AUST, A., WALTON-SONDA, D. and PATERSON, C. 2022. How does integrative oncology influence patients' physical and psychosocial outcomes, and what are patients, carers and healthcare professionals' experiences? An integrative review. *Seminars in oncology nursing* [online], 38(4), article 151258. Available from: https://doi.org/10.1016/j.soncn.2022.151258

How does integrative oncology influence patients' physical and psychosocial outcomes, and what are patients, carers and healthcare professionals' experiences? An integrative review.

AUST, A., WALTON-SONDA, D. and PATERSON, C.

2022

Title: How does integrative oncology influence patients' physical and psychosocial outcomes, and what are patients, carers and healthcare professionals' experiences? An integrative review

Authors: Aust, A. (B.Nurs, PgCert Cancer Nursing) [d], Walton-Sonda, D. (AALIA)[d]. & Paterson, C. (PhD, BA, MSc, PgCert LTA, FHEA, RAN)[a,b,c,d,e]

[a] Faculty of Health, University of Canberra, Bruce ACT, Australia
[b] Prehabilitation, Activity, Cancer, Exercise and Survivorship (PACES) Research Group, University of Canberra, Bruce ACT, Australia
[c] School of Nursing, Midwifery and Public Health, University of Canberra, Bruce ACT, Australia
[d] Canberra Health Services & ACT Health, SYNERGY Nursing & Midwifery Research Centre, ACT Health Directorate Level 3, Building 6, Canberra Hospital, Australia
[e] Robert Gordon University, Aberdeen, Scotland, UK

Corresponding Author:

Professor Catherine Paterson
Faculty of Health, University of Canberra, Bruce ACT, Australia
Email: catherine.paterson@canberra.edu.au

Declarations

Funding: This research was funded through the ACT Health.

Conflicts of interest/Competing interests: none to declare

Ethics approval: not applicable

Consent to participate: not applicable

Consent for publication: not applicable

Availability of data and material: not applicable

Code availability: not applicable

Authors' contributions: CRediT author statement Catherine Paterson: Conceptualization, Methodology, Validation, Formal analysis, Interpretation, Writing Original draft, Writing –Reviewing & Editing, Supervision. Alison Aust: Literature search, Formal analysis, Interpretation, Writing Original draft, Writing –Reviewing & Editing. Diane Walton-Sonda: Interpretation, database searching, Writing Original draft, Writing –Reviewing

Acknowledgement: We would like to express our thanks and gratitude that this review was funded by ACT Health Research Scholarship, Canberra, Australia.

Abstract

Objective: To identify the relationship between integrative oncology (IO) services on patients' physical and psychosocial outcomes and to explore the experiences of IO among patients, carers and healthcare professionals.

Data sources: This integrative review was reported according to PRISMA guidelines. A search architecture was developed using key words and the following databases were searched: Medline (OVID), EmCare for Nurses (OVID), PsycINFO (OVID); AMED (OVID), CINAHL (EBSCO), Pubmed, the Cochrane Library (CCRT and CDSR) controlled trials databases and ANZ CTR. All articles were assessed according to a pre-determined selection criterion. 426 articles were assessed and 18 were included (4 qualitative, 9 quantitative and 5 mixed methods).

Conclusion: Patients reported a reduction in some cancer related symptoms and treatment related side effects. Positive psychosocial impacts were reported such as an increased ability to cope with their cancer diagnosis and treatment. The experiences of healthcare professionals highlighted the importance of a collaborative approach among the Multi-Disciplinary Team (MDT), ongoing education and research to ensure Complementary Integrative Therapies (CIT) were evidence-based.

Implications for nursing practice: The provision of IO impacts positively on patients' self-reported physical and emotional wellbeing and quality of life at all stages of their cancer experience. Patients reported that IO supported their engagement in their own health and wellbeing by increasing feelings of control and empowerment. However, to successfully integrate CIT with conventional cancer treatments it is imperative that cancer centres adopt a collaborative and evidence-based informed approach to CIT.

Key words: Cancer support centres; integrative oncology; experience; oncology; quality of life, complementary integrative therapy, supportive care

Introduction

An estimated 6.7 million new cancer cases were diagnosed worldwide in 2018 [1] and it is predicted that 14 million new cancer diagnoses will be made in 2035 [1]. Cancer is the leading cause of death in Australia, surpassing the total number of deaths due to cardiovascular disease [2]. The care and treatment of people with all types of cancers is an international priority underscored by the World Health Organisation [3]. A series of recent systematic reviews has identified a range of unmet supportive care needs in routine service delivery for people affected by prostate [4], bowel [5], gynaecological [6], bladder [7], lung [8], thyroid [9], and breast cancer [10] as well as mixed cancers in older populations [11]. Inevitably, supportive care needs will vary depending on the cancer diagnosis, cancer trajectory and the individual level of need and preferences for supportive care [12]. To address areas of unmet needs cancer centres have developed models of care in the form of Integrative Oncology (IO) for those undergoing cancer treatments.

It is becoming increasingly common for people affected by cancer to have access to complementary therapies to improve their physical and psychological well-being, during and following cancer treatment [13]. With the integration of complementary interventions, such as yoga, lifestyle advice, mindfulness, acupuncture and massage in major cancer centres, the term ‘integrative oncology’ has been increasingly used [14]. Integrative oncology aims to provide a holistic programme of care, complementary therapies, psychological support and information about cancer and its associated treatments across the cancer care continuum [15,16]. One of the goals of IO is to combine the use of conventional therapies with complementary treatments to improve patient outcomes and experiences [17]. IO is a patient centred approach with an emphasis on wellness [18-20]. Complementary therapy is distinctly different from alternative therapy which is sometimes used instead of conventional therapy rather than in conjunction with it [17,21]. The term CAM is often used in the literature to describe Complementary and Alternative Medicine. For this review, the term Complementary Integrative Therapies (CIT) will be used to encompass the treatments and therapies offered as part of integrative oncology services in conjunction with cancer treatment. By integrating CIT with conventional cancer care in the hospital setting it is hoped that both physical and psychosocial needs of individuals can be met [20]. However, little is known about how integrative oncology centres specifically influence patients’ physical (symptoms, health-related quality of life, oncological outcomes) and psychosocial (anxiety, depression, self-efficacy, coping) outcomes and the personal and social meaning attached to their experiences in such care environments [22,23]. The experiences of healthcare professionals involved in providing IO will also be explored to help identify characteristics of IO which are perceived to contribute to improved patient outcomes within the multi-disciplinary team (MDT). This systematic review addressed the following research questions:

1) What is the relationship between IO and physical (symptoms, health-related quality of life, oncological outcomes) and psychosocial (anxiety, depression, self-efficacy, health literacy, coping) outcomes for people affected by cancer?
2) What are the experiences of patients and carers using, and healthcare professionals providing IO?

Methodology

This integrative review was conducted and reported using the guidelines for systematic reviews (25). This review was conducted according to a prior review protocol registered with the International prospective register of systematic reviews (PROSPERO) available from: https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=144750.

Material and Methods

Literature Search

The search was conducted using the following databases, Medline (OVID), EmCare for Nurses (OVID), PsycINFO (OVID); AMED (OVID), CINAHL (EBSCO), Cochrane and PubMed. The search strategies included the use of truncations, adjacency search parameters as well as boolean operators. A combination of MeSH, EmTree and APA vocabularies as well as keywords were used to develop the search strategy terms. Strategy terms included words such as, neoplasms, cancer centre, oncology services, SEER program, wellness centre, integrative oncology, psychosocial, psychosocial factors, quality of life, integrative services, holistic health, integrative medicine; complementary therapies; delivery of health care; quality of health care and program evaluation. The search was limited from 2010 to September 2021. Search alerts were created using the databases and grey literature sites and were reviewed. The search was conducted by an experienced academic librarian in systematic reviews see **Supplementary Table 1** for example of electronic database search.

Eligibility Criteria

Types of studies

Inclusion

- Studies which investigated the influence of IO centres and services on patient outcomes and/or explore the experience among patients, family members using and healthcare professionals providing IO.
- Qualitative and quantitative methods irrespective of research design.
- Relevant systematic reviews were scrutinised for potentially relevant studies for screening.

Exclusion

- Commentaries, editorials, and studies where an exploration of integrative oncology centres was not explicitly reported.

Types of participants

Inclusion

- Men and women (>18 years old) affected by cancer irrespective of cancer type, stage or treatment.
- Men and women (>18 years old) who were family members of a person affected by cancer using an IO centre.
- Healthcare professionals providing care within an IO model of care.

Types of outcomes measures

Inclusion

- Patients reported outcomes: health-related quality of life (HRQoL), disease-specific HRQoL, anxiety and depression, coping, and self-management self-efficacy.
- Qualitative experiences of patients and their carers of using IO services, and of healthcare professionals (MDT conventional cancer treatment and complementary) providing IO.

Exclusion

- Studies with no outcomes or qualitative experiences related to IO.

Data collection and analysis

Selection of studies

Following de-duplication, two review authors independently screened the titles and abstracts of identified records for eligibility. The full text of all potentially eligible records was retrieved and screened independently by two review authors. Any disagreements were resolved by discussion. The study selection process was described using a PRISMA flow diagram [24].

Data extraction and management

Two review authors independently extracted the study outcome data and then compared for accuracy. Any disagreements were resolved by discussion. A data extraction table was developed and piloted before its use on the final retained full-text research studies.

The extracted data was summarised in a 'characteristics of included studies' table. The extracted data included study design; countries and institutions where the data were collected; dates defining start and end of patient recruitment and follow-up; whether there was an *a priori* protocol or analysis plan; participant demographic and clinical characteristics, outcomes and experiences related to IO centres; the numbers of participants who were included in the study; losses and exclusions of participants, with reasons; description of interventions; study funding sources; ethical approval; and power calculation.

Assessment of risk of bias in included studies

Methodological quality evaluation was conducted in parallel with data extraction. The quality appraisal tools have been used in previous integrative reviews [4,7,12,25]. These tools were developed as part of a Health Technology Assessment Integrative Review to assess qualitative and quantitative studies [26]. The Mixed Methods Appraisal Tool (MMAT) [27] was used to assess mixed methods studies.

Data synthesis

The review used a narrative synthesis and tabulation of primary research studies to generate broad findings and conclusions. The narrative synthesis comprised data reduction (sub-group classification based on levels of evidence [28] and the review questions), narrative data comparison (iterative process of making comparisons and identifying relationships and reviewing the primary data sources) and finally, drawing conclusions. Specifically, the narrative synthesis involved data reduction (subgroup classification by outcomes related to the research questions, with results tabulated), data comparison (identifying patterns and themes through clustering and counting and making contrasts and comparisons within and across the studies) and conclusion drawing and verification (synthesis of subgroup analysis to inform a comprehensive understanding of the topic, verified with the primary source data for accuracy). Data synthesis was reviewed by all reviewers.

Results

Of the 426 publications identified, 63 full-text articles were assessed using the eligibility criteria. Eighteen publications were included in the evidence synthesis (4 qualitative, 9 quantitative and 5 mixed methods), see **Figure 1**. The studies were conducted in a range of countries Australia (n=6), Canada (n=4), United States of America (USA) (n=3), Germany (n=2), Italy (n=2), and Israel (n=1), see **Table 1**. The results of the methodological quality appraisal are detailed in **Table 2**. Across the eighteen included studies, seven examined the experiences of IO among patients or their caregivers [21,29-34]. Three studies explored the experiences of healthcare professionals on the provision of IO [20,31,35]. Six studies compared IO services in the hospital setting [18,36-40]. Three studies evaluated IO centre or services [17,35,41] and two studies examined the feasibility of incorporating IO into a conventional oncology setting [19,20]. A total of 218 IO centres were included across all studies.

Most of the patient participants were aged between 40 and 70 years of age. Gender demographics showed that 438 patient participants were male and 626 were female, while gender for 121 participants was unknown [21]. The distribution of patient participants affected by cancer included, breast (n = 308), colorectal (n = 148), lung (n = 60), genitourinary/prostate (n = 114), hematological (n = 51), gynecological (n = 78), upper gastrointestinal (n = 56), pancreatic (n = 13), brain (n = 47), thyroid (n = 10), skin (n = 11), bone (n =11), other cancers (n = 139) and unknown (n= 139).

The patient participants were at various stages across the cancer care continuum. Some participants were actively undergoing chemotherapy, radiation therapy, hormone therapy or surgery, or a combination of treatment modalities. Few studies included demographic information such as marital status, education level, ethnic origin, Eastern Cooperative Oncology Group (ECOG) status and cancer stage, which limited the assessment of the impact of these characteristics on IOs. The CIT services offered in IO centres included: massage [17,18,30,33,36], yoga [17,30,36], meditation/relaxation [17,18,30,36], reiki/energy therapies [18,30,33,37], acupuncture [18,37], tai chi [36], nutrition counselling [17,18], counselling [17,30], art therapy [17,36], music therapy [36], homeopathy [21,37], Chinese medicine [18,37], and educational workshops [39].

Findings

Physical outcomes

The services provided within IO centres were reported to positively impact patients' own perceived physical health [21,30,31,33,35,41]. Patients described the positive effect on pain, fatigue, nausea, vomiting, fatigue and lymphoedema with the use of CIT in conjunction with their conventional cancer treatments [21,31,32]. A reduction of cancer related pain was identified in several studies as a perceived benefit of IO services [21,30-33]. Reiki was found to assist in the management of pain in 45% of patients attending a day oncology unit who participated in the study [32]. In another study, patients reported a reduction in analgesia requirements after accessing CIT as part of their IO care, with some saying the positive effect lasted for several days [33]. However, it is important to point out that these studies are at risk of selection bias because the participants in these studies may have had perceived benefit of these therapies, and consequently may have a placebo effect. Furthermore, it is important to point out that this is an emerging area and CIT should not be explicitly recommended for symptom management alone.

Fatigue was the most common symptom for which patients sought CIT [30,31,33]. CIT was self-reported to reduce fatigue and improve energy levels in patients receiving cancer treatment [30,33]. In addition, patients using CIT whilst actively receiving chemotherapy reported reduced levels of nausea and vomiting [20]. Cancer survivors perceived that CIT used as an adjuvant during and/or after their cancer treatment helped them to recover physically [21].

Patients across several studies perceived that using CIT in conjunction with their cancer treatments contributed to an improved sense of general wellbeing and improved quality of life [17,30,32,33] . Physical aspects of health-related quality of life such as, cognitive function, energy levels, and appetite were identified as being associated with IO [20]. Some studies assumed a link between CIT and oncological outcomes due to improved tolerability and compliance of cancer treatments [17,21,33,37]. No evidence was reported to support this association, however, the use of CIT did appear to reduce the number of patients who prematurely discontinued their cancer treatment due to side effects [17,21], but some caution should be taken in the interpretation of these findings.

Psychosocial outcomes

IO was perceived to impact positively on individuals' ability to cope with their cancer diagnosis and treatment [30,32,33,41]. Patients reported positive effects on their mental health following CIT [30,33]. Patients described that they felt calmer, happier and were more hopeful about the future after participating in CIT [33,41]. IO was found to facilitate comfort for people living with cancer, both emotionally and physically [30].

Two studies reported a reduction in stress or anxiety levels [32,33]. Patients reported that CIT helped them cope with the stress and depression associated with a cancer diagnosis [33]. One study reported a clinically significant reduction in the mean anxiety scores among participants after they received Reiki therapy during chemotherapy treatment [32]. A reduction in anxiety and stress were attributed to the feelings of relaxation, support and empowerment [30,32,33,41]. Participants often used the terms ‘relaxation’, ‘relaxed’ or ‘relax’ in relation to the physical environment of IO centres [30,33]. Patients commented that having access to complementary therapies offered within the cancer centre made their hospital visit less stressful and provided an opportunity to obtain relaxation and wellbeing during what would otherwise be a stressful hospital visit [32,33]. Patients reported that they learned constructive ways to manage and cope with their cancer diagnosis, uncertainty, and change [41] and afforded an opportunity for personal growth [30]. Patients reported positive emotions such as ‘I’ve never felt better in my life’ and ‘I am more together now than ever’ which they attributed to IO [30]. Others reconnected with themselves in a spiritual way [30] and some patients believed that CIT could positively impact their overall cancer survival [21,37].

Optimized support was a common theme reported among people who had experienced IO [30,33,41]. Patients described feelings of support and caring from the staff and volunteers in the IO centre [33]. Patients expressed gratitude at having a dedicated space which provided a resource for informational support and drop-in sessions with healthcare professionals and volunteers who were knowledgeable in their condition [33]. People appreciated how they felt valued and were ‘an individual’ within the centre [30]. Patients and caregivers also received peer support from other patients who were affected by cancer [33,41]. Patients described visiting IO centres as an opportunity to meet likeminded people [33], a sense of community [30] and connection to others in the ‘same boat’ [41]. Visiting IO centres reduced the sense of isolation that patients living with cancer often experience [41].

Participants describe a link between IO and an increased sense of control and empowerment[30,33,41]. Patients articulated that CIT was instrumental in them gaining back a sense of control following their cancer diagnosis [33]. Patients described feeling like an active participant in their healing and that CIT enabled them to take an active and preventative approach in their recovery and rehabilitation [30,33,41]. Patients also described feeling empowered by their increased knowledge of their disease and how to manage treatment side-effects [30,33].

Patient and carer experiences

The physical environment

The physical environment of IO centres was described as important in several studies [20,30,33]. It was commonly reported that IO centres offering CIT services within the hospital should feel like an environment of wellness [20]. Participants described that the physical space should be calm and removed from the 'hustle and bustle' [30,33], and should be an 'oasis' within the hospital [33] with a sense of 'home' [30]. It was important to people living with cancer that the physical environment needed to create a sense of calm, which was serene, beautiful, relaxing and welcoming, [20,33]. One study reported the importance of comfortable seating, with the availability of tea and coffee provisions and reading material [30].

The inclusion of an IO centre within the hospital grounds was important to patients in several studies [21,31,33,39,41]. Many individuals valued the convenience of having IO services under one roof as it made accessing CIT easier [20,21,31,39,41] and this was found to improve the uptake of CIT among cancer patients [37]. Some patients and carers commented that having the IO Centre physically located within the hospital grounds increased the credibility of the CIT [20,33]. However, others said they would prefer for the CIT services to be offsite in the community as they associated the hospital with 'sickness', not wellness [19,20]. Transport to the hospital, parking and no time between appointments were reported as barriers to accessing CIT within the hospital [21].

Acceptance and support of CIT from their care team

How CIT was perceived and accepted by the oncology team was viewed as very important by patients [19-21,41]. Studies showed that patients sought information and validation about their decisions to use CIT from their care team [19,32,38] and how it could be integrated with their conventional cancer treatment [19,29,31,41]. Patients were reluctant to use CIT if it was not supported by their medical team, and of preference, they wished to be referred to CIT from their oncologist [19-21]. Patients reported that if their oncologist referred them to CIT they felt confident that those services were safe, evidence-based [19,20,41] and not detrimental to their health outcomes [19-21,31]. Importantly, a lack of support of IO services among the treating cancer teams was a barrier to uptake and usage among patients [21], as was a lack of knowledge and education about CIT from their doctors and nurses [19,29,31,36,39,41]. Some patients reported that they did not know that CIT were offered at their hospital because no one in their treating cancer team had discussed it with them [31,39]. Patients suggested the need for more informational brochures and visibility of IO services on the hospital website as areas for improvement [29,36].

The inclusion of the patient as the central partner in planning their care was fundamental to meeting their holistic care needs [20,38,39] and facilitating empowerment [40]. Open and nonjudgmental communication between patients and their care team was essential to successful integration of CIT in conjunction with traditional cancer therapies [19,38].

Healthcare professional experiences

Importance of evidence-based treatments and ongoing education

Healthcare professionals consistently expressed the importance of dedicated research and evaluation of IO services to ensure that the treatments and services being offered were evidence based [18-20,36,38,40]. Healthcare professionals emphasized the need for scientific evidence to ensure CIT safety and efficacy [18,39]. Inadequate evidence was reported as a barrier to hospitals providing IO services [36]. IO service evaluation was reported to be important to add credibility to ensure that such services were safe and effective in improving patient outcomes [19,20].

Healthcare professionals have reported a lack of knowledge, confidence and training to provide adequate guidance to their patients [42]. A lack of knowledge from healthcare professionals was a barrier in timely referrals of patients to CIT [19,20,29,36,39]. Educating staff about existing evidence was thought to lead to higher acceptance of CIT among health professionals and increased confidence in discussing CIT with their patients [36].

Collaboration of the MDT

Collaboration between healthcare professionals and complementary therapy practitioners was deemed instrumental in successful patient outcomes by all members of the MDT [20,33,38-40]. Healthcare providers across the health disciplines reported the importance of delivering integrative medicine that encouraged communication and interaction between all stakeholders in IO services [20,38-40]. Healthcare professionals across the studies felt strongly about the need for communication and teamwork between the medical staff and the CIT providers [19,20,38]. Volunteers have also been described as an integral part of the service and cancer care team [33].

Several studies described the importance of having the oncologist's involvement [18-21,38,39]. The healthcare professionals surveyed suggested that having an oncologist or cancer nurse as the leader of CIT services within their IO centre can bridge the gap between the medical paradigm and CIT [19,39]. It was found that oncologists were more likely to refer their patients to CIT services if a qualified healthcare professional was the lead or coordinator [39]. Some healthcare professionals suggested that patients should be assigned a primary caregiver to assume overall responsibility of their care, such as a cancer specialist nurse [20,38] to co-ordinate timely referrals to CIT [39].

The integration and coordination of CIT practitioners based in IO centres was discussed by healthcare professionals in the studies [38,39]. Some centres in USA and Germany reported that all team members including CIT practitioners were involved in MDT meeting discussions and ongoing academic activities [38]. In Australia, involving CIT practitioners in MDT meetings was unusual and communication with medical staff was managed mostly through a care coordinator via email communication or informal discussions [39]. Healthcare professionals identified gaps in care co-ordination whereby the CIT records/notes were not shared with the treating medical staff, and equally the CIT practitioners did not have access to the patients' medical records [39]. This raised concerns among the treating medical team that better communication was required to ensure integrated person-centred care [20].

Discussion

This review set out to examine any links between integrative oncology and patients' physical and psychosocial outcomes. We also wanted to explore the experiences of patients, their carers and healthcare professionals surrounding IO use and provision. This review has added to the evidence that CIT in conjunction with conventional cancer therapy can have a positive self-perceived impact on cancer patients' quality of life and general health and wellbeing. The review established some links between IO and a reduction in cancer related symptoms such as pain and fatigue, but these findings must be viewed with caution due to the methodological limitations of the included studies. However, some of the psychosocial benefits highlighted in the review can be more clearly attributed to IO. IO appears to improve patients' ability to cope with their diagnosis and their conventional treatments.

Examining the experiences of healthcare professionals working in IO settings provides insights into the characteristics of successful IO centres. Healthcare professionals are reluctant to discuss CIT with their patients because of a lack of knowledge and evidence regarding the safety and efficacy of complementary therapies [43,44]. It was important to health care professionals that continual research was conducted to ensure the safety and efficacy of the CIT provided within their cancer centre and remain a future direction for research.

The importance of collaboration and communication between all MDT members is central to effective care co-ordination. Communication between all key stakeholders is important to the successful integration of conventional cancer services with CIT [48]. MDT meetings have been identified as an important function to build relationships between the IO team and to optimize patient outcomes [43]. It is interesting to note that IO centres in this review all had an Integrative Physician to lead IO services [19,39]. It has been reported in the wider literature that the IO centre coordinator can be a specialist cancer nurse or allied health practitioner [39]. Having a coordinator that is also a health professional can facilitate communication and collaboration as they are able to attend MDT meetings, access patients' medical records, develop integrative care plans, and developed evidence informed education and research.

Gaps in the evidence and future research priorities

The evidence has found that using complementary therapies in conjunction with conventional cancer treatment does impact positively on patients. However, it is unclear whether the benefits are attributed to participating in one therapy, such as yoga or reiki, or whether it was the provision of IO services in general. Furthermore, it is important to more that the included studies are at risk of selection bias and so caution needs to be take in the interpretation of these findings. Moreover, little is known about the difference between positive outcomes and experiences of delivering complementary therapies in the community setting compared to the hospital setting. This review has identified gaps in current knowledge in relation to which CIT or combination of therapies are most valued by patients and what their direct relationship is with physical and psychological outcomes due to the methodological limitations of the included studies. Gaining valuable insights into this area will also help to prioritize service provision and funding allocations. Moreover, future research is needed to investigate the financial benefit of operating an IO service within the hospital setting. Factors such as reduced hospital admissions due to increased tolerability of cancer treatments should be a focus which might attract sustainable funding models.

This review identified that little is known about the experiences from the caregiver's perspective of using IO centres [18,34,35]. Further research is recommended into the perspectives of caregivers and family members to determine which services are important to them in addressing their supportive care needs. It is estimated up to 80% of cancer survivors need additional physical and emotional support well beyond their treatment period [45]. Therefore, gathering important information about how IO centres can address cancer survivorship needs remains to be addressed by future research.

Limitations

Despite this review following a clear, rigorous and transparent review process there are several limitations to point out. This review included studies which were published in the English language only, and as such may have excluded publications in other languages which might have omitted important information about the experience of IO centres. However, the review did represent evidence from a range of international countries, encompassing diverse populations. The search only went back to 2010 and may have omitted studies published before this time.

Implications for nursing and conclusion

The provision of IO may impact positively on patients' physical and emotional wellbeing and can improve patients' quality of life at all stages of their cancer experience. IO supports people to engage in their own health and wellbeing by increasing patients' feelings of control and empowerment. However, to successfully integrate CIT with conventional cancer treatments it is important for cancer centres to adopt a collaborative, evidence-based approach which is patient-centered. Several recommendations for future research have been discussed.

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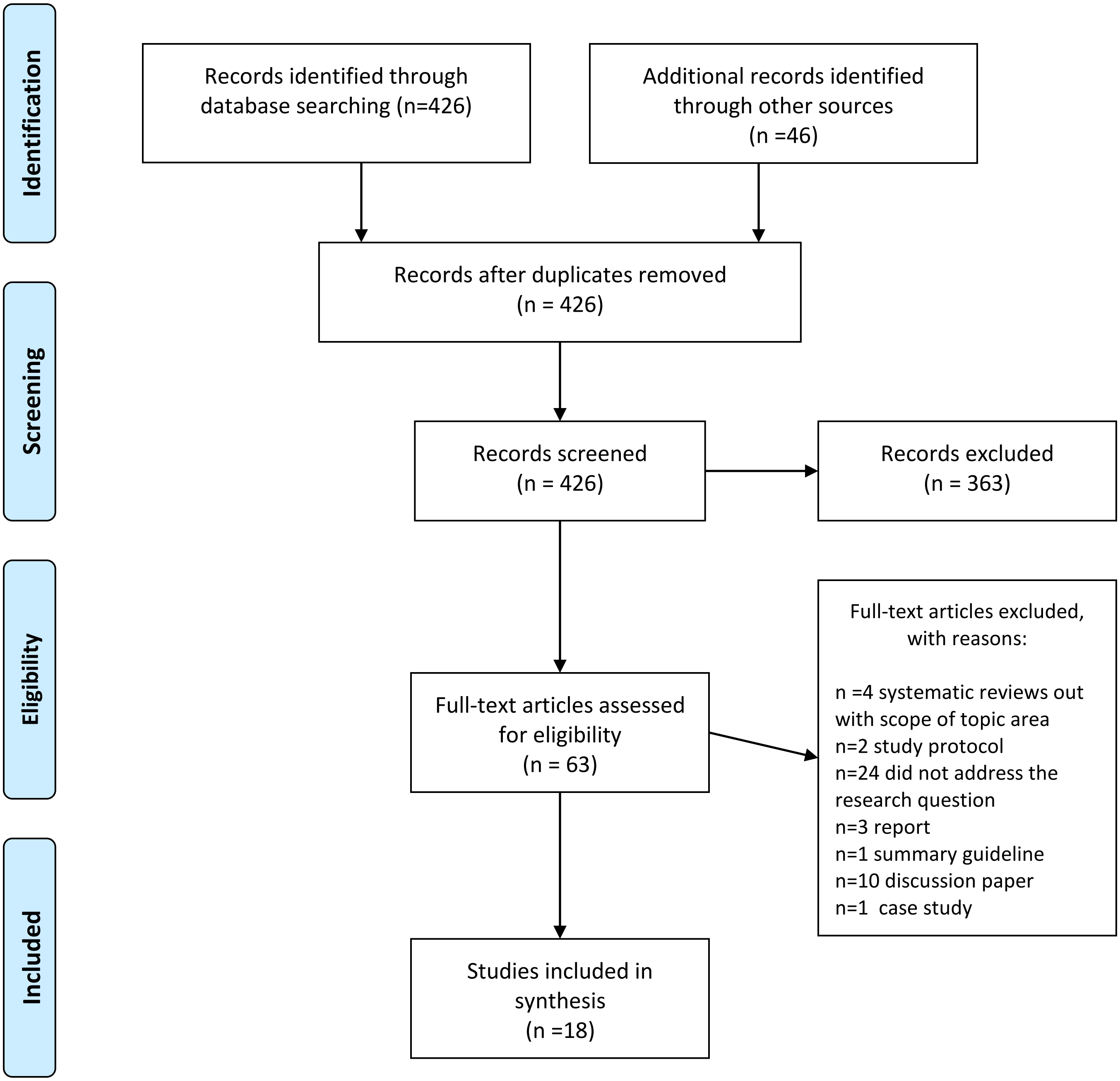
Figure 1: PRISMA 2009 Flow Diagram



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). *P*referred *R*eporting *I*tems for *S*ystematic Reviews and *M*eta-*A*nalyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit www.prisma-statement.org.

Table 1. Overview of the included studies

Author (Year)	Purpose, Context, Country	Methods	Main Findings
Birocco et al., 2012	**Purpose:** To examine the effects of Reiki therapy on pain and anxiety in patients attending a day oncology and infusion service **Setting:** Medical oncology day services unit of the haematology and oncology department **Country:** Italy	**Sample Size:** 118 **Sampling:** convenience **Response Rate:** 100% **Attrition:** n=22 patients received 4 reiki treatments **Design:** mixed methods **Time points:** over 3 years, 4 reiki treatment assessments **Data Collection:** clinical history, ECOG scores, pain and anxiety scores using VIS were recorded with a description of the pain and anxiety perceived before and after Reiki therapy. **Outcomes:** anxiety and pain	Reiki therapy may be useful in managing anxiety and pain in patients attending day therapy for chemotherapy. Self-reported feelings immediately after the reiki therapy sessions: improved wellbeing (70%), relaxation (88%), pain relief (45%), sleep quality (34%) and reduced anxiety (70%).
Brazier et al., 2008	**Purpose:** To evaluate the impact of participating in an integrative cancer care program on lifestyle, QOL and well being **Setting:** Centre for integrated healing **Country** Canada	**Sample Size:** 46 **Sampling:** convenience **Response Rate:** 59.7% **Attrition:** 4 deceased, 4 dropped out **Design:** mixed method study **Time points:** 3 time-points survey, focus group and interview. **Data Collection:** questionnaires, focus groups and interviews. **Outcomes:** perceived benefits of integrative cancer care and FACT-G, Health Locus of Control, MOS, SSS, HADS, HHI.	Functional assessment scores were moderately high at start and changed very little from baseline. Anxiety scores reduced by 1 point, depression scores were unchanged. No statistically significant different in hope scores. Qualitative results: Patients reported the centre was an important place which provided support for people living with cancer. It was described as a place of active engagement in their cancer care, healing, and recovery. Two major types of engagement which included empowered decision-making and creating personal change. Participants described the centre as a ‘real oasis where it was just calm’. Patients felt a responsibility and a sense of opportunity to begin to create lifestyle changes that could enhance their health and well-being. Meditation techniques learnt in the centre could then be used during radiation therapy. Improved personal growth, and IO centres helped with accepting their diagnosis and being more optimistic and positive.
Dominick et al., 2017	**Purpose:** To evaluate the effect of LCCP on QOL **Setting:** single centre where they established a program including yoga, massage, physio, relaxation, art therapy, psychosocial care, nutrition counselling **Country:** Germany	**Sample Size:** 100 **Sampling:** convenience **Response Rate:** NR **Attrition:** 113 enrolled, 13 did not finish **Design:** quantitative **Time points:** 3 start (T0), 3 weeks (T1), 3 moths (T2), 6 months (T3) **Data Collection:** EORTC QLQ-C30, BDI, PPS **Outcomes:** QOL	QOL significantly better at T2 (3 months) but not T1 (3 weeks) or T 3 (6months) in intervention group. Benefit of weekly conversations with the physician independent of any complementary therapies.
Furzer et al., 2014	**Purpose:** To explore the experiences of cancer patients utilising CIT within IOC **Setting:** 4 Solaris Care cancer support centres **Country:** Australia	**Sample Size:** 66 **Sampling:** convenience **Response Rate:** 70% **Attrition:** NR **Design**: qualitative study **Time Points:** 2 time points, pre and post CIT use for 5 days **Data collection:** 11 open ended questions in questionnaire **Outcomes:** Patient experience of CIT	Improvement in participants wellbeing immediately following CIT. Three central themes emerged: empowerment, support, and relaxation. Majority of patients would recommend CIT to others. The most accessed CIT were relaxation massage (56%), reflexology (55%), Reiki (29%), library/lounge (30%). Patient perceived IOC as a unique environment within the hospital, as an ‘oasis in the hospital’ and that it is ‘a place to be at peace and relaxed’. Patients reported that they felt less tired, brighter in thinking, lighter in body, stronger physically and emotionally, calmer, happier with increased empowerment and sense of control about use of CIT in their cancer treatment. It created a sense of community, fellowship, and care.

Hunter et al., 2018	**Purpose:** To explore cancer survivors' views and experiences with integrating traditional and complimentary medicine(T&CM) services with conventional cancer care **Setting:** Community setting **Country:** Australia	**Sample Size:** 154 **Sampling:** purposive sampling **Response Rate:** NR **Attrition:** NA **Design:** mixed method study **Time points:** 1 **Data Collection:**4 focus group interviews and an on-line survey. Online survey through survey monkey, anonymous, 26 closed and open- ended questions examining views on Traditional and Complimentary Medicine in the context of cancer care. **Outcomes:** patient experiences	Participants did not have any experience with any type of T&CM as part of their cancer care. The desire to access T&CM through the hospital was reported by 64% of the survey respondents. 11 (10%) reported that they would only access these services in a non-medical environment because the hospital environment 'that makes you feel like you are sick'. Parking at clinical site was a structural barrier to T&CT. 92.2% of participants had used a range of T&CM during cancer treatment, no one had used it instead of conventional treatment. Patients expressed the need for greater availability of IO services, more affordable IO services, adequate information about IO management options and improved co-ordination of care.
Kessel et al., 2016	**Purpose:** To understand experiences of CAM usage in parallel to oncological treatment and within the hospital setting. **Setting:** Oncology Centre **Country:** Germany	**Sample Size:** 171 **Sampling:** convenience **Response Rate:** 45% **Attrition**: not reported **Design:** cross-sectional survey **Time points:** 1 **Data Collection:** study designed survey 18 question items **Outcomes:** use of and attitude towards CAM as part of standard oncology therapy	15.2% used CAM during treatment and 32.7% reported using CAM previously. Reasons for not using CAM during oncology treatment included: 54.3% because it was not offered by their physician, 17.9% had no interest in it, and 31.4% did not feel they had enough information about it. The types of CAM used included: food supplements (42.3%), vitamins/minerals (42.3%), massage (34.6%), physio/manual therapy (26.9%), homeopathy (23.1%), and herbs and plants (23.1%). Patients sourced CAM information from treating physician (50%), oncologist (23.1%), self-research (23.1%), and friend/family (34.6%). Patients wanted to use CAM to improve immune system (42.1%), take advantage of every opportunity (33.3%), reduce side effects (25.7%), become more active (25.7%) and improve efficacy of oncology therapy (23.4%). Improvements could be made including personal consultations with specialists during their therapy period (49.1%), offering flyer/brochure (29.2%) and providing CAM information on the clinic homepage (16.4%). 54.4% would be willing to use CAM if it was offered as part of their therapy, and 40.9% would pay for CAM if the costs were not covered by healthcare provider.
King et al., 2015	**Purpose:** To determine CT use and information needs among people affected by cancer **Setting:** Tom Baker Cancer Centre, **Country:** Canada	**Sample Size:** 481 patients and 100 HCP **Sampling:** convenience **Response Rate:** 60% patients and 30% HCP **Attrition:** NA **Design:** cross sectional survey **Time points:** 1 **Data Collection:** study designed survey **Outcomes:** experiences of CT usage in oncology centres	47.2% patients reported using CT's since being diagnosed with cancer. Significantly more females, younger people, those with more education and those diagnosed over a year prior to the survey reported increased CT usage. Patients used CT improve QOL (64.7%), immune system (54.3%), to treat/ be good to myself (40.8%) and to increase feelings of hope (35.1%). 48 patients (21.6%) reported that CT will help to cure their cancer. Primary reason for commencing CT was because it was recommended by family/ friends as the most common (43.4%). Barriers to CT use included: unsure about quality of evidence to support use and a lack of knowledge about CT's. Almost half would use CT if offered at their oncology hospital. CT knowledge among HCP was very limited with 70% who reported that they felt not at all prepared to monitor cancer patient's CAM use. Half agreed that CT was useful to patients. HCP's that recommended CAM usually recommended mind-body therapies and acupuncture, and advised against herbal, antioxidant, and high dose vitamins due to evidence. 90% of HCP's said they were interested or very interested in receiving additional CAM training.

Lim et al., 2017	**Purpose**: To describe the IOC models in leading oncology centres **Setting:** Six centres providing integrative medicine in the USA and Germany **Country:** USA	**Sample Size:** 6 IOC directors, or senior staff members **Sampling**: 8 institutions were approached due to their visibility and experience practicing IM **Response rate:** 6 out of 8 centres responded (75%) **Attrition:** 0% **Design:** mixed method **Time points:** 2 **Data collection**: 28 study designed survey and semi structured interviews **Outcomes:** IOC models of care and service delivery	Common across all six centres included: GP referral is compulsory for CAM services and the GP works as an IP and the GP and nurses discussed CAM with patients. CAM practitioners aren't included in decision making. Patients are carefully selected through a thorough examination for suitability for hospitalization to receive CAM treatments. Intensive on-wards CAM treatment programs are available to maximize the quality of treatment. Accessibility for patients is an issue due to a lack of awareness among HCP. It was perceived the IOC provide the provision of patient centred care.
Lim et al., 2017	**Purpose**: To describe the models of service and experiences of coordinators in IOC **Setting**: Oncology hospitals **Country**: Australia	**Sample size**: Fourteen leaders of IO programs from ten systematically selected Australian oncology centres **Sampling**: purposive **Response rate:** Oncology/haematology departments (n=124) in the Australian Hospitals and Aged Care Databases (2014) to report the availability of CAM services. **Attrition:** NA **Design**: Qualitative **Data Collection**: Study designed survey and semi structured interviews **Time points**: 2 **Outcome**: experiences among IOC coordinators	Ten centres were identified as having IOC providing CAM programs in Australia. The cultural context of needed to be individualised and holistic. All participants emphasised the need to support a complimentary model of care rather than alternative medicine models. Flexibility and adaptability were identified as important components of service delivery. AHP's and nurses as coordinators helps bridge the medical paradigm. It was important to have a specialist as champion to coordinate, often from a nursing background aided timely and increased doctors' referrals. All centres emphasized the importance of IOC enabling increased patient engagement and empowerment. Barriers of access to IOC and services included a lack of resources such as treatment space and availability of CAM practitioners. Most patients were not aware of existing CAM services and required more education and promotion in clinical services.
Lim et al., 2017	**Purpose**: To describe the availability and integration of supportive care programs in cancer treatment centres **Setting:** Oncology centres **Country:** Australia	**Sample size:** 124 Australian hospitals – respondents were HCP that were responsible for organising supportive care services in their department. **Sampling**: convenience **Response rate:** NR **Response rate:** NR **Attrition:** NA **Design:** cross-sectional survey **Time points:** 1 **Data Collection:** Study designed survey via telephone **Outcomes**: availability and IOC service provision	53% hospitals have no established referral pathway for cancer-specific supportive care services. 35 hospitals offered a form of IO services. 11 hospitals offered ad-hoc services occasionally running specific CAM programs led by instructors from a third party, either a community-based centre, another hospital department, or in some cases, hospital social workers. 11 hospitals incorporated CAM in a systematic manner, with regular CAM service provision, comprehensive integration of CAM programs and the institution employing or contracting the instructors and practitioners. The majority (n=89/124, 72%) of Australian hospitals providing cancer services do not provide specific guidance regarding supportive care services, including CAM, for cancer patients from the point of diagnosis through survivorship care. People seeking this support, or advice about CAM, generally need to source the services themselves.
Mosher et al., 2013	**Purpose:** To examine support service use and interest among distressed family caregivers of patients using Integrative Oncology facilities **Setting:** 3 oncology hospitals **Country**: USA .	**Sample Size:** 83 **Sampling:** convenience **Response rate:** 97% **Attrition:** NR **Design:** Prospective longitudinal survey **Time points:** 2 **Data Collection:** HADS, coping, self-efficacy scale, experiences of CAM. **Outcomes:** experiences and interest in CAM services	Caregivers reported accessing the following services which included psychotherapy, psychotropic medication, and support groups. A substantial minority of caregivers reported CAM use (e.g., yoga, meditation, massage) at baseline (21/83, 25%) and follow up (22/72, 31%). Only 4% of caregivers (3/83) received assistance from a staff member with practical needs such as transportation and finance at baseline.

Rossi et al., 2015	**Purpose**: To map centres across Europe providing integrative oncology (IO). **Setting**: IO centres **Country**: Italy	**Sample size:** 123 hospitals **Sampling:** convenience **Response rate:** 81.3 % **Attrition:** NA **Design**: cross sectional survey **Time points**: 1 **Data collection**: Study designed survey **Outcomes**: IO service provision	33 (70.2 %) of hospitals reported to be using fixed protocols for IO service delivery. The CAMs provided included: acupuncture (55.3 %), homeopathy (40.4 %), herbal medicine (38.3 %), traditional Chinese medicine (36.2 %), anthroposophical medicine (21.3 %), and homotoxicology (12.8 %). The most frequent aims of CAM within IOC were to improve of quality of life, offer additional support during chemo-radiotherapy, reduce perioperative disturbances, improve self-empowerment, deliver psychological support and offer palliative care.
Shalom-Sharabi et al., (2018)	**Purpose**: To explore the structural, operational, financial and academic/research-related aspects of IO services **Setting**: Oncology centres **Country:** Israel	**Sample size**: 7 medical centres **Sampling**: purposive **Response rate**: NR **Attrition:** NA **Design**: Cross-sectional survey **Time points**: 1 **Data Collection**: Study designed survey **Outcomes**: IO service provision in Israel	The provision of IO services took place in several oncology settings including, inpatient, outpatient day hospital, and ambulatory treatment services. IO services were provided to patients who were undergoing chemotherapy in an outpatient service, while other centres provide these treatments within a tertiary-care inpatient setting. Services included: acupuncture, manual techniques, relaxation and mind-body medicine, nutritional counselling, education on medicinal herbs, homeopathic treatments, spiritual and art therapy, and anthroposophical medicine. The services aim to be person-centred and reduce oncology treatment–related toxicities and improve quality of life.
Slocum-Gori et al., 2012	**Purpose:** To examine the perceived feasibility of implementing integrative treatment services for Cancer Survivors **Setting:** A comprehensive cancer centre **Country:** Canada	**Sample size**: 10 patients and 8 HCP **Sampling**: purposive **Response rate:** NR **Attrition:** NR **Design**: Mixed method **Time points**: 2 **Data collection**: focus groups and self-reported surveys. **Outcomes**: Interest and feasibility of integrative therapy in cancer services	Perceptions of yoga therapy among both patients and HCPs indicated that it must be credible and transparent. It was important that patients and HCP has appropriate education about the benefits and contraindications of yoga therapy. It was important that access to the yoga at the hospital was convenient but also pleasant and met the patient's needs.
Smith et al., 2018	**Purpose:** To examine current IO service provision in Australia and explore barriers and facilitators to service delivery. **Setting:** healthcare organisations **Country**: Australia	**Sample**: 71 healthcare organisations **Sampling**: purposive **Response rate**: 93.2% **Attrition:** NR **Design**: Cross sectional survey **Data Collection:** Study designed survey **Time point**: 1 **Outcome:** IO service provision	Most common IO services included massage, psychological-wellbeing, and movement modalities in hospital outpatient or inpatient settings. There were only a few instances where biological-based CM therapies were prescribed. Funding was often mixed, including patient contributions, philanthropy, funding by the organisation, and volunteer practitioners. Of the 204 non-IO providers, 80.9% had never provided any IO service. The most common barrier to IO was a lack of funding, followed by uncertainty about patient demand, choice of services, and establishing such services. Less-common barriers were a lack of evidence, and support from oncologists or management. More funding, education and training, and building the evidence-base for CM were the most commonly suggested solutions. Most common IO services were massage, acupuncture, psychological wellbeing services, art therapy, meditation, relaxation, yoga, tai chi, and exercise physiology.

Stoutenberg et al., 2016	**Purpose**: To assess the impact of the Integrated Wellness Programme (IWP) on the overall wellness of the individuals participating in the program. **Setting**: IOC **Country**: USA	**Sample size**: 20 **Sampling**: convenience **Response rate**: not reported **Attrition**: 20 started the program, 11 completed it and 9 dropped out **Design**: prospective longitudinal survey **Time point**: 2 **Data Collection**: self-efficacy scale, EHS, GLTS, STC, PSQI-SF **Outcomes**: the impact of IWP on patient outcomes	Statistically significant changes in participant responses were observed in two surveys: the STC (−2.0±2.40, p=.037) and EHS (1.7±1.22, p=.0013). Participant satisfaction surveys completed at the end of the program indicated a high level of satisfaction and applicability of utilising IWP on the daily lives of cancer survivors. The significant improvements detected related to dietary habits, combined with the responses from the participant satisfaction surveys, suggest that the IWP was well received and can positively impact the overall wellness of cancer patients, survivors, and their caregivers.
Weeks et al., 2013	**Purpose:** To assess the feasibility of developing an IO program **Setting:** Champlain Local Health Integration Network, Ontario **Country:** Canada	**Sample Size:** 39 **Sampling:** **p**urposive to maximise variation in characteristics **Response Rate:** 100% **Attrition:** NA **Design:** Descriptive qualitative study **Time points:** 1 time point **Data Collection:** Individual interviews followed by focus groups. Semi structured interviews **Outcomes:** Experiences of IO programmes among cancer survivors	Participants were clear that an IO program should include a) integrative patient care b) research and evaluation c) education d) cost recovery and payment. Most participants thought a structured IO program was ideal where each patient would be assigned a primary caregiver to assume overall responsibility of their care. IO should help manage side effects, provide supportive care and survivorship care, help identify treatment interactions. Most participants talked about the importance of communication and collaboration of the MDT and the need for MDT meetings. A need for accessible, high quality information for both HCP's and the community on the safety and effectiveness of CIT. Values: participants articulated values to guide the IO program; trust, respect, patient centres, evidence informed, safety, collaboration, family involvement, empowerment, whole person care and accessibility. Physical Location and design: Patients said an ideal environment is relaxing, beautiful, serene, welcoming. Varying opinions on whether it should be within or outside the hospital setting. Being within the hospital has many benefits such as enhanced credibility and integration.
Williams et al., 2014	**Purpose:** To explore and describe the experiences of persons using IOC **Setting:** Cancer support centre offering complimentary therapies in an acute care public hospital **Country:** Australia	**Sample Size:** 16 **Sampling:** purposive sampling **Response Rate:** 100% **Attrition:** NA **Design:** **q**ualitative grounded theory **Time points**: 1 **Data Collection:** semi-structured interviews **Outcomes:** Patient experiences	Main theme that emerged was the benefits attributed to solaris care centre. It was likened to an oasis within the hospital. A place of comfort and a haven within an unpleasant environment. Patients reported a sense of calm away from the hustle and bustle of the hospital clinical environment. The centre helped to facilitate comfort and they felt valued at the centre, likened to being at 'home' which helped with psychological support. Patients reported a reduction in pain, fatigue, with increased energy. Patients described feelings of empowered by attending the centre to help them gain a sense of control. Patients reported that the therapies help individuals to think more holistically about themselves, not concentrate on the cancer only.

Abbreviations: AHP (Allied Healthcare Professionals); BDI (Beck Depression Inventory); CAM (Complementary and Alternative Medicine); CIT (Complementary Integrative Therapies); EHS (Eating Habits Survey); EORTC QLQ-C30 (European Organization for the Research and Treatment of Cancer Quality of Life Questionnaire); ECOG (Eastern Cooperative Oncology Group); FACT-G (The Functional Assessment of Cancer therapy -General); GLTS (Godin Leisure-Time Survey); HADS (The Hospital Anxiety and Depression Scale); HCP (Healthcare Professionals); HHI (The Hearth Hope Index); GP (General Practitioner); T&CM (Traditional & Complimentary Medicine; IO (Integrative Oncology); IOC (Integrative Oncology Centres); IP (Integrative Physician); LCCP (Lotus Care Cure Project); MOS (Medical Outcomes Study); NR (Not Reported); PSQI-SF (Pittsburgh Sleep Quality Index and Short-Form Health Survey); PPS (Pain Perception Scale); STC (Start the Conversation); SSS (Social Support Survey) QOL (Quality of Life); VIS (Visual Analog Scale)

Table 2. Quality appraisal of primary studies

Qualitative Article	Item number of checklist														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Furzer et al., 2014	2	2	1	1	2	1	1	2	2	0	2	2	0	2	2
Lim et al., 2017	2	2	2	2	2	1	2	2	2	0	2	2	2	0	2
Weeks et al., 2013	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Williams et al.,	2	2	2	2	2	2	2	2	2	1	2	2	0	2	2

Item number check list key*: 1 research question clearly described, 2 qualitative method appropriate, 3 setting/context clearly described, 4 sampling strategy clearly described, 5 sampling method likely to recruit all relevant cases, 6 characteristics of the sample provided, 7 rationale of sample size given, 8 methods of data collection clearly described, 9 method of data collection appropriate for research question and paradigm, 10 has researcher verified data (e.g. by triangulation), 11 data analysis methods clearly described, 12 data analysis methods appropriate, 13 competing accounts/deviant data taken into account, 14 to what extend is the researcher reflective, 15 interpretations and conclusions supported by the data.

Quantitative Article	Item number of checklist																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Dominick et al., 2017	2	2	0	2	1	N/A	2	1	2	N/A	0	2	2	2	1	2	2
Kessel et al., 2016	2	2	2	2	N/A	N/A	N/A	N/A	2	N/A	1	2	2	1	N/A	N/A	2
King et al., 2015	2	2	2	2	N/A	N/A	N/A	1	2	N/A	1	2	2	0	N/A	N/A	2
Lim et al., 2017	2	2	1	1	N/A	N/A	N/A	N/A	1	N/A	2	2	2	0	N/A	N/A	2
Mosher et al., 2013	2	1	1	1	N/A	N/A	N/A	N/A	1	N/A	1	1	2	2	2	N/A	2
Rossi et al., 2015	2	2	2	2	N/A	N/A	N/A	N/A	1	N/A	2	2	2	1	N/A	N/A	2
Shalom-Sharabi et al., 2018	2	1	1	1	N/A	N/A	N/A	N/A	1	N/A	2	2	2	1	N/A	N/A	2
Smith et al., 2018	2	1	2	2	N/A	N/A	N/A	N/A	1	N/A	2	2	2	1	N/A	N/A	2
Stoutenburg et al., 2016	2	1	0	1	N/A	N/A	N/A	N/A	1	N/A	1	2	1	1	N/A	N/A	2

Item number check list key*: 1 is the hypothesis/aim/objective clearly described, 2 is the study design well described and appropriate, 3 method of patient/control group selection clearly described, 4 characteristics of the patient/control group clearly described, 5 were patients randomised to the intervention group, 6 was randomisation/allocation concealed, 7 characteristics of patients lost to follow-up clearly described, 8 intervention clearly described, 9 main outcome measures clearly described, 10 was an attempted made to blind those measuring the primary outcome of the intervention, 11 population characteristics adequately described and controlled, 12 main findings clearly described, 13 methods of analysis appropriately and clearly described, 14 estimates of variance reported for main results, 15 analyses adjusted for different lengths of follow-up, 16 data analysed according to intention to treat principle, 17 conclusions supported by the results

Mixed Methods Article	Item number of checklist						
	1	2	3	4	5	6	7
Birrocco et al., 2012	2	2	1	2	1	1	1
Brazier et al., 2008	2	2	2	2	2	2	1
Hunter et al., 2018	2	2	2	1	1	2	1
Lim et al. 2017	2	2	2	2	1	1	1
Slocum-Gori et al., 2012	2	2	2	2	1	1	1

Item number checklist key*: 1 are there clear research questions?, 2 Do the collected data allow to address the research question?, 3 is there an adequate rationale for using a mixed methods design to address the research question?, 4 Are the different components of the study effectively integrated to answer the research question?, 5 Are the outputs of the integration of the qualitative and quantitative components adequately interpreted?, 6 Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?, 7 Do the different components of the study adhere to the quality criteria of each tradition of the met?

*Three levels of assessment quality scores

🟩 Low risk of bias (2)
🟨 Unclear risk of bias (1)
🟥 High risk of bias (0)

Supplementary Table 1. PRISMA checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both	Title page
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	Abstract
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	1
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	2
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	2
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	3
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	2
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	Supplementary Table 2
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	Figure 1
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	4
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	4-5
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	4
Section/topic	#	Checklist item	Reported on page #

Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	4
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	5
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	N/A
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	N/A
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	Figure 1, page 5
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	Table 1, page 5
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	Table 2
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	Table 1
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	5-10
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	Table 2
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	N/A
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	10-12
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	12
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	12
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	Title page

Supplementary Table 1: Electronic Database Search

Search strategies

Database: Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Daily and Versions(R) <1946 to September 2021>
Search Strategy:
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1 ((cancer care adj2 center) or centre or facilit$ or service).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (1134522)
2 ((oncolog$ adj2 center) or centre or facilit$ or service).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (1135526)
3 ((wellbeing adj2 centre) or center or facilit$ or service).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (1406979)
4 ((wellness adj2 centre) or center or facilit$ or service).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (1406990)
5 (SEER adj program$).mp. (7477)
6 (((dropin or drop-in or drop in) adj centre) or center or service or facility$).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (837738)
7 or/1-6 (1525393)
8 exp neoplasms/ (3210158)
9 *neoplasms/rh [rehabilitation] (1317)
10 *neoplasm/pc [prevention & control] (10245)
11 *neoplasms/px [psychology] (12723)
12 *Neoplasms/th [Therapy] (37929)
13 *Neoplasms/et [Etiology] (10099)
14 *Neoplasms/eh [Ethnology] (1069)
15 exp Integrative Oncology/ (58)
16 exp PSYCHO-ONCOLOGY/ (57)
17 ((integrative adj cancer$) or oncolog$ or neoplasm$).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (2763710)
18 exp Cancer Survivors/ (2168)
19 or/8-18 (3323329)
20 7 and 19 (147495)
21 *Integrative Medicine/mt [Methods] (254)
22 *Integrative Medicine/og [Organization & Administration] (86)
23 *Integrative Medicine/sn [Statistics & Numerical Data] (31)
24 *Integrative Medicine/td [Trends] (51)
25 exp Integrative Medicine/ (1473)
26 exp Complementary Therapies/ (219836)
27 (complementary therap$ or medicine$ or approach$).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism

supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (2450854)

28 ((integrative adj2 wellbeing) or well-being or wellness).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (78076)

29 or/21-28 (2657159)
30 20 and 29 (22574)
31 exp Quality Assurance, Health Care/ (316079)
32 exp "Quality of Health Care"/ (6603099)
33 exp treatment outcome/ (993865)
34 exp Decision Making/ (191090)
35 exp "Delivery of Health Care"/ (1027982)
36 exp Patient Participation/ (24300)
37 exp Qualitative Research/ (48176)
38 exp "Quality of Life"/ (180350)
39 exp "behavior and behavior mechanisms"/ (2772368)
40 *Survivorship/ (167)
41 *"Delivery of Health Care, Integrated"/ (8761)
42 *Patient-Centered Care/ (11342)
43 exp "Costs and Cost Analysis"/ (227421)
44 *Program Evaluation/ (10411)
45 *Health Promotion/ (46793)
46 *Follow-Up Studies/ (560)
47 *Outpatients/ (5350)
48 *Pilot Projects/ (418)
49 *Focus Groups/ (1262)
50 exp Patient Satisfaction/ (84985)
51 *Hospitals/ (48548)
52 *Hospitals, Community/ (5686)
53 *Hospitals, Private/ (1479)
54 *Hospitals, Public/ (8452)
55 *Hospitals, Special/ (6841)
56 *Hospitals, Rural/ (3065)
57 *Tertiary Care Centers/ (2194)
58 *Secondary Care Centers/ (66)
59 *Hospital Departments/ec [Economics] (727)
60 *Ambulatory Care/ (18874)
61 exp Oncology Service, Hospital/ (1410)
62 *Outpatient Clinics, Hospital/ (8158)
63 *Hospital Departments/mt [Methods] (37)
64 *Hospital Departments/sn [Statistics & Numerical Data] (626)
65 *qualitative research/ (2660)
66 exp "Surveys and Questionnaires"/ (971959)
67 or/31-66 (8496469)
68 30 and 67 (14397)
69 *Aftercare/mt [Methods] (708)
70 *Aftercare/px [Psychology] (156)
71 *Aftercare/og [Organization & Administration] (520)
72 exp Exercise Therapy/px [Psychology] (650)
73 exp Exercise Therapy/og [Organization & Administration] (265)
74 exp Exercise Therapy/mt [Methods] (18128)
75 *Holistic Health/ (4018)
76 Yoga/px [Psychology] (437)
77 *Relaxation Therapy/px [Psychology] (30)
78 *Relaxation Therapy/og [Organization & Administration] (16)
79 *Stress, Psychological/px [Psychology] (13577)

80 *Stress, Psychological/rh [Rehabilitation] (217)
81 Stress, Psychological/pc [Prevention & Control] (8209)
82 *Stress, Psychological/th [Therapy] (3046)
83 exp psychosocial support systems/ (327)
84 *social support/ (25291)
85 or/69-84 (72902)
86 68 and 85 (298)
87 limit 86 to yr="2010 -Current" (203)
88 limit 87 to humans (203)
89 from 88 keep 1-200 (200)
90 from 88 keep 201-203 (3)
91 from 89 keep 1-200 (200)
92 from 90 keep 1-3 (3)

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