



The efficacy of religious and spiritual interventions in nursing care to promote mental, physical and spiritual health: A systematic review and meta-analysis

Rocío de Diego-Cordero^a, Paola Suárez-Reina^a, Bárbara Badanta^{a,*}, Giancarlo Lucchetti^b, Juan Vega-Escañó^c

^a Faculty of Nursing, Physiotherapy and Podiatry, University of Seville, Seville, Spain

^b School of Medicine, Federal University of Juiz de Fora, Juiz de Fora, Brazil

^c Spanish Red Cross Nursing School, University of Seville, Seville, Spain

ARTICLE INFO

Keywords:

Coping behaviors
Meta-analyses
Nursing care
Randomized control trials
Spiritual care

ABSTRACT

Background: Spiritual interventions have proved to alleviate suffering, help the patient to prepare for end of life issues, improve quality of life, and well-being.

Objective: This study aims to investigate the efficacy of religious and spiritual interventions in nursing care to promote mental, physical and spiritual health as compared to control groups not receiving such care.

Methods: This is a systematic review and meta-analysis of clinical trials from SCOPUS, PUBMED, Web of Science and CINAHL databases. The searches were carried out between May and July 2020 without restrictions concerning the date of publication. Peer-reviewed articles published in English, Portuguese or Spanish, focusing on nurses were included. This study followed the PRISMA guidelines. In addition, the CONSORT and The Cochrane Collaborations tool for assessing risk of bias were followed.

Results: The search process identified 1308 publications, 18 randomized controlled trials were included for the systematic review and 9 for the meta-analysis. The meta-analyses revealed that spiritual interventions were associated with lower mental health symptoms (SMD = -6.91 [-9.83,-3.98], $p < 0.001$, $I^2 = 99\%$), greater well-being (SMD = 1.26 [0.58, 1.93], $p < 0.001$, $I^2 = 94\%$) and higher levels of spirituality (SMD = 0.48 [0.29, 0.67], $p < 0.001$, $I^2 = 31\%$) as compared to individuals in the control group.

Conclusions: Spiritual interventions seem to be effective to promote health, as seen for mental health, spirituality, well-being and physical outcomes. Nevertheless, more than half of the studies have a high risk of bias in any of the dimensions evaluated and there is an important heterogeneity among interventions and outcomes. This is particularly important to nurses and nurse managers who want to provide a holistic care to their patients.

1. Introduction

Although some authors have described the literature on spirituality in nursing clinical practice and education as invisible (Hawthorne & Gordon, 2019), there has been a recent increase in publication in the last years (de Diego Cordero et al., 2019). Although some authors use the terms Spirituality and Religiosity (S/R) as synonyms, there is no clear consensus about these terms. Therefore, it is important to consider the differences between them. If on the one hand, Religion is defined as “the set of beliefs, practices, ceremonies and rituals that are normally acquired by tradition within a group or community”. On the other hand,

Spirituality is a broader concept, defined as “the personal quest for understanding answers to ultimate questions about life, about meaning and about relationship to the sacred or transcendent, which may (or may not) lead to or arise from the development of religious rituals and the formation of community” (Koenig et al., 2001).

This broader concept of Spirituality will be used by the present study, since it is intrinsically connected to the field of nursing care. Likewise, the growing demand for spiritual care by patients and the need of spirituality training among nurses have motivated our study to enhance research and clinical practice in the area (van de Geer et al., 2018).

* Corresponding author.

E-mail address: bbadanta@us.es (B. Badanta).

<https://doi.org/10.1016/j.apnr.2022.151618>

Received 31 January 2022; Received in revised form 22 June 2022; Accepted 11 July 2022

Available online 16 July 2022

0897-1897/© 2022 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

2. Background

Studies support that the holistic nursing approach should include spiritual interventions, since suffering, pain and negative experiences are frequently present in medical problems (Sawatzky & Pesut, 2005), and this type of care may result in better levels of satisfaction and comfort (Donesky et al., 2020). This is corroborated by the fact that quality of life (QoL), defined as a subjective perception of one's own life, is strongly influenced by the cultural context, and linked to biological, functional, psychological and social aspects (RG et al., 2017).

Indeed, previous studies investigating spiritual nursing interventions have shown positive outcomes for mental health (depression, stress and anxiety), sleep, quality of life and well-being in the intervention as compared to the control groups (Yun et al., 2017).

Several interventions have been proposed by nurses in the last decades as religious (i.e. prayer, mantram repetition, Holy Quran, support religious rituals), spiritual (spiritual support, connection to God, obtaining a spiritual history) or existential interventions (support existential issues, meditation, life review activities) (Babamohamadi et al., 2020). These interventions have proved to alleviate suffering, improve hope, help the patient to prepare for end of life issues, decrease depressive symptoms, improve quality of life and well-being, increase patients' spirituality, decrease perceived stress, and improve empathy (Ichihara et al., 2019).

However, improving both attitudes and professional skills in spiritual care is no easy task and requires knowledge and training to identify spiritual needs, advise the patient as well as to refer to specific professionals in case of crisis (van de Geer et al., 2018).

3. Materials & methods

3.1. Aim

A systematic review on spiritual interventions could enhance the available evidence and provide information for registered nurses, advanced practice nurses, nurse practitioners, managers, and educators. Furthermore, understanding the spiritual interventions and their outcomes could advance the field of research and impact the clinical practice, fostering discussion and supporting evidence-based guidelines. Therefore, the present study aimed to investigate the efficacy of religious and spiritual (R/S) interventions in nursing care to promote mental, physical and spiritual health as compared to control groups not receiving such care.

3.2. Protocol

A systematic review of studies assessing spiritual interventions in nursing care was performed, following the Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) guidelines (Sp. File 1). The protocol was previously registered in the International prospective register of systematic reviews (PROSPERO) under ID CRD42020186188.

3.3. Databases and search strategy

We searched for studies using SCOPUS, PubMed, CINAHL, PsycINFO, and Web of Science as electronic databases between May and July 2020. There were no restrictions concerning the date of publication of articles to ensure the inclusion of all available scientific evidence.

The searches were performed by two researchers independently, and the following search strategy was used: (spiritu* OR relig*) AND ("nursing care" AND assistance OR intervention OR assessment) AND ("clinical trial" OR "meta-analysis" OR "randomized controlled trial" OR "controlled clinical trial") (Supplementary material).

3.4. Eligibility criteria

The eligibility criteria were based on the PICOTS question: P (participant: patients or nurses), I (intervention: spiritual and religious interventions delivered through nursing care), C (comparison: between spiritual interventions and waiting list or non-spiritual interventions), O (Outcome: efficacy of spiritual interventions in the spirituality, physical and mental health of individuals), T (time: any follow up for the intervention) and S (study design: randomized controlled trials).

So, articles were included if they were: (a) peer-reviewed articles with original data, (b) in English, Portuguese or Spanish language, (c) spiritual care interventions carried out by nurses and provided to nurses. Articles were excluded if they were opinion essays, editorials, commentaries, conference proceedings, literature reviews and books, if they were out of topic or if they did not include spiritual interventions. Studies that focused on nursing students, were non-spiritual interventions, nor carried out by nurses (exclusively or within an interdisciplinary team) were also excluded.

3.5. Study selection and data extraction

All references were included in the software Mendeley after searching. Initial screening started by excluding duplicate publications and then, reading titles and abstracts. Two researchers independently carried out the screening procedure in order to identify potentially relevant studies that met the inclusion and exclusion criteria. Where there was ambiguity on whether papers met the inclusion/exclusion criteria, another reviewer was consulted.

After this first stage, articles assessing spiritual interventions (i.e. delivered by nurses on patients or including nurses as participants) were read as full texts by two researchers independently. In the case of doubts concerning whether the interventions were promoted by nurses, authors of these articles were contacted by email.

Finally, different items were extracted from each study: authors, year, country, sample characteristics, type and characteristics of the intervention, including scale to evaluate results, and methodological quality (Table 1). The summary tables were thoroughly assessed by three reviewers independently, with critical discussions of the extracted data.

3.5.1. Quality and risk of bias assessment

The included studies were assessed by two reviewers independently for methodological validity. Each researcher has tabulated the evaluation for each item of the criteria separately and, any disagreements, were discussed by a third reviewer in order to reach a consensus. The Consolidated Standards of Reporting Trials statement (CONSORT) was used to assess the reporting of randomized controlled trials. If no information was provided by the article about an item of the CONSORT, zero points were scored for that item.

The Cochrane Collaborations tool for assessing risk of bias in randomized trials (Higgins et al., 2011) was also used by two reviewers independently. The items analyzed were as follows: (I) random sequences generation (selection bias), (II) allocation concealment (selection bias), (III) blinding of participants and personnel (performance bias), (IV) blinding of outcome assessment (detection bias), (V) incomplete outcome data (attrition bias), (VI) selective reporting (reporting bias) and (VII) other bias. For each item, reviewers assigned a judgment of high, low, or unclear risk of material bias (no information was provided for an item). These judgments were made in accordance with the Cochrane Handbook (Higgins & Altman, 2008).

3.5.2. Meta-analysis

Only randomized controlled clinical trials were included for the meta-analyses. Means and standard deviation were extracted directly from the articles when adequate data were provided. Since articles used different scales, effect sizes for the meta-analyses were calculated by the

Table 1
Characteristics of the studies included in the systematic review and meta-analysis.

Author (year)	Participants	Sample size	Scale ^a	Type of intervention	Number sessions/ duration sessions, min	Follow-up, months	Results compared with control groups
(Anderson & Pullen, 2013)	Women 60 and older	27	7-DAI, EBBS, SEE	Physical Activity with Spiritual Strategies (PASS)	10/90	<6	+ / + / -
(Ayyari et al., 2020)	Elderly women	38	OHQ	Active listening, supporting religious rituals, using supportive systems, and arousing hope	20/-	<6	+
(Bahrami et al., 2010)	Cancer patients	70	WHOQOL - BREF	Individual and choral praying	5/60	<6	+
(Bay et al., 2010)	Adult and pediatric ICU and progressive care nurses	199	SWBS, DSES	Retreats	2/-	1 to 6	+ / +
(Binaei et al., 2016)	Patients with congestive heart failure	46	QLI	Hope-promoting interventions based on religious beliefs	6/60	<6	+
(Bormann et al., 2013)	Outpatient veterans diagnosed with post-traumatic stress disorder	136	FACIT-Sp	Mantram repetition program (MRP)	6/90	<6	+
(Brasileiro et al., 2017)	Patients with chronic kidney disease on hemodialysis treatment	79	DUREL	Pray	3/11	<6	+
(Catlin & Taylor-Ford, 2011)	Outpatient chemotherapy patients	189	HTCQ, Well-Being Analog Scale	Reiki	1/20	<6	+ / + + / +
(Guilherme et al., 2016)	Women with mastectomy	27	Spirituality Scale	Spiritual support intervention	3/-	<6	N
(Hench et al., 2013)	Nurses from hospices, palliative and oncology services	102	SOC-13, FATCOD	Training in existential issues	5/90	<6	+ / -
(Imeni et al., 2018)	Patients undergoing amputation due to type 2 diabetes	54	ABIS	Transcendental Meditation	28/15	<6	+
(Jabbari et al., 2020)	Pregnant women	112	EPDS, PSS, STAI	Broadcast of the Holy Quran	21/20	<6	+ / + / +
(Kwan et al., 2019)	Palliative care patients	109	MQOL-HK, HADS (Chinese version)	Short-term life review	2/45	<6	+ / N
(Mehdipoorkorani et al., 2019)	Nurses oncology services	65	SWBS	Spiritual care program	8/46-60	<6	+
(Moeini et al., 2012)	Patients with cardiac ischemia	64	SWBS	Spiritual care program	3/240	<6	+
(Moeini et al., 2014)	Patients diagnosed with leukemia	64	SWBS	Spiritual care program	3/240	<6	+
(Sekhavatpour et al., 2020)	Mothers of preterm infants NICU	60	WHOQOL- BREF	Spiritual care program	6/45	<6	+
(Vermandere et al., 2016)	Palliative patients	55	FACIT-Sp-12	Spiritual history	1/-	<6	N

^a 7-Day Activity Interview (7-DAI); Exercise Benefits and Barriers Scale (EBBS); Self-Efficacy for Exercise scale (SEE); Oxford Happiness Questionnaire (OHQ); WHO's Brief Standard Assessment Means of Life Quality (WHOQOL-BREF); Spiritual Well-Being Scale (SWBS); Daily Spiritual Experience Scale (DSES); Quality of Life Index (QLI); Functional Assessment of Chronic Illness Therapy-Spiritual (FACIT-Sp); Duke Religious Index (DUREL); Healing Touch Comfort Questionnaire (HTCQ); Well-Being Analog Scale; Tension-Anxiety Subscale of the Profile of Mood States (POMS-TA); Nursing Errors Rating Scale; Spirituality Scale; Sense of Coherence (SOC-13); Attitudes Toward Caring for Patients Feeling Meaninglessness; Frommelt Attitude Toward Care of the Dying (FATCOD); Spiritual Health Scale (SHS); Chinese version of the Spiritual Care Competency Scale (C-SCCS); Hospital Anxiety and Depression Scale (HADS); Comprehensive Quality of Life Outcome (CoQoLo-short version) inventory; Amputee Body Image Scale (ABIS); Edinburgh Postnatal Depression Scale (EPDS); Perceived Stress Scale (PSS); State-Trait Anxiety Inventory (STAI); McGill Quality of Life Questionnaire - Hong Kong version (MQOL-HK); Positive Affect and Negative Affect Scale (PANAS); Toronto Empathy Questionnaire (TEQ); Scale for Job Satisfaction by Chamiec Case; Leadership Practice Inventory (LPI); Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being 12 Item Scale (FACIT-Sp-12).

standardized mean differences (SMD) with 95 % confidence intervals (CI). This approach enabled inclusion of different outcome measures in the same synthesis. A random-effects model was used to pool data. Heterogeneity was evaluated using forest plots and the I^2 statistics.

In order to reduce heterogeneity and provide a rationale for the results, studies were grouped into specific categories derived from the thematic analyses carried out by the researchers (e.g. mental health, well-being), despite including all studies in a single forest plot.

For the meta-analyses, the Cochrane Review Manager software (RevMan 5.3) was used to carry out the statistical calculation and create the forest plots figures.

4. Results

The search process identified 1308 publications matching eligibility

criteria (see Fig. 1: PRISMA flow diagram). After removing duplicates, 860 articles remained, and 748 articles were excluded after screening the titles and abstracts. Then, a total of 112 articles underwent full-text analysis. In this stage, 94 articles were excluded for the following reasons: 27 did not focus on spiritual interventions, 13 were quasi-experimental studies, 2 were non-randomized non-controlled trials and 9 were not found in full and 43 articles did not include nurses (authors of 9 articles were contacted via e-mail to check if the interventions described in their work were promoted by nurses and no response was obtained, so these articles were excluded, since it was not possible to verify this information). After full-text reading of the remaining 112 studies, only those that met the initially defined inclusion criteria were included, so the final sample consisted of 18 randomized controlled trials (RCT).

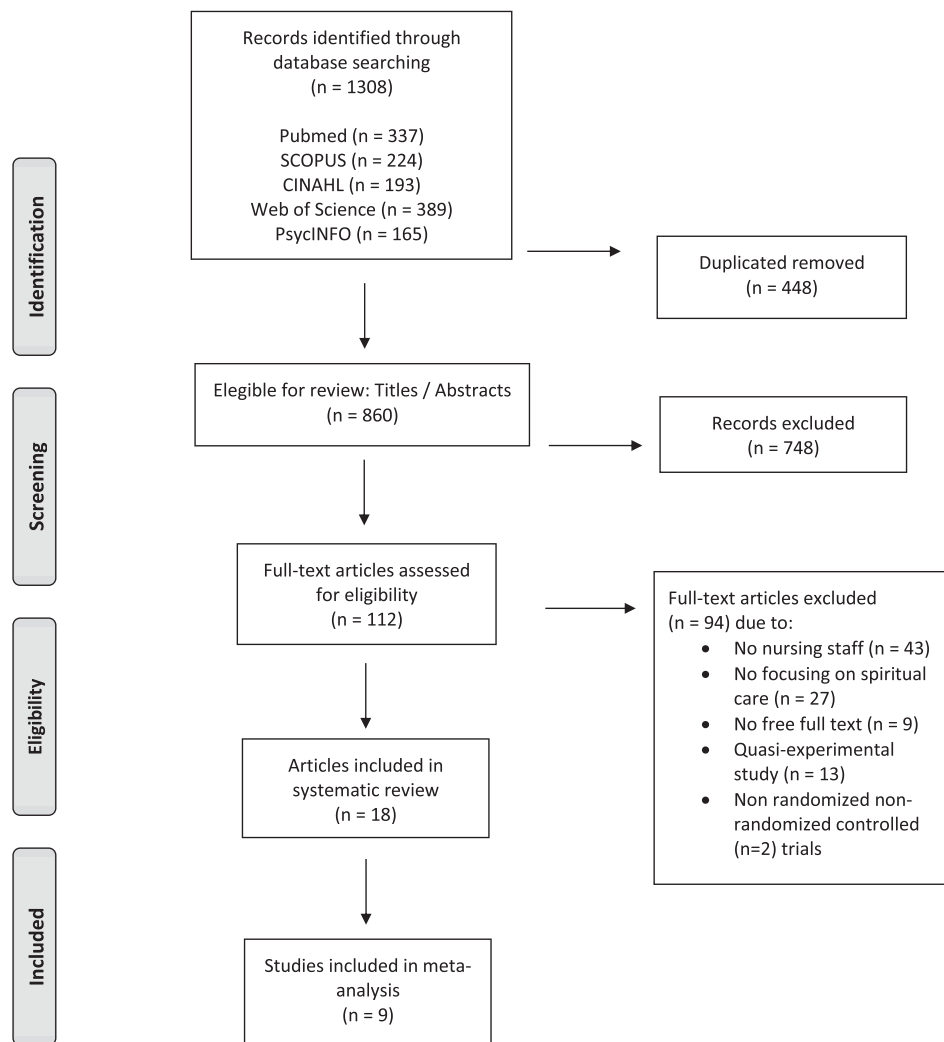


Fig. 1. PRISMA flowchart [Colour figure can be viewed at [wileyonlinelibrary.com](https://doi.org/10.1186/2046-4053-4-1)]. Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., Shekelle, P., Stewart, L.A. & PRISMA-P Group (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Systematic Reviews*, 4, 1. doi:<https://doi.org/10.1186/2046-4053-4-1>.

4.1. Quality assessment

Most studies have appropriate research questions, clearly defined populations, good response rates, a priori sample size calculations, appropriate exposure and outcome variables and have controlled for confounding factors. All papers in this review were considered from a high or medium quality (adherence) according to “reporting guidelines assessment”, ranging between 12.5 and 18.5 /25 in CONSORT (Schulz et al., 2010).

4.2. Characteristics of the studies

Eighteen articles were included and showed the efficacy of spiritual interventions provided to patients and nurses (Table 1). A total of 10 articles (55.6 %) were published in the last 5 years (between 2016 and 2020), and 38.89 % (n = 7) of the studies were multicenter. Most articles were from Asia (55.6 %; n = 10), followed by North and South America (33.3 %; n = 6) and Europe (11.1 %; n = 2). Nurses performed the spiritual interventions alongside other professionals as part of a multi-disciplinary team in 9 clinical trials (50 %). Of a total of the sample, 83.3 % (n = 16) of the articles were patient-centered, so nurses implemented spirituality interventions on patients, aiming to promote their health; while 16.67 % (n = 3) of the studies were nurse-centered, so spiritual care was provided to nurses.

To measure the effectiveness of the interventions, the *Spiritual Well-Being Scale (SWBS)* was the most used instrument (16.7 %) (Bay et al., 2010; Mehdipoorkorani et al., 2019; Moeini et al., 2012), followed by the *Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being 12 Item Scale (FACIT-Sp-12)* (5.6 %) (Bormann et al., 2013).

Other tools were also used to measure the effects of these interventions on aspects not exclusively spiritual –mainly psychological aspects- such as the Hospital Anxiety and Depression Scale (HADS) (Kwan et al., 2019), WHOQOL-BREF (Bahrami et al., 2010; Sekhavatpour et al., 2020) and Perceived Stress Scale (PSS) (Jabbari et al., 2020). Other aspects such as happiness (Ayyari et al., 2020), satisfaction and quality of life (Binaei et al., 2016), physical well-being, body image (Imeni et al., 2018) and clinical parameters such as heart rate (Brasileiro et al., 2017) were also included.

4.3. Health outcomes investigated

4.3.1. Mental health

Several studies have included mental health as their primary outcomes. A study carried out in Iran with cancer patients has shown that a spiritual intervention was able to reduce anxiety when nurses encouraged patients to express their feelings, or supported them to perform religious rituals by providing them prayer materials (e.g. carpet, veil, rosary, cassette ...) (Moeini et al., 2014). Other spiritual intervention

also decreased anxiety and depression among Chinese palliative patients by using searching meaning of life and emotional reconciliation (Kwan et al., 2019). However, the results of Catlin and Taylor-Ford (2011) did not show any improvement in mental well-being in patients undergoing outpatient chemotherapy while Reiki was used as a spiritual therapy.

In other groups of patients, most results were also positive. A meditation-based intervention with the repetition of a mantram in Post-Traumatic Stress Disorder (PTSD) war veterans showed a reduction in hyperarousal and depression, and an improvement in mental health quality of life (Bormann et al., 2013). Pregnant women also benefited from the positive effects of spiritual interventions (in this case the Holy Quran) on anxiety, stress and depression levels (Jabbari et al., 2020). Finally, meditation among Iranian patients with Type 2 Diabetes undergoing amputation resulted in a better body image (Imeni et al., 2018).

4.3.2. Well-being

Well-being and quality of life were another important outcome investigated by the clinical trials. An intervention promoting meaning of life and emotional reconciliation has resulted in better quality of life scores for cancer patients (Kwan et al., 2019). In the same line, another study in oncology found that both individual prayer (i.e. using headphones) and choral praying (i.e. praying in group with the presence of a clergy) improved quality of life among cancer patients. However, choral praying was significantly superior than the individual praying on quality of life, possibly justified by the socialization of patients and by the presence of the clergy (Bahrami et al., 2010).

Other studies have investigated the effectiveness of a spiritual care intervention focused on issues such as trust, patience, charity and prayer in Iranian women of premature infants admitted to the NICUs. Authors studied an increase in quality of life (Sekhavatpour et al., 2020). Hope was another spiritual intervention, which proved to be effective in the quality of life of heart failure patients as shown in the study of (Binaei et al., 2016). Finally, older women from a nursing home received daily spiritual care sessions for 4 weeks focused in using supportive systems, active listening, supporting religious rituals, and arousing hope. After the intervention, levels of happiness were significantly higher as compared to before the intervention (Ayyari et al., 2020).

4.3.3. Spirituality

Several studies have investigated the role of spiritual interventions in increasing spirituality and spiritual well-being. Studies using mantram in war veterans (Bormann et al., 2013), a spiritual care program in Iranian nurses (Mehdipoorkorani et al., 2019), a retreats intervention including self-care, self-awareness, the practice of setting healthy boundaries in critical care nurses (Bay et al., 2010), a spiritual care program based on religious beliefs in ICU patients with cardiac ischemia (Moeini et al., 2012) were all associated with improvements of spiritual well-being.

However, other studies have failed to detect such improvements. An intervention using respiratory relaxation, meditation, music, and guided imagery found no significant beneficial effects on the spirituality of 27 mastectomized women (Guilherme et al., 2016). Likewise, the use of a spiritual history following the *ars moriendi model* (AMM), which includes the assessment of five aspects when the person is close to death, did not provide significant differences in the intervention group as compared to the control group concerning spiritual well-being (Vermandere et al., 2016).

4.3.4. Other outcomes

Other outcomes were also investigated in the studies. Spiritual strategies incorporated into a physical activity program conducted by a nurse in churches proved to be effective in motivating older African American women to exercise (Anderson & Pullen, 2013). Concerning chronic diseases, Brazilian patients with chronic kidney disease obtained a significant improvement in biomedical parameters such as heart

rate and respiratory rate, blood pressure after receiving prayer during hemodialysis (Brasileiro et al., 2017). In the same line, spiritual care improved physical parameters such as blood pressure, oxygen saturation, and heart rate in Brazilian women undergoing mastectomy (Guilherme et al., 2016). Finally, training and reflection increased Swedish nurses' perceived communicative confidence when discussing with poor prognosis patients with cancer on existential aspects (Henocho et al., 2013).

Table 1 shows the specific characteristics of the included studies.

4.4. Risk of bias of the studies included

Figs. S1 and S2 (supplementary material) show the assessment of risk of bias for each study, concluding that most studies have a low-moderate risk of bias. For selection bias, 88.8 % of the studies had a low risk, since they provided adequate information on the processes of the random sequence generation and allocation concealment. On the contrary, 33.3 % of the studies had a high risk of performance bias due to knowledge by the participants and health staff of the assigned interventions. Less than half of the studies (38.8 %) showed high or unclear risk of detection bias for not describing or using measures for blinding. Finally, of the total of 18 studies included in the review, 55.5 % had a high risk of bias in any of the dimensions evaluated and 44.4 % had an unclear risk of bias in "Other sources of bias" domain, because they did not have adequate and sufficient information to rule out other problems not addressed in the other domains.

4.5. Results of the meta-analysis

For the meta-analyses, studies were separated into subgroups in order to reduce the heterogeneity and to improve the interpretation of findings. Therefore, the following categories were created: (a) mental health including the studies from Imeni et al. (2018), Jabbari et al. (2020), Kwan et al. (2019), and Moeini et al. (2014); (b) well-being including the studies from Ayyari et al. (2020), Bahrami et al. (2010), Binaei et al. (2016), Kwan et al. (2019), and Sekhavatpour et al. (2020); (c) Spirituality including the studies of Bay et al. (2010), Bormann et al. (2013), Guilherme et al. (2016), Mehdipoorkorani et al. (2019), and Moeini et al. (2012). In the case of other outcomes such as physical activity levels (Anderson & Pullen, 2013), blood pressure (Brasileiro et al., 2017) and job outcomes (Henocho et al., 2013), meta-analyses were not conducted because of the low number of studies available.

The meta-analysis revealed that spiritual interventions were associated with lower mental health symptoms (SMD = -6.91 [-9.83, -3.98], $p < 0.001$, $I^2 = 99\%$), greater well-being (SMD = 1.26 [0.58, 1.93], $p < 0.001$, $I^2 = 94\%$) and higher levels of spirituality (SMD = 0.48 [0.29, 0.67], $p < 0.001$, $I^2 = 31\%$) as compared to individuals in the control group (Fig. 2).

5. Discussion

Our results have shown that the number of studies concerning spiritual interventions for nursing care have been increasing in the scientific literature. These interventions seem to be effective to promote health, as seen for mental health, spirituality and well-being outcomes. These findings suggest that the spiritual work that nurses do is now being recognized as a valuable care work and that spirituality may be becoming an essential component of care. It is important to emphasize that for many people, spirituality is closely linked to religion. According to the American Nurses Association Code of Ethics for Nurses, this is essential to providing holistic care, since denying this part to religious people is to restrict the full expression of their spirituality (American Nurses Association, 2015). Furthermore, The International Council of Nurses (ICN) in its Code of Ethics for Nurses also highlights spiritual care as part of human rights (International Council of Nurses, 2021). Nevertheless, more than half of the studies have a high risk of bias in any

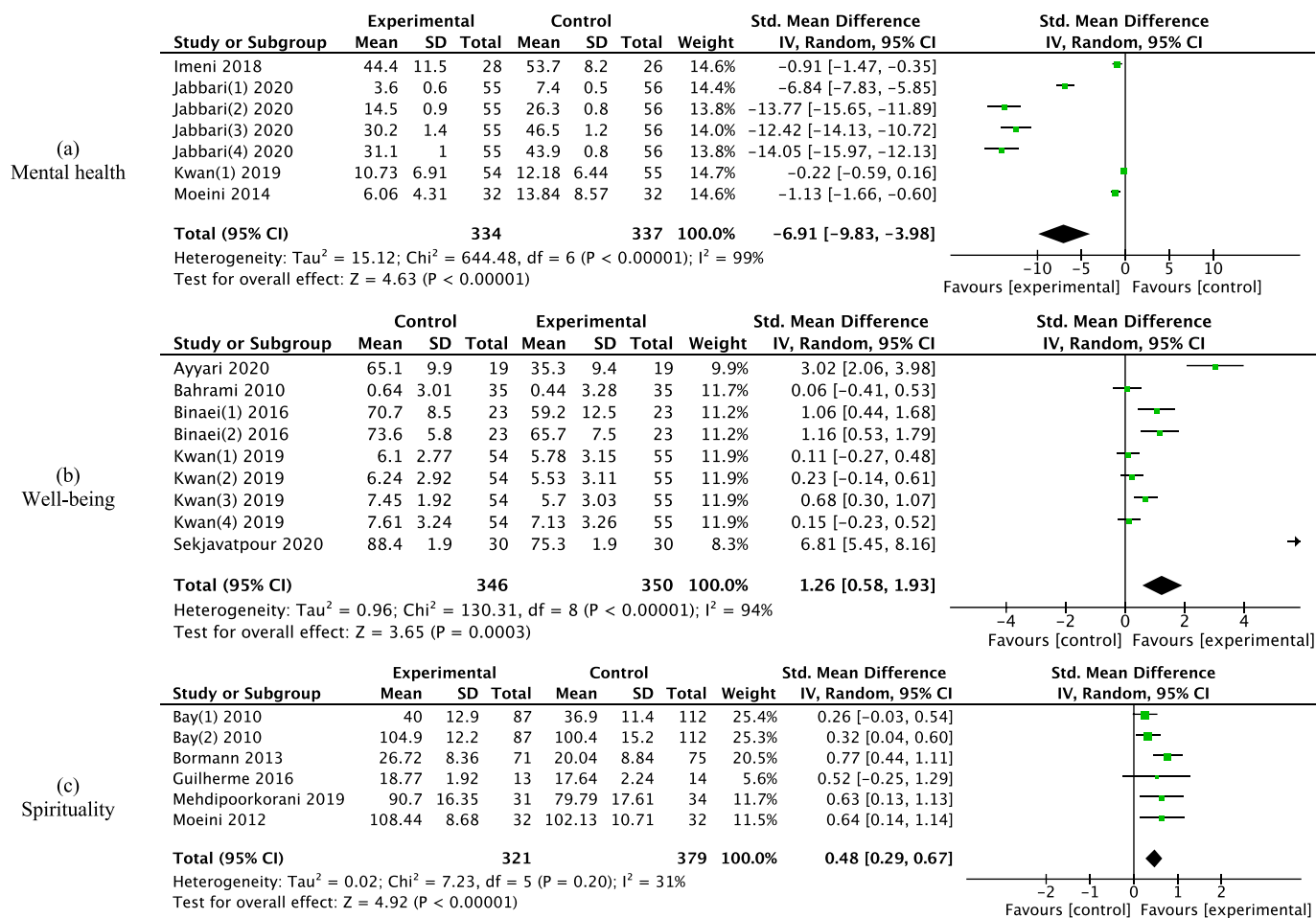


Fig. 2. Flowchart for the selection of articles for the systematic review.

of the dimensions evaluated and there is an important heterogeneity among interventions and outcomes.

The increasing importance of spirituality in the treatment of patients has been already identified by previous authors (Wong et al., 2008) and is mostly based on the positive influence of spiritual care on mental and physical health outcomes (Ramezani et al., 2014). In our review, most studies have corroborated the current scientific literature, showing that spiritual interventions could result in better results for patients. However, it is important to highlight that most of the articles included in this review included cancer and palliative care patients. The explanation for such finding relies on the fact that spirituality is common among end-of-life care and patients tend to value spiritual issues in these moments (Puchalski et al., 2009). Despite this focus on cancer and palliative care patients, the results of the present review have shown that these interventions seem to work in a wide range of individuals as well, including veterans, psychiatric patients, chronic disease individuals and even pregnant women. It seems that having religious beliefs, being married, having past hospitalization experiences and higher perception levels toward spiritual care (Chan, 2009) are more associated to a success in these interventions as compared to the group or the setting investigated.

There is still a lack of studies assessing spiritual interventions in nursing care. A previous integrative review (Ghorbani et al., 2021) has included studies from the last 15 years of research and identified different categories of spiritual interventions, such as the exploration of spiritual perspective and the therapeutic use of self, healing presence, intuitive sense, patient-centered therapeutic interventions, the creation of a spiritually nurturing environment, and the evaluation of spiritual

care. These results highlight the heterogeneity of interventions and used a different approach as compared to ours, since we have assessed the efficacy of these interventions.

Our findings are also in accordance to other meta-analyses that have investigated the use of spiritual interventions in other contexts outside nursing. Xing et al. (2018) found significant evidence that spiritual interventions reduced depression, anxiety, and hopelessness in patients with cancer. Likewise, Gonçalves et al. (2015) reported that religious and spiritual interventions were effective for reducing anxiety symptoms, but not for depressive symptoms. Concerning physical health, (Gonçalves et al., 2015) found that spiritual interventions were associated with pain outcomes, physical activity, promotion of health behaviors compared with other complementary strategies and quality of life, understood as the subjective appreciation and understanding of life as a whole, composed of different dimensions including psychological, physical and social well-being (Sawatzky, Ratner, & Chiu, 2005). Despite the fact that more trials are needed in this field of knowledge, recent meta-analyses are starting to show that usually such interventions have positive effects to promote health.

An important discussion that should be made while interpreting our findings is that most of the studies included religious interventions as opposed to spiritual interventions. Religious interventions are more focused on particular traditions and particular rituals, usually delivered to specific traditions (Gonçalves et al., 2015). This may be a more limited approach, available only for specific populations, since some rituals and religious traditions are inherent for religious groups. Likewise, caution should be taken while using such interventions because other religious traditions may feel uncomfortable with them. Therefore,

broader approaches, such as the cultivation of spiritual values and virtues could be a better option, since these interventions may embrace all types of beliefs.

Despite the evidence obtained by this review, it is important to underscore that the high heterogeneity among studies, the different outcomes measured and the different types of interventions are weaknesses that should be considered while interpreting these findings. The wide range of interventions included in the present article may make it difficult to identify what would work best with what person and what the training should be offered. Nevertheless, our findings support that spirituality is an important aspect of patient care and the use of these interventions may enhance nursing care.

6. Relevance for clinical practice

Our review has important clinical implications. First, it revealed that spiritual interventions could be effective in clinical practice. Some authors have agreed that providing spiritual care is one of the nurses' role (Caldeira et al., 2013) and this evidence may help the future incorporation of spiritual care in clinical settings. Second, it showed that nurses should understand and be trained to address these issues. Although many nurses strive to identify spiritual needs and hospital resources to offer to their patients, the lack of time, scarcity of resources and low salaries may reduce motivation to address these issues. Therefore, training programs should be provided to nurses because they may increase the awareness of nurses to spiritual needs. It is important that clinical workplaces value spiritual care as one of the roles of nurses and should motivate them to consider using such interventions. Third, nurses may react differently according to their cultural and religious backgrounds. For example, if on the one hand, nurses without a religious affiliation may become anxious while providing spiritual care; on the other hand, religious nurses may become afraid of imposing their own beliefs. Nurse managers should clarify these aspects to their staff, making this addressing comfortable for both groups. Finally, our review identified that the term "spiritual intervention" is used in very different ways, including different types of interventions and different religious backgrounds. It is clear that there is some confusion on the terms religious and spiritual and some overlapping as well, since some interventions devoted to specific religious groups are described as spiritual interventions. As described previously, spirituality is a broader concept related to meaning and purpose, while religiosity is related to rituals, practices, and beliefs of a particular religious tradition. Nurses should be aware of this heterogeneity and these different terms, avoiding the imposition of religious beliefs to patients.

7. Limitations

This study has some limitations to be highlighted. First, the lack of a consensus on the concept of spirituality makes interventions very distinct as reported previously. Second, although four databases were searched, it is possible that a study included in another database may have not been included. Third, our restriction of language may have failed to include those articles published in other languages and this should be considered a limitation. Fourth, despite the evidence obtained by this review, it is important to underscore that the high heterogeneity among studies, the different outcomes measured and the different types of interventions are weaknesses that should be considered while interpreting these findings. Finally, despite the effort to contact researchers, it was not possible to know if their studies were carried out by nurses, therefore, some studies were rejected. This fact could have missed relevant results.

8. Conclusion

Spiritual interventions are associated with better health outcomes in nursing care, particularly for mental health, quality of life/well-being

and spiritual well-being. Despite these findings, the heterogeneity of the different types of interventions and the overlapping between the terms spirituality and religion should be considered while interpreting these findings. Nurses and nurse managers should be aware of these results and be trained in order to provide a more patient centered approach and to improve health outcomes.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Registration

The protocol was previously registered in PROSPERO under registration number: CRD42020186188.

Data availability statement

The data that supports the findings of this study are available in the supplementary material of this article. In addition, the data that support the findings of this study are available from the corresponding author upon reasonable request.

CRediT authorship contribution statement

Conceptualization R.d.D.-C.; methodology, R.d.D.-C, J.V.-E. and B. B.; software, J.V.-E., G.L.; formal analysis, J.V.-E., G.L.; investigation, R. d.D.-C., and P.S.-R.; data curation, R.d.D.-C., and P.S.-R.; writing—original draft preparation, R.d.D.- C., P.S.-R, J.V.-E and B.B.; writing—review and editing, R.d.D.- C., P.S.-R, J.V.-E, B.B. and G.L.; visualization, R.d.D.-C. and J.V.-E; supervision, R.d.D.-C. All authors have read and agreed to the published version of the manuscript.

Declaration of competing interest

No conflict of interest has been declared by the author(s).

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.apnr.2022.151618>.

References

- Anderson, K. J., & Pullen, C. H. (2013). Physical activity with spiritual strategies intervention: A cluster randomized trial with older African American women. *Research in Gerontological Nursing*, 6(1), 11–21. <https://doi.org/10.3928/19404921-20121203-01>
- Ayyari, T., Salehabadi, R., Rastaghi, S., & Rad, M. (2020). Effects of spiritual interventions on happiness level of the female elderly residing in nursing home. *Evidence Based Care Journal*, 10(1), 35–42. <https://doi.org/10.22038/ebcj.2020.44422.2205>
- Babamohamadi, H., Kadkhodaei-Elyaderani, H., Ebrahimiyan, A., & Ghorbani, R. (2020). The effect of spiritual care based on the sound heart model on the spiritual health of patients with acute myocardial infarction. *Journal of Religion and Health*, 59(5), 2638–2653. <https://doi.org/10.1007/s10943-020-01003-w>
- Bahrami, M., Balouchestani, E., Amini, A., & Eghbali, M. (2010). Assessing the effect of two praying methods on the life quality of patients suffering from cancer hospitalized at Seyedo Shohada Medical Center of Isfahan University of Medical Sciences. *Iranian Journal of Nursing and Midwifery Research*, 15(Suppl. 1), 296–301.
- Bay, P. S., Ivy, S. S., & Terry, C. L. (2010). The effect of spiritual retreat on nurses' spirituality: A randomized controlled study. *Holistic Nursing Practice*, 24(3), 125–133. <https://doi.org/10.1097/HNP.0b013e3181dd47dd>
- Binaei, N., Moieni, M., Sadeghi, M., Najafi, M., & Mohagheghian, Z. (2016). Effects of hope promoting interventions based on religious beliefs on quality of life of patients with congestive heart failure and their families. *Iranian Journal of Nursing and Midwifery Research*, 21(1), 77–83. <https://doi.org/10.4103/1735-9066.174755>
- Bormann, J. E., Thorp, S. R., Wetherell, J. L., Golshan, S., & Lang, A. J. (2013). Meditation-based mantram intervention for veterans with posttraumatic stress disorder: A randomized trial. *Psychological Trauma: Theory, Research, Practice, and Policy*, 5(3), 259–267. <https://doi.org/10.1037/a0027522>

- Brasileiro, T. O. Z., Prado, A. A. O., Assis, B. B., Nogueira, D. A., Lima, R. S., & Chaves, E. C. L. (2017). Effects of prayer on the vital signs of patients with chronic kidney disease: Randomized controlled trial. *Revista Da Escola de Enfermagem*, 51. <https://doi.org/10.1590/S1980-220X2016024603236>
- Caldeira, S., Carvalho, E. C., & Vieira, M. (2013). Spiritual distress-proposing a new definition and defining characteristics. *International Journal of Nursing Knowledge*, 24(2), 77–84. <https://doi.org/10.1111/j.2047-3095.2013.01234.x>
- Catlin, A., & Taylor-Ford, R. L. (2011). Investigation of standard care versus sham Reiki placebo versus actual Reiki therapy to enhance comfort and well-being in a chemotherapy infusion center. *Oncology Nursing Forum*, 38(3). <https://doi.org/10.1188/11.ONF.E212-E220>
- Chan, M. F. (2009). Factors affecting nursing staff in practising spiritual care. *Journal of Clinical Nursing*, 19(15–16), 2128–2136. <https://doi.org/10.1111/j.1365-2702.2008.02690.x>
- American Nurses Association, A. (2015). *Code of ethics for nurses with interpretive statements*.
- International Council of Nurses, I. (2021). *THE ICN CODE OF ETHICS FOR NURSES* International Council of Nurses.
- de Diego Cordero, R., Lucchetti, G., Fernández-Vazquez, A., & Badanta-Romero, B. (2019). Opinions, knowledge and attitudes concerning “spirituality, religiosity and health” among health graduates in a Spanish university. *Journal of Religion and Health*, 58(5), 1592–1604. <https://doi.org/10.1007/s10943-019-00780-3>
- Donesky, D. A., Sprague, E., & Joseph, D. (2020). A new perspective on spiritual care: Collaborative chaplaincy and nursing practice. *ANS. Advances in Nursing Science*, 43(2), 147–158. <https://doi.org/10.1097/ANS.0000000000000298>
- Ghorbani, M., Mohammadi, E., Aghabozorgi, R., & Ramezani, M. (2021). Spiritual care interventions in nursing: An integrative literature review. *Supportive Care in Cancer*, 29(3), 1165–1181. <https://doi.org/10.1007/s00520-020-05747-9>
- Gonçalves, J. P. B., Lucchetti, G., Menezes, P. R., & Vallada, H. (2015). Religious and spiritual interventions in mental health care: A systematic review and meta-analysis of randomized controlled clinical trials. *Psychological Medicine*, 45(14), 2937–2949. <https://doi.org/10.1017/S0033291715001166>
- Guilherme, C., Ribeiro, G. R., Caldeira, S., Zamarioli, C. M., de Souza Oliveira-Kumakura, A. R., Almeida, A. M., & de Carvalho, E. C. (2016). Effect of the “spiritual support” intervention on spirituality and the clinical parameters of women who have undergone mastectomy: A pilot study. *Religions*, 7(3). <https://doi.org/10.3390/rel7030026>
- Hawthorne, D. M., & Gordon, S. C. (2019). The invisibility of spiritual nursing care in clinical practice. *Journal of Holistic Nursing*, 38(1), 147–155. <https://doi.org/10.1177/0898010119889704>
- Henoch, I., Danielson, E., Strang, S., Browall, M., & Melin-Johansson, C. (2013). Training intervention for health care staff in the provision of existential support to patients with cancer: A randomized, controlled study. *Journal of Pain and Symptom Management*, 46(6), 785–794. <https://doi.org/10.1016/j.jpainsymman.2013.01.013>
- Higgins, J. P. T., & Altman, D. G. (2008). *Assessing risk of bias in included studies*. In J. P. T. Higgins, & S. Green (Eds.), *Cochrane handbook for systematic reviews of interventions* (pp. 187–241). Wiley.
- Higgins, J. P. T., Altman, D. G., Gøtzsche, P. C., Jüni, P., Moher, D., Oxman, A. D., Savović, J., Schulz, K. F., Weeks, L., & Sterne, J. A. C. (2011). The Cochrane Collaboration’s tool for assessing risk of bias in randomised trials. *BMJ*, 343. <https://doi.org/10.1136/bmj.d5928>
- Ichihara, K., Ouchi, S., Okayama, S., Kinoshita, F., Miyashita, M., Morita, T., & Tamura, K. (2019). Effectiveness of spiritual care using spiritual pain assessment sheet for advanced cancer patients: A pilot non-randomized controlled trial. *Palliative & Supportive Care*, 17(1), 46–53. <https://doi.org/10.1017/S1478951518000901>
- Imeni, M., Sabouhi, F., Abazari, P., & Iraj, B. (2018). The effect of spiritual care on the body image of patients undergoing amputation due to type 2 diabetes: A randomized clinical trial. *Iranian Journal of Nursing and Midwifery Research*, 23(4), 322–326. https://doi.org/10.4103/ijnmr.IJNMR_113_15
- Jabbari, B., Mirghafourvand, M., Sehhatie, F., & Mohammad-Alizadeh-Charandabi, S. (2020). The effect of holly quran voice with and without translation on stress, anxiety and depression during pregnancy: A randomized controlled trial. *Journal of Religion and Health*, 59(1), 544–554. <https://doi.org/10.1007/s10943-017-0417-x>
- Koenig, H. G., McCullough, M. E., & Larson, D. B. (2001). *Handbook of religion and health*. Oxford University Press.
- Kwan, C. W. M., Chan, C. W. H., & Choi, K. C. (2019). The effectiveness of a nurse-led short term life review intervention in enhancing the spiritual and psychological well-being of people receiving palliative care: A mixed method study. *International Journal of Nursing Studies*, 91, 134–143. <https://doi.org/10.1016/j.ijnurstu.2018.12.007>
- Mehdipoorkorani, L., Bahrani, M., & Mosavizade, R. (2019). Impact of a spiritual care program on spiritual wellbeing of oncology nurses: A randomized clinical trial. *Iranian Journal of Nursing and Midwifery Research*, 24(1), 38–43. https://doi.org/10.4103/ijnmr.IJNMR_33_18
- Moeini, M., Ghasemi, T. M. G., Yousefi, H., & Abedi, H. (2012). The effect of spiritual care on spiritual health of patients with cardiac ischemia. *Iranian Journal of Nursing and Midwifery Research*, 17(3), 195–199.
- Moeini, M., Taleghani, F., Mehrabi, T., & Musarazeza, A. (2014). Effect of a spiritual care program on levels of anxiety in patients with leukemia. *Iranian Journal of Nursing and Midwifery Research*, 19(1), 88–93.
- Puchalski, C., Ferrell, B., Virani, R., Otis-Green, S., Baird, P., Bull, J., Chochinov, H., Handzo, G., Nelson-Becker, H., Prince-Paul, M., Pugliese, K., & Sulmasy, D. (2009). Improving the quality of spiritual care as a dimension of palliative care: The report of the Consensus Conference. *Journal of Palliative Medicine*, 12(10), 885–904. <https://doi.org/10.1089/jpm.2009.0142>
- Ramezani, M., Ahmadi, F., Mohammadi, E., & Kazemnejad, A. (2014). Spiritual care in nursing: A concept analysis. *International Nursing Review*, 61(2), 211–219. <https://doi.org/10.1111/inr.12099>
- Rg, P., Bp, M., Rr, Z., Dr, B., Ns, R., & Mp, F. (2017). Quality-of-life and spirituality. *International Review of Psychiatry (Abingdon, England)*, 29(3), 263–282. <https://doi.org/10.1080/09540261.2017.1285553>
- Sawatzky, R., & Pesut, B. (2005). Attributes of spiritual care in nursing practice. *Journal of holistic nursing: Official journal of the American Holistic Nurses' Association* (Vol. 23, Issue 1), 19–33. <https://doi.org/10.1177/0898010104272010>
- Sawatzky et al., n.d. R. Sawatzky P. A. Ratner L. Chiu (n.d.). A META-ANALYSIS OF THE RELATIONSHIP BETWEEN SPIRITUALITY AND QUALITY OF LIFE.
- Schulz, K. F., Altman, D. G., Moher, D., & Group, C. (2010). CONSORT 2010 statement: Updated guidelines for reporting parallel group randomized trials. *Annals of Internal Medicine*, 152(11), 726–732. <https://doi.org/10.7326/0003-4819-152-11-201006010-00232>
- Sekhvatpour, Z., Reyhani, T., Heidarzade, M., Moosavi, S. M., Mazlom, S. R., Dastoorpoor, M., Karimollahi, M., & Khanjani, N. (2020). The effect of spiritual self-care training on the quality of life of mothers of preterm infants: a randomized controlled trial. *Journal of Religion and Health*, 59(2), 714–724. <https://doi.org/10.1007/s10943-018-0620-4>
- van de Geer, J., Veeger, N., Groot, M., Zock, H., Leget, C., Prins, J., & Vissers, K. (2018). Multidisciplinary training on spiritual care for patients in palliative care trajectories improves the attitudes and competencies of hospital medical staff: Results of a quasi-experimental study. *American Journal of Hospice and Palliative Medicine*, 35(2), 218–228. <https://doi.org/10.1177/1049909117692959>
- Vermandere, M., Warmenhoven, F., Van Severen, E., De Lepeleire, J., & Aertgeerts, B. (2016). Spiritual history taking in palliative home care: A cluster randomized controlled trial. *Palliative Medicine*, 30(4), 338–350. <https://doi.org/10.1177/0269216315601953>
- Wong, K. F., Lee, L. Y. K., & Lee, J. K. L. (2008). Hong Kong enrolled nurses’ perceptions of spirituality and spiritual care. *International Nursing Review*, 55(3), 333–340. <https://doi.org/10.1111/j.1466-7657.2008.00619.x>
- Xing, L., Guo, X., Bai, L., Qian, J., & Chen, J. (2018). Are spiritual interventions beneficial to patients with cancer?: A meta-analysis of randomized controlled trials following PRISMA. *Medicine*, 97(35). <https://doi.org/10.1097/MD.00000000000011948>
- Yun, M. R., Song, M., Jung, K. H., Yu, B. J., & Lee, K. J. (2017). The effects of mind subtraction meditation on breast cancer survivors’ psychological and spiritual well-being and sleep quality. *Cancer Nursing*, 40(5), 377–385. <https://doi.org/10.1097/NCC.0000000000000443>