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Measuring undergraduate nursing students' knowledge of Christian, Islamic, and Hindu death rituals: A national study

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ABSTRACT

Background: Globally, research indicated undergraduate nursing students have limited knowledge, in caring for people at the time of death. With increasing immigrant populations, undergraduate nursing students and nurses seeking to provide culturally competent care lacked specific knowledge regarding the death rituals of other religions which presents a major knowledge gap that must be addressed. This study measured undergraduate nursing students' knowledge of specific death rituals as practised by three world religions (Christianity, Islam and Hinduism) in the Republic of Ireland.

Aim: The current study aimed to measure undergraduate nursing students' knowledge of specific death rituals as practised by three world religions (Christianity, Islam, and Hinduism).

Design: This study used a quantitative descriptive cross-sectional design.

Participants: Nursing students from all 13 higher education institutions (HEIs) registered with the Nursing and Midwifery Board of Ireland were invited to participate. Out of these, eight HEIs consented, representing a total of 5050 undergraduate nursing students. From this pool, 414 students, spanning from all nursing and midwifery programs from all four provinces of Ireland, participated in the study.

Methods: A 23-item knowledge survey, The Knowledge Questionnaire (KQ) was developed with input from experts and validated for accuracy, relevance, essentiality, and reliability. Further reliability testing of the tool was done in this study.

Results: The Knowledge Questionnaire (KQ) was found to be reliable showing a Cronbach's alpha coefficient of 0.873 in the national study. The findings highlighted a significant lack of knowledge regarding death rituals across the religious groups. Most students reported seeking information about these rituals from sources outside of formal nursing education.

Conclusion: Based on these results, the authors strongly recommends the inclusion of mandatory cultural education in nursing programs to better prepare students for end-of-life care in diverse cultural contexts.

Relevance to clinical practice: This study provides an informed starting point from which specifically tailored education programmes could be developed and implemented. The goal is to foster culturally competent care in both clinical and academic settings to meet the needs of increasingly culturally diverse patient populations in a variety of health care settings nationwide.

1. Introduction

This study aims to measure undergraduate nursing students' knowledge of specific death rituals practised by three world religions (Christianity, Islam, and Hinduism). Nurses spend more time with patients than any other healthcare professionals and often care for dying patients at various points in their careers (McCall, 2018). The World Health Organization (2014) reported a significant lack of knowledge

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and education on death and dying despite the increasing need for education in this context.

According to the International Council of Nurses (ICN), caring for dying people (International Council of Nurses, 2023) and providing religious or spiritual care are key nursing responsibilities (International Council of Nurses, 2021). However, the independent regulatory body for nursing and midwifery professions, the Nursing and Midwifery Board of Ireland (NMBI), did not specify a form of competency assessment, a process for, or critical elements for evaluating skills, knowledge and professional behaviour. In Ireland, each higher education institution (HEI) had the choice of planning its modules (NMBI, 2023) without a cross-institution agreement. Therefore, it is unsure as to how many HEIs in Ireland provide cultural/religious education.

Research indicates that people from ethnic minority groups ranked religion or religious needs as their top priority during end-of-life care (Henry and Timmins, 2016). However, religious rituals practised during death vary by culture (Anderson and De Souza, 2021). Many people resort to faith and religious rites for assistance during this time, and the manner of dying can have a lasting effect on nurses and other caregivers, including family and friends. People could also want to take this opportunity to review and reaffirm their views (Lewis and Hoy, 2011; Anderson and De Souza, 2021). Cultural diversity created challenges for caregivers providing end-of-life and palliative care (NCCRI and IHSMI, 2002; Markey et al., 2012). Thus, culturally competent providers are needed at the end-of-life stages in hospital settings.

This study aimed to measure the undergraduate nursing students' knowledge of specific death rituals as practised by three world religions (Christianity, Islam, and Hinduism). The current study was intended as an informed starting point from which specifically tailored education programmes could be developed and implemented. The goal of such a programme would be to foster culturally competent care in both clinical and academic settings to meet the needs of increasingly culturally diverse patient populations.

2. Literature review

The topic of religious death rituals in undergraduate nursing education is increasingly recognised as an essential aspect of cultural competence and holistic patient care. Nurses having knowledge of different religious practices and rituals benefitted the patients and family at the time of death (Choudry et al., 2018; Bassett and Bussard, 2021; Markey et al., 2017; Wang et al., 2018). Many research studies expressed concerns regarding the care provided to culturally diverse and ethnic minority populations, especially at the end of life (Bhopal, 2012; Hannigan et al., 2018; Raleigh and Holmes, 2021). There is a wealth of research pointing out deficiencies or inadequacies in nursing care and education for palliative and end-of-life care (Jafari et al., 2015; Dimoula et al., 2019; Westwood and Brown, 2019; Hardie et al., 2023; Cavaye and Watts, 2014a, 2014b). Nonetheless, there aren't many studies on end-of-life care that is tailored to religious/cultural rituals in undergraduate nursing education (Fink et al., 2014; Ross et al., 2014; Tüzer et al., 2020).

Literature argues the significance of religion, belief, and spirituality at the end of life (Pentaris and Tripathi, 2022; Tu et al., 2022; Dimoula et al., 2019). Religion provides comfort, security, meaning-making, and closure to those who have lost their loved ones (Pentaris and Tripathi, 2022; Araújo de Freitas et al., 2020). It is also an essential coping strategy for death and illness (Mendes Bezerra et al., 2018). Additionally, religion can be a beneficial resource that helps the bereaved adapt to their loss and provides guidance for coping with grief (Hussian Mohammed et al., 2018). The ritual of prayer can provide cultural solace to those who are mourning the death of their own life or another person (Anderson and De Souza, 2021).

Cultural and religious beliefs and values may have an impact on preferences for treatment at end of life (Ohr et al., 2017). Spiritual and religious care can help family members and critically ill patients to cope with fear (Bassett and Bussard, 2021) and anxiety (Rababa et al., 2021; Swihart et al., 2021). A cross-sectional study conducted by Feng et al. (2021) to determine between spiritual well-being and death anxiety reported that patients with less anxiety experienced a higher sense of spiritual well-being. However, on the other hand different religious groups hold different views on anxiety, shaped by personal beliefs (Bala and Mahaeshwari, 2018). For instance, Christians had much lower fear of death than non-religious and Muslim people, due to the uncertainty about their expectations for the afterlife (Morris and Mc Adie, 2009). Shanmugasundaram et al.'s (2010) conducted a study in Australia that explored the cultural aspect of end-of-life care among Hindus outside India. Their findings indicated that understanding Hindu philosophy can lead to a more compassionate environment for dying patients and their families, although not all religious practices can be fully accommodated. Having an increased understanding is likely to lead to better care.

Nurses and undergraduate nursing students were generally unprepared to provide culturally appropriate end-of-life care to dying patients and their families (Dimoula et al., 2019; Gillan et al., 2014). An integrative review conducted by Badanta et al. (2022) on the influence of spirituality and religion found that nurses reported being 'poorly prepared' and report 'lack of time' as the main barrier. Oakley et al.'s (2019) conducted an integrative review focused on the lived experience of non-Muslim expatriate nurses providing end of life care to Muslim patients in a predominantly Muslim country. Their findings highlighted that the stressors associated with misalignment of expectations caused emotional and physical distress for nurses. When nurses were focused on clinical care, they were unable to accommodate cultural practices that were important to the patient and family, contributing to increasing stress.

Nursing students, who will be future professionals, are likely to encounter death during their nursing education (Brown, 2016). Nursing students with insufficient training in end-of-life care may find it frightening (Ek et al., 2014; Ellis et al., 2012). Zyga et al. (2011) examined 49 Greek renal nurses' and found that nurses with specific palliative care education did not fear death as much as others in the study and had less difficulty talking about death and dying. Many studies have indicated that students feel anxious about giving end-of-life care, reporting inadequacies in their knowledge and skills (Gillan et al., 2016; Li et al., 2021). A study by Karadag et al. (2018) examined the attitudes of 189 nurses from two university hospitals in eastern and western Turkey regarding end-of-life care and the influence of religious and cultural factors. The study found that although most nurses had received training in end-of-life care, those in the easter region faced greater challenges due to stronger Islamic cultural and religious views. Furthermore, the personal beliefs and experiences of nurses significantly affected their attitude towards care of the dying individuals (Iranmanesh et al., 2008; Mutto et al., 2010). These emotions could contribute to the development or exacerbation of negative attitudes towards death, leading to the growth or escalation of unfavourable attitudes regarding dying and providing for the terminally ill patients, which may have further effects on the quality of care (Wang et al., 2018; Jafari et al., 2015).

Fink et al. (2014) conducted a quasi-experimental study measuring nursing students' knowledge as related to spiritual care at the end-of-life. It made comparison between the treatment group ($n = 30$) and a control group ($n = 24$) that experienced a simulation activity with standardised patients. The results indicated that the knowledge score in the treatment group was higher than compared to the control group, pre and post simulation experience, highlighting the need for education in this area. The literature reveals inconsistencies in how spiritual or cultural care topics are taught within nursing education across Europe (Ross et al., 2014). A lack of faculty expertise and experience led to inadequately prepared students. Linda et al.'s (2020) study in South Africa showed that nursing educators felt unconfident and lacked spiritual care guidelines for teaching undergraduates. Although there was a willingness to teach, formalized training in spiritual care was lacking, and nurse educators faced challenges in combining cultural education

with appropriate teaching methodologies (Creech et al., 2017).

Based on the literature reviewed, it is identified that religious and cultural rituals are important to a person at end of life. Nurses and nursing students are often unprepared and lack knowledge and skills due to inadequate training and education to effectively care for individuals from diverse cultural and religious backgrounds at the end of life. Nursing education must ensure that the acquisition and application of knowledge are central to learning. Therefore, this study aims to measure undergraduate nursing students' knowledge of specific death rituals practised by three world religions (Christianity, Islam, and Hinduism).

2.1. The main aim of the study

- This study aimed to measure undergraduate nursing students' knowledge of specific death rituals practised by three world religions (Christianity, Islam, and Hinduism).

2.2. Research questions

- **Research Question 1:** What is the demographic and professional profile of undergraduate nursing students?
- **Research Question 2:** What is the reliability (internal consistency) of the knowledge questionnaire used in the national study?
- **Research Question 3:** What is the knowledge of undergraduate nursing students as related to specific death rituals of the three world religions?
- **Research Question 4:** What is the relationship between the demographic profile of nursing students to their knowledge of specific death rituals?
- **Research Question 5:** What is the relationship of student experiences and education in caring at the time of imminent death (or time of death) to knowledge of specific death rituals?

2.3. Hypothesis

- $\mathbf{H_0}$: There is no statistical difference between nursing students in their programme of study and their knowledge of religious death rituals
- $\mathbf{H_0}$: There is no statistical difference between knowledge of nursing students who were present and not present at an imminent death or death situation
- $\mathbf{H_0}$: There is no statistical difference between the knowledge of nursing students who cared for and those who did not care for a person with a different religious background in an imminent death or time of death situation.
- $\mathbf{H_0}$: There is no statistical difference between knowledge of nursing students who studied about religious death rituals within their current nursing programme and outside their current nursing programme.

3. Methods and Methodology

3.1. Theoretical framework

The theoretical framework that guided this study was based on the process of cultural competence in the delivery of healthcare services developed by Campinha-Bacote (2011). According to Campinha-Bacote (2007), cultural competence involves the integration of five constructs: cultural awareness, knowledge, skill, encounters, and a desire to be effective. Cultural competence was defined as "the process in which the health care provider continuously strives to achieve the ability to work effectively within the cultural context of a client, individual, family or community" (Campinha-Bacote, 2007, p. 15).

3.2. Design and setting

This study used a quantitative descriptive cross-sectional research design and was undertaken in eight higher educational institutions (HEIs) in Ireland, which offer undergraduate degree programmes in nursing and midwifery. The three world religions selected for this study, Christianity, Islam, and Hinduism, were chosen because these were the largest groups of religiously affiliated persons in Ireland and the global population. Worldwide, the third largest group was unaffiliated, and Hinduism was the fourth largest group of people (World Population Review, 2023). In Ireland, 78.3 % of the people were Roman Catholic, the unaffiliated were the second largest group (9.8 %), the Muslim population was the third largest at 1.3 %, followed by the Hindu population at <1 %, others such as Buddhism and Judaism (Central Statistics Office [CSO], 2016a, 2016b), and members of the Traveller community should be mentioned (NMBI, 2021, p. 9). According to the most recent Population and Migration Estimates from the Central Statistics Office of Ireland (CSO, 2022a, 2022b), the 5.12 million people living in Ireland included 703,700 non-Irish nationals, representing 13.8 % of the total population through April 2022.

3.3. Tool - knowledge questionnaire (KQ)

A quantitative survey instrument (knowledge questionnaire (KQ) was used to measure undergraduate nursing students' knowledge of Christian, Islamic, and Hindu death rituals. This questionnaire was developed by the author (Thamanam, 2023) and was previously tested for validity and reliability (pilot study) before using it in the national study. Development was inspired by a study conducted by Fink et al. (2014), that used a multiple-choice questionnaire (the Spiritual Care at the End-of-Life Questionnaire) to measure nursing student perceptions and knowledge as related to spiritual care at the end-of-life about three world religions: Catholicism, Judaism, and Islam. The three religions mentioned in Fink et al. (2014) differed to the current study and therefore the current tool was developed and used in this study. The tool's content validity was established with a content validity ratio (CVR) of 1 and item content validity (I-CVI) of 0.97 for clarity and 1 for relevance. The tool's internal reliability, measured by Cronbach's alpha, was 0.74 tested in the Pilot study. The tool consisted of 23 questions (22 multiple-choice questions and one open-ended question). Each multiple-choice question included four response options, the fourth being "I don't know". By providing this option, students were given a chance to answer honestly to the question rather than having to guess even if they did not know the answer. Along with this knowledge questionnaire, questions about the population's demographics, education, and experience were also captured.

3.4. Sample and population (national study)

A purposefully selected non-probability sampling method was employed. The target population was the total number of undergraduate nursing students (5050) studying in all four Nursing divisions and Midwifery education at the eight participating HEIs in the Republic of Ireland. The professional education for nurses and midwives in Ireland is regulated by "The Nursing and Midwifery Board of Ireland (NMBI)". The undergraduate nursing education system in Ireland consists of five divisions: General Nursing, General and Children's Nursing (combined), Mental Health/Psychiatric Nursing, and Intellectual Disability Nursing and Midwifery education. Under the Nurses and midwives Act 2011, as amended and accompanying Nurse and Midwife rules provide for the titles of recognised qualifications under the Register of Nurses and Midwives (NMBI, 2023). Unlike in other countries, where a basic undergraduate degree in nursing is mandatory prior to specialisation in any of the nursing and midwifery programmes, In Ireland, students are allowed to choose their speciality in nursing or midwifery at undergraduate level itself. Therefore, a total of 414 undergraduate nursing

and midwifery students took part in the national study. The intent to undertake a national study was done by ensuring representation from all four provinces in Ireland (Connacht, Leinster, Munster and Ulster).

3.5. Data collection method (national study)

All (then) current 5050 undergraduate nursing students at eight HEIs were invited to participate in the national study. An online survey using a Zoho platform was used to collect data. The heads of the schools arranged for the gatekeepers to distribute the invitation to take the survey. Follow-up emails were sent to the gatekeepers asking them to email students to improve recruitment rates regularly. Students had to complete an informed consent before accessing the online survey. A total of 1226 students opened the survey, of which 662 responded, and 342 completed the survey (320 did not complete the survey). However, this number was insufficient to reach the calculated minimum sample size of 358 participants needed for the national study calculated by using power analysis. The sample size (n) was calculated according to the following formula:

$$n = [z2^*p^*(1-p)/e2]/[1+(z2^*p^*(1-p)/(e2^*N))]$$

Where: z = 1.96 equaled a confidence level (α) of 95 %.p = proportion (expressed as a decimal).N = population size, e = margin of error.z = 1.96, $p = 0.5$, $N = 5050$, e = 0.05.n = [1.962 * 0.5 * (1 – 0.5) / 0.052] / [1 + (1.962 * 0.5 * (1 – 0.5) / (0.052 * 5050))].

$n = 358$.

To resolve this issue, 400 paper copies of the survey instrument were delivered to two of the eight HEIs (200 copies each). Outreach to the schools with the lowest response rate was considered impossible because all responses were aggregated online and completely anonymous. Thus, two schools were selected that were conveniently located in Dublin. The heads of the schools arranged for the gatekeepers to distribute the surveys so that undergraduate nursing students could opt in and complete them on their own time. The two schools returned 46 and 26 completed surveys, respectively (a total of 72). Together with the online survey, 414 completed surveys were returned in the national study, with a response rate of 8.2 %.

3.6. Data analysis

The survey data in the current study was analysed using a computer software programme, the IBM SPSS Statistics, Version 28. All the questions were cross-checked for errors and completeness before data entry. The researcher analysed the data to determine the validity of the questionnaire by checking for the content validity index (CVI). To test the reliability of the questionnaire, Cronbach's alpha coefficients were tested for the total scale.

Descriptive, and inferential statistics were used to analyse the relationships between demographics and knowledge. Descriptive analyses and inferential analyses were conducted, such as hypothesis testing through independent *t*-tests and analysis of variance (ANOVA). If statistically significant differences were observed, a corresponding post-hoc test was conducted. The significance level was set at $p < 0.05$.

Multiple response analysis (Q16, Q18) and open responses were captured through an open-ended question (Q23) and analysed qualitatively using a word cloud.

Descriptive statistics indicated the demographic characteristics of the sample. Measures of central tendency and dispersion demonstrated group mean scores and established the distribution of nursing students on the knowledge scale. Higher mean scores indicated a higher level of knowledge while lower mean scores indicated lower levels of knowledge within the group. Inferential statistics were used to identify any differences between the scores based on demographics such as age, gender, place of birth, whether raised in or practicing a religious faith, year of study, and programme of study. Parametric tests, such as *t*-tests, one-way ANOVA, and post hoc tests, facilitated between-group exploration.

Table 1
Participant demographics.

Serial number	Independent variables	Response choices	No. of students	Valid %	Total
1	Age	<18	50	12.1	414
		19–28	295	71.3	
		29–38	45	10.9	
		39–48	24	5.8	
2	Gender	Male	34	8.2	414
		Female	378	91.3	
		Other	2	0.5	
3	Birth	In Ireland	344	83.1	414
		Outside of Ireland	70	16.9	
4	Raised in religious faith	No	57	13.8	414
		Yes	357	86.2	
5	Practising religious person	No	258	62.3	
		Yes	156	37.7	
6	Year of nursing	1–3	305	73.7	414
		4–5 years	109	26.3	
7	Nursing Programme	General Nursing	201	48.6	414
		Children's and General Nursing (Integrated)	47	11.4	
		Midwifery	25	6.0	
		Intellectual Disability Nursing	57	13.8	
		Psychiatric Nursing	84	20.3	

3.7. Research ethics committee

A Research Ethics Committee (REC) assessment was carried out based on the University where the study was undertaken. Approval was amended twice due to changes in the research plan. The second amendment (November 2022) was to include paper surveys when the online survey response did not meet the calculated minimum sample population. All potential ethics concerns were satisfactorily resolved before study implementation: REC Reference: 2021/259. In addition, all seven of the other participating universities waived ethics approval via acceptance of the university's REC approval letter.

4. Results

4.1. Research question 1. What is the demographic and professional profile of undergraduate nursing students?

It was found that of the 414 participants, the majority of students were between ages 19 and 28 (71.3 %), were female (91.3 %), born in Ireland (83.1 %), were raised in a religion (86.2 %) but did not practise a religion (62.3 %), and most were in the first three years (73.7 %) of study. About half ($n = 201$) of the participating students were enrolled in General Nursing (48.6 %), followed by Psychiatric Nursing (20.3 %), and the other programmes to a lesser extent (Table 1).

Table 2
Mean knowledge score.

Knowledge Questionnaire					
	n	Minimum	Maximum	Mean	Std. Deviation
Knowledge	414	0	17	6.12	3.797

Table 3
Knowledge levels based on the frequency (correct answers for each KQ questions).

Question # on the KQ	Frequency of correctly answered questions (lowest to highest)	Percent (%)
11 The nurse caring for a Hindu person notices the person wearing sacred items like sacred threads or tulsi beads around the neck. If for medical reasons it is necessary to remove the beads, the family wishes that nurses retie the beads or threads to the person's: a. Wrist (preferably left) b. Wrist (preferably right) c. Ankle (preferably right) d. I don't know	24	5.80 %
19 A Muslim person in the last stages of life receives Islamic death rites, and one of these rites includes: a. Assisting the person in reciting a declaration of faith b. Assisting the person with ablutions c. Assisting the person in receiving the sacrament of the dying d. I don't know	30	7.20 %
17 A dying person who is identified as Muslim by the family believes: a. He/she will go to Mecca upon death b. He/she will meet Prophet Mohammed right after his/her death c. He/she goes to heaven only if he/she has been good d. I don't know	42	10.10 %
14 A Hindu person in the last stages of life believes in particular religious' rituals to prepare for death. One of the rituals involves family providing: a. Holy water from river Tapi b. Holy water from the river Ganges c. Holy waters from the river Brahmaputra d. I don't know	44	10.60 %
10 The common symbol chosen by people belonging to Christian denominations such as Latter-Day-Saints, First Church of Christ, Scientist (also known as Christian Science), Jehovah's Witnesses, and Seventh-day Adventist Church as part of their death ritual in a hospital setting is: a. Plain cross b. Crucifix c. No religious symbols or icons d. I don't know	47	11.40 %
18. Death is imminent for a female person who is Muslim. The family visiting the person would appreciate the nurses to do the following: a. Turn the person on their back with her feet in the north-easterly direction b. Call the Imam to come to the bedside c. Call the priest to come to the bedside d. I don't know	53	12.80 %
21 Regarding cleaning and touching of the dead body, the family of a person who is a Muslim would like the nurses to: a. Undertake the normal washing of the dead body b. Not to undertake the normal washing of the dead body c. Undertake the normal dressing of the dead body d. I don't know	61	14.70 %
20 A Muslim person whose death is imminent wishes to be turned towards facing Mecca. In Ireland, it is turning towards: a. Southeast b. Northeast c. Southwest d. I don't know	65	15.70 %
13 A female person from India belonging to the Hindu religion in the end stages of life would generally prefer the important healthcare decisions be made by: a. The person herself b. The senior member of the person's family c. Relatives of the person d. I don't know	69	16.70 %
5 A person in the end stage of life in a hospital setting belonging to a Protestant denomination would mostly prefer their pastoral visit to: a. Sing hymns at the bedside b. Offer prayers at the bedside c. Provide the sacrament of the dying at the bedside d. I don't know	96	23.20 %
6 In case of the imminent death of a Roman Catholic person in the hospital, the family usually requests nurses to contact the priest or chaplain to administer a specific sacrament called: a. Sacrament of the Eucharist b. Sacramental of Viaticum c. Sacrament of Confirmation d. I don't know	97	23.40 %

(*continued on next page*)

Table 3 (*continued*)

Question # on the KQ	Frequency of correctly answered questions (lowest to highest)	Percent (%)
12 A female person from India belonging to the Hindu religion in the end stages of life would generally prefer the important healthcare decisions be made by: a. The person herself b. The senior member of the person's family c. Relatives of the person d. I don't know	109	26.30 %
9. The common symbol chosen by Christians such as the Church of Ireland, Evangelical church, Orthodox Christian, Methodist, Baptist, Lutheran and Presbyterian and Pentecostal Christian denominations as part of their death ritual in the hospital setting is: a. Plain cross b. Crucifix c. No religious symbols or icons d. I don't know	113	27.30 %
16 The Hindu person believes in the cycle of: a. Life, death, and reincarnation b. Birth, life and death c. Reincarnation, life and death d. I don't know	131	31.60 %
15 A dying person practising the Hindu religion believes that after they die, there is a. Rebirth of the soul b. Rebirth of the body c. Rebirth of soul in the same body d. I don't know	135	32.60 %
3 A person in the end stages of life is identified as a Christian; the nurse providing end-of-life care is aware that: a. Christians of different denominations have the same practices and beliefs b. Christians of different denominations have different practices and beliefs c. Christians of different denominations have the same beliefs but different practices d. I don't know	175	42.30 %
8 The common symbol chosen by Roman Catholic Christians as part of their death ritual in the hospital setting is: a. Plain cross b. Crucifix c. No religious symbols or icons d. I don't know	179	43.20 %
22 A female Muslim person dies in the hospital. The family of the person who died would appreciate the nurses providing essential care to be of: a. The same gender as the person who died b. A different gender to the person who died c. Gender does not matter d. I don't know	180	43.50 %
7. Regarding cleaning and touching the dead body, the family of a person who is Christian would normally like the nurses to: a. Undertake normal washing of the dead body by nurses b. Undertake washing of only specific parts of the body by nurses c. Not to undertake washing of the dead body d. I don't know	183	44.20 %
2 What message does this symbol communicate to nursing staff and visitors in a hospital setting? a. That the person is Not for Resuscitation (NFR) b. That the person belongs to a specific religion c. That the person is imminently dying or has died d. I don't know	228	55.10 %
4 A Roman Catholic family who just experienced the death of their relative believe that the soul of their loved ones goes straight to heaven. However, if their loved one requires purification of their soul, the soul of the dead person could reside in a temporal state known as: a. Purgatory b. Hell c. Heaven d. I don't know	255	61.60 %
1 A person is rushed to the hospital following a road traffic accident. The person is unconscious, and death is imminent for the person. The nurses caring for this person should ask the family members which of the following questions regarding the person's wishes for religious care? a. Is there anything you would like to tell us about the person's religion? b. Do you want us to call the hospital chaplain to cater for your religious needs? c. Is there anything you would like us to know about the person's wishes for religious care? d. I don't know	327	79 %

4.2. Research question 2. What is the reliability (internal consistency) of the knowledge questionnaire used in the national study?

The Knowledge Questionnaire (KQ) was found to be reliable. Internal consistency reliability was checked using Cronbach's alpha coefficient, revealing a value of 0.873 for $n = 22$ items for the knowledge questionnaire in the national study. (The last question 23rd is an open-ended question, so Cronbach's alpha coefficient was only tested for 22 questions).

4.3. Research question 3. What is the knowledge of undergraduate nursing students as related to specific death rituals of the three world religions?

The mean score for undergraduate nursing students about knowledge of specific death rituals was (M = 6.12, SD = 3.797). The minimum score was zero (0), and the maximum score was 22 correct responses, but in the sample population, the highest score was 17 (Table 2). Based on this, it could be reported that students tended overall to have lower levels of knowledge.

Only three (3) of 414 students answered 17 of the 22 multiple-choice questions on the KQ correctly; five (5) students answered 16 questions correctly. Nearly half (49 %) answered only five (5) of the 22 multiple-choice questions correctly, and 75.4 % only answered eight (8) questions correctly.

Table 3 indicated the frequency of students who answered the questions correctly (lowest to highest). The three questions most undergraduate nursing students answered correctly were significant in that they reflected only standardised practice (KQ1, KQ2) and common knowledge (KQ4):

- (KQ1, 79 %) Ask the family about care following a pending traffic accident fatality
- (KQ2, 55.1 %) The meaning of a symbol utilised in the hospital setting
- (KQ4, 61.6 %) a temporary state in the Roman Catholic religion (purgatory, heaven, hell)

It was significant that more than two-thirds of the students did not know the answers to ten multiple-choice questions (of 22) on the KQ. More than half of the students (200–364) said they did not know the answers to 16 of 22 questions. Fig. 1 illustrates the frequency of choosing "I do not know" on the KQ (option #4 on each of the 22 questions):

Table 4
Demographic profile showing significant results.

Demographic profile		n	Mean	SD	t/F	P-Value
Age	<18	50	5.14	3.59	1.716	0.16
	19–28	295	6.16	3.80		
	29–38	45	6.87	4.11		
	39–48	24	6.21	3.23		
Gender	Male	34	7.26	4.64	1.861	0.06
	Female	377	6.00	3.70		
Birthplace	In Ireland	344	6.10	3.84	−0.232	0.81
	Outside Ireland	70	6.21	3.55		
Raised in religious faith	No	57	6.42	4.17	0.648	0.51
	Yes	357	6.07	3.73		
Practising religious person	No	258	6.23	3.83	0.760	0.44
	Yes	156	5.94	3.74		
Year of Study	1–3	305	6.15	3.89	0.320	0.74
	4–5	109	6.02	3.53		
Programme of Study	**General Nursing**	**201**	**6.61**	**3.73**	**6.286**	**<0.001**
	Children's & General (Integrated) Nursing	**47**	**6.74**	**3.98**		
	Midwifery	**25**	**7.68**	**3.43**		
	Intellectual Disability Nursing	**57**	**4.47**	**3.12**		
	Psychiatric Nursing	**84**	**5.25**	**3.89**		

Table 5
Analysis of variance (ANOVA): programme of study and knowledge.

ANOVA					
Programme of Study and Knowledge					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	344.914	4	86.228	6.286	<0.001
Within Groups	5610.287	409	13.717		
Total	**5955.200**	**413**			

4.4. Research question 4. What is the relationship between the demographic profile of nursing students to their knowledge of specific death rituals?

A demographic comparison was conducted, including the students'

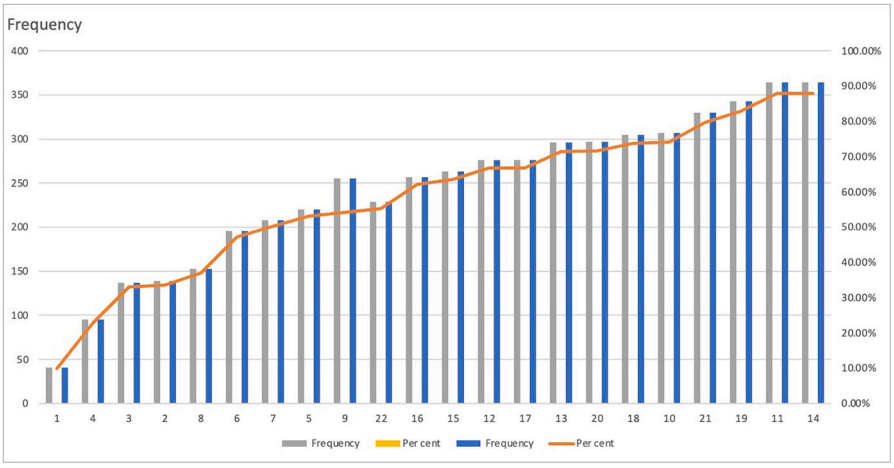

Fig. 1. Frequency of choosing "I do not know."

Table 6
Mean knowledge scores of the programmes.

Descriptors								
Mean Knowledge scores								
	N	Mean	Standard Deviation	Std. Error	95 % Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
General Nursing	201	6.61	3.736	0.264	6.09	7.13	0	17
Children's and General Nursing (Integrated)	47	6.74	3.986	0.581	5.57	7.92	0	17
Midwifery	25	7.68	3.437	0.687	6.26	9.10	2	16
Intellectual Disability Nursing	57	4.47	3.123	0.414	3.65	5.30	0	16
Psychiatric Nursing	84	5.25	3.893	0.425	4.41	6.09	0	17
Total	**414**	**6.12**	**3.797**	**0.187**	**5.75**	**6.49**	**0**	**17**

Table 7
Post hoc analysis: bonferroni, knowledge, and programme of study.

Multiple Comparisons						
Dependent Variable: Knowledge						
Bonferroni						
Programme of Study	Programme of Study	Mean Difference (I-J)	Std. Error	Sig.	95 % Confidence Interval	
					Lower Bound	Upper Bound
General Nursing	Children's and General Nursing (Integrated)	−0.138	0.600	1.000	−1.83	1.56
	Midwifery	−1.073	0.785	1.000	−3.29	1.14
	Intellectual Disability Nursing	2.133*	0.556	0.001	0.56	3.70
	Psychiatric Nursing	1.357	0.481	0.050	0.00	2.72
Children's and General Nursing (Integrated)	General Nursing	0.138	0.600	1.000	−1.56	1.83
	Midwifery	−0.935	0.917	1.000	−3.52	1.65
	Intellectual Disability Nursing	2.271*	0.730	0.020	0.21	4.33
	Psychiatric Nursing	1.495	0.675	0.273	−0.41	3.40
Midwifery	General Nursing	1.073	0.785	1.000	−1.14	3.29
	Children's and General Nursing (Integrated)	0.935	0.917	1.000	−1.65	3.52
	Intellectual Disability Nursing	3.206*	0.888	0.003	0.70	5.71
	Psychiatric Nursing	2.430*	0.844	0.042	0.05	4.81
Intellectual Disability Nursing	General Nursing	−2.133*	0.556	0.001	−3.70	−0.56
	Children's and General Nursing (Integrated)	−2.271*	0.730	0.020	−4.33	−0.21
	Midwifery	−3.206*	0.888	0.003	−5.71	−0.70
	Psychiatric Nursing	−0.776	0.636	1.000	−2.57	1.02
Psychiatric Nursing	General Nursing	−1.357	0.481	0.050	−2.72	0.00
	Children's and General Nursing (Integrated)	−1.495	0.675	0.273	−3.40	0.41
	Midwifery	−2.430*	0.844	0.042	−4.81	−0.05
	Intellectual Disability Nursing	0.776	0.636	1.000	−1.02	2.57

* The mean difference is significant at the 0.05 level.

age, gender, and birth date, whether they were raised in religious faith or are practising religious people, and their current year and programme of study. (Table 4**)** below shows the mean and *p* values for the demographic profile.

Table 4 shows the demographic variables showed no statistically significant difference between demographic variables and knowledge, with one exception: there was a significant statistical relationship between knowledge and programmes (General Nursing, Children's and General Nursing, Midwifery, Intellectual Disability Nursing, and Psychiatric Nursing) of study. (It should be noted that each programme's sample size was different). A one-way analysis of variance to explore the effect of nursing students' programmes on knowledge of religious death rituals, as shown in Table 5.

Students studying midwifery scored higher levels of knowledge (7.68), followed by Children's and General Nursing (6.74), General Nursing (6.61), and then Psychiatric Nursing (5.25). Students studying Intellectual Disability nursing had the lowest knowledge scores (4.47) as shown in Table 6**.**

As the current study was specific to testing the knowledge levels of students as related to religious death rituals, it could be that some programmes were less likely to teach or expose students to caring for people near death or at the time of death. However, further research would need to be conducted to understand curricular differences between programmes. A further post hoc Bonferroni analysis was conducted as seen in Table 7**.**

Post hoc analysis: bonferroni. The Bonferroni post hoc analysis was also performed to check for multiple comparisons within the nursing programs (Table 7). There was a statistical difference between the General Nursing and Intellectual Disability Nursing Programmes ($p = 0.001$). There was no statistical difference between the Children's' and General Nursing programme and the Intellectual Disability programme ($P = 020$). There was a statistical difference between Midwifery students and Intellectual Disability Nursing ($p = 0.003$). There was a statistical difference between Psychiatric Nursing and Midwifery. This confirmed that there was a significant difference between the different programmes as correlated to knowledge. Hence, the hypothesis was rejected: There existed a significant variance between nursing programmes. So, it was concluded that there existed a significant correlation between nursing students' programme and knowledge.

4.5. Research question 5. What is the relationship of student experiences and education in caring for people at the time of imminent death (or time of death) to knowledge of specific death rituals?

Table 8 below shows the relationship between student experiences and education in caring for people at the time of imminent death (or time of death) to knowledge of death rituals. The results indicated a statistically significant difference between the knowledge of nursing students who were present and not present in an imminent death or death situation. Similarly, a statistically significant difference was

Table 8
Nursing programme, clinical placement: significant results.

Questions/ variables	options	n	valid %	Mean	SD	t/F	P Value
Q12 Have you ever been present in an imminent death or death situation of a person? (Tick one box only)	No	168	40.6 %	5.15	3.81	−4.387	<0.001
	Yes	246	59.4 %	6.78	3.65		
Q13 Have you ever cared for a person of a different religious background in an imminent death or death situation? (Tick one box only)	No	340	82.1 %	5.87	3.72	−2.871	0.004
	Yes	74	17.9 %	7.26	3.94		
Q14.1 How often have you cared for a person from any of the following religious backgrounds in an imminent death or death situation? (Tick one box only) | Christianity	Missing	117	28.3 %	5.55	3.91	1.139	0.33
	Never	49	11.8 %	6.39	4.18		
	Rarely	89	21.5 %	6.07	3.48		
	Sometimes	158	38.2 %	6.47	3.73		
	Often Missing	1		8.00			
Q14.2 How often have you cared for a person from any of the following religious backgrounds in an imminent death or death situation? (Tick one box only) | Islam	Never	302	72.9 %	6.18	3.73	1.403	0.24
	Rarely	65	15.7 %	6.25	4.02		
	Sometimes	34	8.2 %	6.15	4.12		
	Often Missing	13	3.1 %	4	2.82		
Q14.3 How often have you cared for a person from any of the following religious backgrounds in an imminent death or death situation? (Tick one box only) | Hinduism	Never	330	79.7 %	6.14	3.71	1.082	0.357
	Rarely	56	13.6 %	6.27	4.28		
	Sometimes	24	5.8 %	6.08	3.88		
	Often Missing	4	1 %	2.75	0.5		
Q15 Outside of your current nursing programme, have you learnt about religious death rituals?	No	230	55.7 %	5.14	3.53	−6.093	<0.001
	Yes	183	44.3 %	7.34	3.77		
	Missing	1	0.02 %				
Q17.1 About which of the three different religious death rituals have you learnt in your current nursing programme? (Nursing classes/ clinical instruction) | Christianity	No	194	47.35	5.69	3.82	−2.451	0.015
	Yes	216	52.7 %	6.60	3.70		
	Missing	4					
Q17.2 About which of the three different religious death rituals have you learnt in your current nursing programme? (Nursing classes/ clinical instruction) | Islam	No	331	80.7 %	6.00	3.76	−1.789	0.074
	Yes	79	90.3 %	6.85	3.80		
	Missing	4					
Q17.3 About which of the three different religious death rituals have you learnt in your current nursing programme? (Nursing classes/ clinical instruction) | Hinduism	No	361	88.5 %	6.13	3.793.68	−0.684	0.494
	Yes	47	11.5 %	6.53			
	Missing	6					
Q19 How do you feel your nursing programme to date has helped you gain the knowledge you feel you need to support dying patients from different religious groupings? (General experience and nursing classes/clinical instruction)	Not at all	184	44.6 %	6.15	3.76	0.124	0.883
	Somewhat	196	47.5 %	6.07	3.85		
	Very Well	33	8 %	6.42	3.67		
	Missing						
Q20 How do you feel your clinical placements have helped you to gain the knowledge you feel you need in supporting dying patients from different religious groupings? (General experience and nursing classes/clinical instruction)	Not at all	160	38.7 %	5.86	3.78	0.726	0.484
	Somewhat	210	50.8 %	6.27	3.83		
	Very Well	43	10.4 %	6.49	3.58		
	Missing						

indicated between the knowledge of students who cared and did not care for persons in an imminent death or death situation. A statistically significant difference was indicated between the knowledge of nursing students who studied within their current nursing programme and outside their current nursing programme.

4.6. Q16, Q18 and Q23. Where have you learnt about religious death rituals?

Students were asked where they had learned about different death rituals outside of and within their nursing program. Students could choose multiple optional responses. This research question was answered using results from the section on education and experience (Q16 and Q18) and the open-ended question #23 (Q23) of the Knowledge Questionnaire.

4.6.1. Q16 outside of your current nursing programme, where have you learnt about religious death rituals?

a. Q16.Table 9 provides a multi-response analysis of students who learnt about religious death rituals outside the current nursing programme. Most of the undergraduate nursing students had learnt from their own reading (28.8 %) and from social media and/or the Internet (27.5 %); 10.4 % learnt from travelling abroad;10.1 % learnt from a part-time job; and 23.1 % responded they learnt from other sources. The other sources include pre-nursing course, some students

Table 9
Where learnt about religious death rituals outside of your current nursing programme; Multi-response analysis.

Multi-response Analysis, Total Students Responding to Q16.1–5				
		Responses		
		N	Percent	Percent of Cases
Q16[a]	Q16.1 Own reading	91	28.8 %	46.4 %
	Q16.2 Travelling abroad	33	10.4 %	16.8 %
	Q16.3 Social-Media/Internet	87	27.5 %	44.4 %
	Q16.4 Part-time job	32	10.1 %	16.3 %
	Q16.5 Other	73	23.1 %	37.2 %
Total		**316**	**100.0 %**	**161.2 %**

[a] Dichotomy group tabulated at value 1.

Table 10
Where learnt about religious death rituals within current nursing programme: multi-response analysis.

Multiple Response Analysis, Total Students Responding to Q18.1–8				
		Responses		
		N	Percent	Percent of Cases
Q18[a]	Q18.2 Classroom/lecture theatre	104	34.7 %	60.5 %
	Q18.3 Small group tutorials	22	7.3 %	12.8 %
	Q18.4 Skills lab	20	6.7 %	11.6 %
	Q18.5 Preceptor, Clinical Placement	68	22.7 %	39.5 %
	Q18.6 During Student exchanges	30	10.0 %	17.4 %
	Q18.7 Through meeting patients and family members from different religions	56	18.7 %	32.6 %
	Q18.8 Other			
Total		**300**	**100.0 %**	**174.4 %**

[a] Dichotomy group tabulated at value 1.

studied religion prior to joining nursing, secondary school, being raised in religious environment or had friends of another religion. Learned from Television documentaries and one student mentioned working as a paramedic in UK for 5 years and others said death in the family.

4.6.2. Q18 About which of the three different religious death rituals have you learnt in your current nursing programme? Christianity, Islam and Hinduism- if answered yes students were to tick as to where they learned about the different death rituals during their current nursing programme?

Q18. Table 10 provides the multiple response analysis of students who learnt about religious death rituals within their current nursing programme. Most (34.7 %) learned from their classroom lectures/theatre and from their preceptor or clinical placements (22.7 %), and others learnt through meeting patients and family members of different religions (18.7 %), from small group tutorials (7.3 %), from skills labs (6.7 %), and 10 % during student exchanges. Students responded that they learned from other sources within current nursing programme, such as learning on the job while working as a care assistant, online videos, social media, television, part-time job in nursing home, clinical placement, studying religion in college, elective module on death in different cultures, family, friends, secondary school, working in hospitals, palliative care lectures, employment and from family members.

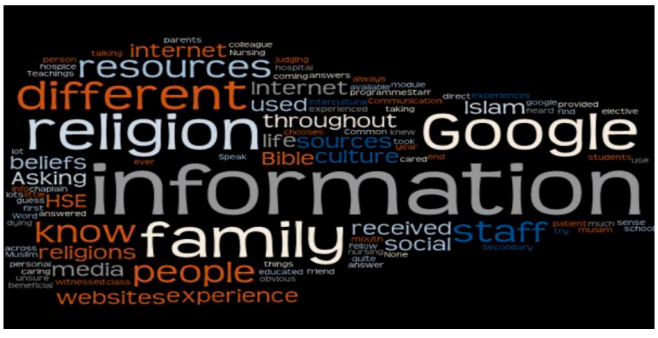

Fig. 2. Word cloud (KQ 23): other sources of information.

Question 23 on the KQ sought other sources of information yet to be mentioned. Of the 50 responses received, 15 students said, "I do not know" or answered "N/A". The other 35 stated they used the Bible, asked patients themselves, asked staff of the same religion, or asked more experienced staff who had cared for people of different religions when patient death was imminent. Others mentioned they would speak with a chaplain. Some students wrote that they learnt from their culture, family, or a friend or colleague. One said it seemed like common sense from the little things learnt throughout life, while another said they took an "educated guess". Some students mentioned an optional Intercultural Communication class during the first year of their nursing programme. Students used online resources such as websites, Google, social media, the Health Service Executive (HSE) website, and other internet/social media sources as seen in Fig. 2 displayed in the form of a word cloud.

5. Discussion

The results of the current study indicate that nursing students lack knowledge about religious death rituals, suggesting gaps in the nursing education and curriculum to prioritise cultural competency in their nursing education. Religion as part of culture serves as one among many ways to express and experience spirituality (Edara, 2017). Just as other aspects of care are met, religious/spiritual needs must also be met, thereby fulfilling a nurse's professional obligation to provide person-centred, holistic care to people near or at the time of death (Hawthorne and Gordon, 2020). The study results are in line with the literature which found that lack of knowledge was the result of inadequate education and training in the areas of palliative, psychological, and spiritual/religious care (Alwawi et al., 2022; Dimoula et al., 2019; Etafa et al., 2020; Radford, 2008; Timmins et al., 2017; Westwood and Brown, 2019; Hardie et al., 2023). Literature suggests that cultural knowledge be incorporated into nursing education as an ongoing effort to implement strategies for enhancing nursing students' cultural knowledge (Ong-Flaherty, 2015) to meet the patient's spiritual and religious needs. Education must include planned encounters between students and people from different cultural and religious backgrounds. The planned encounters could include simulation-based training, use of case scenarios, encouraging reflective practice, enhancing clinical exposure and by the introduction of new educational models (Fink et al., 2014; Greenawalt and Hawkins, 2019; Kurtgöz and Koç, 2025; Hawthorne and Gordon, 2020).

This study provided students with the opportunity to express their lack of knowledge by providing the option "I don't know". A similar study conducted by Fink et al. (2014) found that undergraduate nursing students' knowledge levels were increased after a simulation session with standardised patients. However, Fink et al.'s (2014) study did not provide an option "I don't know" which might indicate that lack of knowledge was not measured.

The undergraduate nursing education system in Ireland consists of five divisions as mentioned previously. In this study, students studying midwifery scored higher levels of knowledge (7.68), followed by Children's and General Nursing (6.74), General Nursing (6.61), and then Psychiatric Nursing (5.25). Students studying Intellectual Disability nursing had the lowest knowledge scores (4.47). However, even though Midwifery students scored slightly higher as compared to other divisions, the knowledge levels were still very low for all but a very few students. One of the reasons could be that there is an increasing trajectory of migrant populations. Which rose from 85,400 in 2020 to 141,600 in 2023 (CSO, 2020, 2023). The number of births in Ireland in the year 2023 was 55,500 (CSO, Population and Migration Estimates, 2023). The volume of immigrant people living in Ireland in both the 15-to-24-year age group and those aged between 25 and 44 years has increased

between 2018 and 2024, by 71,900 and 76,700 respectively (CSO, 2024). With the increasing number of births in the migrant population, there could be that the midwifery students could have gotten exposure to care for people from different cultural backgrounds, which might explain why there was a greater knowledge level among midwifery students. This kind of trajectory might also be seen in different countries where migration is on the rise. On the other hand, Intellectual disability students scored the lowest. The possible reasons could be that their curriculum did not focus much on the religious and cultural aspects of end-of-life care as compared to midwifery students. Within Ireland, there is invisibility of minority ethnic people with disabilities, and it is exacerbated by the lack of data (Pierce, 2003).

Results of the study indicate that being present at death and having cared for people from culturally different populations or when death was imminent had a relationship to knowledge levels. This shows that experience is a factor for increasing knowledge levels as compared to non-experienced nursing students and nurses. This is in line with the literature that identifies nursing students experiencing death during their first clinical placement (Gorchs-Font et al., 2021) and in their first year of training encountered multiple stressors (Seyedfatemi et al., 2007). Nurses expressed in their experiences that they want to care for a culturally different patient, but they became desperate, worried, and fearful and sometimes choose to avoid patients due to lack of familiarity with different languages and cultures (Amiri and Heydari, 2017).

Results also indicated outside of the academic environment, learning about religious death rituals had a significant relationship with the knowledge levels of students. Some students learnt from their own reading, they used the Bible, social media and/or the Internet resources, or from travelling abroad or undertaking a part-time job; and other sources which include pre-nursing course, or having studied religion prior to joining nursing, secondary school, being raised in the religious environment or had friends of another religion. Additionally, television documentaries and previous experiences or experiencing death in the family. This shows students' passion and desire to learn about different death rituals and indicates student's independent or self-directed learning (SDL) is an important element in gaining knowledge for university students. Literature supports this and identifies that learning methods used by lecturers can affect students' self-directed learning (SDL) (Oktaviani et al., 2021) and university students' self-directed learning skills vary based on gender, the field of study, university entrance score type, academic success and the desire to pursue a graduate degree based on a study conducted by Askin Tekkol and Demirel (2018). Although this study did not specifically measure all the factors mentioned above related to SDL, results do show that SDL could be one of the factors for an increased level of knowledge of death rituals outside the academic environment in this current study.

Overall, this study illustrates the complexity in terms of nursing students' ability to provide cultural and religious care to patients at the time of death, keeping in mind the different religious rituals that each religion practises. A great many factors need to go into training and education to prepare nursing students for end-of-life care. The acquisition and application of knowledge, at the heart of learning, is one competency element. In Bloom's taxonomy of learning, knowledge is highlighted as the base of the pyramid and a requirement for all upcoming stages.

6. Limitations

Although the study had a good representation of 8 of the 13 HEIs in Ireland. At the time of recruiting, it may have been optimal to collect data regarding where responses originated (which HEI) to evaluate the school's response rates and conduct additional outreach if representation seemed insufficient. During the data collection phase, the researcher relied entirely on gatekeepers to promote and recruit participants for the online survey research. Follow-up emails were sent to the gatekeeper, asking them to email students regularly, but the researcher could not ensure that regular follow-up emails were sent.

A possible limitation was that many students did not complete the survey fully, and many incomplete surveys were not included in the final analysis.

Another limitation was that the research did not collect information about the knowledge levels of students specific to each religion (Christianity, Islam and Hinduism) separately. It collected combined information related to the three religions and therefore unable to say in which religion the students had greater knowledge of death rituals or deficit knowledge.

7. Conclusions and recommendations

The national study results indicated that nursing students had low levels of knowledge regarding specific death rituals of the three religions (Christianity, Islam, and Hinduism) regardless of where they had learned or attempted to learn about them. Of all responses, the most important takeaway was that slightly more students learned from outside sources ($n = 196$) through self-education (reading and the internet) than in class ($n = 172$). This indicated a desire and a need to learn about other cultures and end-of-life religious practices. A desire to learn is a critical component of becoming culturally competent in the Campinha-Bacote (2007) process.

When the desire to learn was combined with the evidence that so many students lacked knowledge in this area, the need for comprehensive education around religious death rituals became obvious: What they learned within their nursing programme and what they learned on their own was insufficient. Hence, it could be concluded that cultural education should be uniformly provided within all nursing programmes of study in Ireland. Cultural competency could be mandated for nursing programmes by the NMBI.

Not only should topics related to cultural competence, religion, and the death rituals practised by different religions be taught, but the focus should not only include major world religions (Christianity, Islam). The religious death rituals of minority populations in Ireland, such as Hinduism, Buddhism, Judaism, and Travellers community, should be included to both broaden levels of compassionate understanding as well as capacity for cultural care concerning minorities seeking health care during a vulnerable time. Further, non-Roman Catholic students should learn about the religion of the majority population in Ireland. A specifically designed programme, handbook and a formal assessment would be very useful for undergraduate nursing students in each nursing program in the Republic of Ireland.

Cultural competence is important not only for patient and family care but also for nursing students and healthcare practitioners to facilitate their own experiences when encountering dying patients of different cultures. This can be an emotional and impactful time for caregivers, too. Every student may experience end-of-life encounters during their personal and professional lives. Further, how a person is treated when nearing death and when they have died remains in the memory of those who live on in a community.

8. Relevance to clinical practice

The study captures death rituals based on religious beliefs, last rites, washing and touching the dead person, and the religious symbols that nurses need to be mindful of when providing care to the dying and dead persons of a different religion in a hospital setting. Nursing students would be able to treat patients and their families with respect and cultural sensitivity if they are aware of these customs and rituals. Additionally, this will assist students to become more emotionally ready to deal with death and dying and will lessen their anxiety and communication hurdles when providing care for patients from diverse ethnic and religious backgrounds in hospitals. Nurse educators globally could utilise the tool used in this study to assess nursing student knowledge levels.

9. Future work

Future research should focus on addressing the limitations faced in this study. To improve response rates and ensure better representation across all Higher Education Institutions (HEIs), future studies should track where survey responses originate. This will allow for more targeted outreach efforts if specific institutions are underrepresented. Additionally, instead of relying solely on gatekeepers to distribute surveys, researchers could explore more direct methods of participant recruitment, such as using institutional communication platforms, social media, or in-class announcements. Incorporating face-to-face recruitment strategies, where possible, would likely increase engagement, especially for larger national studies. Further research could also investigate the impact of cultural competence education on nursing practice by tracking changes in students' knowledge of three religions and more specifically each religion included in the study.

Credit author statement

All the authors have made equal contributions to this paper.

CRediT authorship contribution statement

Nipuna Thamanam: Writing – original draft, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Daniela Lehwaldt:** Writing – review & editing, Supervision, Funding acquisition, Conceptualization. **Mary Rose Sweeney:** Writing – review & editing, Supervision, Resources, Conceptualization. **Melissa Corbally:** Supervision, Conceptualization.

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Declaration of competing interest

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