# Spiritual interventions for cancer pain: a systematic review and narrative synthesis

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**Background** Pain is a common and debilitating cancer-related symptom. In palliative care, physical, psychological, social and spiritual factors are thought to contribute to individual experience of pain. Consequently, spiritual care interventions are advocated in the management of cancer-related pain.
**Aim** To systematically review the published literature concerning spiritual interventions in the management of cancer-related pain.
**Methodology** Seven databases (Medline, CINAHL**,** EMBASE, PsycINFO, Cochrane, Scopus and Web of Science) were searched for quantitative studies of pain in patients with cancer receiving spiritual care interventions, with additional reference and citation searches. Research quality and relevance was appraised using Gough's 'Weight of Evidence' framework prior to narrative synthesis.
**Results** The search identified 12 822 articles, of which 11 were included in the synthesis. Few studies have investigated spiritual interventions in the management of cancer pain: a minority of these demonstrate statistical benefit. Some evidence suggests spiritual care may aid in coping with pain, rather than altering pain intensity. Spiritual interventions are well received by patients with cancer and do not appear to cause harm.
**Conclusion** Current evidence provides limited support for the use of spiritual care interventions in the management of cancer pain. The paucity and heterogeneity of literature points to a need for high-quality research with judgements of spiritual intervention efficacy made on an individual basis.
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## Key messages

**What was already known?**
- Pain is common in cancer sufferers.
- Spiritual interventions can improve pain.

**What are the new findings?**
- Evidence supporting the use of spiritual interventions in managing cancer pain is limited.

**What is their significance?**
A) Clinical
- Clinical efficacy of spiritual interventions in managing cancer pain is unclear.

B) Research
- Establishing the efficacy of spiritual interventions in the management of cancer pain requires further research.

## BACKGROUND

Spiritual care represents a core pillar of holistic palliative care, complimenting physical, psychological and social strategies employed in the management of terminal suffering.[1] Varied and broad definitions of spiritual care exist; it can be conceptualised as care that 'responds to the needs of the human spirit when faced with trauma, ill health or sadness'.[2] Thus, spiritual care seeks to explore and address broader life concepts including meaning and purpose, relating these to oneself, surroundings and the divine.[2 3] While spiritual care is advocated as prominent in the management of terminal illness, it remains a largely neglected and underdeveloped aspect of palliative care.[4] Spiritual care thus represents a potentially untapped resource in the management of individual suffering at the end of life.

A significant proportion of palliative care centres on management of cancer related symptoms.[5] Given that approximately one quarter of the global population develop cancer at some point in their lifetime, cancer-related symptoms constitute a significant burden of illness and a major role for providers of palliative care.[6 7] Pain is one of the most common and debilitating symptoms experienced

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by people living with cancer, with a prevalence of 66% in advanced, metastatic or terminal cancer, 55% during anticancer treatment and 39% after curative treatment.[8 9] Despite this high prevalence, cancer pain remains an undertreated symptom across the developed and developing world.[10]

Previous randomised controlled trials demonstrate that spiritual interventions can increase pain tolerance and decrease pain related stress and intensity.[11 12] In addition, a focus on spirituality improves patient outcomes and quality of life.[13 14] As a result, spiritual care is often desired by patients approaching the end of their lives and widely advocated in the management of cancer-related pain in the palliative care literature.[8 15–18]

However, the evidence supporting the use of spiritual interventions in the management of cancer pain has not been collated systematically to date. Given the evidence of undertreatment of cancer pain and the potential roles spiritual interventions may play in pain management, it was decided to review the current evidence for the potential roles and benefits of spiritual interventions in the management of cancer pain.

## AIMS AND REVIEW QUESTIONS

This review investigates the evidence concerning whether spiritual interventions have a role in management of cancer pain and if so, which offer the most potential benefit, by addressing the following questions.

With regard to quantitative studies of the impact of spiritual interventions in the management of cancer pain:

- What interventions are used?
- When/for whom are they used?
- What is the evidence for their benefit?
- What are the views of patients and health professionals concerning their use?

## METHODS

Searches of seven databases (Medline, CINAHL, EMBASE, PsycINFO, Cochrane, Scopus and Web of Science) from inception to July 2020, were undertaken to locate the literature related to the review questions. Keyword and MeSH search terms were split into three search categories relating to the themes of spirituality, pain, and cancer and combined using the Boolean Search Operators, “OR” (within categories) and “AND” (between categories) (see figure 1, online supplemental reportable search strategy). MeSH terms were exploded to include related subheadings, with synonymous and truncated keyword search terms used additionally in maximising capture. Choice of search terms related to spiritual interventions was guided by pilot searches and a previously published list of spiritual care plans.[19] Additional terms related to palliative care were incorporated in the cancer category, reflecting the significant proportion of cancer care occurring in this context that is not always explicitly labelled in such terms.[20]

### Eligibility criteria and review scope

Defining what constitute a ‘spiritual intervention’ and ‘cancer pain’ proved to be major challenges. Authors of previous systematic reviews concerning spirituality have loosely defined, or have acknowledged difficulty in defining, the term ‘spiritual intervention’.[4 21 22] While many therapeutic interventions could be considered ‘spiritual’ within certain contexts, they could also be undertaken in situations lacking of any sense of spirituality. Equally, the individual nature of spirituality means that any single therapeutic intervention may be deeply spiritual to one person and devoid of spiritual meaning to another. Spiritual care is essentially dependent on the user engaging in a form of reflective practice or transcendental experience; surpassing the ordinary and going beyond a certain level of awareness to another level of understanding or experience.[23] Study selection was thus necessarily guided by study authors’ descriptions of interventions as a spiritual therapy, as described within the title and/or abstract of identified papers. Interventions targeted at relieving existential distress such as dignity therapy (DT)[24 25] that sought to enhancing meaning and/or spiritual well-being such as meaning-centred psychotherapy,[26] or founded on sacred belief such as prayer-based/chanting-based/chaplaincy-based therapies,[27 28] were considered explicit spiritual interventions by design. Studies of psychosocial interventions or complementary therapies seeking to improve participants’ spiritual well-being or using spiritual well-being outcome measures were considered for inclusion if this information was clear within the title or abstract. Studies of integrative therapies combining physical, psychosocial and spiritual strands in a holistic manner were excluded, as outcomes could not be solely attributable to the spiritual elements of the intervention.

The review addressed the effect of spiritual interventions on pain related to cancer disease itself, excluding pain related to cancer investigations or treatments such as biopsy, chemotherapy, radiotherapy or surgery. Non-physiological dimensions of pain have a heightened role in patients with cancer, in that their experience of pain carries ‘sinister meaning’ beyond a nociceptive sensation.[2] Studies of participants undergoing treatment for cancer were included if the spiritual intervention did not target side effects of cancer management: it was usually clear that at least some participants were not receiving active cancer treatment, or that recruitment was not in a treatment setting. Studies of broader concepts of pain such as spiritual pain were beyond the scope of this review.

Studies with participants under the age of 18 were excluded on the basis that the individual-reflective stage of spiritual development occurs in adulthood.[29] Studies were excluded unless data could be extracted



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| Spirituality | Pain | Cancer / End of life care |
|---|---|---|
| 1. Exp spirituality/ | 1. Exp pain/ | 1. Exp. Neoplasms/ |
| 2. Exp Spiritual Therapies/ | 2. Pain*.ti,ab. | 2. Cancer*.ti,ab. |
| 3. Exp Religion/ | 3. Suffer*.ti,ab | 3. Malignan*.ti,ab. |
| 4. Spirit*.ti,ab. | | 4. Tumor*.ti,ab. |
| 5. Relig*.ti,ab. | | 5. Tumour*.ti,ab. |
| 6. Faith .ti,ab. | | 6. Carcinoma*.ti,ab. |
| 7. Chaplain*.ti,ab. | | 7. Neoplas*.ti,ab. |
| 8. Yoga*.ti,ab. | | 8. Exp. Palliative care |
| 9. Meditat*.ti,ab. | | 9. Exp. Terminal Care |
| 10. Digni* .ti,ab. | | 10. Palliati*.ti,ab. |
| 11. Gratitude* .ti,ab. | | 11. End of life.ti,ab. |
| 12. Mind-body.ti.ab | | 12. Hospice*.ti,ab. |
| 13. God.ti.ab | | |
| 14. Allah.ti.ab | | |
| 15. Pray.ti.ab | | |
| 16. Prayer.ti.ab | | |
| 17. Christian*.ti.ab | | |
| 18. Islam*.ti.ab | | |
| 19. Muslim.ti.ab | | |
| 20. Judaism.ti.ab | | |
| 21. Jew*.ti.ab | | |
| 22. Hindu*.ti.ab | | |
| 23. Buddhis*.ti.ab | | |
| 24. Sikh*.ti.ab | | |
| 25. Meaning-centred.ti,ab | | |
| 26. Meaning Centred.ti,ab | | |
| 27. Mindfulness.ti,ab | | |
| 28. Guided Imagery.ti,ab | | |
| 29. Tai Chi .ti,ab | | |
| 30. Qigong.ti,ab | | |
| 31. Reiki.ti,ab | | |

**Figure 1** Search terms.

for a subset of cancer patients or unless over 95% of participants were cancer patients. Remaining inclusion/exclusion criteria are listed in figure 2.

Titles identified database searches were screened by TH, with abstracts and full-text papers screened independently by two reviewers (TH and JD) against the inclusion and inclusion criteria. Uncertainty concerning study eligibility was managed by allowing them to proceed to the next stage for further scrutiny. Reference searches and citation searches of included studies augmented the original database searches. Included papers were then weighted according to their contribution towards answering the review questions, using Gough's Weight of Evidence Framework (WoE) (see figure 3).[30] Each paper was weighted 'high', 'medium' or 'low' independently by TH and JD, with differences in scoring reconciled through discussion.

### Data synthesis

Data synthesis used a narrative approach.[31 32] Choice of this approach was guided by pilot searches indicating that the literature was heterogeneous in terms of spiritual interventions used, study designs employed and pain measurement tools used, thus making meta-analysis unsuitable. The narrative synthesis involved three iterative stages:

1. Development of a preliminary synthesis: TH created textual descriptions of each study from data extraction forms. These descriptions were then grouped together and tabulated in collating results answering each of the research questions. TH then carried out an inductive thematic analysis, identifying main, recurrent and important data pertaining to each review question.[31 32]
2. Exploring relationships in the data: TH and JD constructed the interpretive synthesis by independently reviewing the thematic analysis and exploring the heterogeneity of included studies.[31 32] Similarities and differences between studies were explored, including variation in method-



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| Inclusion Criteria | Exclusion Criteria |
|---|---|
| • Adults ≥18 years old<br>• At least 95% participants with active cancer at time of intervention<br>• Pain related to cancer disease.<br>• Explicit use of a spiritual intervention as described by authors OR intervention targeted at relieving existential distress, enhancing meaning / spiritual well-being or founded on sacred beliefs OR evidence that intervention sought to address spiritual wellbeing.<br>• Quantitative measurements of patient reported pain (e.g. pre- and post-intervention pain scores / analgesic effects.)<br>• Peer-reviewed journals<br>• English language<br>• All healthcare systems, countries and cultures | • Children <18 years old<br>• Patients whose cancer was not active at the time of intervention: cancer survivors or those in remission excluded.<br>• Spiritual intervention directed at pain resulting from cancer treatments, e.g. biopsy, radiotherapy, chemotherapy, surgery.<br>• No spiritual therapy elements to intervention studied.<br>• Integrative therapy where multiple therapeutic strands traversing physical, psychosocial & spiritual domains used.<br>• No quantitative recording of pain.<br>• Pain severity data collected over one year after intervention.<br>• Non-English language papers<br>• Conference abstracts / PhD theses<br>• Opinion or discussion pieces presenting no new empirical data<br>• Individual case studies<br>• Duplicate reports of a study |

**Figure 2** Eligibility criteria.

ological approaches, context, population characteristics and results. Results were debated between researchers in reaching consensus. The synthesis was further refined through discussion of results with interdisciplinary academic audiences and SB.

3. Assessing the robustness of the synthesis: at all stages, the synthesis was informed by Gough's WoE framework in establishing a credible and relevant narrative.[30 32] Conclusions reached in studies rated low weight under WoE D were deemed inadequate unless supported by findings in papers rated medium or high weight.

## RESULTS

The search produced a total of 12 822 articles (Medline 1403, Cochrane 642, Scopus 155, PsycINFO 1378, Web of Science 2449, CINAHL 2499 and EMBASE 4296). The titles of all articles generated were read

Each paper was given a mark out of three for each component of the 'weight of evidence' with '3' denoting high weighting. Scores were then combined to mean score (WoE D), which was used as a final weight of evidence score (3 = high, 2= medium, 1= low).

WoE-A – Rigour of study design. This was assessed by: clear description of study aims; comprehensive, repeatable and transparent methods; appropriate accurate and understandable presentation of results including quantitative and / or qualitative data analysis; conclusions appropriately matched to methods and results.

WoE B – Appropriateness of study design in answering review aims and questions. This was judged by assessing: appropriateness of study methods in relation to review aims and questions; scope, choice and timing of study measurements; appropriateness of methods of analysis to address the review questions.

WoE C – Relevance of study findings in answering review aims and questions. This was determined by: consideration of the applicability of the study results / conclusions to address the review aims and questions; the degree to which study findings addressed the spiritual care needs of patients with cancer experiencing pain

**Figure 3** Weight of evidence.



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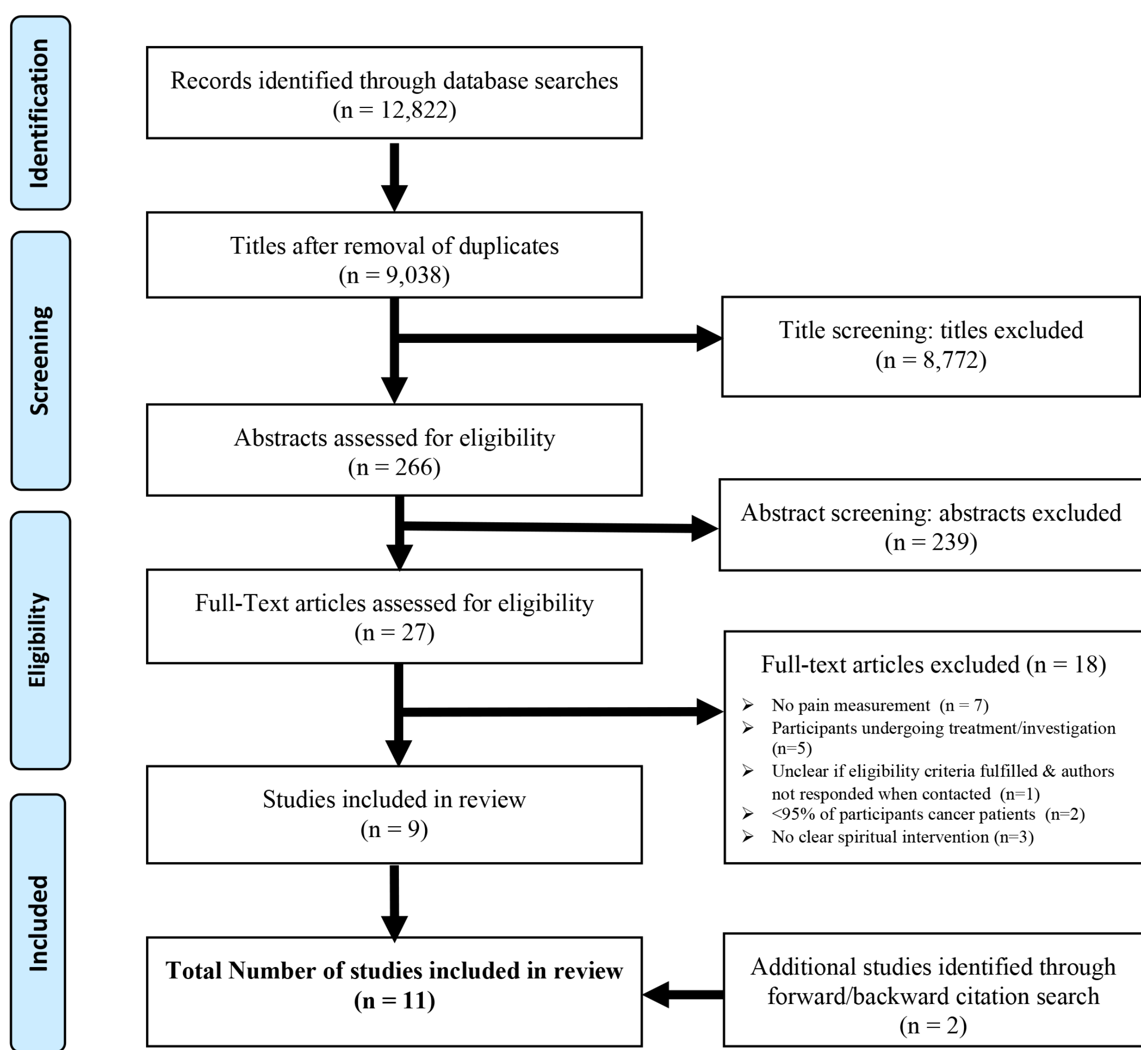


**Figure 4** PRISMA diagram. PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

and examined against inclusion/exclusion criteria, with abstracts of possible relevance considered for inclusion. After removal of duplicates and abstract analysis, 27 articles were selected for full-text screening: application of the inclusion/exclusion criteria reduced the number of included articles to 9. Citation searching highlighted 2 further studies suitable for inclusion, bringing the final total of included articles to 11. Throughout the process, reasons for excluding articles were logged. The search is summarised in figure 4.

Summaries of articles included in the synthesis are presented in online supplemental table 1: participants and setting, study objectives and (pain) measurement tools, significant findings and Gough WoE assessment are presented. Two received high weighting, seven medium weighting and two low weighting on Gough's WoE Framework.[30]

### What types of spiritual interventions are used?

Types of spiritual intervention included DT (3), prayer-based therapy (1), focused narrative intervention (1), spiritually focused therapy (1), electronic support groups (1), mindfulness-based art therapy (1), peer-helping (1), mindfulness-based stress reduction (1) and spiritually focused music therapy (1).[33–43]

DT is an individualised reflective psychotherapy, developed with the aim of relieving distress in terminal illness.[33 36 42] Prayer-based therapy constituted meetings between researchers and patients where Qur'anic teachings and texts were used in asking patients to adopt religious strategies to manage their mental health and control pain.[35] Focussed-narrative intervention was conducted by researchers, who discussed sense of 'meaning' alongside spiritual well-being, with participants.[38] Spiritually focused therapy constituted weekly group sessions aimed at enhancing spiritual coping, helping to identify and resolve spiritual struggle and strain.[34] Electronic support groups sessions were online meetings led by experienced therapists, who facilitated discussions surrounding personal experiences of illness.[37] Mindfulness-based art therapy involved construction of collages intended to both ease and accelerate the evolution of intrapersonal meaning with nonverbal creative expression.[39]



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The peer-helping involved collaborative work between patients and caregivers in contributing towards handouts on coping skills for other families coping with cancer.[40] The mindfulness-based stress reduction intervention involved an adapted 8-week programme of various mindfulness techniques.[41] Spiritually focused music therapy constituted two sessions containing a biographical interview and live performance of a song with high biographical relevance to the patient.[42]

#### When and for whom are spiritual interventions used?

Study participants were recruited from a variety of inpatient and outpatient settings, at a range of points in their cancer disease trajectory. Two studies only recruited participants with breast cancer[37] and gastrointestinal[40] cancers, respectively, while the remainder included participants with all cancer types. Eight studies excluded those with cognitive impairment, highlighting difficulties enacting spiritual intervention protocols in this population. Recruitment and retention of participants posed a challenge in most studies, with drop-out rates broadly in line with other studies of similar patient populations.[44 45]

#### What are the benefits of spiritual care?

When considered together, the spiritual interventions had no or only small benefits in alleviating cancer pain. Due to the heterogeneity of spiritual interventions investigated and study designs employed, the spiritual interventions are best appraised individually.

Three studies reported statistically significant improvements in pain scores of participants undertaking the tested spiritual intervention. Lloyd-Williams *et al's* study of a focused narrative intervention for suffering of patients with advanced cancer found pain scores to be significantly improved ($p<0.01$) at 8 weeks, although this was not found at other time points.[38] This was correlated with improvements in anxiety and depression scores, with a causative link postulated. Warth *et al's* study of a spiritually focused, patient tailored music therapy intervention 'Song of Life' found statistically significant reductions in acute pain scores of participants in 15 participants, with concurrent but non-significant benefits in measures of well-being, relaxation and worry.[43] Eilami *et al's* randomised controlled trial of an Islamic prayer intervention reported strong statistically significant improvements in preintervention to postintervention pain scores, among other measures.[35] Problems with the description of study design and statistical methodology resulted in a low WoE.

Lieberman *et al* found therapist-facilitated electronic support groups resulted in significant postintervention reductions in pain reaction ($p=0.001$), with no simultaneous improvements in pain interference or intensity[37] Qualitative insights from Poletti *et al* suggest that mindfulness-based stress reduction improves participants' ability to cope with the pain, rather than alleviate the pain itself.[41]

None of the spiritual interventions reviewed worsened participants' pain. Only Houmann *et al* reported non-significant deterioration in pain scores: their intervention was the longest of all reviewed (median 60 days), with the participants that dropped out after baseline measurements reporting significantly more initial pain ($p=0.038$) than those remaining in the study.[36] Cole reported spiritually-focussed therapy acted to stabilise, rather than improve, pain severity and frequency, although this had low WoE.[34]

#### What are the views of patients and health professionals concerning their use?

Five studies included patient evaluation of the intervention.[33 34 36 40 42] All three DT studies reported DT was generally viewed positively by participants.[33 36 42] In Chochinov *et al*, DT was reported as more helpful ($p<0.001$), improved quality of life ($p<0.001$) and improved sense of dignity ($p<0.001$) compared with participants in other study arms.[33] Houmann *et al* completed evaluations immediately post DT (T1) and 1 month later (T2), finding that the majority of participants felt DT was helpful (T1=73%, T2=65%) and satisfying (T1=89%, T2=84%). Fewer reported finding that DT made life more meaningful (T1=39%, T2=52%), heightened sense of purpose (T1=52%, T2=48%) or lessened sense of suffering (T1=25%, T2=38%).[36] Vuksanovic *et al's* study of DT and life review (LR, which follows many of the same steps as DT) found most participants in both DT and LR groups rated the interventions as helpful (83.9% and 86.7%, respectively), improving of sense of dignity (58.1% and 60%), beneficial in making life more meaningful (74.2% and 73.3%) and improving sense of purpose (54.8% and 60%). DT was significantly better than LR in being helpful to the participant's family now or in the future (87.1% vs 33.3%, $p=0.002$) and in the way that their family saw or appreciated them (77.4% vs 33.3%, $p=0.01$).[42]

Mosher *et al's* randomised controlled trial of peer-helping combined with standard coping skills therapy vs coping skills therapy alone reported some small statistically significant differences favouring peer-helping combined with coping skills therapy, in terms of intervention satisfaction and helpfulness.[40] All but one of the participants receiving spiritually focused therapy in Cole's study preferred a spiritually focused programme when asked post-intervention.[34]

In summary, the spiritual interventions were well received by the majority of participants, although all evaluation results are from participants completing the study protocols: importantly, the views of drop-out participants are unknown.

No studies investigated the views of healthcare professionals providing spiritual care.



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## DISCUSSION

This systematic literature review has identified the limited evidence-base underpinning the current advocation of spiritual interventions in the management of cancer-related pain. Despite an extensive literature search, supported by a professional librarian, it was found that few types of spiritual intervention have been trialled in cancer pain management and that few demonstrate quantitative benefits. Furthermore, the high proportion of low and medium WoE evidence included in the synthesis indicates that any advocation of spiritual interventions in the management of cancer pain is largely based on low or medium quality evidence.

Nonetheless, the potential of spiritual interventions in cancer pain management should not be dismissed on this basis: weak evidence of effect does not equate to evidence of weak effect. It is currently largely unknown to what extent such interventions may be effective analgesic strategies. Further high-quality research is urgently needed, each spiritual intervention-type being individually evaluated.

There are pointers in the literature towards some promising interventions that warrant further investigation. Spiritually focused music therapy was effective in improving acute pain, but was only trialled in a small pilot study.[43] A recent meta-analysis of the small body of literature concerning music therapy interventions indicated effectiveness in cancer pain management: a trial of spiritually focused in comparison to conventional music therapy in this population would be very helpful.[46] With no adverse effects identified by the present review, further trials could be conducted without impeding current best practice.

Participant evaluations from the reviewed studies and the wider literature indicate that spiritual care is valued by patients.[47] Even if it has modest benefits in managing pain, it appears to improve quality of life and psychological symptoms associated with cancer.[48] The potential for non-physical factors to modulate pain experience is supported by concurrent improvements in depression, anxiety and pain following narrative intervention.[38 49] This complex interplay between participant experience of pain and other physical and non-physical factors needs further investigation, utilising qualitative and quantitative methods, alongside tailored pain assessments that explore broader concepts such as pain frequency, intensity, interference, reaction and tolerability. Spiritual interventions may aid coping with cancer pain without modulating the pain itself.[37 41]

It is acknowledged that this review is potentially limited by the exclusion of qualitative studies, case studies, conference abstracts, PhD theses and studies not in English. Some pertinent literature may have thereby been overlooked, perhaps particularly our reporting of the views of patients and health professionals which only arises from the included quantitative studies. The carefully considered search strategy encountered difficulties in defining the scope of the terms 'spiritual intervention' and 'cancer pain'. Determining that an intervention is spiritual or that participants have engaged in a spiritual intervention is challenging; improvements in spirituality were only seen in one of the four included studies that utilised FACIT-Sp, a tool designed to measure of spiritual well-being for people with cancer.[50]

Reviews and research in this area will remain challenging until an agreed definition of the constructs of 'spirituality' and 'spiritual care' is adopted. Current variability in nomenclature leads to similarly labelled interventions being either deeply spiritual or completely devoid of spiritually.

## CONCLUSION

Our review suggests that most spiritual interventions have little to no benefit in alleviating cancer pain, although some offer promise. However, there is a dearth of high-quality research in this field. Given that spiritual interventions are well accepted, complementary to current practice and appear not to cause adverse effects, further research investigating the relationship between spiritual care and cancer pain is needed. Only then will we ascertain the potential role of spiritual care, and the most effective types of spiritual intervention, in the management cancer pain.

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study are included in this published article (and its online supplemental information files).

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**SUPPLEMENTAL MATERIAL – REPORTABLE SEARCH STRATEGY**

1. exp Spirituality/
2. exp Spiritual Therapies/
3. exp Religion/
4. spirit.ti,ab.
5. religi*.ti,ab.
6. faith.ti,ab.
7. chaplain*.ti,ab.
8. yoga.ti,ab.
9. meditat*.ti,ab.
10. digni*.ti,ab.
11. gratitude*.ti,ab.
12. mind-body.ti,ab.
13. god.ti,ab.
14. allah.ti,ab.
15. pray.ti,ab.
16. prayer.ti,ab.
17. christian*.ti,ab.
18. islam*.ti,ab.
19. muslim.ti,ab.
20. judaism.ti,ab.
21. jew*.ti,ab.
22. hindu*.ti,ab.
23. buddhis*.ti,ab.
24. sikh*.ti,ab.
25. Meaning-centred.ti,ab.
26. Meaning centred.ti,ab.
27. Mindfulness.ti,ab.
28. Guided Imagery.ti,ab.
29. Tai Chi.ti,ab.
30. Qigong.ti,ab.
31. Reiki.ti,ab.
32. or/1-31
33. exp Pain/
34. pain*.ti,ab.
35. suffer*.ti,ab.
36. or/33-35
37. exp Neoplasms/
38. exp Palliative Care/
39. exp Terminal Care/

40. cancer*.ti,ab.
41. malignan*.ti,ab.
42. tumor.ti,ab.
43. tumour*.ti,ab.
44. carcinoma*.ti,ab.
45. neoplas*.ti,ab.
46. palliati*.ti,ab.
47. end of life.ti,ab.
48. hospice.ti,ab.
49. or/37-48
50. 32 and 36 and 49
51. exp Child/
52. exp Adult/
53. 51 not 52
54. 50 not 53
55. limit 54 to english language

**Supplementary Table 1**

| Authors (Year) | Participants & Setting | Study Design | Study Objectives | Pain Measurement Tools | Significant Findings | WoE D |
|---|---|---|---|---|---|---|
| Chochinov *et al.*(2011)[33] | 326 terminally ill (95.6% cancer) patients receiving palliative care and with a life expectancy < 6 months (M:F – 161:165. Ethnicity - White: 291 Other: 33)<br><br>Canada/USA | Randomised Controlled Trial<br><br>Three study arms:<br>- Dignity Therapy (DT) (n= 108)<br>- Client Centred Care (CCC) (n = 111)<br>- Standard Palliative Care (SPC) (n = 107)<br><br>Study period: 7-10 days<br>Measurements recorded at baseline and immediately following the end of intervention (or at 7-10 days in SPC group) | To determine if Dignity Therapy could mitigate distress and/or bolster end-of-life experience for patients nearing death. | Edmonton Symptom Assessment Scale (modified to include Will-to-live VAS) | Pain scores measured as part of ESAS. There were no significant differences in pre-/post-intervention pain scores within or between study arms.<br><br>Patients receiving DT were significantly more likely to report having found the study helpful (p<0.001), that is improved their quality of life (p<0.001), and sense of dignity (p = 0.002). Equally DT significantly outperformed one of the other two study arms on improving spiritual well-being (p=0.006) and feeling satisfied with study arm assignment (p<0.001) | High |
| Cole (2005)[34] | 16 participants diagnosed/re-diagnosed with cancer in past 2 months to 2 years and who found spiritual issues relevant to their lives (M:F – 3:13. Ethnicity – White: 16)<br><br>Pittsburgh, USA | Pilot Non-Randomised Trial<br><br>Participants self-selected into Spiritually Focused Therapy (SFT) (n=9) or no treatment control (NTC) (n =7) groups.<br><br>Study period: 6-8 weeks<br>Measurements recorded at baseline (T1), immediately post-intervention (T2) and at two-month follow up (T3) | To examine the helpfulness of spiritually-focussed therapy for people with cancer entitled: *Re-creating your Life: During and After Cancer.* | Pain *severity* & *frequency* (7-point Likert scale) | Pain *severity* in the SFT remained largely stable whilst NTC participants pain *severity* increased between baseline (T1) and post intervention (T2) such that the difference between groups neared significance (p = 0.06).<br><br>Pain *frequency* remained the same in the SFT group and increased in the control group between baseline (T1) and post-intervention (T2) but not to significant levels (p=0.33).<br><br>There were no significant changes in pain *severity* or *frequency* between baseline (T1) and 2-month follow up (T3) (p = 0.2 and p=0.59 respectively). Pain scores increased from baseline to 2-month follow up in both groups.<br><br>At the end of the program SFT participants were asked if they preferred spiritually focussed programs – 89% preferred a spiritually focussed program | Low |
| Eilami *et al.* (2019)[35] | 76 participants with cancer (M:F – 31:45. Ethnicity – no data)<br><br>Iran | Randomised Controlled Trial<br><br>Participants randomised to a prayer intervention split into four sessions (n=37) or control (n=39) groups<br><br>Study period: Not reported<br>Measurements: Pre- and Post-intervention measurements. Timepoints unclear | To determine the effect of religious psychotherapy emphasizing the importance of prayers on mental health and pain in Cancer patients. | 0-10 Numeric Rating Scale for pain | Pre- and post-intervention measurements of physical symptoms, anxiety, disorder in the social function, basic depression, general health and pain all significantly improved in the intervention compared to control group with P values of <0.000 in each of these dimensions. | Low |
| Houmann *et al.* (2014)[36] | 80 adults with terminal cancer, either hospitalised for over a week or receiving homecare (M:F - 32:48. Ethnicity – no data) | Prospective (Pre/Post intervention) Evaluation Study<br><br>Participants received Dignity Therapy (DT)<br><br>Median study period: 60 days | To evaluate and assess the effectiveness of Dignity Therapy in Danish patients with incurable Cancer | The European Organisation for Research and Treatment of Cancer (EORTC measures) | Participants completing baseline measurements and DT but neither post-measurements T1 or T2 (n = 25), reported more initial pain (p = 0.038) than those remaining in the study.<br><br>Mean pain scores on EORTC increased over study period from T0 = 39/100 (n=79), T1 = 48/100 (n=49), T2 55/100 (n=26). Results did not reach significance. | Medium |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Copenhagen, Denmark | Measurements recorded at baseline (T0), post-intervention (T1) and two weeks post-intervention (T2) assessment | | | Notable attrition of participants during study period T0 = 80, T1 = 55, T2 = 31. Likely due to long study period from T0 to T1 (median 36 days) and to T2 (median 60 days)<br><br>DT evaluations at T1 (n=55) and T2 (n=31) suggest the majority of participants found DT helpful and satisfying. | |
| Lieberman *et al.* (2003)[37] | 32 women with Breast Cancer (M:F – 0:32. Ethnicity – no data)<br><br>USA | Prospective (Pre/Post intervention) Feasibility Study<br><br>Participants received in 16, weekly, 90min therapist-facilitated electronic support groups<br><br>Study Period: 16 weeks<br>Pre- and post- intervention questionnaires with post-study 1-hour telephone call to collect qualitative data | To establish:<br>1) Will women with breast carcinoma participate in a real-time ESG? And…<br>2) Do women benefit from their participation in these groups? | Pain SCALES (Intensity, Interference and Reactions) | Significant post-intervention reduction in pain reaction (p=0.001), but no statistically significant differences in pain interference or intensity post-intervention.<br><br>In post-intervention interviews, 67% of the participants indicated that they found the experience helpful. Qualitative responses were both positive in terms of the groups being a forum for sharing and support, and negative in that some women felt overwhelmed, felt they would be judged for sharing, or felt they had different issues to other group members. | Medium |
| Lloyd-Williams *et al.* (2013)[38] | 100 adults with advanced progressive cancer, attending hospice day care services. (M:F -32:68. Ethnicity – White: 98 Non-white: 2)<br><br>North-West England, UK | Pilot Randomised Control Trial<br><br>Participants randomised to a Focussed Narrative Intervention (n=49) or control (n=51)<br><br>Study Period: 8 weeks<br>Pre- (T0) and Post- intervention questionnaires at 2 weeks (T1), 4 weeks (T2) and 8 weeks (T3). | To establish if a focussed narrative intervention alleviates suffering in patients with advanced cancer | Edmonton Symptom Assessment Scale | Of the 100 patients completing baseline measures, 43% completed all follow up (Narrative intervention (n)=20, Control group (n)=23.<br>Patients randomised to the intervention group demonstrated a statistically significant improvement in pain at 8 weeks (p<0.01). No significant differences in pain scores between the two groups reported at other timepoints. | High |
| Meghani *et al.* (2018)[39] | 18 adults diagnosed with early or re-current cancer (excluding cancers involving the brain) (M:F -1:17. Ethnicity – White: 14 Black: 3 American Indian: 1)<br><br>Pennsylvania, USA | Prospective (Pre/Post intervention) Pilot Study<br><br>Single group receiving 8, weekly, 150min Mindfulness-Based Art Therapy (MBAT) from a board-certified therapist<br><br>Study Period: 8 weeks<br>Pre- (T0) and post-intervention questionnaires at 4-weeks (T1) and 8 weeks (T2) | To describe the outcomes of the 8-week Mindfulness-based Art Therapy (MBAT) intervention, entitled, *'Walkabout'*, in outpatients with cancer. | Edmonton Symptom Assessment Scale - Revised | Statistical analysis only conducted utilising T-tests comparing change from baseline (T0) to week 8 (T2).<br><br>No statistically significant reduction in pain on ESAS at 8 weeks (p=0.409) nor in bodily pain on SF-36 at 8 weeks (p = 0.554) | Medium |
| Mosher *et al.* (2018)[40] | 50 patient-caregiver dyads with stage IV Gastrointestinal Cancer, where one or more in each dyad report severe distress (Score >3 on Distress Thermometer) (M:F - 31:19. Ethnicity – | Randomised Controlled Trial<br><br>Participants randomised to coping skills (control group) or peer helping (PH) + coping skills (intervention group) involving 5, weekly, 50-60min telephone sessions, with focus on coping skills (and peer helping) administered by a trained therapist | To assess the feasibility, acceptability and efficacy (in terms of potential spiritual benefits) of adding a peer helping component to a coping skills intervention for advanced gastrointestinal (GI) | 3-item Patient Reported Outcomes Measurement Information System (PROMIS) pain | No significant differences in mean pain scores between groups, nor any group x time effects in mean pain scores. Mean pain scores in both groups largely stable throughout, although a slight reduction in mean pain scores of the intervention group over time is observed.<br><br>Small, statistically significant differences in favor of the PH + coping skills intervention were found for most aspects of intervention satisfaction, including helpfulness, number of sessions, length of sessions and use of telephone calls. | Medium |

| | | | | | | |
|---|---|---|---|---|---|---|
| | White: 43 Non-white: 6 Missing data: 1)<br><br>Indianapolis, USA | Study Period: 5 weeks<br>Measurements recorded via telephone assessments at baseline (T0), 1-week (T1) and 5 weeks (T2) post-intervention | cancer patients and their family caregivers. | | | |
| Poletti *et al.* (2019)[41] | 20 adults with metastatic cancer (M:F - 3:17. Ethnicity – no data)<br><br>Carpi, Italy | Prospective (Pre/Post intervention) Evaluation Study<br><br>Participants met for 8, weekly 150min Mindfulness Based Stress Reduction (MBSR) sessions, with an additional 390min session between week 6 &7, plus additional 30min daily home practice. Program was conducted by qualified MBSR instructor.<br><br>Study Period: 6-months<br>Measurements via self-administered questionnaires at baseline (T0), at the end of the intervention (T1), and then at 2 (T2) and 4 (T3) months post-intervention | To examine the feasibility, acceptability, and effectiveness of an 8-week MBSR intervention adapted for people with metastatic cancer in Early Palliative Care. | Cancer pain (Numeric Rating Scale 0-10) | The average pain score decreased throughout the MBSR program although this did not reach statistical significance (p=0.76)<br><br>Of note, qualitative analysis of pain alluded to participants changing perspective on their pain and that mindfulness improved their ability to cope with the pain they experienced (rather than alleviate that pain).<br><br>MBSR attendance to meetings and adherence to home practice were 75%. Participants reported that they felt supported and were grateful for the intervention as part of the qualitative feedback. | Medium |
| Vuksanovic *et al.* (2017)[42] | 56 participants with advance disease and life expectancy <12 months (96.4% cancer), receiving hospital of home-based palliative care (M:F - 25:31. Ethnicity – no data)<br><br>Queensland, Australia | A Randomised Controlled Trial<br><br>3 study arms:<br>- Dignity Therapy (DT) (n= 20)<br>- Life Review (LR) (n=18)<br>- Waitlist Control (WC) (n=18)<br><br>Study Period: Approx. 10-20 days<br>Measurements recorded at baseline and immediately following the end of intervention. | To evaluate the legacy creation component of DT by comparing this intervention with life review (LR) and waitlist control (WC) groups | Problem Severity Score (PSS) | There was no significant pre-test to post-test differences in the Problem Severity Score (including pain scores) in all three participant groups.<br><br>The majority of participants found both DT and LR helpful, would recommend it to others, felt more valued and worthwhile post-intervention, felt the intervention made life more meaningful and heightened sense of purpose. DT was rated as significantly more helpful than LR in being helpful to the participant's family now or in the future (P=0.002) | Medium |
| Warth *et al.* (2018)[43] | 15 adults with a cancer diagnosis on the hospital palliative care unit. (M:F - 5:10. Ethnicity – no data)<br><br>Heidelberg, Germany | Prospective (Pre/Post intervention) Pilot Study<br><br>Single arm study of two consecutive music therapy sessions entitled 'Song of Life'<br><br>Study period: assumed <1 day<br>Pre-intervention measurements recorded before session 1 or between session 1 & 2. Post-intervention measurements recorded immediately at the end of session 2. | To assess the feasibility and acceptance of a novel music therapy technique entitled '*Song of Life*' targeting the improvement of emotional and spiritual well-being of terminally ill patients with cancer. | Acute Pain Visual Analogue Scale (0-10) | 13/15 participants completed the study. All VAS scores showed medium sized improvements (acute pain, well-being, relaxation and worry). Acute pain decreased significantly post intervention (d = 0.52 CI = -1.40 to -0.15). | Medium |