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A systematic review of religious beliefs about major end-of-life issues in the five major world religions

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Abstract

Objective—The objective of this study was to examine the religious/spiritual beliefs of followers of the five major world religions about frequently encountered medical situations at the end of life (EoL).

Method—This was a systematic review of observational studies on the religious aspects of commonly encountered EoL situations. The databases used for retrieving studies were: Ovid MEDLINE In-Process & Other Non-Indexed Citations, Ovid MEDLINE, Ovid EMBASE, Ovid PsycINFO, Ovid Cochrane Central Register of Controlled Trials, Ovid Cochrane Database of Systematic Reviews, and Scopus. Observational studies, including surveys from healthcare providers or the general population, and case studies were included for review. Articles written from a purely theoretical or philosophical perspective were excluded.

Results—Our search strategy generated 968 references, 40 of which were included for review, while 5 studies were added from reference lists. Whenever possible, we organized the results into five categories that would be clinically meaningful for palliative care practices at the EoL: advanced directives, euthanasia and physician-assisted suicide, physical requirements (artificial

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AUTHORSHIP CONTRIBUTIONS

R.C. and S.K.H. designed the study, abstracted the data, wrote the first draft, and approved the final version of the manuscript. A.R.E.J., M.R.L., K.L.S., and A.D.P. revised the manuscript and approved the final version.

DISCLOSURES

All the authors have completed the unified competing interest form (see www.icmje.org/coi_disclosure.pdf; available on request from the corresponding author) and declare the following: (1) none of the authors have any financial interests related to the submitted work in the previous three years; and (2) their spouses, partners, and children have no financial relationships that may be relevant to the submitted work. All the authors had full access to all of the study data and can take responsibility for the integrity of our study and the accuracy of its analysis.

nutrition, hydration, and pain management), autopsy practices, and other EoL religious considerations. A wide degree of heterogeneity was observed within religions, depending on the country of origin, level of education, and degree of intrinsic religiosity.

Significance of results—Our review describes the religious practices pertaining to major EoL issues and explains the variations in EoL decision making by clinicians and patients based on their religious teachings and beliefs. Prospective studies with validated tools for religiosity should be performed in the future to assess the impact of religion on EoL care.

Keywords

End of life; Religion; Advance directives; Euthanasia; Artificial nutrition and hydration; Autopsy; Pain management

INTRODUCTION

The spiritual, religious, and existential aspects of care constitute one of the eight core domains of palliative care (National Consensus Project for Quality Palliative Care, 2013; Kelley & Morrison, 2015). Multiple studies have shown religion and spirituality (R/S) to be important factors that influence medical decision making in the event of a terminal illness, especially in non-Caucasian populations (Ehman et al., 1999; Koenig, 1998; Balboni et al., 2007; MacLean et al., 2003). About half of the patients in ambulatory settings express wishes to interact with their physicians regarding R/S beliefs in a near-death scenario (MacLean et al., 2003). Lack of R/S support has been shown to be widespread in cancer patients of diverse backgrounds (Balboni et al., 2007), which is associated with a significantly lower quality of life (QoL) compared to those whose spiritual needs are adequately addressed. Less than a fifth of the goals-of-care conversations in intensive care units (ICUs) include discussions regarding R/S (Ernecoff et al., 2015). One study of patients with advanced cancer showed a significantly increased likelihood of aggressive EoL measures in patients who received spiritual support primarily provided by religious communities (Balboni et al., 2013). In contrast, patients receiving R/S care from a medical team had higher rates of hospice utilization, fewer ICU deaths, and underwent fewer aggressive interventions. Spiritual support from a medical team is also associated with a better QoL near death (Balboni et al., 2010) and lower costs of care (Balboni et al., 2011).

Despite the overwhelming evidence on the positive impact of appropriate R/S EoL care (El Nawawi et al., 2012), its routine incorporation in clinical practice is lacking. While abundant data are available on the spiritual aspects of the end of life, a gap in the literature has been identified in peer-reviewed scientific publications when it comes to addressing religious beliefs at the end of life. To address this issue, we conducted a systematic review of the empirical evidence on EoL beliefs and practices of those belonging to the five major world religions: Christianity, Islam, Hinduism, Buddhism, and Judaism. To our knowledge, this is the first *systematic* review on the religious aspects of EoL care that could help clinicians in any specialty (e.g., internists, psychiatrists, oncologists, palliative medicine experts, ICU specialists, psychologists) as well as chaplains and social workers to analyze the specific belief systems of the world's five major religions.

SEARCH STRATEGY

We conducted a systematic review with a comprehensive search of databases in the English language beginning at the time of each database's inception: Ovid MEDLINE In-Process & Other Non-Indexed Citations, Ovid MEDLINE, Ovid EMBASE, Ovid PsycINFO, Ovid Cochrane Central Register of Controlled Trials, Ovid Cochrane Database of Systematic Reviews, and Scopus. Our search strategy was designed and conducted by an experienced medical librarian with input from the other authors.

Observational studies, including surveys of healthcare providers (HCPs) or the general population, as well as case studies were included for review. Those written from a purely theoretical or philosophical perspective and those providing guidelines for providers were excluded. Studies on pediatric populations were also excluded. Whenever possible, empirical data were divided into two categories: (1) the attitudes of HCPs and (2) the attitudes of patients and the general population. Our systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) Statement (see Figure 1) (Liberati et al., 2009).

Results

Our search strategy generated 968 references, 40 of which were deemed relevant for review. After manually reviewing the references from relevant full-text manuscripts, we added five more studies to the systematic review (see Figure 1). All the publications were descriptive, as there were no clinical trials published on this issue. Based on the contents of the articles, we organized our results into five areas for presentation: (1) advanced directives; (2) euthanasia and physician-assisted suicide; (3) physical requirements (artificial nutrition, hydration, pain management); (4) autopsy practices; and (5) other EoL religious considerations.

ADVANCE DIRECTIVES AND TREATMENT DISCONTINUATION (SEE TABLE 1)

Advance directives (ADs) are utilized to record patients' wishes regarding instituting life-sustaining treatment in a living will and/or with respect to identifying a surrogate decision maker with a durable power of attorney (DPOA) for healthcare (Silveira et al., 2010).

Christianity

Attitudes and Beliefs of HCPs—A European study on terminally ill ICU patients reported increased frequency of discussions about ADs among critical care physicians belonging to the Protestant, Catholic, and Jewish faiths or to no religious faith (60–80%), compared to those of the Greek Orthodox or Muslim faith (25–30%) ($p < 0.001$) (Sprung et al., 2007). Catholic physicians were generally more likely to withdraw treatment, whereas Protestant, Greek Orthodox, Muslim, and Jewish physicians were more likely to withhold treatment from terminally ill patients. The median time from ICU admission to withdrawal or withholding of treatment varied from 1.6 days for Protestant to 7.6 days for Greek Orthodox physicians ($p < 0.001$). In the United States, physicians with a Roman Catholic

affiliation were three times more likely to object to withdrawal of life support, compared to Protestants and Jews, and those with no religious affiliation (Curlin et al., 2008).

Attitudes and Beliefs of Patients and the General Population—A survey of a Dutch population showed a significantly lower likelihood of refusing resuscitation in the setting of advanced dementia and cancer in the Christianity-oriented group (47 and 53% for advanced dementia and cancer, respectively) compared to those belonging to the Right-to-Die–NL group (99 and 99%. respectively) or the general population (86 and 86%, respectively) (van Wijmen et al., 2014). People with no religious affiliation were more likely to refuse treatment for a terminal illness. A U.S. longitudinal study found that fundamentalist Catholics and Protestants are significantly more likely to desire life-prolonging treatment compared to their nonfundamentalist counterparts (Sharp et al., 2012). A case report of a Pentecostal Christian woman indicated an expression of miraculous visions at the end of life, which can have a strong impact on EoL decision making (Henin et al., 2013).

Islam

Attitudes and Beliefs of HCPs—A study of Iranian nurses, mostly Muslims, revealed an increased willingness to learn more about do-not-resuscitate (DNR) orders (Mogadasian et al., 2014). No significant differences were observed between Shiite and Sunni nurses. A survey of physicians in Saudi Arabia found that the proportion of physicians advocating DNR for previously healthy elderly and demented patients was 16 and 61%, respectively ($p < 0.001$) (Al-Mobeireek, 2000). Along with religious and legal concerns, the dignity of patients was found to be important for physicians while making decisions. Some 40% of physicians trained in the Middle East were found to consider DNR as equivalent to comfort care, and more than 50% favored “do-not-escalate” therapy as opposed to DNR in futile scenarios (ur Rahman et al., 2013). Almost half of these respondents wanted physicians to have the ultimate authority in making DNR decisions.

Attitudes and Beliefs of Patients and the General Population—In a retrospective review of braindead Muslim patients, 12% were treated with expectant terminal extubation; after being declared braindead, and 5% still remained “full code” (Khalid et al., 2013). In structured interviews, Shiite scholars stated that the responsibility of passing the final verdict regarding life-saving therapy should be taken by those who were well-informed about saving lives, implying that physicians were best positioned in this regard (Mobasher et al., 2014).

Hinduism

Attitudes and Beliefs of HCPs—In a study of Hindu physicians working in the United States (Ramalingam et al., 2015), 80% of respondents acknowledged talking first with patients about DNR decision making and 70% involved family members in these DNR discussions. A total of 60% considered DNR to be allowed in Hinduism, and 86% did not believe that withdrawing life-support measures was in-congruent with their religious beliefs. Of note, only 6% of the physicians in this study considered themselves to be highly religious.

Attitudes and Beliefs of Patients and the General Population—Mohankumar (2009) found that Asian Indian Hindus are more likely to refuse life-sustaining interventions compared to non-Hispanic whites and are more likely to engage in autonomous decision making regarding ADs. Reduction of the burden of decision making placed on family members has been indicated as an important consideration for having an AD in place (Sharma et al., 2011; Rao et al., 2008). Doorenbos & Nies (2003) found that 44% of Asian Indian Hindu respondents expressed a desire to complete an AD, and that the desire to complete an AD was inversely related to the importance of religious beliefs and a family-centric form of decision making.

Buddhism

Attitudes and Beliefs of Patients and the General Population—In a study of elderly Chinese subjects in Singapore, where the predominant religion is Buddhism/Taoism, 37% have been found to believe in the importance of having an AD in place (Low et al., 2000). Physicians were considered the preferred surrogate decision maker by 54% of these respondents, followed by a family member (35%). About 60 to 70% of these subjects were in favor of EoL cardiopulmonary resuscitation and mechanical ventilation. Srinonprasert et al. (2014) surveyed an elderly Buddhist population in Thailand and found that ~75% were unwilling to continue with life-prolonging treatment when the chances of survival were low. A majority (56%) did not want to die at home. These elderly Thai subjects also preferred to know the truth about their illness.

Judaism

Attitudes and Beliefs of HCPs—The perspectives of Jewish healthcare providers tends to vary based on their degree of conservatism. Highly religious Jewish physicians have been found to be less likely to withdraw life-sustaining treatment during a terminal illness, and their desire for EoL supportive care is universally high irrespective of degree of religiosity (Wenger & Carmel, 2004).

Attitudes and Beliefs of Patients and the General Population—A case report of an elderly Jewish male who was comatose and mechanically ventilated in an ICU reflected the contradictory positions of secular and Orthodox Jewish laws pertaining to EoL decision making (Blinderman, 2007). The patient had three daughters, two of whom were secular Jews who wanted to discontinue aggressive life-sustaining therapy. The other daughter, an Orthodox Jew, wanted all life-sustaining therapies, including artificial nutrition and hydration (ANH), to be continued, after consultation with a rabbi. Having witnessed starvation in concentration camps, Holocaust survivors tend to be unwilling to forego ANH in terminal illness, even in futile situations (Goldberg, 1999).

EUTHANASIA AND PHYSICIAN-ASSISTED SUICIDE (TABLE 2)

Voluntary euthanasia involves intentional ending of a life by a physician via administration of drugs. Physician-assisted suicide (PAS) is defined as a physician providing drugs for a patient to self-administer, so that he or she can end their own life (Materstvedt et al., 2003). Voluntary euthanasia is currently legal in the Netherlands, Belgium, Colombia, and

Luxembourg. Physician-assisted suicide is legal in Switzer land, Germany, Japan, Albania, and in parts of the United States (in Washington, Oregon, Vermont, New Mexico, Montana, and California).

Christianity

Attitudes and Beliefs of HCPs—A nationwide survey among nurses in Belgium found that Catholic nurses have lower rates of acceptance of euthanasia compared to nonreligious nurses (Inghelbrecht et al., 2009). Only 15% of Italian primary care physicians have been shown to favor euthanasia/PAS, whereas 33% agree with withdrawing/withholding treatment in appropriate situations (Grassi et al., 1999). In addition, Catholic physicians have significantly higher rates of disagreement with non-Catholic physicians regarding legalization of and active participation in euthanasia/PAS ($p < 0.001$; Grassi et al., 1999).

Among Flemish palliative care physicians, 75% of “infrequently churchgoing” respondents strongly favored euthanasia, as opposed to 25% of “churchgoing” respondents (Broeckaert et al., 2009). However, more than 80% of the Catholic healthcare systems in Belgium permit euthanasia for competent terminally ill patients (Gastmans et al., 2006).

Islam

Attitudes and Beliefs of HCPs—Naseh et al. (2015) studied a population of Iranian nurses, the majority of whom were Muslims, and found negative attitudes toward euthanasia in about 60% of respondents, with no significant impact of degree of intrinsic religiosity. Kamath et al. (2011) conducted a study in India where the proportion of patients opposed to euthanasia was 24% among Hindus, 64% in Christians, and 77% in Muslims. Patients with any religious affiliation had a significantly higher likelihood of opposing euthanasia compared to those not affiliated with any particular religion.

Attitudes and Beliefs of Patients and the General Population—Qidwai et al. (2001) conducted a patient survey in Pakistan, where only 9% advocated PAS, and those who did were likely to be female, married, elderly, and educated. Elderly Muslim immigrant women in Belgium have been shown to have a predominantly negative attitude toward euthanasia (Baeke et al., 2012). Aghababaei (2012–13) found that intrinsic religiosity was the strongest correlate for negative attitudes toward euthanasia among Muslim students in Iran, followed by personal extrinsic orientation.

Buddhism

Attitudes and Beliefs of Patients and the General Population—More than half of elderly Chinese subjects in Singapore agreed that euthanasia should be allowed under appropriate circumstances (Low et al., 2000). However, a third of these respondents disagreed about pursuing euthanasia even in the case of futile circumstances.

Judaism

Attitudes and Beliefs of HCPs—The probability of agreement with the practice of euthanasia was found to be inversely related to degree of intrinsic religiosity by Wenger & Carmel (2004) in a study of Jewish Israeli physicians.

Attitudes and Beliefs of Patients and the General Population—Among elderly Jewish women in Belgium, an overwhelming majority of Orthodox Hasidic and non-Hasidic women absolutely rejected euthanasia/PAS (Baeke et al., 2011). A trend toward a positive outlook on euthanasia/PAS was seen in secularized Orthodox and non-Hasidic Orthodox respondents.

ARTIFICIAL NUTRITION AND HYDRATION (ANH) AND PAIN MANAGEMENT (TABLE 3)

Delivery of ANH in a terminal illness can create complex scenarios and requires an understanding of the nutritional, cultural, psychosocial, and R/S needs of patients, with the final decision usually being made by members of the healthcare team (Maillet et al., 2002).

Islam

Attitudes and Beliefs of HCPs—A study of American physicians showed that Jewish and Muslim physicians are more likely to oppose withholding ANH compared to non-Evangelical Protestants. These differences were significant after controlling for religious importance and attendance (Wolenberg et al., 2013), and the least religious physicians were less likely to oppose withholding or withdrawing ANH. Another study showed that the majority of Muslim physicians in the Middle East believe in feeding DNR patients (ur Rahman et al., 2013).

Hinduism

Attitudes and Beliefs of HCPs—Hindu physicians in the United States have been shown to have a fourfold higher likelihood of objecting to terminal sedation compared to their counterparts with another or no religious affiliation (Curlin et al., 2008). A different American study showed that 86% of Hindu physicians do not think that their religious beliefs interfere with administration of terminal sedation, but only 6% of these healthcare providers reported having high intrinsic religiosity (Ramalingam et al., 2015).

Buddhism

Attitudes and Beliefs of Patients and the General Population—In a case report of a Buddhist with end-stage colon cancer, the patient refused EoL pain medication due to a fear of decreased alertness of mind (Smith-Toner, 2003). Another Buddhist patient opted to forego ANH and analgesics during the final 48 hours of life (Barham, 2003).

Judaism

Attitudes and Beliefs of HCPs—Among Israeli Jewish physicians, degree of religiosity was found to be inversely related to the likelihood of approving EoL pain medications, if the medications were thought to hasten death (Wenger & Carmel, 2004).

Attitudes and Beliefs of Patients and the General Population—Among terminally ill Jewish patients, Clarfield et al. (2006) found that the rate of nasogastric and gastrostomy

tube placement for ANH was higher in Israeli (52.9%) compared to Canadian Jewish (11%) subjects (Clarfield et al., 2006).

AUTOPSY PRACTICES (TABLE 4)

Acceptance of autopsy and postmortem examination can vary widely, depending on the religious and spiritual beliefs of the individuals involved.

Christianity

Attitudes and Beliefs of Patients and the General Population—A survey of French Catholics found that about a fifth of this population are opposed to autopsy of close relatives (Charlier et al., 2013).

Islam

Attitudes and Beliefs of HCPs and Patients—Muslim patients and HCPs have been shown to believe in preserving the self-esteem of the patient by avoiding postmortem examinations that could lead to distortions, deformities, and changes in the appearance of the body (Tayeb et al., 2010). Cheraghi et al. (2005) found that autopsy is usually refused by Muslim families in Iran, unless required by law.

Judaism

Attitudes and Beliefs of Patients and the General Population—Orthodox Jewish law encourages rapid burial of the deceased, and physicians are expected to contact the family immediately and encourage them to contact a Jewish burial committee (Loike et al., 2010). Burial occurs within 24 hours unless the next day is a Saturday (the Sabbath), which can make an autopsy difficult due to its potential for delaying burial.

MISCELLANEOUS (TABLE 4)

Christianity

Positive attitudes about seeking pastoral help in the United States are highest among Catholics, followed by Protestants, Jews, and those with no religious affiliation (Selby et al., 1978). Chaplain EoL visits in the United States have also been demonstrated to improve patient satisfaction in standardized surveys (Marin et al., 2015).

Islam

More than half of Muslim physicians surveyed in the Middle East consider the ability to pray an extremely important aspect of EoL care (ur Rahman et al., 2013). However, Khalid et al. (2013) found that there is minimal involvement of Muslim chaplains or social workers in EoL discussions in the region. Additionally, a survey of Muslim patients and a case report highlighted the need for someone to be present at the bedside at the time of death to recite chapters of the Quran (Tayeb et al., 2010; Gilbert, 1994).

Buddhism

Kongsuwan et al. (2012) found that terminally ill Thai Buddhist patients consider preparing for a peaceful state of mind and being with family members to be important components of a peaceful death. Guided meditation by a Buddhist teacher, quiet reflection, and chanting have also been shown to reduce anxiety and dyspnea (Barham, 2003; Smith-Toner, 2003).

DISCUSSION

This systematic review indicates the diversity of religious beliefs and how they relate to EoL care. It also demonstrates the inconsistencies and major gaps in the literature in terms of studies on the beliefs and preferences of HCPs and patients who belong to different religions. Receptivity to advanced directives is greatest among Roman Catholic, Protestant, Jewish, and Hindu populations. Meanwhile, the major religions vary dramatically in terms of their views on termination of care, euthanasia/PAS, ANH, pain management, and autopsy. Perspectives may vary even within the same religion based on the subgroup to which the patient or provider belong, or even their country of residence. A nation's cultural practices and laws have a significant influence on beliefs and practices. For example, Catholics in Europe were found to be more likely to withdraw treatment in an EoL situation than Protestants, whereas American Roman Catholics were three times more likely to object to withdrawal of life support than Protestants. The diversity of our findings also indicates that the views within a religion can shift among those who set the guidelines, those who provide the care, the patients themselves, and their families.

Religion and spirituality are known to influence health by helping patients and families cope with an illness, by developing a positive state of mind, and by maintaining emotional integrity (Curlin et al., 2007). The important barriers to provision of R/S care by HCPs include inadequate training and a perception of R/S care as being outside the scope of clinical practice (Koenig et al., 2010). A review by Setta and Shemie (2015) demonstrated how a theological line of reasoning can lead to complex conclusions on various EoL issues. For example, the differences in ANH practices among Israeli and Canadian Jewish patients can be explained by varying degrees of conservatism and obedience to Jewish laws among those affiliated with Orthodox, Conservative, and Reform Judaism. Level of education can also play an important role, as evidenced by an increased rate of acceptance for euthanasia/PAS among educated respondents in Pakistan (Qidwai et al., 2001). As is evident from our review, pharmacotherapy for EoL pain control can have different implications for people belonging to different religions. The Judeo-Christian view endorses the use of pain medications as long as the intent is to comfort the dying patient. However, Eastern religions (including Hinduism and Buddhism) often object to the use of opioid medications at the end of life due to the undesirable consequence of a decreased level of consciousness at the time of death. Furthermore, EoL fasting is sometimes considered to be a source of spiritual purification by Hindus, and so they might object to tube feeding once the end is near (Firth, 2005).

LIMITATIONS OF THE STUDY

Our study has certain limitations. Most of the data presented are primarily based on studies of religious practices pertaining to EoL issues in the general population and include a wide heterogeneity in terms of degree of intrinsic religiosity. Hence, there may be disagreements among scholars who are well versed in the theological perspectives of individual religions. Many of our studies were based on surveys with HCPs, with a disproportionately high level of health literacy compared to the general population, which could have influenced their responses.

CONCLUSIONS

To conclude, this is the first systematic review of empirical evidence published in the medical literature on EoL practices of people belonging to the five major world religions, with the primary objective of enhancing R/S competence among HCPs. In addition to highlighting the religious perspectives on the major EoL issues, our results help us conceptualize how religious teachings and beliefs translate into HCP and patient decision making in the “real world.” Prospective studies with validated tools for religiosity and spirituality are needed in order to yield a detailed characterization of their impact on longevity and quality of life at the end of life.

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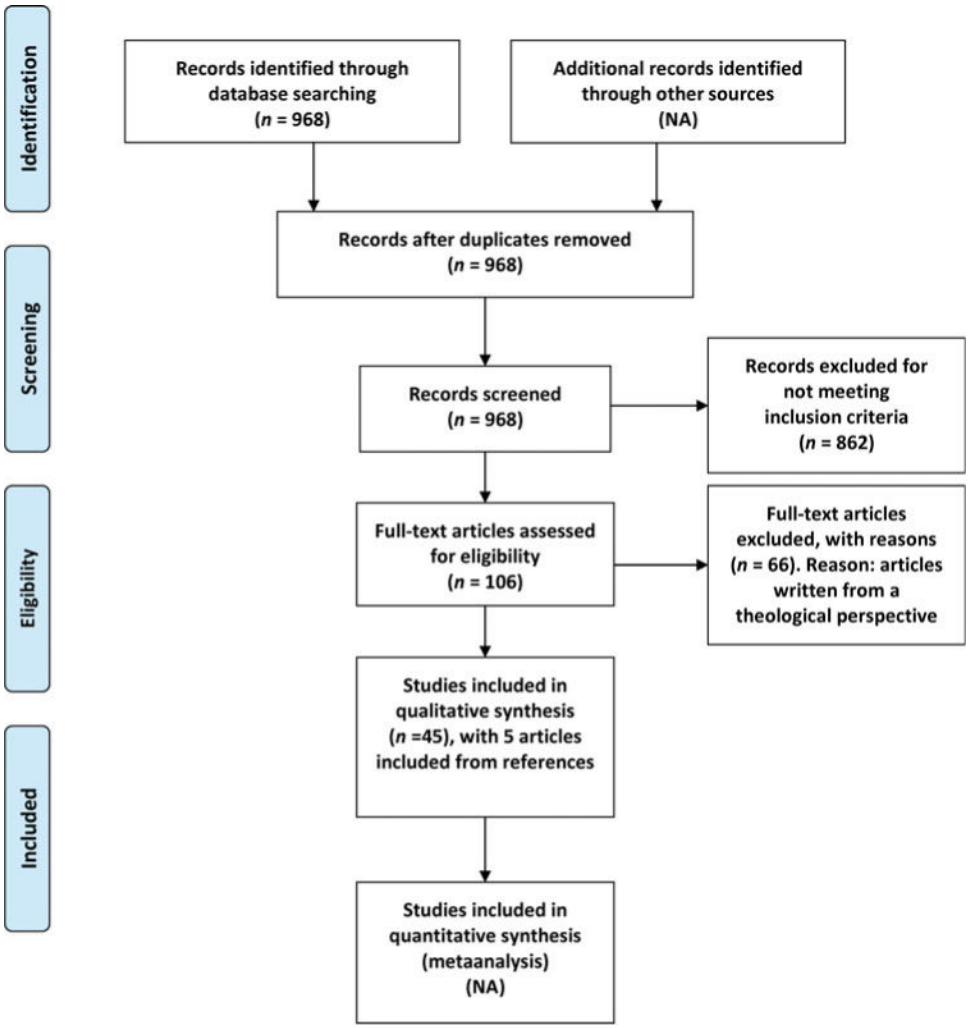

Fig. 1.
PRISMA flow diagram. Adapted from Moher et al. (2009).

Table 1

Advance directives

Study author(s)/publication year/country	Religion studied	Methodology	Population assessed	Sample size	Major findings
Van Wijmen et al., 2014, The Netherlands	Christianity	Cross-sectional survey	Dutch patients	1402	Christianity orientated group was less likely to refuse resuscitation at EoL, compared to the less religious groups.
Sprung et al., 2007, European Union	Christianity, Judaism, Islam, no affiliation	Longitudinal observational study	Physicians working in ICUs in European countries	3086	Catholics were more likely to withdraw treatment, whereas Protestants, Greek Orthodox, Muslim, and Jewish physicians were more likely to withhold treatment in terminally ill patients
Sharp et al., 2012, USA	Christianity	Longitudinal observational study	Patients in Wisconsin Longitudinal Study	2678	Fundamentalist Catholics and Protestants were more likely to advocate life-prolonging treatment in terminal illness, compared to their nonfundamentalist counterparts
Curlin et al., 2008, USA	Multiple religions	Questionnaire survey	U.S. physicians	1144	Roman Catholics were more likely to object to withdrawal of life support, compared to Protestants, Jews, and those with no religious affiliations
Mogadasian et al., 2014, Iran	Islam	Questionnaire survey	Iranian nurses	306	Nurses had increased willingness to learn about DNR orders, advocated patient autonomy, and questioned decision making by HCPs
Al-Mobeireek, 2000, Saudi Arabia	Islam	Questionnaire survey	Physicians in Saudi Arabia	249	Around 60% of physicians advocated DNR for elderly patients with advanced dementia, compared to 16% for previously healthy elderly adults
Mobasher et al., 2014, Iran	Islam	Qualitative structured interview	Shiite scholars	8	The responsibility of passing a final verdict regarding life-prolonging therapy rests with the physician; human life is dignified and should be sustained as long as it is sustainable, which should be decided based on the patient's situation
ur Rahman et al., 2013, Iran	Islam	Questionnaire survey	Physician members of the Pan Arab Society of Critical Care	86	Religion played a major role in making DNR decision in 59% of physicians; DNR was considered equivalent to comfort care in 40%; majority wanted physicians to have the ultimate authority in making DNR decision
Khalid et al., 2013, Saudi Arabia	Islam	Retrospective study	Braindead patients	42	5% of braindead Muslim patients remained "Full Code"; expectant

Study author(s)/publication year/country	Religion studied	Methodology	Population assessed	Sample size	Major findings
					terminal extubation occurred in 12% of patients
Mohankumar, 2009, USA	Hinduism	Questionnaire survey	Asian Indian Hindus living in the USA	200	Asian Indian Hindus were more likely to refuse life-sustaining interventions and more likely to engage in autonomous decision making
Ramalingam et al., 2015, USA	Hinduism	Questionnaire survey	Physicians living in the USA	293	80% of physicians talked with patient first regarding DNR decisions, and 60% considered DNR to be allowed in Hinduism; 86% of physicians did not experience any conflicts between religious beliefs and administering terminal sedation or withdrawing life support
Sharma et al., 2011, USA	Hinduism	Qualitative structured interview	South Asians living in the USA	23 (12 first-generation and 11 second-generation)	Reduction of family member decision making burden was a major consideration for having ADs in place
Rao et al., 2008, USA	Hinduism	Qualitative structured interview	Elderly Indo-Caribbean Hindus	44	Participants had a positive attitude toward ADs and a negative attitude toward life-prolonging or life-sustaining treatments in the setting of terminal illness
Doorenbos & Nies, 2003, USA	Hinduism	Questionnaire surveys	Asian Indian Hindus living in the USA	45	44% of respondents had a desire to complete an AD; the likelihood of possession of an AD was inversely related to importance of religious beliefs and rituals
Wenger & Carmel, 2004, Israel	Judaism	Questionnaire survey	Physicians in Israel	443	Withdrawal of life-sustaining treatment in terminal illness was endorsed by 11, 36, and 51% of very religious, moderately religious, and secular physicians respectively ($p < 0.001$)
Blinderman, 2007, USA	Judaism	Case report	Patient and family members	1	Two family members who followed secular Jewish law requested discontinuation of aggressive life-sustaining therapies; one family member, who was an Orthodox Jew, wanted continuation of all life-sustaining therapies
Low et al., 2000, Singapore	Buddhism/Taoism	Qualitative semistructured interview	Elderly Chinese subjects in a day care center	43	37% agreed that making an AD is important; 54 and 35% chose physician and family member to be surrogate decision-maker, respectively; 60–70% wanted

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Study author(s)/publication year/country	Religion studied	Methodology	Population assessed	Sample size	Major findings
					cardiopulmonary resuscitation and mechanical ventilation
Srinonprasert et al., 2014, Thailand	Buddhism	Questionnaire survey	Elderly Thai patients in a geriatric clinic	100	75% did not want life-prolonging therapy, when considered futile; 56% of elderly patients did not want to die at home

AD = advance directive; ANH = artificial nutrition and hydration; DNR = do not resuscitate; HCP = healthcare professional; ICU = intensive care unit; NPV = Nederlandse Patienten Vereniging.

Table 2

Euthanasia and physician-assisted suicide

Study author(s)/publication year/country	Religion(s) studied	Methodology	Population assessed	Sample size	Major findings
Inghelbrecht et al., 2009, Belgium	Christianity	Questionnaire surveys	Nurses in Flanders, Belgium	6000	Catholic nurses had lower rates of acceptance of voluntary euthanasia compared to nonreligious nurses
Grassi et al., 1999, Italy	Christianity	Questionnaire surveys	Primary care physicians	336	Catholic physicians were more opposed to performing euthanasia/PAS compared to non-Catholics
Broeckaert et al., 2009, Belgium	Christianity	Questionnaire surveys	Flemish palliative care physicians	147	Staunch advocates of euthanasia: 23, 77, 67, and 54% of clusters 1, 2, 3, and 4 respectively; opponents of euthanasia: 31, 8, 0, and 7% of clusters 1, 2, 3, and 4 respectively; cluster 1: churchgoing respondents; cluster 2: infrequently churchgoing respondents; cluster 3: atheists; cluster 4: doubters
Gastmans et al., 2006, Belgium	Christianity	Questionnaire surveys	General directors of hospitals and nursing homes in Belgian Catholic healthcare systems	298	Terminally ill competent patients: euthanasia allowed in 83 and 85% of hospitals and nursing home, respectively; terminally ill incompetent patients: euthanasia allowed in 27 and 60% of hospitals and nursing homes, respectively; non-terminally-ill patients: euthanasia allowed in 43 and 64% of hospitals and nursing homes respectively
Naseh et al., 2015, Iran	Islam	Questionnaire survey	Nurses in two teaching hospitals in Iran	266	Negative attitude toward euthanasia: 57%; positive attitude toward euthanasia: 40%; neutral attitude toward euthanasia: 3%
Baeke et al., 2012, Belgium	Islam	Qualitative interviews	First-generation elderly immigrant Muslim women in Belgium	30	Predominantly negative attitude was seen toward euthanasia and PAS
Aghababaei et al., 2012–13, Iran	Islam	Questionnaire survey	Students	300	More than 60% of students considered euthanasia morally wrong
Qidwai et al., 2001, Pakistan	Islam	Questionnaire survey	Patients presenting to family physicians in a teaching hospital in Pakistan	420	9% of patients advocated PAS
Kamath et al., 2011, India	Hinduism, Christianity, and Islam	Questionnaire survey	Physicians working at a tertiary care center	213	24, 64, and 75% of followers of Hinduism, Christianity, and Islam, respectively, were opposed to euthanasia
Baeke et al., 2011, Belgium	Judaism	Qualitative interviews	Elderly Jewish women	23	Absolute rejection of euthanasia/PAS was seen among Orthodox/religiously observant Hasidic and non-Hasidic Jewish women, with a trend toward positive attitudes seen in secularized Orthodox and non-Hasidic Orthodox respondents

Study author(s)/publication year/country	Religion(s) studied	Methodology	Population assessed	Sample size	Major findings
Wenger & Carmel, 2004, USA	Judaism	Questionnaire survey	Jewish Israeli physicians	443	The degree of agreement with the practice of euthanasia was 5, 42, and 70% in very religious, moderately religious, and secular physicians, respectively ($p < 0.001$)
Low et al., 2000, Singapore	Buddhism/Taoism	Semistructured interview	Elderly Chinese subjects at a day care center	43	51% of respondents agreed that euthanasia should be allowed and 35% disagreed

PAS = physician-assisted suicide.

Table 3

Artificial nutrition and hydration (ANH) and pain management

Study author(s)/publication year/country	Religion(s) studied	Methodology	Population assessed	Sample size	Major findings
Wolenberg et al., 2013, USA	Christianity, Islam, and Judaism	Questionnaire survey	U.S. physicians	1156	Jews and Muslims were more likely to oppose withholding ANH, compared to non-Evangelical Protestants
ur Rahman et al., 2013, Middle East	Islam	Questionnaire survey	Physician members of Pan Arab Society of Critical Care	86	94% of physicians agreed with feeding DNR patients
Clarfield et al., 2006, Canada and Israel	Judaism	Cross-sectional survey	Patients admitted to six geriatric long-term hospitals and care facilities	2287	Israeli Jewish patients exhibited highest rate of feeding by nasogastric or gastrostomy tube placement (52%), followed by Canadian Jewish patients (19%), followed by Canadian non-Jewish patients (3%)
Barham, 2003, Australia	Buddhism	Case study	Buddhist patient	1	Patient refused ANH in the last 48 hours of life; patient refused analgesic medications to avoid undesirable sedation
Wenger & Carmel, 2004, Israel	Judaism	Questionnaire survey	Jewish Israeli physicians	443	The likelihood of approval of pain medications if it will hasten death was 69, 80, and 85% in very religious, moderately religious, and secular physicians, respectively
Smith-Toner, 2003, USA	Buddhism	Case study	Buddhist patient	1	Patient with end-stage colon cancer refused pain medication due to the belief that it would decrease the degree of alertness of mind; wanted to be as alert as possible at the time of death
Curlin et al., 2008, USA	Multiple religions	Questionnaire survey	U.S. physicians	1144	Hindu physicians were more likely to object to terminal sedation, compared to Christians, Jews, and those with no religious affiliations

DNR = do not resuscitate; ANH = artificial nutrition and hydration.

Table 4

Autopsy and miscellaneous issues

Study author(s)/publication year/country	Religion(s) studied	Methodology	Population studied	Sample size	Major findings
Charlier et al., 2013, France	Christianity	Questionnaire survey	French monks	30	20% were opposed to autopsy of their direct relatives; 13% considered modern embalming or formaldehyde-based conservation processes as contranatural
Selby et al., 1978, USA	Judaism, Christianity	Questionnaire survey	Undergraduate students and adults from religious congregations	116	A significant relationship was observed between religious affiliation and attitudes toward seeking pastoral, the highest being among Catholics, followed by Protestants, Jews, and then those with no religious affiliation
Tayeb et al., 2010, Saudi Arabia	Islam	Questionnaire surveys and interviews	Muslim patients and healthcare providers	284	One of the domains of "good death" included preserving a patient's self-esteem and image, by avoiding postmortem distortion; another domain focused on chaplaincy expectations
Cheraghi et al., 2005, Iran	Islam	Anecdotes from experience in EoL care	Nurses from Iran	NA	A postmortem examination or autopsy would normally be refused by a Muslim family unless required by law
ur Rahman et al., 2013, Middle East	Islam	Questionnaire survey	Physician members of Pan Arab Society of Critical Care	86	Ability to pray while dying was a major concern for 52% of physicians
Khalid et al., 2013, Saudi Arabia	Islam	Retrospective study	Braindead patients	42	There was minimal involvement of Muslim chaplain, social worker, or palliative care team in EoL discussions
Gilbert, 1994, USA	Islam	Case report	Arab Muslim patient	1	Family wanted patient's head to be turned toward Mecca and expressed desire to pray in patient's room
Kongsuwan et al., 2012, Thailand	Buddhism	Structured interview	Thai Buddhist family members whose loved ones died in adult ICUs	9	Terminally ill Thai Buddhist patients considered embracing impending death and being with family members as important components of a peaceful death
Smith-Toner, 2003, USA	Buddhism	Case study	Buddhist patient	1	Buddhist patients may wish to perform religious rituals such as quiet reflection, chanting, meditation, and prayer at EoL
Barham, 2003, Australia	Buddhism	Case study	Buddhist patient	1	Guided meditation repeated at regular intervals with the help of a Buddhist teacher was used to alleviate anxiety and distress associated with dyspnea

EoL = end of life; ICU = intensive care unit.