

Do mindfulness interventions reduce burnout in oncology nurses? A literature review.

Abstract

Nursing patients with cancer is associated with intensity of emotional engagement, that can result in compassion fatigue and burnout, with nurses leaving the profession as a result.

This literature review seeks to answer the question 'do mindfulness interventions reduce burnout in oncology nurses?'

A systematic database search resulted in 294 papers, that were filtered using inclusion/exclusion criteria. Thirty-one papers were read in full and critically appraised. Seven original studies provided the final data. Findings are presented under the headings of overall effectiveness of the diverse selection of interventions, physical and psychological impact on nurses (including skills acquisitions to improve resilience) and the practicalities of using emotional support interventions.

Mindfulness interventions can reduce levels of compassion fatigue and burnout in oncology nurses. Techniques learned can be used in practice to help reduce stress and support coping in challenging situations. Support can reduce the emotional cost of caring, reduce staff absence due to ill health and reduce the number of people leaving the profession/department.

Key words: Oncology nurses. Compassion fatigue. Burnout. Mindfulness interventions. Transferable skills. Practicalities of mindfulness interventions.

Introduction

Burnout is a psychological syndrome which emerges in response to prolonged exposure to chronic and interpersonal factors within a job (Maslach and Leiter 2016). Burnout can result in stress-related illness and absenteeism, as well as high staff-turnover as nurses may leave the profession as a result (McLaughlin and Docherty 2010). As such, burnout can have a negative impact on the delivery of care and on organisational costs as it impacts on workload planning and staffing on a day-to-day basis, as well as recruitment and service development going forward. Nursing patients with cancer is an emotionally draining role (Boyle 2015), primarily because of the emotional burden of supporting patients and their families or carers as they adapt to a cancer diagnosis and providing nursing support through intensive treatment regimes. Oncology nurses initially experience high levels of compassion satisfaction in their role, where they feel pleasure in doing their work well, yet they are prone to burnout (Potter et al. 2010).

The provision of intensive support for both patients and their families from diagnosis to end of life care is linked to burnout in oncology nurses (Crowe 2016; Guo and Zheng 2019; Gribben and Semple 2021). Continued exposure of nurses to the trauma of others, as is common in oncology, can lead to secondary/vicarious traumatic stress, the appearance of biopsychosocial symptoms arising from the emotional challenges of experiencing patients' physical, emotional, spiritual and existential suffering (Sorenson et al. 2017; Arimon-Pagès et al. 2019; Todaro-Franceschi 2019). Burnout is attributed to emotional challenges that arise from the caring role, as well as workload and time pressures within the workplace and/or organisation that impact on the nurses' ability to provide the highest standard of personalised care (Waddill-Goad and Sigma Theta Tau 2016; Wahlberg et al. 2016; Brint 2017). It is preceded by other conditions, such as physical fatigue, compassion fatigue and emotional exhaustion (Waddill-Goad and Sigma Theta Tau 2016; Brint 2017; Arimon-Pagès et al. 2019). Compassion fatigue is associated with absorbing the emotions of others, within the act of empathising with them.

Understanding and recognising the antecedent conditions to compassion fatigue and burnout enables nurses to act at an individual level to promote their own health and wellbeing, and/or enables organisations to develop supportive interventions for their staff, to help promote their health and wellbeing.

Supportive intervention programmes are becoming more common in oncology nursing practice (Ortega-Campos et al. 2020). These predominantly focus on the use of mindfulness techniques, delivered in person or remotely using APPs (Heeter et al. 2017; Lehto et al. 2018), and physical activities that create mindfulness spaces, such as yoga (Heeter et al. 2017) and knitting (Anderson and Gustavson 2016). This literature review analyses data from primary research studies, to answer the question ‘do mindfulness interventions reduce burnout in oncology nurses?’

Method and Search Strategy

The literature was reviewed to access primary research studies that explore the effectiveness of mindfulness interventions for oncology nurses. The ‘PICO’ model was used to structure the research question (see table 1), leading to the identification of search terms, including synonyms, to ensure a systematic search (see table 2). Truncation and Boolean operators were used to extend the breadth of the search.

** Table 1 here

** Table 2 here

The literature search was undertaken using the bibliographic databases CINAHL, MEDLINE and PsychINFO. A date limiter of 2010 was applied to ensure that contemporary research was reviewed. After removing duplicates, 294 papers were identified. After applying inclusion/exclusion criteria (see table 3), 31 papers remained. A PRISMA flowchart (Moher et al. 2009) is provided to depict the filtering process (see figure 1). Remaining papers were read in full and those that did not review a mindfulness intervention were excluded. Eight papers were subject to analysis using the relevant Critical Skills Appraisal Programme (2018) checklist (Critical Skills Appraisal Programme, 2018). Seven papers were judged to be of high methodological quality, so were included in the final review sample. One was discarded due to its weak rating.

** Figure 1 here (PRISMA)

** Table 3 here

Data were analysed and the findings are presented below.

Findings

Findings are presented according to the content of the research papers. They answer the question 'do mindfulness interventions reduce burnout in oncology nurses' by providing data about the overall effectiveness of a diverse selection of interventions, the physical and psychological impact on nurses (including skills acquisitions to improve resilience) and the practicalities of using emotional support interventions.

Overall effectiveness of the diverse selection of interventions

The papers reviewed predominantly focus on participants' burnout scores, using a range of validated tools, before and after participating in an emotional support intervention (Kravits et al. 2010; Potter et al. 2013; Hevezi 2016; Heeter et al. 2017; Yilmaz et al. 2018). When the intervention was a digital one, such as an APP, engagement data was also gathered (Heeter et al. 2017; Lehto et al. 2018).

Kravits et al. (2010) undertook research with 248 newly graduated nurses from a single cancer centre in California. Half of the sample were new staff (with or without oncology experience), whilst half had been employed in their oncology role for more one year. The sample consisted of community and hospital-based staff. Participants attended a single, six-hour psycho-educational programme, that facilitated the development of personalised stress management plans. Pre/post-intervention scores, using the Maslach Burnout Inventory revealed statistically significant reductions in emotional exhaustion and compassion fatigue scores and increases in personal accomplishment scores following the intervention. Yilmaz et al (2018) also explored the impact of a face-to-face nurse-led intervention programme on 43 nurses in a single oncology centre in Turkey. The intervention sought to improve professional quality of life and reduce compassion fatigue. Of 43 nurse participants, eight were specifically trained in oncology. Professional Quality of Life scales revealed statistically significant

reductions in compassion fatigue and burnout, and increased compassion satisfaction following the intervention.

Potter et al (2013) studied the impact of a face-to-face compassion fatigue resiliency programme. Over five weeks the participants, 13 oncology nurses from a single US cancer centre, learned skills to manage compassion fatigue. Assessment using the Maslach Burnout Inventory, Professional Quality of Life-IV Scale; Impact of event scale-revised (IES-R) scale and Nursing Job Satisfaction Scale) was completed pre-intervention, then at three- and six-months post-intervention. Maslach Burnout Inventory scores were 'below high-risk' at the outset of the study, however secondary trauma scores were high. Whilst this pilot study is based on a small sample, post-intervention there was a statistically significant reduction in secondary traumatisation scores, that continued into the six-month assessment. A statistically significant increase was demonstrated in overall resilience scores at each of the post-intervention assessments. Whilst not statistically significant, there were reductions in burnout scores post-intervention.

A practical approach to managing compassion fatigue was used by Anderson and Gustavson (2016). Instructors from a charitable organisation delivered face-to-face knitting tuition to groups of oncology nurses who had at least one year of oncology nursing experience (n=39 in total). Participants had the opportunity to debrief about stressful situations as they knitted. This could result in confidentiality being breached, depending on the conversation, however there is no reference to how this was managed in the study. Following instruction knitting was facilitated during breaks, or after stressful activities. Pre- and post-intervention scores revealed a statistically significant reduction in burnout and increase in professional quality of life ratings after the intervention. A meaningful (but not statistically significant) reduction in compassion fatigue was proposed.

Hevezi (2016) explored the impact of short meditation interventions (less than 10 minutes) on compassion fatigue and compassion satisfaction in oncology nurses working in palliative care. Interventions were delivered using an APP. A non-randomised convenience sample of 17 participants were recruited, two of whom were lost to follow up. Pre and post-test scores indicated statistically significant reductions in burnout and secondary trauma following the intervention, as well as increased

compassion satisfaction, however these should be treated with caution in view of the small sample size. Heeter et al (2017) evaluated the impact of a six-week yoga-based meditation intervention, delivered by an APP. Participants were hospice based (n= 14) and palliative care service providers (n=30), including oncology nurses. Nurse specific data is not presented, which is a weakness. Notably, participants had low scores for compassion fatigue and burnout pre-intervention. This might be attributed to their roles and their level of direct contact with patients. Post-intervention, data from Professional Quality of Life scales demonstrated statistically significant reductions in both compassion fatigue and burnout.

This section illustrates a diverse range of interventions that are focused on supporting the emotional health of oncology nurses. Collectively, they all appear to improve wellbeing and to reduce the risk of burnout.

Physical and psychological impact on nurses (including skills acquisitions to improve resilience)

The studies reviewed clearly demonstrate the psychological impact of reduced compassion fatigue and burnout following emotional support interventions. They also reveal a physical impact, with transferable skill development arising from the interventions (increased self-awareness of feelings, emotions and responses and actions taken to respond to those).

After engaging with Potter et al's (2013) compassion fatigue resiliency programme, participants reported learning 'useful strategies' that they applied to manage stress both at work and at home. Nurses reinforced how the 'skills they learned' helped to further develop their resilience to stress after the programme. Broad reference to 'skills' and 'strategies' results in a weak sense of what skills were and how they helped to support emotional health. Similar issues arise in the work of Yilmaz et al (2018), where participants reported utilising 'personal skills' that changed their approach to dealing with challenging situations in practice, yet these skills are not identified.

Nurses in both Heeter et al's (2017) and Hevezi's (2016) study reported increased self-awareness with respect to their feelings, emotions and responses to stress as a result of using meditation APPs. This led

to them using breathing exercises whilst in practice, or to visualising meditation objects to reduce feelings of stress when faced with challenging situations (Heeter et al. 2017; Lehto et al. 2018). There is a real sense of skill development portrayed through these examples. Participants in Potter et al's (2013) study reported qualitative improvements in relationships with colleagues, whilst those in Yilmaz et al's (2018) study reported a statistically significant increase in self-perception, changed philosophy of life and changed inter-personal relationships. These are broad claims, so it is difficult to understand what specific skills were applied and how they helped to influence the self-awareness of nurses, and their calls to action when faced with challenging situations.

Anderson and Gustavson's (2016) knitting intervention sought to directly reduce nurses' stress through engaging in practical activity, rather than learning strategies to reduce stress in action. Participants described it as useful and highlighted the soothing noise of the needles as they knitted. Knitting however may not be relaxing for those new to it and may not suit all individuals. There was no data about the previous experience of the nurses, in knitting, before the study. An unanticipated but powerful benefit of this intervention was bonding between staff, as they talked together whilst knitting.

The data reinforces that emotional support interventions go beyond improving emotional wellbeing. They also support transferable skill development that has a positive influence on the way that oncology nurses manage challenging situations and that has a positive impact on team relationships. Reference to the skills was very broad so understanding what specific skills are developed and how they help nurses to respond to challenging situations is somewhat limited.

Practicalities of using emotional support interventions.

Engaging within any intervention, whether face-to-face or APP based, requires a degree of personal commitment and/or time investment (Potter et al. 2013; Anderson and Gustavson 2016; Hevezi 2016; Heeter et al. 2017; Lehto et al. 2018). The greatest barrier to engagement with interventions is time. Face-to-face interventions required a regular, fixed time commitment. Potter et al's (2013) intervention required five sessions of 90 minutes. Participants in Yilmaz et al's study (2018) attended two face-to-face sessions and two follow-up counselling sessions. There was no discussion about logistical

difficulties of attendance within the papers, however unless interventions are scheduled and staff cover arranged, committing to multiple timeslots for interventions can be difficult when the nursing workload is changeable. Anderson and Gustavson (2016) utilised face-to-face instruction for their knitting intervention. Sessions were delivered by the volunteer instructor during nurses' breaks. It was problematic to recruit volunteers to give instruction for night staff whose breaks fell between 2-5am, thus the intervention favours staff working in the day.

APPs were positively evaluated for offering flexibility of engagement. Heeter et al (2017) noted that 82% of participants (n=36) downloaded at least one APP and of those 93% (n=33) meditated once or more a week, with an average of 3 meditations a week. The need for individuals to find their own natural approach to using apps was reinforced. Lehto et al's (2018) participants engaged with an APP between 6-30 times a week. Some used APPs daily, others ad hoc (on challenging days). This data suggests that nurses can adapt APP use to suit their needs in a responsive way, whereas for face-to-face interventions they are likely to need to wait for intervention.

Engagement with the interventions is influenced by the usability and feasibility (including previous experience) of them. Of participants in Heeter et al's (2017) study, 50% (n=22) had previous meditation experience, which may have positively influenced the findings. The face-to-face interventions in Kravits et al's (2010) and Potter et al's (2013) studies were positively evaluated but required firm time commitments. Meditation APPs viewed more positively for offering participants control over when and where they received interventions (Heeter et al. 2017; Lehto et al. 2018). Technical support was considered essential to render interventions via APPs usable and feasible (Lehto et al. 2018).

The importance of interventions, however they are delivered, being practical and feasible to use is a key consideration in their success.

Discussion

This literature review demonstrates that there are a diverse range of mindfulness interventions available to oncology nurses, engagement with which appears to improve emotional wellbeing and reduce the risk of burnout. Mindfulness interventions in this review facilitated transferable skills development, so nurses became more self-aware of their feelings/emotions and altered their responses to challenging situations. Whilst all mindfulness interventions reviewed demonstrated benefits for nurses, this depended upon the intervention being practical and feasible to use.

Oncology nurses demonstrate very high levels of compassion satisfaction at the beginning of their career but are prone to the development of compassion fatigue and burnout over time (Gribben and Semple 2021), that impacts on their emotional and physical health and affects their engagement with patients and their families (Fetter 2012). Dissatisfaction with the work environment is a factor implicated in burnout, linked to a sense of professional ineffectiveness because of environmental demands (Wahlberg et al. 2016; Brint 2017). Ill health of the nurse, or withdrawal from the nursing profession ultimately results in a high financial cost to the organisation (Gribben and Semple 2021).

The impact on service provision resulting from burnout in oncology nurses is recognised as a call for action, particularly in view of the Coronavirus pandemic which has not only presented further challenges around supporting patients with cancer (Challinor et al. 2020) but has presented huge challenges to nurses caring for patients with Covid across the board (Galehdar et al., 2020). Providing support interventions/resources at an organisational level, whilst welcome, is not necessarily the only, or best solution. Operationally this may be considered as supportive, however genuine challenges to participation may present because of practical and workload issues (Anderson and Gustavson 2016; Michael et al. 2019). A starting point is organisations' use of validated tools that can help to identify burnout, particularly the Maslach Burnout Inventory (Maslach 1982), Professional Quality of Life and Nursing Job Satisfaction tools. These tools can help organisations to reflect on factors causing burnout and to support action to improve emotional wellbeing at an individual or an organisational level.

Wahlberg et al (2016) reported an absence of supportive resources within employing organisations to help nurses combat compassion fatigue and burnout. However, attention has been growing in respect of supporting the emotional health and wellbeing of nurses in oncology. This review identifies the

positive impact of a diverse range of mindfulness interventions, ranging from formal face-to-face interventions delivered on site at an organisational level (Kravits et al. 2010; Potter et al. 2013; Anderson and Gustavson 2016; Yilmaz et al. 2018) to engagement with mindfulness apps at an individual level (Hevezi 2016; Lehto et al. 2018). Oncology nursing can learn from critical care, where there is a growing body of research focused on reducing burnout through mindfulness interventions. The 2020 Critical Care Societies National Summit, focused on preventing and managing burnout (in the ICU), brought together 55 professionals from across disciplines including palliative care, to explore organisational and individual based interventions to address burnout (Kleinpell et al., 2020). Whilst there was a call to promote healthy work environments and to undertake further research to evaluate the effectiveness of practical strategies, clinicians reported a clear reduction in burnout where organisational support was embedded, compared to where it was not.

Since mindfulness APPs have proved successful for supporting the emotional health of oncology nurses there is a case for encouraging their use (Hevezi 2016; Heeter et al. 2017; Lehto et al. 2018). There is an opportunity to develop a champion for emotional support within the organisation or department, able to signpost resources for nurses who require support. This role, similar to that described by Time to Change (2021), could also serve as a barometer of emotional health and wellbeing in the department or organisation, promoting action at an organisational level if required. Identifying and responding to staff concerns is key in demonstrating organisational support for and value of staff (Roberts and Grubb 2014). The responsibility for managing emotional health lies with both the organisation and the individual. If burnout is linked to workplace dissatisfaction where nurses feel disempowered due to pressures within the environment, individual engagement with mindfulness APPs alone will be insufficient to empower them to manage their emotional health in a meaningful and authentic way.

Equally, organisational support alone is insufficient to address burnout. Nurses are required by The Code (NMC 2018) to ensure they can practice safely and effectively, which requires them to manage their own health and wellbeing. Mindfulness APPs offer a personal resource to support emotional wellbeing, however their success is dependent upon nurses' commitment to engage with them. Within this review, previous experience of mindfulness activities and/or APP use was noted within participant groups (Heeter et al. 2017). Whilst APPs were positively evaluated as practical and usable, offering

nurses control over when, where and how they engage with them, the results may be influenced by selection bias. Not all individuals have faith in the impact of mindfulness interventions or have the personal time and space to use them effectively (Lehto et al. 2018). With the increasing range of mindfulness APPS available, their promotion as an individual tool for supporting emotional health appears to be straightforward, however it requires due consideration about personal choice, possible access issues for individual nurses, as well as consideration of technical support when issues are encountered.

Within the review, the evidence for improvements in burnout scores following mindfulness interventions was compelling, however no randomised controlled trial data is available. This would strengthen the findings. There was evidence of transferable skill development having an impact on practice, with nurses utilising breathing techniques when faced with challenges at work (Hevezi 2016). The review includes data to support 'improved bonding' and working relationships between colleagues, arising from dialogue. In Anderson and Gustavson's (2016) study, nurses were supported to debrief about challenging situations as they knitted. This dialogue could be a confounding factor in the research findings, however reinforces the value of facilitating time and space for nurses to have professional conversations to support their emotional health and wellbeing. Clinical supervision is a well-established strategy for reflecting upon practice with one nominated colleague (Black and Farmer, 2013). The sense of connection with other colleagues was different in this literature review, focused on dialogue between several colleagues that enabled bonding and enhanced team working. Further research that explores the impact of improved working relationships on the working environment and burnout would be powerful.

Conclusion

There are a diverse range of mindfulness interventions available to oncology nurses, engagement with which appears to improve emotional wellbeing and reduce the risk of burnout. Mindfulness interventions support the development of transferable skills that can be used when nurses face challenging situations in practice. Whether delivered face-face at organisational level, or individual level using APPs, there is shared responsibility (organisational and individual) for managing emotional health and wellbeing and interventions do not replace formal support systems such as clinical supervision.

All mindfulness interventions reviewed demonstrated benefits for nurses, however this depended upon interventions being practical and feasible to use. Team bonding is identified as an additional benefit of organisational mindfulness interventions, that impacts positively on the practice experience for nurses, patients and their families. Ultimately, the success of mindfulness interventions depends on the practicality and feasibility of the approach and the commitment of the organisation and the individual nurse in engaging with it.

Review limitations

There are few studies published to date in this area and the research samples, apart from the work of Kravits et al. (2010), are small. Further research is required to better understand the impact of mindfulness interventions on compassion fatigue and burnout.

KEY POINTS

- Oncology nurses are at high risk of compassion fatigue and burnout.
- Mindfulness interventions can reduce compassion fatigue and burnout.
- Mindfulness interventions develop transferable skills that help nurses recognise and respond to emotional challenges, with occupational and personal benefits.
- Using mindfulness interventions has organisational benefits including improved team bonding and reduction in staff illness and attrition.

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P (population)	Oncology nurses
I (intervention)	Intervention/support programme/education programme
C (comparison)	Pre and post intervention measures
O (outcomes)	Quantitative measures Qualitative impacts of interventions on health and wellbeing

Table 1: PICO framework

<p>Cancer nurs* OR oncology nurs*</p> <p>Intervention* OR support program* OR education program*</p> <p>Emotion* AND health OR wellbeing</p> <p>Compassion AND/OR burnout</p>

Table 2: Search terms

Inclusion criteria	Exclusion criteria
<ul style="list-style-type: none"> ▪ Oncology nurses ▪ Peer reviewed ▪ Primary research ▪ English language 	<ul style="list-style-type: none"> ▪ Papers published before 2010 ▪ Not oncology practice focused ▪ No intervention

Table 3: Inclusion/exclusion criteria

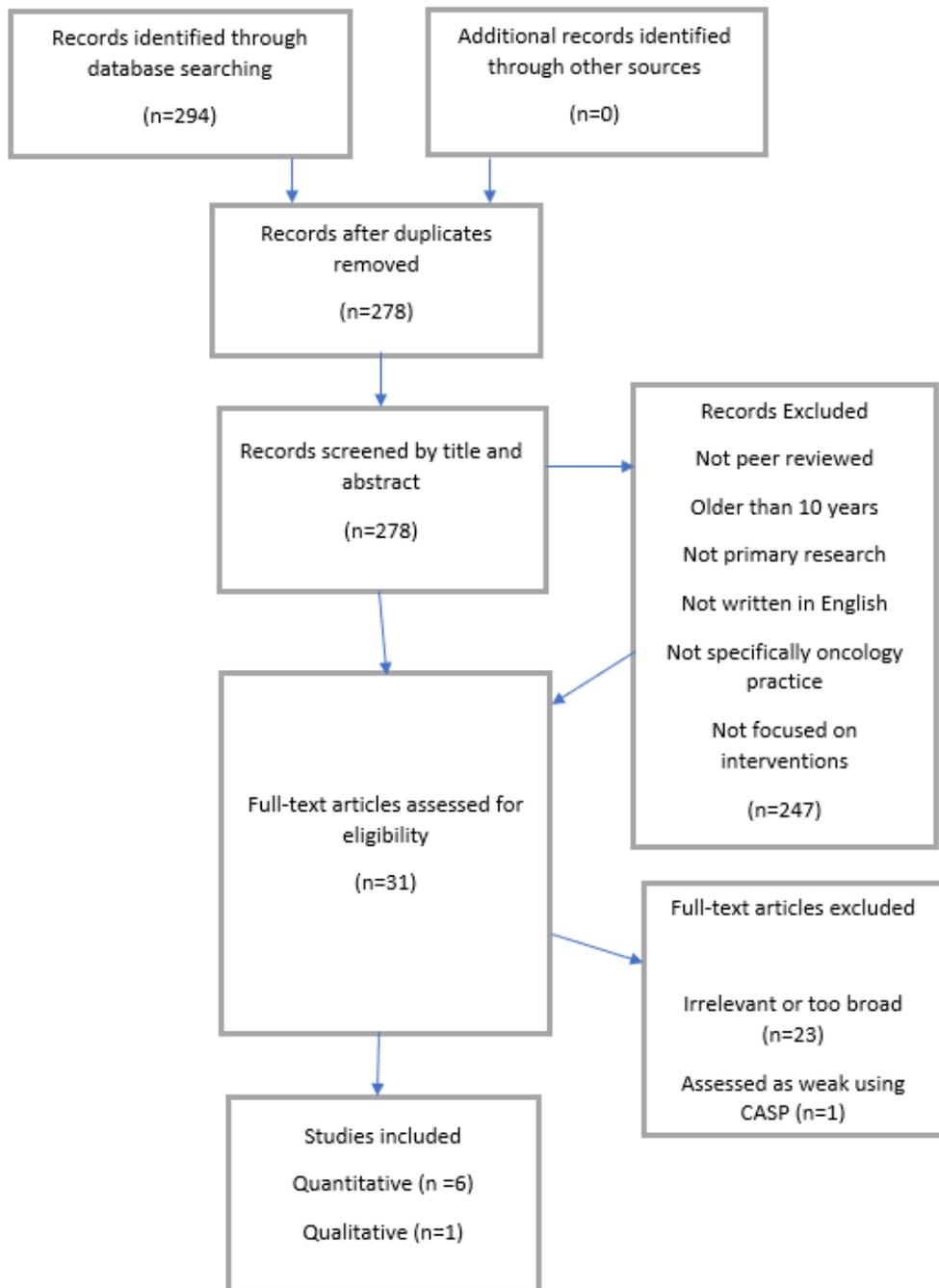


Figure 1: PRISMA flowchart