

# Psychotherapeutic Interventions Among Muslims Undergoing Treatment for Cancer: An Integrative Review

Abdallah Abu Khait (✉ [abdallah.abukhait@hu.edu.jo](mailto:abdallah.abukhait@hu.edu.jo))

The Hashemite University Faculty of Nursing <https://orcid.org/0000-0003-2031-3496>

Mark Lazenby

UConn

---

## Research article

**Keywords:** psychotherapy, Muslim patients, cancer, psychosocial-spiritual outcomes

**Posted Date:** November 10th, 2020

**DOI:** <https://doi.org/10.21203/rs.3.rs-102521/v1>

**License:**  This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

---

**Version of Record:** A version of this preprint was published at BMC Palliative Care on March 29th, 2021.  
See the published version at <https://doi.org/10.1186/s12904-021-00746-x>.

# Abstract

**Background:** Cancer is a global disease that affects all populations, including Muslims. Psychological and spiritual care of Muslim patients with cancer includes psychotherapeutic techniques that help to improve their mental health and spiritual well-being. Although these techniques are available to cancer patients worldwide, they are poorly studied among Muslim patients.

**Purpose:** To integrate the literature on the psychosocial-spiritual outcomes of and perspectives of Muslim patients with cancer who have undergone psychotherapy.

**Methods:** We used the Whittemore and Knafl five-step methodology. We conducted a comprehensive search of PubMed, CINAHL, and PsycINFO using relevant keywords. Studies that focused on adult patients with cancer and on published evidence of using psychotherapeutic interventions among Muslim patients were included. Each study was reviewed, evaluated, and integrated.

**Results:** A systematic search produced 18 studies that were thematically analyzed. Results showed different psychotherapeutic approaches currently used to care for Muslim patients with cancer that target mainly patients' mental health, quality of life, and spiritual well-being. Four major themes emerged: (1) Treating Psychological Distress Without Psychopharmacologic Agents, (2) Improving Knowledge of Cancer for Improving QOL, (3) Depending on Faith for Spiritual Well-being, and (4) Relying on Religious and Spiritual Sources: Letting Go, Letting God.

**Conclusion:** The rigor of psychotherapeutic studies that target psychosocial-spiritual outcomes of Muslim cancer patients needs to be improved to reach conclusive evidence about their efficacy in this population.

## Background

Cancer is a growing health problem [1]. Up to 40% of patients diagnosed with cancer experience clinically significant levels of psychosocial-spiritual distress, often related to the profound life changes associated with a cancer diagnosis, the symptoms associated with the disease itself, and treatment side effects [2, 3]. Such distress can result in serious and far-reaching negative sequelae: poor quality of life, symptoms of depression and anxiety, and poor psychological well-being [4,5]. The psychosocial-spiritual distress associated with cancer can be addressed using psychotherapeutic interventions such as dignity therapy, cognitive-behavioral therapy (CBT), and meaning-centered psychotherapy [6]. These psychotherapeutic techniques can improve quality of life, symptoms of depression and anxiety, and spiritual well-being.

Cancer care requires attention to psychosocial-spiritual concerns to support patients' successful adjustment [7]. However, lack of cultural and spiritual sensitivity in supportive care can impact low-uptake among culturally and spiritually diverse groups [8]. Culturally and spiritually sensitive cancer care embraces patients' self-reported stories, beliefs, values, and practices shaped by historical and

geopolitical contexts and religious and spiritual beliefs and practices [9]. However, few cancer-care specific supportive care interventions are specific to Muslim patients [10].

Islam is the second largest and fastest growing religion in the world. By 2050, Muslims will comprise almost 30% of the world's population; it will be the world's largest religious population [11]. In 2019, the global Muslim population was estimated at 1.9 billion. The ongoing growth of the Muslim population, and the increasing cancer prevalence among Muslims worldwide, warrant the need to gain insights into psycho-oncologic (particularly psychotherapeutic) approaches used in cancer treatment for Muslims. The outcomes of psycho-oncologic approaches in patients with cancer have been widely studied and reviewed. Yet, these reviews have not examined such approaches as provided to Muslims. Given the predominance and ongoing growth of Islam, it is necessary to understand Muslims' experiences with, and perceptions of, psycho-oncologic approaches, particularly with regard to their psychosocial-spiritual care. Thus, in addition to describing the effect of psychotherapeutic interventions on mental health, spiritual, and quality of life outcomes, a review is needed that integrates the literature on Muslim cancer patients' experiences of these interventions.

The purpose of this review was to integrate the literature on the mental health, spiritual well-being, and quality of life outcomes with the perspectives of Muslims who have been treated psychotherapeutic techniques to treat the psychosocial-spiritual distress associated with cancer or its treatment.

## **Methods**

### **Design**

This integrative literature review used Whittemore and Knaf's [12] methodology and the PRISMA criteria of quality for reporting reviews [13].

### **Literature Search**

Table 1 presents the search terms and Boolean operators that were used to build the search strategy. This strategy was developed in consultation with a medical librarian. The search was conducted from September to November 2019 and updated in July 2020.

### ***Inclusion and Exclusion Criteria***

Studies were included if they used psychotherapeutic interventions as the primary intervention in psychosocial-spiritual cancer care, included Muslim participants with a diagnosis of any type of cancer, and were published in peer-reviewed journals between 2013 and 2020, in English. We defined psychotherapeutic interventions as addressing mental health problems through systematic, time-limited activities, including those that involved complementary therapies and that involved contacts between a cancer patient and a trained healthcare provider who sought to ameliorate cancer-related distress by producing changes in the individuals' feelings, thoughts, attitudes, and behavior [14]. Studies were excluded if they were case reports or used observational methods, did not describe the applied

psychotherapeutic technique/approach/intervention in the methods, and/or included psychopharmacologic agents as part of the intervention.

## **Procedures**

Two authors (AA and ML) independently screened titles and abstracts using the Covidence systematic review software (<https://www.covidence.org>), to identify studies for full-text screening. These two authors then independently screened full-text studies to identify studies that fit the inclusion criteria. At all stages, disagreements were resolved between them. The reference lists of the included studies were scanned for further studies.

## **Data Evaluation**

The quality of included studies was assessed using two criteria (methodological or theoretical rigor and data relevance) on a 2-point scale (high=1, low=2). No studies were excluded on the basis of quality; however, more weight was given in analysis to studies with rigor and data relevance rates of 1.

## **Data Extraction, Analysis, and Synthesis**

Narrative synthesis accounted for differences in intervention approaches, study design, and methodological quality among the reviewed studies. Studies reporting similar outcomes were clustered and discussed together to draw meaningful interpretations of the data. Interpretations regarding clinical relevance were made regardless of whether studies were statistically powered; however, for studies that used a 2-arm design, we only described the intervention as effective if the outcome measure between the study arms was reported as significantly different ( $p \leq 0.05$ ).

Extracted data were compared word-by-word, such that similar and reciprocal data were categorized, coded, and grouped together. These coded categories were compared and contrasted. The initial subgroup classification relied on the outcomes of psychotherapeutics, which were analyzed by evaluating all interventions and qualitative designs. Next, we (AA and ML) employed techniques for extracting and coding data from primary sources. Relevant data collected from the primary sources were organized into their respective subgroups and recorded on a spreadsheet in Microsoft Excel. We (AA and ML) organized the emerging themes based on commonality, relationships, and patterns, and refined these themes to encompass as much of the data as possible. Presentations of primary source data were employed to simplify the distinctions between patterns, themes, and associations. We assembled the analogous variables next to one another to assess for any associations between them. The final stage involved a shift from interpretive efforts to descriptive ones that sought to determine patterns and relationships to aid in understanding higher levels of abstraction.

## **Registration**

The review methodology was submitted to PROSPERO (International Prospective Register of Systematic Reviews) in August 2019, and was approved (PROSPERO 2020 CRD42020159191;

## Results

### Search Outcomes

The final sample included 18 articles for review (see Figure 1).

### Study Characteristics and Quality of the Reviewed Studies

The included studies in this review were published between 2013 and 2019. The 18 studies included a total of 2,996 participants. Female participants outnumber male participants, and all participants' ages were  $\geq 18$  years old. Fewer than 50% of the studies used two or more self-reported outcome measures. Table 2 describes the country where the study was conducted and the study's design and analytic approach.

Table 3 shows characteristics and findings of psychotherapeutic interventions by treatment approach. The cancer types and stages in the included studies were heterogeneous and ranged between early and late stages of cancer. However, several studies did not specify the site or stages of cancer of the participants. The most prevalent cancer type in the review sample is breast cancer. These studies were conducted in different cancer care settings, such as hospitals, cancer research centers, and departments of oncology and radiotherapy.

The psychotherapeutic interventions' duration ranged from 3 to 12 weeks. The contents of the interventions and duration and length of sessions varied, but two had relatively similar content and protocol [15, 16]. A trained facilitator performed the interventions in some of the included studies ( $n=5$ , 28%). Two studies [17,18] used complementary therapy such as laughter yoga and aromatherapy. Three studies implemented psychoeducation, including education about the emotional and psychological aspects [19, 20, 21]. Six studies [22, 23, 24, 25, 26, 27] used different strategies for CBT. Finally, seven studies [10,15, 16, 28, 29, 30, 31] relied on Islamic religious principles and practices. The included studies evaluated mental health outcomes using different scales, such as the Warwick-Edinburgh Mental Well-being Scale (WEMWBS), Generalized Anxiety Disorder-7(GAD-7), and the Rosenberg Self-Esteem Scale (RSES). The quality scores and comments on reviewed studies are presented in Table 3.

### Themes

Four major themes emerged: (1) Treating Mental Health Without Psychopharmacologic Agents, (2) Improving Knowledge of Cancer for Improving QOL, (3) Depending on Faith for Spiritual Well-being, and (4) Relying on Religious and Spiritual Sources: Letting Go, Letting God.

### Treating Mental Health Without Psychopharmacologic Agents

Among the 18 studies, the eight studies that used psychotherapeutic interventions showed improvement in mental health outcomes [10,17, 18,19, 21, 24, 26, 31]. Specifically, psychoeducation [19] and CBT [24] improved symptoms of depression and anxiety and stress. Mindfulness-based cognitive therapy had a significant long-term effect ( $p=0.014$ ) on self-management, posttraumatic growth, and functional disability [26]. Aromatherapy [18] contributed to stress relief and improved sleep quality. Complementary therapy (laughter yoga) [17] and psychoeducation [19, 21] enhanced a sense of optimism and hopefulness.

### **Improving Knowledge of Cancer for Improving QOL**

This theme was represented by seven studies that addressed the role of CBT [22, 23, 25, 27], spiritual therapy [31], and psychoeducation [20, 21] on enhancing quality of life in Muslim patients with cancer. Spiritual group therapy helped patients to listen to their inner voice, to let go of resentment, and to forgive, which led to improvements in quality of life [15, 31]. Education about the psychological aspects of cancer and mindfulness-based stress reduction [27] assisted patients in enhancing cognitive, emotional, and social function [21]. Other participants showed improvement in overall quality of life and emotional well-being among psychoeducation groups [20]. Men with prostate cancer also indicated that CBT enhance their quality of life [23]. Finally, a combination of CBT and a spiritual-religious intervention was found to promote breast cancer survivors' quality of life and coping responses [22].

### **Depending on Faith for Spiritual Well-being**

Five studies employed a spiritual therapeutic technique [15, 16, 29, 30, 31], all of which reported improved spiritual well-being. Patients who received spiritual psychoeducation and counseling, such as educational materials about Islam, relaxation exercises, and meditation, reported an improvement in spiritual well-being scores [30]. Women with breast cancer, through spiritual therapy, discussed spiritual and religious beliefs (regarding death and fear of death, faith, and trust in God) and the of these spiritual and religious beliefs on life [31]. Women with breast cancer in Jafari and colleagues' [15] study explored negative and positive thoughts in a spiritually based therapy, which resulted in improved senses of meaning and peace.

### **Relying on Religious and Spiritual Sources: Letting Go, Letting God**

Muslim patients with cancer relied on religious and spiritual sources in providing comfort, cope, and meaning in their experience, as described in 3 studies [16, 22, 29]. Patients living with cancer considered their belief in God as a central source of their power [29]. This source supported their inner-strength, which was necessary to fight death anxiety. Patients adopted a strategy of acceptance of divine providence, which lead to improvements in the faith element of spiritual well-being. In the 2017 study by Ghahari and colleagues, breast cancer survivors used spiritual/religious resources to solve personal and interpersonal problems that enhanced their coping responses. Both practicing prayer and religious advice, such as reciting verses from the *Qur'an*, played a paramount role in ameliorating patients' suffering and promoting sense of contentment and self-confidence [16].

## Discussion

The purpose of this integrative review was to synthesize the research on the psychosocial-spiritual outcomes of psychotherapeutic interventions in Muslim patients undergoing treatment for cancer. Psychotherapeutic interventions are nonpharmacological strategies to address psychosocial-spiritual distress associated with cancer. Throughout this review, we noted a myriad of psychotherapeutic interventions under study in caring for Muslim patients with cancer that target various psychosocial-spiritual outcomes, including promoting patients' mental health and quality of life, which were the most common outcomes in the studies included for review. Reviewed studies have shown that CBT-based interventions are promising strategies to improve psychosocial-spiritual outcomes in Muslim patients with cancer. The reviewed studies are also informative in building a base for the effectiveness of psychotherapeutic techniques in the psycho-oncologic treatment of Muslim patients.

This review confirms the positive outcomes of various psychotherapeutic interventions on improving mental health, such as improving symptoms of depression and anxiety and stress [10, 17, 18, 19, 21, 24, 26, 31]. Consulting sessions [19, 21] provide patients with practical and educational information and resources that are related to emotions such as depression, anxiety, and fear associated with cancer. Mindfulness-based cognitive therapy [24, 26] increases patients' awareness of their feelings; throughout this therapy, patients acquire cognitive skills that promote metacognitive awareness, acceptance of negative thoughts, and an ability to effectively cope with psychological distress. Aromatherapy [18] entails using volatile essential oils of plants to enhance mental health. These oils stimulate the olfactory nerves which connect to long-term memories that involve long-forgotten memories and their emotional links to one's life. These emotions can enhance sleep quality and relieve stress. Laughter yoga [17] includes various techniques, such as clapping and chanting, as well as deep breathing, which prepare the mind for happiness and improve a sense of optimism and hopefulness.

The results of this review also suggest that different psychotherapeutic interventions can enhance Muslim cancer patients' quality of life. A diagnosis of cancer and its associated treatment leads to emotional distress because of deteriorating health and impending death, which can result in reduced quality of life. The hopelessness [15] that is associated with poor quality of life can also be a predictor of depressive symptoms among patients with cancer. Seven of the studies included in this review suggest that psychotherapeutic strategies can improve patients' quality of life [20, 21, 22, 23, 25, 27, 31].

Mindfulness-based cognitive therapy [25] helps patients by incorporating principles of cognitive therapy and meditative practice to consciously attract attention to thoughts and feelings without prejudging. This can help patients to improve mood and combat depressive symptoms such as hopelessness, and in turn, enhance quality of life. While yoga sessions [27] and psychoeducation [20] may stimulate brain pleasure centers, spiritual therapy [28] works on promoting illness perception through patients' cultural beliefs and psychological needs. Zamaniyan and colleagues [31] indicate how spiritual therapy that includes education about the psychological aspects of patients undergoing chemotherapy contributes to improving symptoms of depression and anxiety, ultimately enhancing patients' quality of life.

Some authors discussed the role of spiritual counseling and therapy [15, 16, 29, 30, 31] in improving spiritual well-being. These approaches help patients to increase self-awareness and broaden inner strengths and resources through addressing their spiritual questions, reciting *Qur'an*, and practicing relaxation exercises and meditation. Rassouli and colleagues [29] used these approaches to support patients coping with cancer and its related problems. Patients' religious beliefs and some practices may conflict with therapists' interpretations of patients' experience. Therefore, these spiritual counseling approaches may help patients with cancer to find meaning in the cancer experience and resolve these conflicts [16, 30]. Finally, Jafari and colleagues [15] demonstrate how a spiritual therapy intervention can assist patients in identifying and shifting negative thoughts and validating positive ones.

The majority of Muslim patients with cancer believe that God has the power to control their lives and circumstances and God alone can cure disease [16, 22, 29]. These beliefs may help observant Muslims cope with negative feelings and experiences that may be associated with cancer. Patients acknowledged the significance of their absolute belief in God's forgiveness and mercy as religious practices and spiritual resources support the process of changing feelings of powerlessness into feelings of power.

### **Implications for Research**

The psychotherapeutic approaches of psychotherapy in the included studies were not all described with the specificity necessary for replication. Psychotherapeutic approaches already established as efficacious in cancer patients need to be adapted to be culturally and spiritually sensitive to Muslims undergoing treatment for cancer and then tested to determine the benefits of these adaptations in this understudied population. And rigorous research designs, such as sufficiently powered randomized control trials, with well-structured control groups, are necessary. Measuring the effects of extant efficacious psychotherapeutic interventions using a common set of standardized mental health, quality of life, and spiritual well-being outcome measures will facilitate comparing and synthesizing results of different studies across populations.

In addition, we need further qualitative studies to explore the psychosocial-spiritual needs of cancer patients of different ages, cancer stages, and ethnicity groups. As well, none of the included studies reported cost or examine cost-effectiveness analysis, which is a crucial matter that should be considered in developing countries.

There is a paucity of studies conducted in the Middle East, the sub-continent of Asia, and the Asia-Pacific region, where most Muslims live. In some countries, psychotherapeutic interventions may not be seen as beneficial due to the main focus on psychotropic medications as they act fast in their effects and there is pervasive doubt in the effectiveness of psychotherapeutic techniques. Testing interventions in rigorous trials may help to change this perception. There is also a paucity of studies conducted among Muslim cancer patients who live in Canada, Europe, the United Kingdom, and the United States. As Muslim populations grow in these areas, psychotherapeutic studies in Muslims undergoing treatment for cancer in these regions will be necessary.

## **Implication for Practice**

Patients and healthcare providers should work together to evaluate the psychosocial-spiritual distress associated with cancer and provide culturally and spiritually sensitive cancer care. Since non-Muslim healthcare providers are not fully aware of how to offer culturally and spiritually sensitive cancer care to Muslims, this may result in misunderstandings of their religious beliefs and practices [32]. Thus, culturally and spiritually sensitive psycho-oncologic interventions are likely to improve the psychosocial-spiritual outcomes of Muslim patients with cancer. Cultural and spiritual diversity is a variant that needs to be considered when teaching non-Muslim providers. Since psychotherapeutic approaches differ in their contents, durations, and goals, manuals of interventions adapted for, and tested in, Muslims would enable non-Muslim providers to deliver culturally and spiritually sensitive psycho-oncologic care.

Seeking medical help or disclosure about psychosocial-spiritual distress because of mental illness stigma may be a matter of great concern among patients [33]. Stigma faced by patients in their daily lives may interfere with seeking psycho-oncologic help to improve their mental health, quality of life, and spiritual well-being. Culturally and spiritually sensitive interventions may help to reduce this stigma.

## **Limitations and Strengths**

Our findings should be considered in the context of their methodological shortcomings and potential limitations in generalizability. The scientific rigor of the studies included varies. The majority of reviewed studies recruited relatively small sample sizes, which resulted in being underpowered to detect the effects of psychotherapeutic interventions. The experimental studies included in this review did not indicate whether intervention fidelity was applied in their protocol, and some lacked randomization, blindness techniques, and control groups. Most reviewed studies did not examine long-term effects, but rather focused on effects 3–12 weeks post-intervention. Only one study examined intervention effects at 10 weeks [28], and two studies at 12 weeks [23, 31]. Since the included studies used various controls, outcome measures, and intervention modalities, this rendered synthesis across studies challenging. This diversity makes it difficult to draw conclusions about any specific modality for a certain cancer stage or type. Our review highlights the importance of future studies sufficiently powered and with long-term follow-up.

Several studies included participants with a range of cancer types and stages simultaneously, instead of focusing on a specific type, stage, or treatment phase. This is a challenge in conducting cancer studies, except at major academic cancer centers where it is possible to conduct studies in patients of only a certain cancer type, stage, or treatment phase. Some studies included in this review did not specify the cancer stage or treatment phase, nor did they specify what the participants in the control group received. These limitations can act as threats to the validity of these studies or mask the real effect of the interventions implemented. Thus, in addition to well-powered studies with long-term follow-up, future studies in homogenous populations are needed.

# Conclusion

The reviewed studies provide an overview of the current state of research on psychotherapeutic interventions used to address psychosocial-spiritual distress associated with cancer in Muslim cancer patients. It complements previous reviews that did not include Muslims, which are soon to be nearly 30% of the world's population. Our results indicate the need for increased capacity to address the psychosocial-spiritual needs of Muslim patients living with cancer. Considering the rigor of studies involved, in addition to their limitations, the evidence discussed here supports future studies to build an evidence base for clinical practice. Incorporating psychosocial-spiritual counseling and therapy into cancer care can promote the mental health, quality of life, and spiritual well-being of Muslims undergoing treatment for cancer. Researchers need to further examine the psychosocial-spiritual outcomes of established psycho-oncologic treatment modalities adapted to Muslims. Manualized interventions can assist non-Muslim providers to deliver culturally and spiritually sensitive cultural psycho-oncologic cancer care to Muslim patients.

# Abbreviations

AA: Abdallah Abu Khait

ML: Mark Lazenby

CBT: Cognitive Behavioral Therapy

QOL: Quality of Life

# Declarations

## Acknowledgements:

The authors would like to express their gratitude to Valori Banfi (a Reference and Medical Librarian) for help in the search process.

## Authors' contributions:

ML conceptualized the study. AA and ML analyzed and synthesized the data. ML and AA were involved in the analysis and interpretation of the data from the included studies. AA and ML screened the citations, reference list, and full-text articles. All authors extracted data and critically evaluated the quality of the included studies. They created tables and figures and drafted the manuscript. All authors read and approved the final manuscript.

## Funding:

This research is a part of the grant for Developing a Palliative Care Intervention for Muslims, American Cancer Society. # MRSG-15-053-01, Lazenby, M. (PI). This funder provided subscription for Covidence fee for and will provide open access publication.

**Availability of data and materials:**

Data are available upon reasonable request to the corresponding author.

**Ethics approval and consent to participate Ethics:**

Not applicable.

**Consent for publication:**

Not applicable.

**Competing interests:**

The authors declare that there is no conflict of interest.

## References

1. Hanna T, Kangolle A. Cancer control in developing countries: using health data and health services research to measure and improve access, quality and efficiency. *BMC International Health and Human Rights*. 2010;10(1).
2. Carlson L, Waller A, Mitchell A. Screening for Distress and Unmet Needs in Patients with Cancer: Review and Recommendations. *Journal of Clinical Oncology*. 2012;30(11):1160-1177.
3. Salmon P, Clark L, McGrath E, Fisher P. Screening for psychological distress in cancer: renewing the research agenda. *Psycho-Oncology*. 2014;24(3):262-268.
4. Akechi T. Psychotherapy for Depression Among Patients with Advanced Cancer. *Japanese Journal of Clinical Oncology*. 2012;42(12):1113-1119.
5. de la Torre-Luque A, Gambará H, López E, Cruzado J. Psychological treatments to improve quality of life in cancer contexts: A meta-analysis. *International Journal of Clinical and Health Psychology*. 2016;16(2):211-219.
6. Dose A, McCabe P, Krecke C, Sloan J. Outcomes of a Dignity Therapy/Life Plan Intervention for Patients With Advanced Cancer Undergoing Chemotherapy. *Journal of Hospice & Palliative Nursing*. 2018;20(4):400-406.
7. Aten J. Spiritually oriented interventions for counseling and psychotherapy. Washington, DC: American Psychological Association; 2011.
8. Bloomer M, Al-Mutair A. Ensuring cultural sensitivity for Muslim patients in the Australian ICU: Considerations for care. *Australian Critical Care*. 2013;26(4):193-196.

9. Fang M, Sixsmith J, Sinclair S, Horst G. A knowledge synthesis of culturally- and spiritually-sensitive end-of-life care: findings from a scoping review. *BMC Geriatrics*. 2016;16(1).
10. Eilami O, Moslemirad M, Naimi E, Babuei A, Rezaei K. The Effect of Religious Psychotherapy Emphasizing the Importance of Prayers on Mental Health and Pain in Cancer Patients. *Journal of Religion and Health*. 2018;58(2):444-451.
11. Pew Research Center. Muslims and Islam: Key findings in the U.S. and around the world [Internet]. Pew Research Center. 2020 [cited 22 August 2020]. Available from: <https://www.pewresearch.org/fact-tank/2017/08/09/muslims-and-islam-key-findings-in-the-u-s-and-around-the-world/>
12. Whittemore R, Knafl K. The integrative review: updated methodology. *J Adv Nurs*. 2005;52(5):546–53.
13. Moher D, Liberati A, Tetzlaff J, Altman D. Reprint—Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *Physical Therapy*. 2009;89(9):873-880.
14. American Psychological Association. Understanding psychotherapy and how it works [Internet]. <https://www.apa.org>. 2020 [cited 21 August 2020]. Available from: <https://www.apa.org/helpcenter/understanding-psychotherapy>
15. Jafari N, Farajzadegan Z, Zamani A, Bahrami F, Emami H, Loghmani A et al. Spiritual Therapy to Improve the Spiritual Well-Being of Iranian Women with Breast Cancer: A Randomized Controlled Trial. *Evidence-Based Complementary and Alternative Medicine*. 2013; 2013:1-9.
16. Memaryan N, Ghaempanah Z, Saeedi MM, Aryankhesal A, Ansarinejad N, Seddigh R. Content of spiritual counselling for cancer patients undergoing chemotherapy in Iran: A qualitative content analysis. *Asian Pac J Cancer Prev*. 2017;18(7):1791–7.
17. Nia, M., Mohajer, S., Ghahramanzadeh, M., & Mazlom, S. Effect of Laughter Yoga on Mental Well-Being of Cancer Patients Undergoing Chemotherapy. *Evidence Based Care Journal*. 2019; 9(3), 7-14.
18. Ozkaraman A, Dügüm Ö, Özen Yılmaz H, Usta Yesilbalkan Ö. Aromatherapy: The Effect of Lavender on Anxiety and Sleep Quality in Patients Treated With Chemotherapy. *Clinical Journal of Oncology Nursing*. 2018;22(2):203-210.
19. Mohd-Sidik S, Akhtari-Zavare M, Periasamy U, Rampal L, Fadhilah S, Mahmud R. Effectiveness of chemotherapy counselling on self-esteem and psychological affects among cancer patients in Malaysia: Randomized controlled trial. *Patient Education and Counseling*. 2018;101(5):862-871.
20. Sajjad S, Ali A, Gul R, Mateen A, Rozi S. The effect of individualized patient education, along with emotional support, on the quality of life of breast cancer patients - A pilot study. *European Journal of Oncology Nursing*. 2016; 21:75-82.
21. Periasamy U, Mohd Sidik S, Rampal L, Fadhilah S, Akhtari-Zavare M, Mahmud R. Effect of chemotherapy counseling by pharmacists on quality of life and psychological outcomes of oncology patients in Malaysia: a randomized control trial. *Health and Quality of Life Outcomes*. 2017;15(1).
22. Ghahari S, Fallah R, Rad M, Farrokhi N, Bolhari J, Mousavi M et al. Effect of cognitive-behavioral therapy and spiritual-religious intervention on improving coping responses and quality of life among

- women with breast cancer in Tehran. *Bali Medical Journal*. 2017;6(2):409.
23. Huri M, Huri E, Kayihan H, Altuntas O. Effects of occupational therapy on quality of life of patients with metastatic prostate cancer. A randomized controlled study. *Saudi Medical Journal*. 2015;36(8):954-961.
24. Haji Seyed Javadi T, Tajikzadeh F, Bayat H, Eshraghi N, Roshandel Z, Rahmani S. Comparison of effectiveness of the mindfulness-based cognitive therapy and the metacognition treatment on anxiety, depression and stress among breast cancer patients. *Int clin neurosci j*. 2018;5(2):62–6.
25. Lotfi-Kashani F, Fallahi L, Akbari M, Mansour-Moshtaghi N, Abdollahi F. Effectiveness of Mindfulness-Based Cognitive Therapy on Hopelessness among Women with Breast Cancer and Gynecological Cancer. *International Journal of Body, Mind and Culture*. 2014; 5(1): 24–31. <https://doi.org/10.22122/ijbmc.v5i1.112>
26. Norouzi H, Rahimian-Boogar I, & Talepasand. Effectiveness of mindfulness-based cognitive therapy on posttraumatic growth, self-management and functional disability among patients with breast cancer. *Nursing Practice Today*. 2017; 4(4):190–202.
27. Rahmani S, Talepasand S. The effect of group mindfulness - based stress reduction program and conscious yoga on the fatigue severity and global and specific life quality in women with breast cancer. *Medical Journal of the Islamic Republic of Iran*. 2015; 29(175): 1-12.
28. Davari S, Rahimian Boogar I, Talepasand S, Evazi M. Effect of Spiritual-Religious Intervention on Illness Perception in Women with Breast Cancer. *Health, Spirituality and Medical Ethics*. 2018;5(4):28-35.
29. Rassouli M, Zamanzadeh V, Ghahramanian A, Abbaszadeh A, Alavi-Majd H, Nikanfar A. Experiences of patients with cancer and their nurses on the conditions of spiritual care and spiritual interventions in oncology units. *Iran J Nurs Midwifery Res*. 2015;20(1):25–33.
30. Sajadi M, Niazi N, Khosravi S, Yaghoobi A, Rezaei M, Koenig H. Effect of spiritual counseling on spiritual well-being in Iranian women with cancer: A randomized clinical trial. *Complementary Therapies in Clinical Practice*. 2018; 30:79-84.
31. Zamaniyan S, Bolhari J, Naziri G, Akrami M, Hosseini S. Effectiveness of Spiritual Group Therapy on Quality of Life and Spiritual Well-Being among Patients with Breast Cancer. *Iranian Journal of Medical Sciences*. 2016; 41(2): 140-144.
32. Gustafson C, Lazenby M. Assessing the Unique Experiences and Needs of Muslim Oncology Patients Receiving Palliative and End-of-Life Care: An Integrative Review. *Journal of Palliative Care*. 2018;34(1):52-61.
33. World Health Organization. Stigma and discrimination [Internet]. *Euro.who.int*. 2020 [cited 22 August 2020]. Available from: <https://www.euro.who.int/en/health-topics/noncommunicable-diseases/mental-health/priority-areas/stigma-and-discrimination>
34. Kvillemo P, Bränström R. Experiences of a Mindfulness-Based Stress-Reduction Intervention Among Patients with Cancer. *Cancer Nursing*. 2011;34(1):24-31.

## Tables

Due to technical limitations, tables docx is only available as a download in the Supplemental Files section.

## Figures

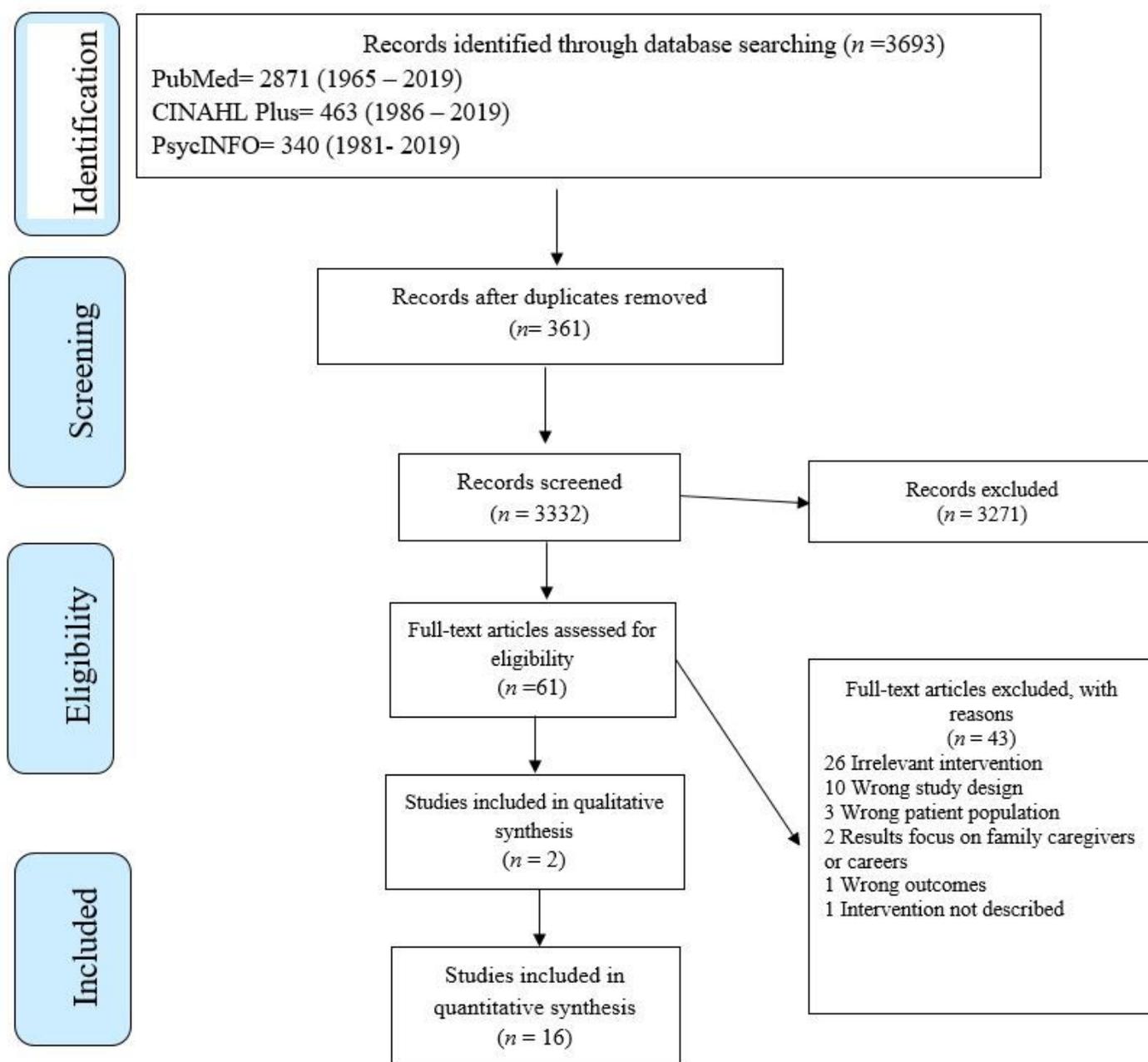


Figure 1

PRISMA flow diagram

## Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [tables.docx](#)