

# BMJ Open Spirituality and religion in residents and inter-relationships with clinical practice and residency training: a scoping review

Hsin Han Elisha Chow,<sup>1</sup> Qian Hui Chew,<sup>2</sup> Kang Sim <sup>1,3</sup>

**To cite:** Chow HHE, Chew QH, Sim K. Spirituality and religion in residents and inter-relationships with clinical practice and residency training: a scoping review. *BMJ Open* 2021;**11**:e044321. doi:10.1136/bmjopen-2020-044321

► Prepublication history for this paper is available online. To view these files, please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2020-044321>).

Received 30 August 2020  
Accepted 18 May 2021



© Author(s) (or their employer(s)) 2021. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

<sup>1</sup>NUS Yong Loo Lin School of Medicine, Singapore

<sup>2</sup>Research Division, Institute of Mental Health, Singapore

<sup>3</sup>West Region, Institute of Mental Health, Singapore

## Correspondence to

Dr Kang Sim;  
[kang\\_sim@imh.com.sg](mailto:kang_sim@imh.com.sg)

## ABSTRACT

**Objectives** With the increased emphasis on personalised, patient-centred care, there is now greater acceptance and expectation for the physician to address issues related to spirituality and religion (SR) during clinical consultations with patients. In light of the clinical need to improve SR-related training in residency, this review sought to examine the extant literature on the attitudes of residents regarding SR during residency training, impact on clinical care and psychological well-being of residents and SR-related curriculum implemented within various residency programmes.

**Design** A scoping review was conducted on studies examining the topic of SR within residency training up until July 2020 on PubMed/Medline and Web of Science databases. Keywords for the literature search included: (Spirituality OR Religion) AND (Residen\* OR "Postgraduate Medicine" OR "Post-graduate Medicine" OR "Graduate Medical Education").

**Results** Overall, 44 studies were included. The majority were conducted in North America (95.5%) predominantly within family medicine (29.5%), psychiatry (29.5%) and internal medicine (25%) residency programmes. While residents held positive attitudes about the role of SR and impact on patient care (such as better therapeutic relationship, treatment adherence and coping with illness), they often lacked the knowledge and skills to address these issues. Better spiritual well-being of residents was associated with greater sense of work accomplishment, overall self-rated health, decreased burnout and depressive symptoms. SR-related curricula varied from standalone workshops to continuous modules across the training years.

**Conclusions** These findings suggest a need to better integrate appropriate SR-related education within residency training. Better engagement of the residents through different pedagogical strategies with supervision, feedback, reflective practice and ongoing faculty and peer support can enhance learning about SR in clinical care. Future studies should identify barriers to SR-related training and evaluate the outcomes of these SR-related curriculum including how they impact the well-being of patients and residents over time.

## INTRODUCTION

The distinct boundary between medicine and religion has been apparent since the advent of 'reason-oriented scientific thinking', which

## Strengths and limitations of this study

- There is a paucity of studies that examines spirituality and religion (SR) in the context of residency training.
- This review was conducted to examine SR-related attitudes in residents, how it translates to clinical practice, as well as the adequacy of SR training in residency, with findings that would be generalisable to all relevant training programmes.
- There was a lack of cultural diversity in the studies included in the review, with most originating in the West.
- There was inadequate evaluation of the barriers and clinical outcomes concerning SR-related training in residency both in the short and long term.

is related in part to the notion that rational thinking in the sciences is incompatible with faith-based reasoning in spirituality and religion (abbreviated as SR).<sup>1 2</sup> Spirituality has been defined as the 'dynamic and intrinsic aspect of humanity through which persons seek ultimate meaning, purpose, and transcendence, and experience relationship to self, family, others, community, society, nature, and the significant or sacred'.<sup>3</sup> Spirituality is expressed through beliefs, values, traditions, and practices'.<sup>3</sup> Religion is seen as a specialised category of spirituality reflected by the institutionalised expression of shared beliefs, values, experiences, doctrines, traditions and faith by a community of like believers and usually involving a ritual.<sup>4</sup> In an effort to establish themselves as distinct scientific undertakings, it was necessary for disciplines such as psychiatry and behavioural sciences to distance themselves from religion.<sup>5</sup> Sigmund Freud, the founder of psychoanalysis described spiritual experiences as a 'universal obsessional neurosis', a form of 'pathological thinking in need of modification'.<sup>2 6</sup> However, since the 1980s, there has

been some literature to support the positive influences of SR on the physical and psychological well-being of individuals.<sup>7,8</sup> With the increased emphasis on personalised, patient-centred care, there is now greater acceptance and expectation for physicians to address issues related to SR during clinical consultations with patients.<sup>3,9,10</sup> In palliative and oncology specialties, some have advocated an expansion of the 'biopsychosocial' framework in the formulation of clinical care for each patient to that of a more wholistic 'biopsychosocial-spiritual' model.<sup>11–13</sup> However, the incorporation of SR into residency training has not necessarily caught up with this clinical need, and at present, teaching in SR has not been consistently and appropriately integrated into the training curriculum.<sup>14,15</sup>

Based on extant literature, the majority of patients wanted physicians to be aware of their SR and appropriately address issues related to SR.<sup>16–20</sup> However, physicians seldom incorporated discussion of these issues into their practice.<sup>21–23</sup> One of the most commonly cited barriers to discussing SR by physicians is lack of training.<sup>21,22,24</sup> A previous review among practising physicians found that prior training on SR-related issues was the strongest predictor for providing clinical care that incorporates considerations of SR in patients.<sup>21</sup> Thus, there is a need to examine the prevailing knowledge, skills and attitudes regarding SR among residents in training as well as appropriate SR-related curriculum that have been incorporated within residency training.

In light of the clinical need to improve SR-related training in residency and the paucity of existing reviews consolidating prevailing attitudes and practices regarding SR, we sought to conduct a scoping review, specifically focusing on three main levels (personal, clinical and training). We were interested to understand how residents viewed SR on a personal level and how this affected them psychologically. We also wanted to know how these views could interact with clinical practice. Lastly, we were keen to understand the extent to which SR has been successfully incorporated into residency training.

## MATERIALS AND METHODS

A scoping review is useful in exploring the literature broadly to identify the evidence available on a particular topic.<sup>25</sup> This scoping review was directed in agreement with the methodology of the Joanna Briggs Institute for scoping reviews.<sup>25</sup> We followed the six steps of Arksey and O'Malley methodological framework for conducting scoping reviews updated by Levac *et al*.<sup>26</sup> to guide the process. The first step involves identifying the main research questions our review hoped to address. They are as follows:

1. How do residents view SR on a personal level? (Attitudes towards SR in clinical practice, amount of knowledge they have on SR and extent to which they feel confident in addressing SR-related issues and how their personal SR affects their well-being)

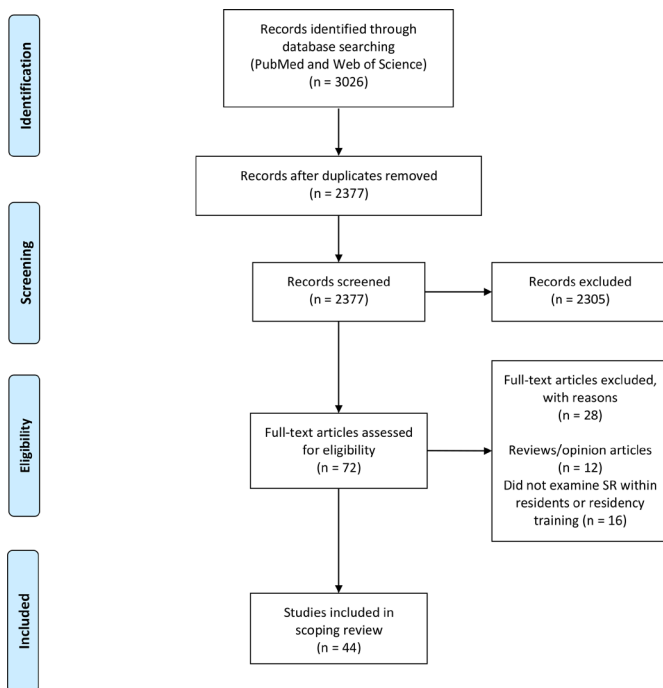
2. How does SR in residents interact with clinical practice?
3. How has SR been incorporated in residency training, and to what extent has this been successful or helpful?

The second step involves identifying relevant studies. We searched the PubMed/Medline and Web of Science databases for relevant studies that examined issues relevant to SR within residency training from database inception until July 2020. Keywords for the literature search included: (Spirituality OR Religion) AND (Resident\* OR "Postgraduate Medicine" OR "Post-graduate Medicine" OR "Graduate Medical Education"). The inclusion criteria are as follows: (A) sample must include those in residency training, (B) article must examine issues relating to residents' SR at a personal level, and/or its influence on clinical practice, and/or SR in residency training and (C) article must be published in English. Studies were excluded if: (A) they were systematic reviews, case reports, opinion articles or dissertations, (B) focused only on undergraduate medical students or (C) discussed SR issues only from the perspective of the patient or caregiver.

The third step involves study selection. We manually screened the abstracts of identified reports to ascertain whether they met the inclusion criteria, then reviewed full reports of promising studies. Two independent reviewers simultaneously screened the titles and abstracts. In case of any inconsistency between reviewers, the disagreement was resolved by a third reviewer.

The fourth and fifth steps involve charting, collating, summarising and reporting the results. For each included study, we extracted variables including the characteristics of subjects, the type of residency programme and the salient findings. The preceding data were organised within digitalised spread sheets and then summarised into a table to help facilitate critical assessments and for independent consideration by readers. The results were grouped into the three main areas of interest, namely: (1) the personal aspect of SR, (2) SR in clinical practice and (3) SR training in residency as far as was possible. Nonetheless, there were overlaps noted between themes two and three, particularly in the area of barriers and factors that facilitated the discussion of SR in clinical practice. Studies were classified as intervention studies if they sought to evaluate the impact of any SR-related training in residency. Those seeking to examine the attitudes, behaviours or skills of residents in relation to SR issues would be classified as observational studies. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow chart for this review is shown in figure 1.<sup>27</sup> Patients or the public were not involved in the design, or conduct, or reporting, or dissemination plans of our research. As the aim of our scoping review was to provide an overview of the topic of SR in residency, a formal assessment of the quality of studies was not performed, as is typical with most scoping reviews.<sup>25</sup>

The sixth step involves consultation with both residency faculty and residents. Findings of this review will be shared



**Figure 1** PRISMA flow chart of reviewed studies related to spirituality and religion (SR) in residency. PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses. Adapted from Moher *et al.*<sup>27</sup>

at meetings. Opportunities for obtaining suggestions to incorporate RS training into residency and for exchange of ideas will be provided.

### Patient and public involvement

No patient involved.

## RESULTS

Table 1 summarises the main findings from the 44 studies included in this review. Most of the studies were conducted in the USA (39/44, 88.6%),<sup>4 5 14 15 28–62</sup> and three were from Canada,<sup>63–65</sup> one from Denmark<sup>66</sup> and one from South Africa.<sup>67</sup> Of the 44 papers, 24 (54.5%) reported data related to theme 1,<sup>4 5 28 29 31 32 35 36 38 39 42 43 45 48 49 51 53 57–60 62 63 66</sup> 18 (40.9%) reported data related to theme 2,<sup>4 5 28 29 31 32 35 36 41 45 48 49 54 58 59 61–63</sup> and 35 (79.5%) contained data related to theme 3.<sup>4 5 14 15 28–31 33–37 39–42 44–52 54–56 62–67</sup> In terms of specialties included, the most frequent were family medicine (13/44, 29.5%), psychiatric (13/44, 29.5%) and internal medicine (11/44, 25.0%) residency programmes.

### Theme 1: personal aspect of SR in residents

Most psychiatry residents held positive attitudes towards the importance of addressing SR within psychiatric care.<sup>5 35 39</sup> The majority of residents agreed that a patient's beliefs in SR is an important component of compassionate care<sup>5 35 36 63</sup> and can affect the health status of patients.<sup>5 28 31 56 63</sup> Most residents believed that the beliefs of patients regarding SR are important considerations during formulation of treatment plans, especially in

conditions such as depression, addictions, complicated grief and end-of-life care.<sup>5 63 66</sup> Residents agreed that an understanding of SR-related issues can improve the adherence and success of a treatment plan,<sup>4 31 63</sup> and more than 80% agreed in some studies that a patient's beliefs regarding SR can help patients cope better with their illness.<sup>31 35 63</sup> Residents also believed that a physician's own spiritual or religious beliefs can in turn affect patient care<sup>5 28 56 63 66</sup> and that the discussion of SR-related issues can further strengthen the therapeutic relationship.<sup>4 59 63</sup>

There was some uncertainty about how the topic of SR should be broached during clinical encounters. Although many residents felt it was appropriate to discuss spiritual or religious concerns with patients,<sup>28 31 48 49 56 63</sup> others felt that topics related to SR were too personal to ask or had ethical concerns about raising such a topic during clinical encounter for fear of influencing the beliefs of patients regarding SR.<sup>31 63</sup> Most residents agreed that self-disclosure of one's own beliefs about SR without permission of the patients was inappropriate.<sup>61–63</sup> In addition, there was uncertainty regarding who should initiate discussion about issues related to SR,<sup>4 5 59</sup> how routinely it should be asked<sup>4 5 36</sup> and under what circumstances.<sup>36 58 59</sup> When illness was serious or near the end of life, 70%–90% of residents surveyed believed it was appropriate to ask, especially within family medicine residents.<sup>58 59</sup>

In terms of praying with patients, there were inconsistent findings. While two paediatric studies found that a relatively high proportion of residents (>60%) believed that it was appropriate to pray with a patient,<sup>4 5 9</sup> other studies reported reservations within the residents.<sup>31 34 58 61–63</sup>

Residents in several studies agreed that chaplains and clergy were valuable and integral to patient care,<sup>4 5 28 45</sup> but the coordination between the chaplains and treatment team in managing discussion about SR-related issues needs to be further examined.<sup>4</sup>

Most residents had some religious preferences,<sup>28 59</sup> and at least half would describe themselves as 'spiritual', 'religious' or both.<sup>31 35 38 63</sup> In one study, more than 70% believed in God, reported that religion is important in their lives, and believe religion can help to manage their personal problems.<sup>62</sup>

Residents scored moderately high on a spiritual well-being scale<sup>45 49 53</sup> and religiosity scales.<sup>45 53</sup> Conversely, other studies showed that the majority of residents did not attend religious services more than a few times a year and less than 30% agreed that they carried their religious beliefs into their daily life.<sup>28 32 62</sup> The frequency of prayer varied across different studies.<sup>32 61 62</sup>

Personal religiosity and self-rated spirituality correlated positively with residents' willingness to discuss issues related to SR with patients,<sup>29 48 49 58 59</sup> collaborate with the clergy<sup>29 59</sup> and their perceived importance of SR in patient care.<sup>29 59</sup> Residents that used positive religious coping in their own lives were significantly more likely to initiate SR-related inquiry with their patients.<sup>58</sup> In a paediatric study, residents with higher religiosity scores received



**Table 1** Summary of the main findings related to spirituality and religion (SR) in relevant studies within residency training

Author/year	Type of study	Aims of study (assessment method)	Participants and residency programme	Theme 1: personal aspect of SR in residents	Theme 2: SR in clinical practice	Theme 3: residency training
Piscitello and Martin 2019 <sup>28</sup>	Intervention	Residents' knowledge, attitude and skills regarding SR pre- and postintervention (Survey)	123 IM residents PGY 1-4, University of Chicago, USA.	<ul style="list-style-type: none"> <li>96% agree that a patient's SR can affect their health.</li> <li>70% believe a physician's SR beliefs can affect patient care.</li> <li>76% thought it is appropriate to discuss SR concerns with patients.</li> <li>94% believe chaplains are valuable in patient care.</li> <li>22% Roman Catholic.</li> <li>13% Judaism.</li> <li>11% Protestant.</li> <li>9% Hinduism.</li> <li>4% Islam.</li> <li>69% had a religious preference.</li> <li>62% attended religious services at least once a year.</li> <li>18% agreed with the statement 'I try hard to carry my religious beliefs into all other dealings in life'.</li> </ul>	<ul style="list-style-type: none"> <li>53% have discussed SR concerns with patients.</li> <li>42% reported having prayed with a patient during residency training.</li> </ul>	<ul style="list-style-type: none"> <li>57% had knowledge about the role of chaplains.</li> <li>4% had knowledge about type of training chaplains receive.</li> <li>33% lacked knowledge in spiritual concerns at the end of life.</li> <li>24% lacked knowledge on religious rituals requested.</li> <li>15% felt competent to take a spiritual history.</li> <li>3-part series over 1 year to increase resident knowledge on how SR and medicine affect patient health, increase the understanding of the role of chaplains and increase resident comfort in spiritual history taking.</li> <li>Included lectures, discussion groups and a panel of experts.</li> <li>Outcome: <ul style="list-style-type: none"> <li>Knowledge of chaplains increased.</li> <li>No other changes in SR knowledge, attitudes or skills.</li> </ul> </li> <li>Prior education: <ul style="list-style-type: none"> <li>40% received education in SR in medical school.</li> <li>7% in residency.</li> </ul> </li> </ul>
Kelley et al 2018 <sup>29</sup>	Intervention	Residents' approach to treating African-American Christian patients pre- and postintervention (Survey)	51 psychiatry residents at Western Psychiatric Institute, USA.	<ul style="list-style-type: none"> <li>37.8% Christian.</li> <li>18.5% other religions.</li> <li>13.5% atheist.</li> <li>16.2% agnostic.</li> </ul>	<ul style="list-style-type: none"> <li>Personal religiosity positively correlated with: <ul style="list-style-type: none"> <li>Willingness to discuss SR.</li> <li>Willingness to collaborate with clergy.</li> <li>Perceived impact of religion.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>4-hour collaborative workshop involving community based clergy designed to: <ul style="list-style-type: none"> <li>Improve attitudes towards the role of religion in mental health for African-American Christians.</li> <li>Increase comfort in talking with patients about spirituality.</li> <li>Increase willingness to involve clergy in team approach.</li> </ul> </li> <li>It included a didactic session, small group case-based discussions and a panel discussion.</li> <li>Outcome: <ul style="list-style-type: none"> <li>More comfort in discussions with patients about SR.</li> <li>Greater willingness to collaborate with clergy.</li> <li>Greater importance of religion to mental health.</li> </ul> </li> </ul>
Hvidt et al 2018 <sup>66</sup>	Intervention	Develop and evaluate a course programme in existential communication targeting general practitioners (Survey)	14 practicing general practitioners and five residents in training from one Danish region, Southern Denmark.	<ul style="list-style-type: none"> <li>47% are 'believers'.</li> </ul>	<ul style="list-style-type: none"> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>8-hour vocational training/CME course on existential communication (patients with cancer).</li> <li>Three parts: theoretical input, group/self-reflection, communication training (theatre improvisation with case studies).</li> <li>Outcome: <ul style="list-style-type: none"> <li>Participants showed increased self-efficacy in SR communication, working on their own barriers and self-reflection of existential/spiritual values brought into consultation.</li> <li>Increased perceived importance on communication about SR concerns.</li> <li>89% felt improvements in communicating existential issues.</li> <li>Qualitative data showed beneficial self-reflective processes.</li> </ul> </li> </ul>

Continued

**Table 1** Continued

Author/year	Type of study	Aims of study (assessment method)	Participants and residency programme	Theme 1: personal aspect of SR in residents	Theme 2: SR in clinical practice	Theme 3: residency training
Rosendale and Josephson 2017 <sup>30</sup>	Intervention	Understand the current prevalence and need for cultural responsiveness training among programme directors of neurology programmes (Survey) Evaluate pre- and post-training outcomes (Survey)	Needs assessment: 47 (36%) programme directors of academic neurology programmes nationally, USA.	-	-	<p>Prior training:</p> <ul style="list-style-type: none"> <li>▲ 17% no formal training.</li> <li>▲ 54% some training in college.</li> <li>▲ 54% monthly or more frequent training in medical school.</li> </ul> <p>Barriers to formal training:</p> <ul style="list-style-type: none"> <li>▲ Time.</li> <li>▲ Lack of expertise.</li> <li>▲ Lack of educational materials.</li> </ul> <p>Needs assessment: 65% of neurology programmes did not have formal diversity curriculum training. Integrated diversity curriculum pilot: six 1 hour weekly lectures covering ethnicity, language, religion, sexual orientation, gender identity/expression and SES. Included lectures, religious leader panel discussion and grand rounds.</p> <p>Outcome:</p> <ul style="list-style-type: none"> <li>▲ Most residents felt strongly that formal training in cultural responsiveness was important.</li> </ul>
Gattari <i>et al</i> 2018 <sup>31</sup>	Observational	Examine attitudes of residents in relation to SR in patient care (Survey)	22 third-year medical students, 12 psychiatry residents, 7 attending psychiatrists, Wayne State University School of Medicine, USA.	<ul style="list-style-type: none"> <li>▲ 66.7% religious, spiritual or both.</li> <li>▲ 87.8% agreed that it was important to inquire about SR.</li> <li>▲ 92.7% felt that considering SR of patients can improve compliance and success to the treatment plan.</li> <li>▲ 87.8% felt that SR helps their patients cope with distress.</li> <li>▲ 26.8% felt religion was too personal to ask.</li> <li>▲ 31.7% had ethical concerns about discussing SR.</li> </ul>	<ul style="list-style-type: none"> <li>▲ 29.3% would pray with patients.</li> <li>▲ 97.6% would consider SR when making management plan.</li> <li>▲ 75.6% felt comfortable asking about SR issues.</li> <li>▲ 82.9% felt comfortable addressing patients' SR problems or needs.</li> <li>▲ 97.9% felt comfortable considering patients' cultural community and practices when formulating a treatment plan.</li> </ul> <p>Barriers to discussing SR:</p> <ul style="list-style-type: none"> <li>▲ 63.4% insufficient time.</li> <li>▲ 51.2% concerned about offending patients.</li> <li>▲ 49.3% general discomfort.</li> <li>▲ 12.1% disapproval by peers.</li> </ul>	<ul style="list-style-type: none"> <li>▲ 56.1% felt they had insufficient training/knowledge.</li> <li>▲ 22.7% for medical students.</li> <li>▲ 41.7% for residents.</li> </ul>

Continued

**Table 1** Continued

Author/year	Type of study	Aims of study (assessment method)	Participants and residency programme	Theme 1: personal aspect of SR in residents	Theme 2: SR in clinical practice	Theme 3: residency training
Woods and Hensel 2018 <sup>32</sup>	Observational	Assess residents' SR in relation to self-efficacy and communication with patients during adolescent clinic visits (Established questionnaires)	46 residents in paediatrics rotating through the adolescent clinic from August 2013 to August 2014, USA 364 patients seen by residents in adolescent clinics.	<ul style="list-style-type: none"> <li>▲ 32% Christian-Catholic.</li> <li>▲ 26.1% no religious affiliation.</li> <li>▲ 23.9% Christianity (protestant), 36.9% attend religious services a few times a year 26.1% at least once a month, 19.6% never.</li> <li>▲ 58.7% rarely or never prayed.</li> <li>▲ 60.8% disagreed that they tried hard to carry religion into their daily life. Majority of residents did not feel any of the terms on the spirituality questionnaire applied completely to their body.</li> </ul>	Residents with higher religiosity received better perceived communication scores from patients. Residents that were protestant or 'other' received better communication scores than those that were Catholic.	-
Vicini <i>et al</i> 2017 <sup>33</sup>	Intervention	Introduced reflective writing into a family medicine residency to nurture self-development without using it as an assessment method (Qualitative analysis of written reflections)	Family medicine residents from Tufts University SOM, USA.	-	-	<p>15 min of reflective writing three times a week as part of medical residency curriculum to help residents explore their inner lives. Residents wrote reflections about their experiences with patients.</p> <p>Themes of reflective writing:</p> <ul style="list-style-type: none"> <li>▲ Longings and desires.</li> <li>▲ Self-doubt.</li> <li>▲ Helplessness.</li> <li>▲ Existential questions.</li> </ul> <p>Outcome:</p> <ul style="list-style-type: none"> <li>▲ Residents saw value in self-reflection.</li> <li>▲ Expressed desire for group discussions to normalise their thoughts and feelings with their peers.</li> </ul>
McGovern <i>et al</i> 2017 <sup>5</sup>	Intervention	Assess the impact of incorporating SR into the curriculum (Survey)	12 psychiatry residents from Texas Tech University of Health Sciences Center, USA.	<ul style="list-style-type: none"> <li>▲ 33% Christians.</li> <li>▲ 33% Hindus.</li> <li>▲ 25% Muslims.</li> <li>▲ 8% agnostic.</li> <li>▲ 85.7% believed that psychiatry should not distance itself from SR.</li> <li>▲ 71.4% believed that appreciating their own spirituality would be helpful in patient care.</li> <li>▲ Large majority of residents agreed that managing spiritual concerns are important in the treatment of suffering, depression, end-of-life care, addictions, guilt and complicated grief.</li> </ul>	<ul style="list-style-type: none"> <li>▲ 78.6% agreed that knowledge of spirituality enhanced clinical competency.</li> <li>▲ Mixed response if spirituality should be assessed as part of a regular basis.</li> <li>▲ 42.8% agreed that discussion of SR issues should be initiated by patients.</li> <li>▲ 85.7% agreed that awareness of patient spirituality facilitates compassionate and competent care.</li> <li>▲ 71.4% agree that assessment of patient's spiritual needs improves treatment planning and outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>▲ 38.4% agreed, 30.8% disagreed, 30.8% not sure that they were able to take a spiritual history.</li> <li>▲ 92.8% agreed that training enhances one's skills to communicate about spiritual matters.</li> </ul> <p>Spirituality training was incorporated into the existing 3-year curriculum.</p> <p>Included didactic experiences in seminars, clinical and other training experiences (including spirituality dinners). Evaluation was done using the SARPP survey to measure spirituality awareness.</p> <p>Outcome:</p> <ul style="list-style-type: none"> <li>▲ 46% report increased awareness and integration of spirituality into their clinical practice.</li> <li>▲ 69.2% considered the curriculum to be meaningful.</li> <li>▲ 92.3% feel that it has improved their clinical expertise with issues of spirituality.</li> </ul>

Continued

Table 1 Continued

Author/year	Type of study	Aims of study (assessment method)	Participants and residency programme	Theme 1: personal aspect of SR in residents	Theme 2: SR in clinical practice	Theme 3: residency training
Leong <i>et al</i> 2016 <sup>34</sup>	Intervention	Knowledge of clinically relevant Islamic teachings regarding end-of-life care in palliative care physicians pre-educational and post-educational intervention (Survey)	14 palliative medicine clinicians including attendings, fellows, residents and nurse practitioners, USA.	-	-	1-hour educational intervention with a Muslim chaplain with Q&A. Outcome: ▲ Knowledge of clinically relevant Islamic teachings regarding end-of-life care improved significantly after intervention. ▲ Intervention was well liked and clinically useful.
Anandarajah <i>et al</i> 2016 <sup>35</sup>	Intervention	Immediate and long-term effects of a required, longitudinal, residency SC curriculum, which emphasised inclusive patient-centred SC, compassion, and spiritual self-care (Surveys administered preintervention, immediately postintervention and 8 years postintervention)	26 FM residents, New England, USA 13 received intervention, 13 did not receive any curriculum 49 transcripts analysed over the 8-year study. Qualitative interviews done three times over 10 years for intervention group, one time for control.	▲ Control and intervention groups had similar religiosity and religious affiliations. ▲ Majority either spiritual or religious ▲ Physicians held positive attitudes towards spirituality in patient care ▲ All residents preintervention endorsed the role of spirituality in patient care as 'one of the biggest ways people deal with their illness'. ▲ All endorsed a relationship between spirituality and compassionate patient care.	▲ Structural barrier (lack of time) cited	Prior training: ▲ Most had no prior SR coursework. 24 hours of spiritual care curriculum over 3 years, with pedagogical methods including didactic sessions, small groups, direct clinical care and experiential and reflection activities. ▲ For untrained groups, self-assessment of knowledge and skills depended on the importance of spirituality in their own lives. ▲ Clinical approach to spiritual care varied from common sense interviewing techniques in untrained groups to nuanced approaches in the intervention physicians. Outcome: ▲ Intervention group had progressive improvements in clinical approach, knowledge, SC skills and spiritual self-care strategies. ▲ Decrease in skill-related barriers. ▲ Residents valued compassion shown to them, opportunities for spiritual self-care/reflection.
Hemming <i>et al</i> 2016a <sup>36</sup>	Intervention	Evaluate the need for, and the postintervention outcome of a team-based curriculum for chaplain trainees and internal medicine residents working side by side in the inpatient setting (Survey)	34 IM residents, John Hopkins Bayview Medical Centre, USA.	▲ 82% felt that addressing a patient's spirituality was an important part of patient care.	▲ 21% of residents had knowledge of a spiritual assessment tool. ▲ 9% had used such a tool at least once. ▲ 85% (29 of 34) of residents reported having made at least one chaplain referral during their most recent month of inpatient service. Barriers cited: ▲ Lack of time. ▲ Uncertainty in approaching topic. ▲ Language differences.	Interprofessional curriculum to address gaps in spiritual knowledge and skills. Integration of a chaplain intern with one inpatient medical team during a 4-week rotation. Outcome: ▲ Rotations with chaplains received significantly higher ratings in residents' understanding of patients values and level of collaboration with chaplains. ▲ Needs assessment repeated the following year showed 36% absolute increase in those who reported being very comfortable in discussing a spiritual concern with a patient.

Continued

**Table 1** Continued

Author/year	Type of study	Aims of study (assessment method)	Participants and residency programme	Theme 1: personal aspect of SR in residents	Theme 2: SR in clinical practice	Theme 3: residency training
Hemming <i>et al</i> 2016b <sup>37</sup>	Intervention	Understand the benefits and challenges of learning together in an interprofessional curriculum that partnered internal medicine residents with chaplain interns in the clinical setting (Focus groups)	10 IM attending physicians, 10 chaplain interns and 10 residents, John Hopkins Bayview Medical Centre, USA.	-	-	An interprofessional curriculum for internal medicine residents and chaplain interns with the aim to improve medical resident's ability to provide care that is sensitive to spiritual needs and equip chaplain trainees to work with physician. Chaplain interns are paired with the medicine team 1 day per week for four consecutive weeks on the Allki service. Focus groups conducted for physicians, interns, residents on interprofessional curriculum. Outcome: increased awareness of effective communication skills.
Doolittle and Windish 2015 <sup>38</sup>	Observational	To determine the correlation of burnout syndrome with specific coping strategies, behaviours and spiritual attitudes among interns in internal medicine, primary care and internal medicine/paediatrics residency programmes at two institutions (Established questionnaires)	44 IM medicine interns, 19 primary care, 4 IM residents, Yale University, USA.	<ul style="list-style-type: none"> <li>▲ 48.5% considered themselves to be spiritual.</li> <li>▲ 1.5% considered themselves to be religious.</li> </ul> Correlation between spirituality (SIBS) and burnout domains	-	-
Awaad <i>et al</i> 2015 <sup>39</sup>	Intervention	Programme evaluation study of a course on religion, spirituality and psychiatry that deliberately takes a primarily process-oriented, clinically focused approach (Survey and qualitative feedback)	19 third and fourth year psychiatry residents, Stanford University, USA.	<ul style="list-style-type: none"> <li>▲ Those with higher total SIBS score as well as higher scores on the internal/fluid and existential/mediative domains of the instrument had a greater sense of accomplishment in their work.</li> <li>▲ SIBS score had no association with the prevalence of emotional exhaustion or depersonalisation on the MBI.</li> <li>▲ External ritual domain (churchgoing, etc) was not significantly correlated with burnout.</li> </ul>	-	A process-oriented, clinically focused approach to teaching religion and spirituality in psychiatry residency training. Six 50min sessions. Brief didactics and case discussions facilitated by staff faculty. A panel of chaplains was invited for one session. Outcomes: <ul style="list-style-type: none"> <li>▲ Significant improvement in competency of taking a spiritual history and understanding of DSM-IV diagnosis of SR problems.</li> <li>▲ Significant improvement in incorporating spirituality in clinical practice.</li> </ul>

Continued



Table 1 Continued

Author/year	Type of study	Aims of study (assessment method)	Participants and residency programme	Theme 1: personal aspect of SR in residents	Theme 2: SR in clinical practice	Theme 3: residency training
Roseman 2014 <sup>10</sup>	Intervention	Describe a training programme on SR and medicine (Qualitative feedback)	16 residents of various disciplines, Broward Health Medical Centre, University Hospital Florida University, USA.	-	-	<p>3 months of weekly meetings to increase awareness of spiritual and compassionate care in the medical encounter. Sessions included reflection and open discussion ('safe space') about challenging patient encounters with guidance and tools for the integration of spirituality and compassionate medicine into daily patient encounters.</p> <p>Outcomes:</p> <ul style="list-style-type: none"> <li>▲ The ability to share in a 'safe' space allowed spiritual relationships to flourish.</li> <li>▲ Participants indicated that the opportunity to talk about patient cases and share 'real feelings' in small group settings was most meaningful.</li> </ul>
Ford <i>et al</i> 2014 <sup>41</sup>	Observational	Patient reports of the occurrence of SR communication and patient ratings of the quality of this communication, as well as its relationship to trainees' self-assessments of their competency in SR communication (Survey)	181 IM trainees and 541 patients with advanced medical illness under their care, USA.	-	<ul style="list-style-type: none"> <li>▲ Trainees' self-assessments of their skills in SR communication was positively associated with their patients' reports of the occurrence and ratings of SR communication.</li> </ul>	<ul style="list-style-type: none"> <li>▲ Physician trainees rated their communication competence in discussing SR and existential issues lower than their competency in discussing medical decisions.</li> </ul>
Ledford <i>et al</i> 2014 <sup>42</sup>	Intervention	To evaluate the use of an educational innovation consisting of a teaching OSCE used as 'sensitising practice', followed by personal, guided and group reflection on SR (Analysis of qualitative data gathered from reflection activity)	28 staff and residents in FM residency, Fort Belvoir Community Hospital, Virginia, USA.	<ul style="list-style-type: none"> <li>▲ 35.7% Protestant.</li> <li>▲ 32.1% Catholic.</li> <li>▲ 10.7% agnostic.</li> <li>▲ 10.7% atheist.</li> </ul>	-	<p>A teaching OSCE on SR followed by personal written reflection, dyadic guided reflection and group reflection across three different time points where learners discussed the sensitising practice, objectives and lessons learnt.</p> <p>Outcome:</p> <ul style="list-style-type: none"> <li>▲ Residents showed progression along the stages of change with the target behaviour being the physician's willingness to engage in mindful practice with patients who want to discuss SR.</li> </ul>
Doolittle <i>et al</i> 2013 <sup>43</sup>	Observational	Understand relationships between burnout, behaviours, emotional coping and SR among internal medicine and internal medicine-paediatrics residents (Established questionnaires)	108 IM residents, Yale University, USA.	<ul style="list-style-type: none"> <li>▲ 40% considered themselves spiritual.</li> <li>▲ 7% considered themselves religious.</li> <li>▲ Spiritual well-being was positively correlated with personal accomplishment.</li> <li>▲ Humility/personal application domain negatively associated with emotional exhaustion and depersonalisation.</li> </ul>	-	-

Continued

**Table 1** Continued

Author/year	Type of study	Aims of study (assessment method)	Participants and residency programme	Theme 1: personal aspect of SR in residents	Theme 2: SR in clinical practice	Theme 3: residency training
Kattan and Talwar 2013 <sup>63</sup>	Observational	Explore the attitudes, experiences and comfort levels of psychiatry residents regarding SR in psychiatry, and examine residents' interest and past learning experiences in this area (Survey)	45 psychiatry residents, McGill University, Canada.	<ul style="list-style-type: none"> <li>▲ 37% Christian.</li> <li>▲ 25.9% Jewish.</li> <li>▲ 7.4% atheist.</li> <li>▲ 3.7% Muslim.</li> <li>▲ 25.9% others/unknown/none.</li> <li>▲ 37.5% neither spiritual nor religious.</li> <li>▲ 20% both spiritual and religious.</li> <li>▲ 37% spiritual only.</li> <li>▲ 5% religious only.</li> <li>▲ 84.4% felt comfortable asking patients about their spirituality.</li> <li>▲ 91.1% agreed it is appropriate to inquire about spirituality.</li> <li>▲ 72.7% agreed that is important to address patients' spiritual problems or needs.</li> <li>▲ 95.6% agreed that spiritual beliefs can help some patients cope with stressors.</li> <li>▲ 80% agreed that that spiritual beliefs can contribute to or compound mental illness.</li> <li>▲ 84.4% agreed that considering a patients' spirituality can improve treatment compliance and success.</li> <li>▲ Uncertainty regarding the acceptability of self-disclosure and prayer.</li> <li>▲ 24.4% had concerns regarding ethical implications of discussing spiritual issues with patients.</li> <li>▲ 88.9% agreed that asking about spirituality can be too personal or offensive.</li> </ul>	<ul style="list-style-type: none"> <li>▲ 71.1% agreed that spirituality is often cited by patients as related to their ability to cope with psychological distress</li> <li>▲ 75.6% agreed that spiritual issues are often brought up by patients who are dying</li> <li>Barriers cited:                             <ul style="list-style-type: none"> <li>▲ 80% insufficient time</li> <li>▲ 48.9% fear of offending patients.</li> <li>▲ 48.9% insufficient knowledge/training</li> <li>▲ 31.1% general discomfort.</li> <li>▲ 22.2% feared disapproval from other psychiatrists.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Prior training:                             <ul style="list-style-type: none"> <li>▲ 38.6% had received training on spirituality.</li> <li>▲ 81.3% of those who did find it beneficial.</li> </ul> </li> <li>▲ Qualitative data reported that prior training 'increased awareness' of the relationship between spirituality and mental health.</li> <li>Prior training helped increase their skills on sensitive questioning, 'comfort approaching the topic' and in the 'initiative to question' patients on it.</li> </ul>
van Rensburg et al 2013 <sup>67</sup>	Observational	To establish how, within accepted professional boundaries, should SR be incorporated into the current model for South African practice and training (Qualitative analysis of interviews)	13 psychiatrists from University of Witwatersrand, South Africa.	-	-	<ul style="list-style-type: none"> <li>Exploring, analysing and describing the views and experience of local academic psychiatrists on the topic of the role of spirituality in South Africa psychiatric practice and training.</li> <li>Training of spirituality in psychiatry emerged as one of the six main themes from the interview                             <ul style="list-style-type: none"> <li>▲ All participants agreed that spirituality must be included in an undergraduate medical and specialist psychiatric training.</li> </ul> </li> <li>▲ Suggested a mentorship versus apprenticeship model.</li> <li>▲ Core competencies are described.</li> </ul>

Continued

**Table 1** Continued

Author/year	Type of study	Aims of study (assessment method)	Participants and residency programme	Theme 1: personal aspect of SR in residents	Theme 2: SR in clinical practice	Theme 3: residency training
Campbell <i>et al</i> 2012 <sup>44</sup>	Intervention	Evaluate effectiveness of integrating SR into curriculum (Survey)	Psychiatry residents, The University of South Carolina, USA.	-	-	Vertical curriculum on SR/integrated into the general and child psychiatry training programmes over the 12-month academic year. It included residents as teachers, didactics, case conferences and an interdisciplinary workshop. 80 quantitative voluntary responses collected from the curricular evaluation tools. Outcome: ▲ 89% in the child programme responded positively to the impact questionnaire. ▲ 81% in the general programme responded positively to the impact questionnaire.
Stuck <i>et al</i> 2012 <sup>45</sup>	Intervention	Evaluate effectiveness of an integrated psychiatry/semenary training model to enhance awareness and positive attitudes between disciplines (Survey and established questionnaires)	30 psychiatry residents, University of South Carolina, USA. Participated alongside 13 psychology interns and 41 semenary students.	Seminary students: ▲ 98% Protestant. Psychiatry residents: ▲ 59% Protestant. ▲ 16% Catholic. ▲ 7% other. ▲ 4.5% agnostic. ▲ 4.5% Hindu. ▲ 4.5% atheist. ▲ 2% Muslim. Seminary students scored higher on the SWBS scale than residents. Psychiatry residents scored at the upper end of 'moderate' for each of these scales. ▲ All participants had positive attitudes towards clergy.	▲ 99% agreed that interventions of clergy and psychiatrists/psychologists should complement each other.	Two 3-hour workshops involving psychiatry residents, psychology interns and semenary students to enhance awareness and positive attitudes between the disciplines. It included small group interdisciplinary discussions, seminars and a case presentation. Outcomes: ▲ Psychiatry residents showed significant improvement in knowledge of clergy on a pilot scale. ▲ The global ratings for seminar evaluations were all 'very good' to 'outstanding' for both seminars. ▲ 8/9 explicit goals of the programme received 'very good' to 'outstanding' ratings.
Mogos <i>et al</i> 2011 <sup>46</sup>	Intervention	Evaluated the quality of spiritual care given in an ICU setting by those residents who followed an SR curriculum in comparison with those who did not have the curriculum in place (Survey)	Residents in GS, IM, anaesthesia, University of South Carolina, USA.	-	-	2-3-month curriculum that incorporates ethics and spiritual care for third-year residents rotating through the ICU. It consists of lectures, discussions, case reports, research articles, hands on and bedside training, core beliefs of various religions and spiritual practices. Outcomes: ▲ IM and GS residents did not have a curriculum for spirituality/end-of-life care, whereas anaesthesia did ▲ Residents were evaluated by 30 ICU nurses using a Likert scale across 40 questions. ▲ Those who followed the spiritual curriculum were able to provide better total care when compared with those residents who did not have the same spiritual training.

Continued



**Table 1** Continued

Author/year	Type of study	Aims of study (assessment method)	Participants and residency programme	Theme 1: personal aspect of SR in residents	Theme 2: SR in clinical practice	Theme 3: residency training
Kozak <i>et al</i> 2010 <sup>47</sup>	Intervention	Describe the development and use of a curriculum on religion, spirituality and culture in psychiatry (Evaluation forms)	Psychiatry residents University of Washington Psychiatry residency, USA.	-	-	Curriculum over 4-year residency programme. Included didactics, rotation experiences, grand round presentations, case conferences and field experiences <ul style="list-style-type: none"> <li>▲ Core objectives and curriculum structure are described.</li> <li>▲ Outcomes:                             <ul style="list-style-type: none"> <li>▲ Enhanced ability to understand different cultural and spiritual perspectives.</li> <li>▲ Increased comfort level in assessing SR backgrounds of their patients.</li> </ul> </li> </ul>
Saguli <i>et al</i> 2011b <sup>48</sup>	Observational	Compared the influence of SR research with the influence of more traditional evidence, such as that associated with pharmaceutical or medical device therapy, and its ability to influence FM residents to discuss spirituality with patients (Survey and established questionnaires)	363 FM residents, USA.	<ul style="list-style-type: none"> <li>▲ 25.6% Catholic.</li> <li>▲ 32.8% Protestant.</li> <li>▲ 14.0% other denominations of Christianity.</li> <li>▲ 26.2% non-Christian.</li> <li>▲ The average SWBS score was 97.2, a score comparable with that of many Protestant religious groups.</li> <li>▲ Residents indicated that they would be more responsive to publications on traditional medical therapies than SR-related therapies.</li> <li>▲ 93.9% agreed that they would be more willing to initiate SR discussions if presented with good evidence.</li> </ul>	<ul style="list-style-type: none"> <li>▲ 96.4% were willing to discuss spirituality if asked by a patient.</li> <li>▲ Spiritual well-being, religious affiliation and race were significantly predictive of willingness to broach spirituality.</li> </ul>	<ul style="list-style-type: none"> <li>▲ Prior education:                             <ul style="list-style-type: none"> <li>▲ 41.6% in residency.</li> <li>▲ 58.7% in medical school.</li> </ul> </li> <li>▲ Prior training did not influence agreement to either statement (evidence on spirituality vs evidence on a new medication).</li> </ul>
Saguli <i>et al</i> 2011a <sup>49</sup>	Observational	Explore willingness of the new generation of family physicians to discuss SR with their patients and the determinants making them more or less willing to do so (Established questionnaires)	363 FM residents, USA.	<ul style="list-style-type: none"> <li>▲ 25.6% Catholic.</li> <li>▲ 32.8% Protestant.</li> <li>▲ 14.0% other denominations of Christianity.</li> <li>▲ 26.2% non-Christian.</li> <li>▲ The average SWBS score was 97.2, a score comparable with that of many protestant religious groups.</li> </ul>	<ul style="list-style-type: none"> <li>▲ Denominational preference, self-rated spirituality and spirituality instruction were significantly associated with strong agreement to discuss spirituality on patient request.</li> <li>▲ 59.8% strongly agreed, 19.8% moderately agreed, 16.9% agreed, 1.1% that they are willing to discuss spirituality on patient request.</li> </ul>	<ul style="list-style-type: none"> <li>▲ Prior training:                             <ul style="list-style-type: none"> <li>▲ 11.7% in medical school.</li> <li>▲ 43.8% in residency.</li> </ul> </li> <li>▲ Significant association between prior training and increased agreement to discuss SR on patient request.</li> </ul>

Continued

**Table 1** Continued

Author/year	Type of study	Aims of study (assessment method)	Participants and residency programme	Theme 1: personal aspect of SR in residents	Theme 2: SR in clinical practice	Theme 3: residency training
Anandarajah <i>et al</i> 2010 <sup>30</sup>	Qualitative	Describe how physicians sought to improve the rigour of education in the field of SR through a systematic process that provided a competency-based framework for curricula development and evaluation (Modified Delphi process, external feedback)	Expert panel of eight focusing on dual discipline of FM and spiritual health, USA.	-	-	To achieve consensus regarding spiritual care competencies tailored for family medicine residency training Outcomes: ▲ 19 spiritual core competencies identified for training (six on knowledge, nine on skills and four on attitudes) that were linked to the competencies in the ACGME. ▲ Three global competencies related to the dimension of context, patient care and self-care identified for use in promotion and graduation criteria.
Galanter <i>et al</i> 2011 <sup>51</sup>	Intervention	Describe the development of a medical training programme that integrated the role of SR into a regimen of biomedical education (Established questionnaires and qualitative analysis)	Psychiatry residents, patients and chaplain trainees, Bellevue Medical Centre, USA.	▲ Medical trainees were less spiritual than both patients and chaplain trainees using a spirituality self-rating scale.	-	Weekly spirituality group meetings open to patients. Led by psychiatry residents in rotation and spiritual teaching faculty. Patients were encouraged to discuss their own experience of spirituality and how it relates to their coping of the illness. Video recordings of their answers on why spirituality is important in their life were employed in classes for residents. Residents also received a seminar series on cultural competency Outcomes: ▲ Third-year residents gave the course high ratings relative to other trainings.
Grabovac <i>et al</i> 2008 <sup>84</sup>	Intervention	Evaluate pilot study of a course on SR to increase both residents' understanding of clinically relevant SR issues and their comfort in addressing these issues in their clinical work (Survey and qualitative feedback)	Psychiatry residents, University of British Columbia, Canada.	-	-	6-hour SR course over six sessions. Involved both didactics and case-based discussions. Outcomes: ▲ Significant increased comfort with spiritual issues in clinical practice. ▲ Several residents were hostile towards the introduction of the course into the curriculum, reflecting the transference of personal attitudes towards spirituality to the professional context.
Anandarajah and Mitchell 2007 <sup>32</sup>	Intervention	Describe a 17-hour elective designed to improve learners' knowledge and skills regarding spirituality and patient care, and assessed learners pre- and postintervention (Survey)	10 M4s in for the first 2 years and 8 M4s and 15 residents, faculty and staff, Brown Medical School, USA.	-	-	Spirituality and medicine elective with eight 2.5-hour sessions over 4 weeks designed to improve learners' knowledge and skills regarding spirituality and patient care Outcomes: ▲ Improvement in SR knowledge and skills.

Continued



**Table 1** Continued

Author/year	Type of study	Aims of study (assessment method)	Participants and residency programme	Theme 1: personal aspect of SR in residents	Theme 2: SR in clinical practice	Theme 3: residency training
Yi <i>et al</i> 2007 <sup>53</sup>	Observational	To determine the level of self-reported health among resident physicians and to ascertain factors that are associated with their reported health, including SR (Established questionnaires)	IM, PED, IMPED, FM residents, University of Cincinnati and Cincinnati Children's Hospital Medical Centers, USA.	<ul style="list-style-type: none"> <li>▲ 73% Christian.</li> <li>▲ 7% Jewish.</li> <li>▲ 11% other.</li> <li>▲ FACIT-SP-Ex for spiritual well-being was 71.5 (0–92).</li> <li>▲ Duke religion index showed moderated, organised, non-organised and intrinsic religiosity.</li> <li>▲ Self-rated overall health rating scale (0–100) was used with a mean of 87.</li> <li>▲ Lower health rating scores were associated with poorer spiritual well-being.</li> <li>▲ Religion and religiosity variables were not associated with self-rated overall health.</li> </ul>	–	–
Kligler <i>et al</i> 2007 <sup>54</sup>	Intervention	Describes efforts to develop and test a set of measurement tools to assess competencies for integrative medicine that takes into account SR issues at the residency level (Scores using evaluation tools, OSCE results)	FM residents across six different hospitals, USA.	–	Spirituality not often discussed with patients by integrative family medicine participants	Core FM programme competencies are described. Tested a set of competency-based evaluation tools in integrative history taking and planning. Direct observation, written treatment plan and two OSCEs were evaluated.
Marr <i>et al</i> 2007 <sup>55</sup>	Observational	Surveyed palliative medicine fellowship directors in the USA to learn how they teach SR, who does the teaching, and what they teach (Survey)	US palliative medicine fellowship directors	–	–	<ul style="list-style-type: none"> <li>▲ All programme directors had taught SR as part of curriculum.</li> <li>▲ 12 had separate programmes for teaching spirituality.</li> <li>▲ Two reported they taught spirituality but not as a distinct, separate programme.</li> <li>▲ Most palliative medicine programmes agree on the content of training on spirituality, but no robust educational and evaluation methods in place.</li> <li>▲ Common formats for education included small group discussion, lecture, self-study, supervision, shadowing a chaplain.</li> <li>▲ No experiential (role play, etc) education methods or evaluation.</li> </ul>

Continued

Table 1 Continued

Author/year	Type of study	Aims of study (assessment method)	Participants and residency programme	Theme 1: personal aspect of SR in residents	Theme 2: SR in clinical practice	Theme 3: residency training
Barnett and Fortin 2006 <sup>56</sup>	Intervention	Pre- and post-evaluation of a pilot workshop on spirituality and medicine (Survey)	79 MZs and 58 IM residents, Yale University SOM, USA	-	-	<p>Workshop included lectures, discussion, role play to meet objectives.</p> <p>Outcomes:</p> <ul style="list-style-type: none"> <li>▲ All participants had significantly increased scores regarding the: (1) the appropriateness of inquiring about spiritual and religious beliefs in the medical encounter, (2) perceived competence in taking a spiritual history and (3) perceived knowledge of available pastoral care resources.</li> <li>▲ Participants appreciated the opportunity to discuss and reflect on this subject in a safe space.</li> <li>▲ Common questions remaining for learners after the workshop is whether it is the physician's role to ask about spirituality and for which patient's is it appropriate.</li> </ul>
Yi et al 2006 <sup>57</sup>	Observational	Determine the prevalence of depressive symptoms in paediatric, IM, FM and combined internal medicine-paediatric residents, and SR factors that are associated with prevalence of depressive symptoms (Survey, established questionnaires)	227 paediatric, IM, FM residents, University of Cincinnati and Cincinnati Children's Hospital Medical Centers, USA.	<ul style="list-style-type: none"> <li>▲ 73% Christian.</li> <li>▲ 7% Jewish.</li> <li>▲ 11% other.</li> <li>▲ 10% no religious affiliation.</li> <li>▲ 25% met the criteria for having significant depressive symptoms.</li> <li>▲ Significant depressive symptoms were associated with poorer religious coping, greater spiritual support seeking and worse spiritual well-being.</li> </ul>	-	-
King and Crisp 2005 <sup>5</sup>	Observational	To determine the extent and nature of teaching on SR and health being taught in family medicine residency programmes, identify perceived facilitators and barriers to SR education and determine preferred methods of curriculum dissemination (Survey)	101 FM residencies regarding their spirituality and healthcare curriculum, USA.	-	-	<ul style="list-style-type: none"> <li>▲ 92% of programme directors said spirituality teaching was important.</li> <li>▲ Only 31% of programmes have a specific curriculum.</li> <li>▲ 86% reported using the current AAFP core educational guidelines.</li> </ul> <p>Facilitating factors:</p> <ul style="list-style-type: none"> <li>▲ Having trained personnel (39%).</li> <li>▲ Positive attitudes toward SR (39%).</li> </ul> <p>Barriers cited:</p> <ul style="list-style-type: none"> <li>▲ Lack of time (52%).</li> <li>▲ Lack of qualified personnel (31%).</li> <li>▲ Fear/discomfort about SR (32%).</li> <li>▲ Lack of priority (14%).</li> <li>▲ Lack of available personnel (12%).</li> </ul> <p>Teaching methods:</p> <ul style="list-style-type: none"> <li>▲ 67% used lectures.</li> <li>▲ 49% used clinical precepting.</li> <li>▲ 44% used inpatient rounds.</li> <li>▲ 25% chaplain rounds.</li> <li>▲ 18% seminars.</li> </ul>

Continued



**Table 1** Continued

Author/year	Type of study	Aims of study (assessment method)	Participants and residency programme	Theme 1: personal aspect of SR in residents	Theme 2: SR in clinical practice	Theme 3: residency training
Luckhaupt <i>et al</i> 2005 <sup>58</sup>	Observational	To assess primary care residents' beliefs regarding the role of SR in the clinical encounter with patients (Survey)	247 IM, paediatric, FM residents, University of Cincinnati and Cincinnati Children's Hospital Medical Centers, USA.	<ul style="list-style-type: none"> <li>▲ 46% Protestant.</li> <li>▲ 26% Catholic.</li> <li>▲ 7% Jewish.</li> <li>▲ 11% other.</li> <li>▲ 10% no religious affiliation.</li> <li>▲ 90% believed that they should be aware of their patient's SR beliefs.</li> <li>▲ 46% felt that they should play a role in patients' spiritual or religious lives.</li> <li>▲ 36% felt that they should ask patients about SR during office visits.</li> <li>▲ 77% felt they should ask if a patient was near death.</li> <li>▲ FM residents were more likely to agree with asking about patients' SR beliefs.</li> <li>▲ Residents were less likely to agree with praying silently/aloud with patients than to inquire about beliefs.</li> <li>▲ Residents who felt that they should play a role in patients' spiritual or religious lives participated in organised religious activity with greater frequency, or had higher level of personal spirituality.</li> </ul>	Advocating for SR involvement was associated with FM residency, spiritual well-being, positive religious coping and PGY year	-
Grabovac and Ganesan 2003 <sup>65</sup>	Observational	To determine the extent of currently available training in RS as they pertain to psychiatry (Survey)	14 psychiatry residency programmes in Canada.	-	-	<p>A survey of training currently available to Canadian residents in psychiatry</p> <ul style="list-style-type: none"> <li>▲ Four had no formal training in SR.</li> <li>▲ Four had mandatory academic lectures that provide between 1 and 4 hours of teaching.</li> <li>▲ Nine programmes offered some degree of elective, case-based supervision.</li> </ul>

Continued



**Table 1** Continued

Author/year	Type of study	Aims of study (assessment method)	Participants and residency programme	Theme 1: personal aspect of SR in residents	Theme 2: SR in clinical practice	Theme 3: residency training
Arnbruster <i>et al</i> 2003 <sup>4</sup>	Observational	Identify paediatrician (faculty and resident) beliefs about SR in medicine and the relationship of those beliefs to SR behaviour and experiences in clinical practice (Survey)	56 residents in paediatrics, SSM Cardinal Glennon Children's Hospital, Saint Louis University SOM, USA.	Resident religious affiliation ▲ 85.7% Christian. ▲ 5.7% Jewish. ▲ 2.9% Muslim. ▲ 2.9% Hindu. ▲ 90.9% of residents agreed that patient religious beliefs positively affected health. ▲ 56.8% of residents agreed that religious involvement reduced patient morbidity and mortality. ▲ 65% of residents agreed that religious inquiry can enhance the therapeutic relationship. ▲ 43.2% of residents agreed that they should proactively acknowledge and support patients in their existing beliefs. ▲ 50% of residents disagreed that religious issues are the province of pastoral care, not the physician. ▲ 67.4% of residents agreed that offering to pray with patients was appropriate. ▲ 52.3% of residents disagreed that patients/families would resent unsolicited questioning about SR.	▲ 6.8% would routinely inquire about the religious affiliation of the patient during new visits. ▲ 72% of residents would routinely inquire about the religious affiliation of the patient during health crisis or life-threatening illness. Barriers cited: ▲ Lack of time (30%). ▲ Personal discomfort (31.8%). ▲ Lack of training (32.6%). Facilitating factors: ▲ Not expecting negative patient reactions to SR inquiry and prayer. ▲ Strong belief that SR is relevant to paediatric outcomes.	▲ 32.6% of residents agreed that they are not adequately trained to address SR issues. Facilitating factors: ▲ Feeling capable inquiring about SR. ▲ Appropriate training with correction of misperceptions about SR in practice.
Siegel <i>et al</i> 2002 <sup>59</sup>	Observational	To characterise paediatricians' attitudes towards SR in relationship to the practice of paediatrics (Survey)	65 residents in paediatrics, Boston Medical Centre, USA.	SR orientation: ▲ 66% 'not at all' or 'not very strong'. ▲ 33% 'somewhat strong'. ▲ 21% 'strong'. ▲ 90% stated they thought it was appropriate to pray with a patient. ▲ 76% reported feeling comfortable praying with a patient if asked to do so. ▲ 35% stated they should initiate discussions of SR. ▲ 65% of paediatricians felt that faith plays a role in healing. ▲ 49% reported that clinician patient interaction would be strengthened by discussions of SR.	Strong personal SR orientation was significantly associated with positive attitudes to SR in general but was not related to reported practices ▲ 19% say they do initiate SR discussions in clinical practice. ▲ <40% would ask SR for routine health maintenance visits. ▲ 93% would ask SR if discussing life threatening illness. ▲ 96% would ask SR when discussing death and dying independent.	-

Continued



**Table 1** Continued

Author/year	Type of study	Aims of study (assessment method)	Participants and residency programme	Theme 1: personal aspect of SR in residents	Theme 2: SR in clinical practice	Theme 3: residency training
Saba 1999 <sup>60</sup>	Observational	To foster a better understanding of beliefs and values that residents bring to their clinical practice (Qualitative analysis)	143 FM residents, University of California, San Francisco, USA.	<ul style="list-style-type: none"> <li>Philosophical or spiritual frameworks were central to how residents viewed human existence, health and illness, and their role as a physician, and meaning to uncertain/painful events in their work.</li> <li>63% described their beliefs/values to reflect formal philosophical or religious traditions.</li> <li>85% explained that their desire to become a physician was rooted in a sense of mission or calling.</li> </ul>	-	-
Oyama and Koenig 1998 <sup>61</sup>	Observational	To determine whether the religious beliefs and behaviours of family medicine outpatients differed from those of their physicians and whether patients' religiousness affects their expectations of their physicians regarding religious matters (Survey)	31 FM faculty and residents, North Carolina and Texas, USA.	-	Religious backgrounds, beliefs and behaviours of physicians and residents were different from patients. They may not realise the importance of religion to patients or the need to address these issues.	-
Waldfoegel et al 1998 <sup>62</sup>	Observational	Explore RS beliefs of psychiatry residents and the didactic and supervision experience of the residents regarding RS issues (Survey)	121 psychiatry residents, various US universities.	<ul style="list-style-type: none"> <li>29% Catholics.</li> <li>28.9% Protestant.</li> <li>12% Jewish.</li> <li>14% other.</li> <li>77% believed in God.</li> <li>68% reported that religion is important in their lives.</li> <li>74% believed that religion can help solve personal problems.</li> <li>9% prayed weekly.</li> <li>22% attended religious services weekly.</li> <li>49% reported their religious beliefs affected their choice of medicine.</li> <li>Residents' religious affiliations was significantly related to their choice of medicine as a career.</li> <li>84% felt 'somewhat to very competent' in their ability to recognise and attend to a patient's SR issues.</li> <li>6% agreed that it is acceptable to pray with patients.</li> <li>12% believed that it was acceptable to reveal their religious convictions in a clinical setting.</li> <li>41% agree that religion is important in the clinical setting.</li> </ul>	<ul style="list-style-type: none"> <li>25% reported weekly encounters with clinically significant SR issues.</li> <li>86% rarely discussed own religious beliefs with patients.</li> </ul>	<p>Prior training:</p> <ul style="list-style-type: none"> <li>27% reported that religion was discussed during didactic training as a resident.</li> <li>39% of PGY3 to PGY5 reported that religion was discussed during supervision.</li> </ul> <p>Facilitating factors:</p> <ul style="list-style-type: none"> <li>Having exposure to SR through didactics or supervision was significantly associated with feeling competent to address SR issues, and feeling that SR is important in the clinical setting.</li> </ul>

Continued

Table 1 Continued

Author/year	Type of study	Aims of study (assessment method)	Participants and residency programme	Theme 1: personal aspect of SR in residents	Theme 2: SR in clinical practice	Theme 3: residency training
Sansone <i>et al</i> 1990 <sup>14</sup>	Observational	Explore the effects of religious ideation on the administrative and educational aspects of training programmes, and the current pedagogical approach to religion in psychiatry education. (Survey)	276 programme directors in psychiatry, USA.	-	-	<ul style="list-style-type: none"> <li>▲ 68.1% rarely or never had a course on any aspect of religion.</li> <li>▲ Didactic instruction on any aspect of religion was infrequent.</li> <li>▲ Clinical supervision on SR more likely to occur than didactic instruction.</li> </ul>

Expanded version, AAFP, American Academy of Family Physicians; ACGME, Accreditation Council for Graduate Medical Education; CME, continuing medical education; DSM-IV, Diagnostic and Statistical Manual of Mental Disorders, fourth edition; FACIT-SP-Ex, Functional Assessment of Chronic Illness Therapy - Spiritual Well-Being; FM, family medicine; GS, general surgery; ICU, intensive care unit; IM, internal medicine; IMPED, combined internal medicine paediatric; MBI, Maslach Burnout Inventory; OSCE, Objective Structured Clinical Examination  
 : PED, paediatrics; PGY, postgraduate year; SAPP, Spirituality Awareness in Residents Psychiatric Practice; SC, spiritual care; SES, Socioeconomic status  
 : SIBS, Hatch Spiritual Involvement and Belief Scales; SOM, school of medicine; SR, spirituality and religion; SWBS, Spiritual Well-being Scale.

better perceived communication scores from adolescent patients.<sup>32</sup>

In terms of correlations with the psychological well-being of residents, residents with higher total scores on the Hatch Spiritual Involvement and Beliefs Scale (SIBS) had a greater sense of accomplishment in their work.<sup>38 43</sup> The humility/personal application domain of the SIBS, which relates to the theme of relational quality, was negatively correlated with burnout.<sup>43</sup> Of note, the external practices domain of the SIBS scale (eg, churchgoing) was not significantly associated with burnout.<sup>38 43</sup> Poorer scores on spiritual well-being was also associated with lower self-rated overall health.<sup>53</sup> In addition, poorer spiritual well-being scores, religious coping and greater spiritual support seeking were associated with depressive symptoms.<sup>57</sup> Some residents related their beliefs regarding SR with a sense of mission or calling in their practice,<sup>60</sup> and in one study almost half of the respondents reported that their religious beliefs influenced their choice of medicine as a career.<sup>62</sup>

### Theme 2: SR in clinical practice

In terms of practice,<sup>4</sup> conducted a study on paediatric faculty and residents and found that while few residents routinely inquired about SR-related beliefs, this figure increased to 72% in the case of a health crisis or life-threatening illness.

In terms of the frequency of clinical encounters, around 70% of residents reported 'rarely if ever' being asked by a patient or family to discuss SR-related issues or pray.<sup>4</sup> An earlier study<sup>62</sup> found that 25% of psychiatry residents reported meeting patients with issues related to SR at least once a week, 30% monthly, and 44.5% rarely in their experience. Less than 15% of these residents reported discussing their own religious beliefs with patients at least once a month.<sup>62</sup> Another study of internal medicine residents found that 85% reported making at least one chaplain referral in the last month during inpatient service.<sup>36</sup> Those who were more likely to engage in routine inquiry about SR issues were residents who did not expect negative patient reactions, believed strongly that addressing SR-related concerns was relevant to treatment outcomes and felt more capable with inquiring about SR-related issues.<sup>4</sup>

There were several barriers noted towards addressing SR-related concerns during clinical encounters. The most common barrier was insufficient time during clinical encounters.<sup>4 31 35 36 63</sup> A longitudinal study found that while skill-related barriers to discussing SR issues decreased with time and training, structural barriers such as time remained.<sup>35</sup> Other commonly mentioned barriers included concern about offending patients, insufficient training/knowledge, general discomfort and disapproval by peers.<sup>4 31 35 36 63</sup>

### Theme 3: residency training

Among several relevant studies, more than 40% of the residents had received prior teaching regarding SR-related



issues in medical school.<sup>28 30 48 49</sup> Prior training was associated with greater self-reported competency,<sup>62</sup> more positive attitudes towards SR<sup>49 62</sup> and increased likelihood to engage in routine inquiry about SR-related areas during patient encounters.<sup>4</sup>

The majority of residents lacked knowledge on the SR-related concerns of patients,<sup>28</sup> the role of clergy/clinical chaplains<sup>28 35 45 56</sup> and the availability of spiritual assessment tools.<sup>35 36</sup> When asked, residents were not satisfied with their current knowledge and skills regarding spirituality,<sup>41</sup> with approximately 50% of residents feeling inadequately trained to address the SR-related issues of patients.<sup>4 63</sup> In addition, residents varied widely in terms of the level of comfort and self-reported competency in addressing SR-related care issues. For example, some studies noted low self-reported competency of residents in taking a spiritual history,<sup>5 28 41 56 66</sup> formulating an action plan and reflecting on one's own existential/spiritual values brought into the consultation.<sup>66</sup> However, other studies found that residents were comfortable when it came to discussing SR issues with their patients<sup>31 36 62</sup> and incorporating SR considerations into a management plan.<sup>31</sup>

Several papers surveyed programme directors on the inclusion of SR-related curriculum in training<sup>14 15 55 65</sup> and described the development of core competencies or evaluation tools for SR-related curriculum in residency training.<sup>50 54 67</sup>

In terms of the presence of SR-related curriculum, there was wide variation in terms of the incorporation of specific teaching on SR within residency training programmes. Sansone's 1990 nationwide survey of US psychiatry programmes reported that only 12% of programmes had any teaching on SR in residency.<sup>14</sup> In Canada, only 4 of 14 programmes that responded had mandatory academic lectures that provided between 1 and 4 hours of teaching.<sup>65</sup> For family medicine residency programmes in the USA, a previous study found that 31% of the programmes had a specific curriculum, averaging 6 hours long.<sup>15</sup> In comparison, another study examining palliative medicine residency programmes in the USA showed that 12 out of 14 programmes had incorporated separate teaching on SR in their curriculum although few had robust educational and evaluation methods in place.<sup>55</sup>

The nature of SR-related curriculum included one-off workshops,<sup>29 56 66</sup> continual modules over months<sup>52 64</sup> and curriculums spanning across the years of residency. The latter was seen in psychiatry,<sup>5 44 47</sup> family medicine<sup>35</sup> and internal medicine<sup>28</sup> residency programmes. Most studies used simple pre/post surveys for evaluation, with very few interventions incorporating frequency of SR inquiry,<sup>39</sup> patient feedback and long-term effects of curriculum<sup>35</sup> into evaluation outcomes.

In terms of the pedagogical methods, common formats included lectures,<sup>28 47</sup> small group discussions<sup>45</sup> and case presentations/conferences.<sup>5 47</sup> Several studies described an interprofessional approach that integrated the

teaching of SR within chaplain and clinical rounds.<sup>35 37</sup> Others methods included the use of reflective writing,<sup>33</sup> OSCE,<sup>42</sup> theatre improvisation and role play<sup>66</sup> to teach SR within resident training.

From a curriculum planning point of view, the reported barriers for incorporating SR training into curriculum included finding adequate timeslots within training curriculum and the lack of trained personnel.<sup>15 30</sup>

## DISCUSSION

Our review found that residents in training recognised the importance of addressing SR-related concerns in patient care<sup>28 31 56 63</sup> and acknowledged that it can strengthen the therapeutic relationship<sup>4 59 63</sup> and impact positively on treatment adherence and clinical outcomes.<sup>4 31 63</sup> However, in practice, SR-related issues were infrequently addressed.<sup>4</sup> This can be attributed to several factors. First, there is lack of knowledge and training about what to ask regarding SR as was reported in several studies.<sup>4 28 41 63</sup> Second, there is personal discomfort for some residents that may be related to a sense of inadequacy in addressing SR-related issues, concerns about negative responses of patients or ethical concerns about raising such a topic during clinical encounters.<sup>31 63</sup> Third, pressure of time during clinical encounters may not allow this area to be addressed.<sup>31 63</sup> Fourth, the frequency of inquiry seemed to be dependent on clinical context. For example, residents indicated that they were more likely to ask about SR-related issues during end-of-life situations.<sup>4 5 59</sup> This could be related to patients themselves initiating the topic or residents believing that discussion about SR is more appropriate during end-of-life settings. Residents scored moderately high on a spiritual well-being scale<sup>45 53</sup> with more than half considering themselves to be either spiritual or religious.<sup>63</sup> Increased scores on spiritual well-being was associated with better self-rated health, less burnout and less depressive symptoms.<sup>38 43 53 57</sup> These findings were consistent with findings among other populations. A study of medical students reported significant inverse correlations between measures of spirituality and measures of psychological distress/burnout.<sup>68</sup> Similar associations have been found among physicians in oncology and palliative medicine.<sup>69 70</sup> In turn, residents who had stronger personal beliefs regarding SR were more willing to discuss SR-related areas with their patients<sup>29 48 49 58 59</sup> and perceived that addressing such concerns had a positive impact on patient care.<sup>29 59</sup> Those who used positive religious coping mechanisms were also significantly more likely to pray with patients and ask about their religious beliefs.<sup>58</sup> This is consistent with studies that found that physicians with higher religiosity scores were more likely to discuss SR-related issues with patients, believe that addressing SR-related concerns strongly influenced treatment outcomes and consider the influence of SR in positive rather than negative ways in their clinical practice.<sup>71 72</sup>

SR is an important part of clinical care, and its successful integration is dependent on the physician's self-awareness

of his or her own SR, as well as the careful delineation of professional and personal boundaries when handling SR issues during clinical encounters. Respecting the patient as an individual and providing holistic care involve taking into account their SR beliefs while also being mindful of the possibility of coercion due to the power differential that is inherent in the physician–patient relationship.<sup>73</sup> Although the pressure to blur the boundaries between the professional and personal sphere often comes from patients, research suggests that many patients desire to have prayer as an adjunct to conventional medical treatment rather than an alternative or substitute.<sup>73</sup> This indicates that many patients are aware of the need for medical treatment, and physicians should be cautious of swinging to either extreme by unintentionally touting RS practices as a cure for diseases, or being dismissive of patients who appear to be strongly religious/spiritual. Hence, there is a need to enhance the physician's self-awareness of such boundaries and to train them on ways to navigate discussions on SR with sensitivity from the beginning of residency. In addition to these aims, healthcare professionals should also be encouraged to approach issues of SR with the aim of empowering the patient.<sup>74</sup> By assuming the role of a spiritual advocate, physicians can promote patients' moral agency and maintain the centrality of patients' concerns throughout the course of illness and treatment.<sup>74</sup>

In terms of curriculum, pedagogical modules related to SR were more commonly found in palliative medicine residency programmes<sup>55</sup> than other residency programmes. This could reflect the increased severity of illness and end-of-life scenarios seen in palliative medicine,<sup>75</sup> greater willingness and acceptance of patients and clinicians to address topics related to SR,<sup>76</sup> or even the desire of residents to optimise the care and management of patients during the course of their illness. Interventions described were largely one-off workshops with only a few incorporated within the existing training curriculum. The most common pedagogical methods included didactics, small group discussions and case presentations.<sup>35–47</sup> Other pedagogical methods that can be used to better engage and equip the residents include involvement of an interprofessional team members such as chaplains if available,<sup>37</sup> discussion groups with patients,<sup>51</sup> written reflection<sup>33</sup> and role play.<sup>66</sup> Thus far, there have been few formal evaluations<sup>35–39</sup> of the effectiveness of such SR-related curriculum in engendering better patient evaluation, care and support through patient and resident feedback channels.

There are several practical implications from this review. First, there is a need to facilitate the appropriate inclusion of SR-related topics into the residency curriculum and clinical assessment so that there is congruence between teaching and clinical practice. Frameworks such as the Faith, Importance, Community and Address<sup>77</sup> or Hopes, Organised religion, Personal spirituality and practices, Effects on medical care<sup>78</sup> can be introduced early into training to help residents incorporate SR discussion into their clinical practice. With early training, residents

would be better prepared to deal with such topics competently and with sensitivity regarding the diverse beliefs of patients during clinical encounters. Second, to engage the residents in training through different pedagogical strategies in view of the constraints of time. This could include blended and hybrid learning, a combination of didactics and case discussions to expand exposure, involvement of chaplains and discussion groups with patients to highlight relevance of addressing SR issues in training. In addition, role play within the group can help residents in their practice of SR-related acquired skills and tools before actual patient encounters. Third, to reflect on patient encounters involving SR and consider the challenges faced and possible improvements to the approaches used. Fourth, to support resident efforts when they encounter challenges through faculty supervision, feedback and peer support. In the context of greater interdisciplinary collaboration in patient care, the issue of whether the physician or chaplain should take the lead in addressing SR would have to depend on an understanding of the background and needs of the patient, rapport of the patient with the members of the multidisciplinary team, comfort and SR-related competency of the physician and wider system factors such as institutional and cultural norms.

This study has several limitations. First, the papers reviewed are limited to the West save for one study done in South Africa. It would be important to encourage studies from different parts of the world as it is likely that different cultures and belief systems would influence approaches towards addressing SR-related issues in residency training and practice. Second, few studies reported on quantitative measures related to SR in training and clinical care such as the frequency of resident-initiated and patient-initiated inquiries related to SR or SR-related discussions across different clinical circumstances. Third, few studies evaluated the long-term outcomes of teaching SR-related issues during resident training. Thus, future studies may want to examine areas such as patient well-being, resident well-being, perceived learner satisfaction and long-term outcomes following interventions to incorporate SR in residency training.

## CONCLUSION

In conclusion, we found that while residents acknowledged the benefits of addressing SR-related issues during clinical encounters, they varied in terms of their level of comfort in addressing these areas. Possible contributory factors included lack of knowledge, constraints of time, personal beliefs about SR and prior training. Several practical considerations were suggested such as the intentional and appropriate inclusion and integration of SR related topics into the training curriculum and better engagement of learners through varied pedagogical strategies.

**Contributors** HHEC provided substantial contribution to the acquisition of the data, interpretation of the data, drafting of the paper and revising the draft and gave approval for the version to be submitted. KS and QHC provided substantial contributions to the conception and design of the study, acquisition of data,

interpretation of the data, revising of the draft critically for important intellectual content and provided final approval of the version to be submitted.

**Funding** The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

**Competing interests** None declared.

**Patient and public involvement** Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

**Patient consent for publication** Not required.

**Provenance and peer review** Not commissioned; externally peer reviewed.

**Data availability statement** Data are available on reasonable request.

**Open access** This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

#### ORCID iD

Kang Sim <http://orcid.org/0000-0003-3209-9626>

## REFERENCES

- Best M, Butow P, Olver I. Why do we find it so hard to discuss spirituality? A qualitative exploration of attitudinal barriers. *J Clin Med* 2016;5. doi:10.3390/jcm5090077. [Epub ahead of print: 01 09 2016].
- Rhi BY, Culture RBY. Culture, spirituality, and mental health. The forgotten aspects of religion and health. *Psychiatr Clin North Am* 2001;24:569–79.
- Puchalski CM, Vitillo R, Hull SK, et al. Improving the spiritual dimension of whole person care: reaching national and international consensus. *J Palliat Med* 2014;17:642–56.
- Armbruster CA, Chibnall JT, Leggett S. Pediatrician beliefs about spirituality and religion in medicine: associations with clinical practice. *Pediatrics* 2003;111:e227–35.
- McGovern TF, McMahon T, Nelson J, et al. A descriptive study of a spirituality curriculum for general psychiatry residents. *Acad Psychiatry* 2017;41:471–6.
- King MB, Dein S. The spiritual variable in psychiatric research. *Psychol Med* 1998;28:1259–62.
- Koenig HG, Religion KHG. Religion, spirituality, and health: a review and update. *Adv Mind Body Med* 2015;29:19–26.
- Koenig HG. Research on religion, spirituality, and mental health: a review. *Can J Psychiatry* 2009;54:283–91.
- McMillan SS, Kendall E, Sav A, et al. Patient-Centered approaches to health care: a systematic review of randomized controlled trials. *Med Care Res Rev* 2013;70:567–96.
- Kitson A, Marshall A, Bassett K, et al. What are the core elements of patient-centred care? A narrative review and synthesis of the literature from health policy, medicine and nursing. *J Adv Nurs* 2013;69:4–15.
- Sulmasy DP. A biopsychosocial-spiritual model for the care of patients at the end of life. *Gerontologist* 2002;42 Spec No 3:24–33.
- Engel GL. The need for a new medical model: a challenge for biomedicine. *Science* 1977;196:129–36.
- Ben-Arye E, Bar-Sela G, Frenkel M, et al. Is a biopsychosocial-spiritual approach relevant to cancer treatment? A study of patients and oncology staff members on issues of complementary medicine and spirituality. *Support Care Cancer* 2006;14:147–52.
- Sansone RA, Khatatin K, Rodenhauser P. The role of religion in psychiatric education: a national survey. *Acad Psychiatry* 1990;14:34–8.
- King DE, Crisp J. Spirituality and health care education in family medicine residency programs. *Fam Med* 2005;37:399–403.
- Balboni MJ, Sullivan A, Amobi A, et al. Why is spiritual care infrequent at the end of life? spiritual care perceptions among patients, nurses, and physicians and the role of training. *J Clin Oncol* 2013;31:461–7.
- Taylor D, Mulekar MS, Luterman A, et al. Spirituality within the patient-surgeon relationship. *J Surg Educ* 2011;68:36–43.
- Best M, Butow P, Olver I. Do patients want doctors to talk about spirituality? A systematic literature review. *Patient Educ Couns* 2015;98:1320–8.
- King DE, Bushwick B. Beliefs and attitudes of hospital inpatients about faith healing and Prayer. *J Fam Pract* 1994;39:349–52.
- McCord G, Gilchrist VJ, Grossman SD, et al. Discussing spirituality with patients: a rational and ethical approach. *Ann Fam Med* 2004;2:356–61.
- Best M, Butow P, Olver I. Doctors discussing religion and spirituality: a systematic literature review. *Palliat Med* 2016;30:327–37.
- Ellis MR, Vinson DC, Ewigman B. Addressing spiritual concerns of patients: family physicians' attitudes and practices. *J Fam Pract* 1999;48:105–9.
- Ellis MR, Thomlinson P, Gemmill C, et al. The spiritual needs and resources of hospitalized primary care patients. *J Relig Health* 2013;52:1306–18.
- Balboni MJ, Sullivan A, Enzinger AC, et al. Nurse and physician barriers to spiritual care provision at the end of life. *J Pain Symptom Manage* 2014;48:400–10.
- Peters M, Godfrey C, McInerney P, et al. *The Joanna Briggs Institute reviewers' manual 2015: methodology for JBI scoping reviews*, 2015.
- Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. *Implement Sci* 2010;5:69.
- Moher D, Liberati A, Tetzlaff J, et al. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS Med* 2009;6:e1000097.
- Piscitello GM, Martin S, Spirituality MS. Spirituality, religion, and medicine education for internal medicine residents. *Am J Hosp Palliat Care* 2020;37:272–7.
- Kelley FR, Haas GL, Felber E, et al. Religious community partnerships: a novel approach to teaching psychiatry residents about religious and cultural factors in the mental health care of African-Americans. *Acad Psychiatry* 2019;43:300–5.
- Rosendale N, Josephson SA. Residency training: the need for an integrated diversity curriculum for neurology residency. *Neurology* 2017;89:e284–7.
- Gattari T, Arfken C, Morreale M. Perspectives of religion and spirituality in psychiatry: a comparison of students, residents, and attending physicians. *Acad Psychiatry* 2018;42:176–8.
- Woods JL, Hensel DJ, Affiliation R. Religious affiliation, religiosity, and spirituality in pediatric residents: effects on communication and self-efficacy with adolescents in a clinical setting. *J Relig Health* 2018;57:636–48.
- Vicini A, Shaughnessy AF, Duggan AP. Cultivating the inner life of a physician through written reflection. *Ann Fam Med* 2017;15:379–81.
- Leong M, Olnick S, Akmal T, et al. How Islam influences end-of-life care: education for palliative care clinicians. *J Pain Symptom Manage* 2016;52:771–4.
- Anandarajah G, Roseman J, Lee D, et al. A 10-year longitudinal study of effects of a multifaceted residency spiritual care curriculum: clinical ability, professional formation, end of life, and culture. *J Pain Symptom Manage* 2016;52:859–72.
- Hemming P, Teague P, Crowe T, et al. Demystifying spiritual care: an interprofessional approach for teaching residents and hospital chaplains to work together. *J Grad Med Educ* 2016a;8:454–5.
- Hemming P, Teague PJ, Crowe T, et al. Chaplains on the medical team: a qualitative analysis of an interprofessional curriculum for internal medicine residents and chaplain interns. *J Relig Health* 2016b;55:560–71.
- Doolittle BR, Windish DM. Correlation of burnout syndrome with specific coping strategies, behaviors, and spiritual attitudes among interns at Yale University, new Haven, USA. *J Educ Eval Health Prof* 2015;12:41.
- Award R, Ali S, Salvador M, et al. A Process-Oriented approach to teaching religion and spirituality in psychiatry residency training. *Acad Psychiatry* 2015;39:654–60.
- Roseman JL. Reflections on the Sidney Project™: can we talk? can we give voice to the taboo topics that are usually not embraced in residency medical education? *J Pain Symptom Manage* 2014;48:478–82.
- Ford DW, Downey L, Engelberg R, et al. Association between physician trainee Self-Assessments in Discussing religion and spirituality and their patients' reports. *J Palliat Med* 2014;17:453–62.
- Ledford CJW, Seehusen DA, Canzona MR, et al. Using a teaching OSCE to prompt learners to engage with patients who talk about religion and/or spirituality. *Acad Med* 2014;89:60–5.
- Doolittle BR, Windish DM, Seelig CB, Burnout SCB. Burnout, coping, and spirituality among internal medicine resident physicians. *J Grad Med Educ* 2013;5:257–61.
- Campbell N, Stuck C, Frinks L. Spirituality training in residency: changing the culture of a program. *Acad Psychiatry* 2012;36:56–9.
- Stuck C, Campbell N, Bragg J, et al. Psychiatry in the deep South: a pilot study of integrated training for psychiatry residents and seminary students. *Acad Psychiatry* 2012;36:51–5.

- 46 Mogos M, McKeever R, Rajaratnam C, *et al.* Spirituality in medicine: approach to end of life care in the cancer intensive care unit setting. *South Med J* 2011;104:776–7.
- 47 Kozak L, Boynton L, Bentley J, *et al.* Introducing spirituality, religion and culture curricula in the psychiatry residency programme. *Med Humanit* 2010;36:48–51.
- 48 Saguil A, Fitzpatrick AL, Clark G. Is evidence able to persuade physicians to discuss spirituality with patients? *J Relig Health* 2011b;50:289–99.
- 49 Saguil A, Fitzpatrick AL, Clark G. Are residents willing to discuss spirituality with patients? *J Relig Health* 2011;50:279–88.
- 50 Anandarajah G, Craigie F, Hatch R, *et al.* Toward competency-based curricula in patient-centered spiritual care: recommended competencies for family medicine resident education. *Acad Med* 2010;85:1897–904.
- 51 Galanter M, Dermatis H, Talbot N, *et al.* Introducing spirituality into psychiatric care. *J Relig Health* 2011;50:81–91.
- 52 Anandarajah G, Mitchell M. A spirituality and medicine elective for senior medical students: 4 years' experience, evaluation, and expansion to the family medicine residency. *Fam Med* 2007;39:313–5.
- 53 Yi MS, Mrus JM, Mueller CV, *et al.* Self-Rated health of primary care house officers and its relationship to psychological and spiritual well-being. *BMC Med Educ* 2007;7:9.
- 54 Kligler B, Koithan M, Maizes V, *et al.* Competency-Based evaluation tools for integrative medicine training in family medicine residency: a pilot study. *BMC Med Educ* 2007;7:7.
- 55 Marr L, Billings JA, Weissman DE. Spirituality training for palliative care fellows. *J Palliat Med* 2007;10:169–77.
- 56 Barnett KG, Fortin AH, Aht F. Spirituality and medicine. A workshop for medical students and residents. *J Gen Intern Med* 2006;21:481–5.
- 57 Yi MS, Luckhaupt SE, Mrus JM, *et al.* Religion, spirituality, and depressive symptoms in primary care house officers. *Ambul Pediatr* 2006;6:84–90.
- 58 Luckhaupt SE, Yi MS, Mueller CV, *et al.* Beliefs of primary care residents regarding spirituality and religion in clinical encounters with patients: a study at a midwestern U.S. teaching institution. *Acad Med* 2005;80:560–70.
- 59 Siegel B, Tenenbaum AJ, Jamanka A, *et al.* Faculty and resident attitudes about spirituality and religion in the provision of pediatric health care. *Ambul Pediatr* 2002;2:5–10.
- 60 Saba GW. What do family physicians believe and value in their work? *J Am Board Fam Pract* 1999;12:206–13.
- 61 Oyama O, Koenig HG. Religious beliefs and practices in family medicine. *Arch Fam Med* 1998;7:431–5.
- 62 Waldfoegel S, Wolpe PR, Shmueli Y. Religious training and religiosity in psychiatry residency programs. *Acad Psychiatry* 1998;22:29–35.
- 63 Kattan W, Talwar V. Psychiatry residents' attitudes toward spirituality in psychiatry. *Acad Psychiatry* 2013;37:360–2.
- 64 Grabovac A, Clark N, McKenna M. Pilot study and evaluation of postgraduate course on "the interface between spirituality, religion and psychiatry". *Acad Psychiatry* 2008;32:332–7.
- 65 Grabovac AD, Ganesan S. Spirituality and religion in Canadian psychiatric residency training. *Can J Psychiatry* 2003;48:171–5.
- 66 Hvidt EA, Ammentorp J, Søndergaard J, *et al.* Developing and evaluating a course programme to enhance existential communication with cancer patients in general practice. *Scand J Prim Health Care* 2018;36:142–51.
- 67 van Rensburg BJ, Szabo CP, Poggenpoel M, *et al.* Competence of medical students and residents in psychiatry regarding spirituality, at a South African school of clinical medicine. *Int J Psychiatry Med* 2013;45:175–88.
- 68 Wachholtz A, Rogoff M. The relationship between spirituality and burnout among medical students. *J Contemp Med Educ* 2013;1:83–91.
- 69 Holland JM, Neimeyer RA. Reducing the risk of burnout in end-of-life care settings: the role of daily spiritual experiences and training. *Palliat Support Care* 2005;3:173–81.
- 70 Kash KM, Holland JC, Breitbart W, *et al.* Stress and burnout in oncology. *Oncology* 2000;14:1621–33. discussion 33-4, 36-7.
- 71 Curlin FA, Sellergren SA, Lantos JD, *et al.* Physicians' observations and interpretations of the influence of religion and spirituality on health. *Arch Intern Med* 2007;167:649–54.
- 72 Curlin FA, Chin MH, Sellergren SA, *et al.* The association of physicians' religious characteristics with their attitudes and self-reported behaviors regarding religion and spirituality in the clinical encounter. *Med Care* 2006;44:446–53.
- 73 Post SG, Puchalski CM, Larson DB. Physicians and patient spirituality: professional boundaries, competency, and ethics. *Ann Intern Med* 2000;132:578–83.
- 74 Rego F, Rego G, Nunes R. Moral agency and spirituality in palliative care. *Ann Palliat Med* 2020;9:2286–93.
- 75 Gijsberts M-JHE, Liefbroer AI, Otten R, *et al.* Spiritual care in palliative care: a systematic review of the recent European literature. *Med Sci* 2019;7. doi:10.3390/medsci7020025. [Epub ahead of print: 07 Feb 2019].
- 76 Brinkman-Stoppelenburg A, Onwuteaka-Philipsen BD, van der Heide A. Involvement of supportive care professionals in patient care in the last month of life. *Support Care Cancer* 2015;23:2899–906.
- 77 Puchalski C, Romer AL. Taking a spiritual history allows clinicians to understand patients more fully. *J Palliat Med* 2000;3:129–37.
- 78 Anandarajah G, Hight E. Spirituality and medical practice: using the hope questions as a practical tool for spiritual assessment. *Am Fam Physician* 2001;63:81–9.