life care.
Conclusion: Clinical experience was found to be crucial in enhancing the perceived competency and attitude of nursing students in end-of-life care.

Introduction

In the past few decades, advancements in medical technology and therapy in the developed countries have increased longevity by combating various acute diseases. The population has aged and this aging population will necessarily include more people suffering from the types of irreversible chronic illness that are highly associated with the aging process (Guido, 2010). For the chronically sick, the prolonged process of dying of the chronically sick has focused attention on the idea of the "quality of death". The provision of high quality end-of-life (EOL) care has thus become a major responsibility of nurses. End-of-life care is an approach that relieves suffering and improves the quality of life for terminally-ill patients and their families (Gelfman et al., 2008; World Health Organization, 1998).

In Hong Kong, EOL care has gained increasing visibility because the city shares the same health care challenges of an aging population with many other developed countries (Siu et al., 2010). In 2007, the Hong Kong Hospital Authority formed multidisciplinary care team comprising doctor, nurses, medical social workers, and clinical psychologists, with the aim of improving palliative care in the hospitals. End-of-life care is now widely recognized as an essential service and has become a specialty in the nursing and medical professions (Hospital Authority, 2011).

Background

Nurses play a pivotal role in the provision of high quality EOL care because they generally spend more time taking care of and interacting with these patients than other healthcare professionals do (Ramjan et al., 2010). When providing EOL care, holistic healthcare is guided by the physical and psychological needs of the patients, which include the provision of spiritual care, grief counselling, and dignity for the dying and deceased patients and their families (Guido, 2010). At the same time, nurses have to overcome their own fear and emotional distress in the caring process (Scherer et al., 2006). The nursing students, who are generally less

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experienced in providing EOL care, pose challenges to both the carers and the care recipients; thus, palliative, or end-of-life, care education becomes an important component in their introductory nursing education.

Bloom's taxonomy of learning is considered to be a foundation and an essential element within the education community. It consists of three domains of learning activities: cognitive, affective, and psychomotor (Bloom, 1956; Hauenstein, 1998). These domains correspond to knowledge, attitude, and skill, and have been used in numerous studies as indicators of ability in a variety of study areas (Scherer et al., 2006; Lansdell and Beech, 2010). These studies did not measure the actual skills of the participants; instead, 'subjective skill', 'perceived skill', and 'perceived competency' through the medium of the questionnaire, as reported by the participants were used to reflect actual skills.

In a review of studies on EOL care, knowledge, attitude, and perceived competency were used extensively to examine or to measure education outcomes (Billings et al., 2009, 2010; Lansdell and Beech, 2010). Researchers sought the variables influencing nurses' knowledge, attitude, and perceived competency (KAC) for recommendations to enhance learners' ability in EOL care. Based on previous studies, three major factors constituting KAC were identified: demographics, personal attributes, and EOL education, (Khader et al., 2010). Many of the studies focused on attitude because caring for the dying is considered stressful for most nurses. Learning to develop a positive attitude towards EOL care is especially important for nurses to better manage their stress and to sustain their performance in order to provide high quality care (Guido, 2010). Variables such as age, gender, religion, and previous experience with death and dying were found to be related to nurses' attitudes towards EOL care (Abdel-Khalek and Al-Kandari, 2007; Barrere et al., 2008; Iranmanesh et al., 2008; Lange, 2008).

EOL education includes both clinical education and classroom curricula, which have often been studied as separate entities. Clinical experience in providing EOL care was associated with perceived competency and having a significant impact on the medical professional's development (Billings et al., 2009, 2010). Ferrel et al. (2005) highlighted that neither basic nursing education nor continuous nursing education have prepared nurses to provide optimum EOL care and that there has been no broad, systematic effort to address this issue. Analysis of the interrelationship between knowledge, attitude, and perceived competency (KAC) produced inconsistent results. Glajchen and Bookbinder (2001) found a positive correlation between nurses' knowledge and perceived competency in pain management. In a United States' state-wide survey of nurses' education needs and the effects of education in EOL care, nurses having formal EOL nursing care instruction during pre-registration education did not achieve better scores on knowledge questions but nurses with greater clinical experience and continuing education scored significantly higher across the survey (Schlairet, 2009).

Cluster analysis is a method of knowledge discovery through division of data into groups that are meaningful, useful, or both, based on the characteristics of each group. The analysis allows combinations of previously unrecognised variables to be selected for further detailed examination with less background effect (Chan, 2007; Gough and Happel, 2009). In light of the multiple factors and interrelations affecting the KAC of nursing students, previous researchers failed to describe and acknowledge the heterogeneity of the participants, treating the cohort as homogenous, resulting in inconsistent findings (Khader et al., 2010). The use of cluster analysis in our study provided meaningful interpretations for the KAC of nursing students through natural grouping, especially when the researchers suspected that the sample was not homogeneous.

This paper explores and identifies the profiles of knowledge, attitude, clinical experience, and perceived competency of a sample of nursing students in the area of EOL care.

Method

Participants

The study adopted a cross sectional design. A census was conducted on 253 senior year nursing students from higher diploma, bachelor, and master's degree programmes at a university in Hong Kong. The three nursing programmes from which the participants were recruited were pre-registration programmes that prepare students for Registered Nurse (RN) registration. The students entering the graduate-entry master's programme came from disciplines other than nursing. All nursing students were in Years three and four, with adequate clinical experience and they had all completed the EOL care curriculum.

Instruments used for data collection

A review of the existing literature describing the provision of EOL care and three measurements were adopted to form the questionnaire. The questionnaire comprised five sections with a total of 40 items. Part one consisted of seven items on demographic characteristics. Part two consisted of four items and measured the students' recall of having observed nurses' involvement in EOL care in the clinical setting, direct clinical experience caring for a dying patient, having received feedback from clinical teachers about EOL tasks, and whether the participants had experienced the death of loved one. Scores for experience in EOL care were assigned as: Never, 1–2 times, 3–4 times, and >5 times. Part three was designed to collect information on knowledge related to EOL care and was adopted from the validated self-assessment tool from the American Association of Critical-Care Nurses (2010). The tool consisted of ten True or False questions. Sample items included: "End-of-life-care can only be provided in a specialized unit"; "Adjuvant therapies can be integrated into end-of-life-care"; and "The philosophy of EOL care is compatible with that of aggressive treatment". Part four was designed to gather information on the nursing students' perceived EOL competency towards EOL care and was modified from Lehna's 2003 study. The scale consisted of ten items ranging from very low perceived competency to excellent perceived competency, with a total score ranging from 10 to 50. Some sample items included "giving bad news", "nutritional support", and "pain management". Part five was designed to collect information on nursing students' attitudes towards EOL care and was modified from the study by Billings et al. (2009). Sample items included "Depression is not treatable in patients with terminal illness", "Talking about death tends to make patients more discouraged", and "There is little that can be done to ease the suffering and grief". The scale consisted of nine items; five were scored on a four-point scale (1 = strongly disagree to 4 = strongly agree), and four items were scored on a five-point scale (1 = never; 5 = always). The ratings of all nine items were summed to create a total attitude score ranging from 9 to 40. Scoring of some items was reversed, with higher scores indicating more favourable and positive attitudes towards EOL care. The Cronbach's alpha of the scale was 0.69.

Content validity test was conducted to determine whether the content was relevant to the research objectives. The scale on attitude towards QOL was developed to examine the attitudes of medical students towards end of life care. To determine whether the scale was appropriate to be used for nursing students, two academic staff from the study university and one experienced clinical teacher from a hospital were invited to examine the content