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**Review Article**

# Intervention Programs Targeting Burnout in Health Professionals: A Systematic Review

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**Abstract**

**Background:** Burnout is an occupational syndrome, with a higher prevalence in professionals whose close involvement with other people is significant. There is a great diversity of professionals at risk of burnout, and therefore the implementation of intervention programs is relevant, as helping people to maintain their mental and emotional health enables them to become more meaningfully involved in their communities and become more effective and active global citizens. We aimed to review systematically the characteristics of interventions targeting burnout in health professionals.

**Methods:** The search was conducted in three databases: Scopus, Web of Science, and PubMed, following the PRISMA model, and 16 eligible articles were identified between 2012 and 2023.

**Results:** Mindfulness showed great efficacy in preventing burnout, by reducing stress levels and promoting empathy. In addition, relaxation and breathing techniques, yoga, and music therapy showed to improve burnout and occupational stress levels. Balint groups have also helped slow the progression of burnout. Implications about the need for future research to foster the promotion of well-being and mental health of health professionals are mentioned.

**Conclusion:** Mindfulness, relaxation and breathing techniques, yoga, music therapy and balint groups proved to be effective in preventing burnout.

**Keywords:** Burnout; Prevention; Intervention program; Health professionals

## Introduction

Burnout is a syndrome that results from chronic stress at work, with several consequences for the well-being and health of workers (1) and for the productivity of organizations. It is an occupational

phenomenon (2) that can led to several psychological problems, including anxiety and depression, which, can lead to the worker leaving the profession (3) or to high rates of absenteeism.

Although this issue is one of the most addressed mental health problems in society, burnout is not yet officially recognized as a mental disorder (4), and there are no differential diagnosis criteria for this issue, which is sometimes confused with depression (5). Burnout is not included in the DSM-5 (6) however, it appears as an occupational phenomenon in the ICD-11 (7). According to the WHO (2), and the ICD-11 definition; burnout results from chronic stress in the workplace characterized by feelings of exhaustion, increased feelings of negativity towards work and reduced professional effectiveness.

Due to the implications that burnout can have on health professionals' lives and the negative impact it has on patient care and other professional duties, e.g., decreased enthusiasm, motivation, and a sense of hopelessness in one's career, ineffective communication, less safe and effective clinical practices (8), as well as errors due to fatigue, lack of attention, and impaired decision-making abilities (9), it is essential to act not only at a remedial level but at a preventive level. Although burnout and stress prevention programs are scarce (10), they can be found in most of the above-mentioned professions, namely for physicians, nurses, and teachers. However, the auxiliary population is not studied as much, and minimal intervention programs are carried out with these professionals. Healthcare professionals have been developing increasingly higher rates of illness, absenteeism, burnout, and distress when compared to other professional sectors (11), which corroborates the urgent need for prevention in this area.

Some professions are more predisposed to the development of burnout syndrome, as is the case of police workers (4); health professionals such as nurses (5) and physicians, from surgeons (6) to several health sector trainees (7); emergency service professionals such as firefighters (2); teachers (8); military personnel (9); pilots (10); air traffic controllers and marine navigators (11). There is also a high risk of burnout in formal caregivers of older people, namely nurses and aides (12).

Burnout prevention can help people maintain their mental and emotional health, which enables them to engage more meaningfully in their communities and become more effective and active global citizens (8). By investing in burnout prevention in health professionals, we are encouraging the empowerment of people to effectively manage stress, maintain a healthy work-life balance and develop communication and conflict resolution skills (13). By making professionals more functional in the various spheres of their lives, we are contributing to the promotion of global citizenship behaviors, as professionals will be able to maintain their energy and motivation to act as engaged and responsible citizens (14).

There has been increasing investment in the development of intervention programs aimed at reducing burnout among specific professional groups (e.g. physicians and nurses) (15,16). Despite this, review studies are needed to systematize valid and comprehensive results from different intervention approaches. We aimed to systematically review the characteristics of interventions targeting burnout in health professionals. This review is expected to provide a reference to guide researchers and mental health providers to select appropriate interventions and identify gaps in need of further exploration.

## Materials and Methods

### *Overview*

This systematic review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) 2020. The protocol for this systematic review was registered on PROSPERO (CRD42022352460).

### *Literature Search Strategy and Study Selection*

To carry out this review, a search was conducted in the following online databases: Scopus, Web of Science, and PubMed. The keywords used were "burnout" AND "prevention" AND "intervention programs". Specific filters related to restrictions

on publication date and language were used. Articles in English, published between 2012 and 2023, were searched. Additional sources were identified by citation searching. The first search was performed in each database in Apr 2021, and then it was re-run in Oct 2023 to identify possible further studies.

### *Eligibility Criteria*

Studies were eligible for final inclusion in the systematic review if they met the following criteria: (i) published in a peer-reviewed journal between the years of 2012 and 2023; (ii) written in English; (iii) employing a quantitative design; and (v) developing and evaluating interventions for managing burnout in health professionals (e.g. nurses, physicians).

Systematic reviews and meta-analyses, incomplete articles or those that only presented abstracts, studies in languages other than English, studies with populations not related to the health sector, as well as comparative studies, literature reviews, validations, or administrations of scales were excluded (Table 1).

**Table 1:** Inclusion and exclusion criteria

| *Criteria* | |
|---|---|
| **Inclusion** | **Exclusion** |
| Written in English | Written in other language than English |
| Year of publication 2012 to 2023 | Publication out of the range 2012-2023 |
| Study population healthcare workers | Population not related to healthcare workers |
| Intervention programs for managing burnout | Systematic reviews/meta-analyses |

### *Data Extraction Process*

The data extraction process was conducted according to the PRISMA model.

First, in the initial search, articles that met the inclusion criteria, which are potentially eligible articles, were selected. Next, all duplicate articles were removed. After this, the titles and abstracts were analysed. Taking into consideration the inclusion criteria (Table 1), relevant articles were extracted and those that did not fit were excluded (17) (Fig. 1).

The following information was summarized: name of the author(s) and year of publication, sample, randomized study type of intervention, duration of sessions, duration of follow-up, instruments used, and study results (Table 2).

### *Study quality assessment*

The quality assessment of eligible studies was appraised using the Joanna Briggs Institute (JBI) methodology (18). Each item on the JBI checklist was appraised as "yes", "no", "unclear", or "not applicable". The assessment of the methodological quality of the studies was carried out based on the information available in the articles. Two authors conducted the appraisal. Disagreements were solved by consulting with a third author.

## Results

### *Study selection*

After initial searches, 510 potentially eligible studies were identified: 115 in Scopus, 157 in Web of Science, and 238 in PubMed. In addition to these, articles were identified through citation searching (n=4). Using the JBI tool, we found that the overall quality of the studies was moderate to high. After the removal of duplicates (n=137), 373 possibly eligible studies remained. At the end of the selection of titles and abstracts, 280 articles were excluded, leaving 93 studies. Of these, 79 were excluded. Four articles were selected by citation research, leaving 16 studies that met all the selection criteria, according to the flowchart (Fig. 1).

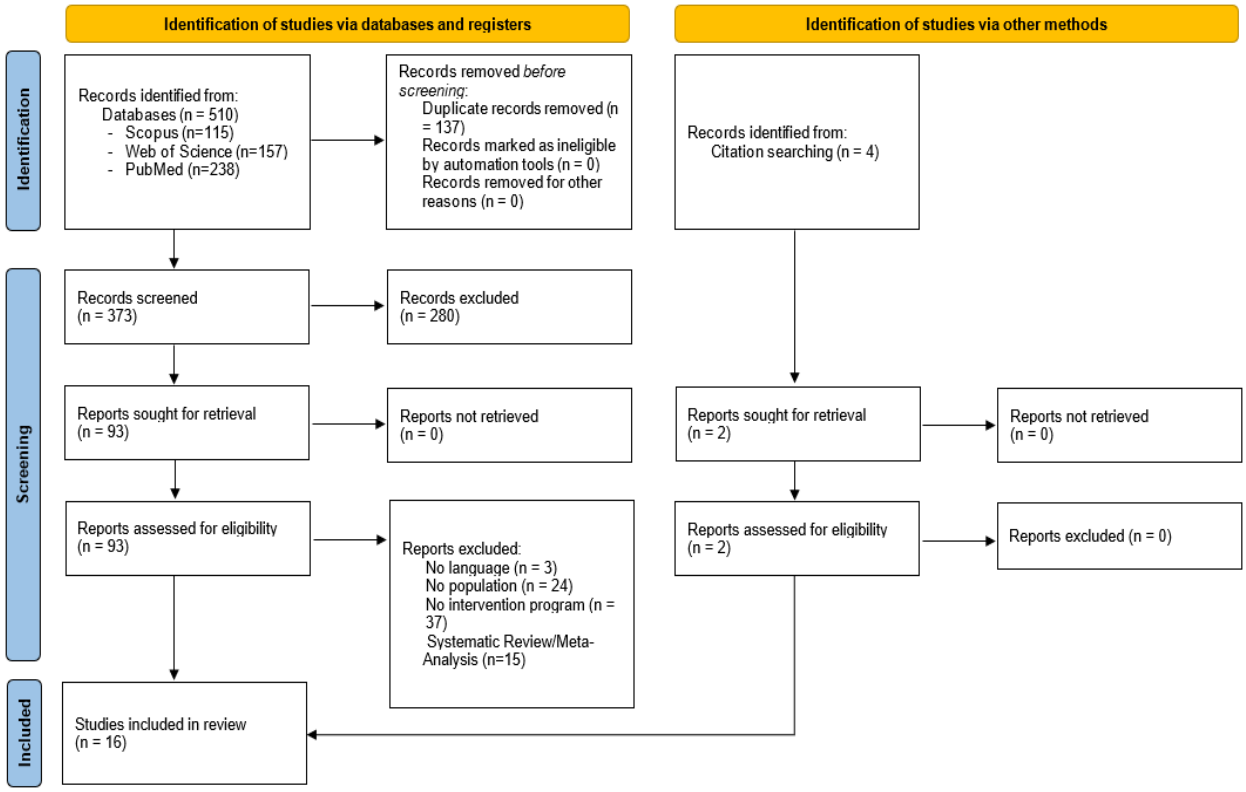


**Fig. 1:** Flow chart of the study selection process

### *Study characteristics and participants*

The majority of participants are women, except for one study in which males predominate (19). There are 7 studies that do not refer to the gender of the participants encompassing 578 study subjects (10, 20-25). In one study, only the gender of participants in the experimental group is mentioned (26). In the total of 1295 subjects, there are 474 women, 234 men, and 587 undefined/unidentified.

Most of the analyzed articles do not refer to the average age of the participants. This fact only happens in 6 studies (27-32). The average age is 37.7 yr old, with the minimum average being 22.8 yr and the maximum being 51.2 yr.

### *Intervention characteristics and effectiveness*

Sixteen articles were included in the present review, whose data were systematized in Table 2.

Burnout prevention programs can have different levels of intervention – they can be applied in institutions, in individuals, or even at societal or sectorial levels. Generally, programs targeting individuals adopt a cognitive-behavioral approach, aiming at reducing burnout through the development of skills, coping strategies, and social support (N=8) (19).

From the total number of articles (N=16), it is possible to show that, even though all of them are with people in the healthcare sector, only one concerns a mental health intervention program, namely nurses (19). The others occur with medical (26) and nursing students (31), primary care professionals (10), operating theatre staff (29), oncology staff (21), and physicians from various specialties, including internal medicine (20,24), nurses (32), general surgery, anaesthesiology, and physical medicine/rehabilitation (20), obstetrics/gynaecol-

ogy, family medicine and paediatrics (24) and psychiatry (20,24). In one of the included studies, the study population consists of health professionals who are war veterans (30).

Some studies have been carried out on this subject, however, there are some gaps, e.g., most of these studies are carried out with physicians and nurses, leaving aside other non-medical health professionals, such as assistants.

The years of publications of the selected studies occur from 2014 to 2023, with no article published dated 2016 and 2022. The year with the highest number of published articles (n=6) is 2019 [Min= 0; year 2016, 2022; Max=6; year 2019; SD= 1.62].

Of the studies included in this review, only two do not use assessment instruments (19,24). The instruments administered are heterogeneous, with the most common in most studies being the Maslach Burnout Inventory (MBI), used in nine studies (10, 19, 22, 23, 27, 28, 29, 33). The other used instruments were: Health Promoting Lifestyle Profile (HPLP), Freiburg Mindfulness Inventory (FMI) (24); Professional Quality of Life (ProQol) (20, 32), Revised Impact of Event Scale (IES-R) (21); Brief Psychiatric Rating Scale (BPRS), Struening and Cohen's Opinion about Mental Illness questionnaire (OMI), Font-Roja Job Satisfaction Questionnaire (FR) (22); Beck Anxiety Inventory (BAI), Authentic Happiness Inventory (AHI), Fordyce Happiness Scale (FHS) (26); Minnesota Satisfaction Questionnaire (MSQ) (28); Perceived Stress Scale (PSS) (29, 31); SOC Questionnaire (SCQ) (30); Copenhagen Burnout Inventory (CBI) (25); Five Facet Mindfulness Questionnaire (FFMQ), Perceived Stress Questionnaire (PSQ), Jefferson Scale of Physician Empathy (JSPE), Goldberg Anxiety and Depression Scale (GADS) (10); Mindful Self-Care Scale (MSCS) (31); Self-Compassion Scale (SCS) (10, 28); Quantitative Workload Inventory (QWI), Job Insecurity Scale (JIS), Work Design Questionnaire (WSQ), Work Acceptance and Action Questionnaire (WAAQ), Utrecht Work Engagement Scale (UWES) (33), Posttraumatic Growth Inventory (PTGI), Brief Resilience Scale (BRS), Self-Reflection and Insight Scale (SRIS), Self-Compassion Scale-Short Form (SCS-SF), Psychological Empowerment Instrument (PEI), General Self-Efficacy Scale (GSE) and Brief Index of Affective Job Satisfaction (BIAJS) (32).

Follow-up only occurs in seven studies (10, 19, 21, 31, 32, 33), most commonly three months after the intervention (10, 19, 21, 30), however, studies with follow-up of six months (19, 21), ten months (22), one month (19) and four weeks (31) were found. Three of the selected articles present follow-up at various time points: 1, 3, and 6 months (19, 32) and 3 and 6 months (21).

There is a clear preference for face-to-face studies, only online intervention occurred in one of the studies included in the review (27).

The selected articles present diversity regarding the country in which the intervention program was implemented: Saudi Arabia (19), Spain (10, 22), China (28), Tunisia (29), United States of America (24-26, 31, 32) and the Netherlands (33). Five of the articles do not identify in which country the intervention program was implemented.

A minority of randomized studies is clear, only five studies follow this type of method (10, 19, 27, 28, 32).

Regarding the duration of sessions, the least long-lasting intervention is about 2 days (19, 21), followed by 4 wk (31), 6 wk (29), 8 wk (27), 9 wk (22), 10 wk (33), 2 months (32), 3 months (20, 30), 4 months (24), 5 months (23), 6 months (28), 10 months (33) and 1 year (25). There is one study that conducts the intervention at two time points, 4 and 8 wk (10).

It is possible to see that most of the analyzed articles compare groups (10, 19, 22-26, 28, 29, 32, 33). Of eleven studies, there are nine which use experimental and control groups. Of these, there are five which refer to the size of the effect (10, 19, 22, 27, 29, 32).

There are several types of intervention in the selected articles, all of which aim to intervene in the promotion of mental health, either by directly preventing burnout or indirectly by reducing occupational stress, as well as promoting job satisfaction. The intervention programs found are mostly psychoeducational. There are programs based on psychotherapeutic interventions (10, 22, 26, 31, 32),

personal and social development (19-21, 23, 25, 27, 29, 30) and personal and professional well-being (19-21, 23, 25, 27, 29, 30). The studies present a significant diversity of interventions, including wellness programs, yoga, focus groups, music therapy, mindfulness, and coaching. This variety suggests the need for approaches tailored to the needs of health professionals, recognizing that different individuals may respond better to different strategies.

**Table 2:** Summary of the studies

| *Reference No.* | *Sample Size* | *Participants* | *Randomized* | *Comparison Groups / Effect Size* | *Intervention Format* | *Duration/ Number of Sessions* | *Follow-up* | *Instruments* | *Results* |
|---|---|---|---|---|---|---|---|---|---|
| (20) | n=188 | Residents | No | No / No | Wellness Intervention | 12 wk | - | - | Residents chose to continue the weekly sessions voluntarily after the initial 12-week curriculum |
| (19) | n=296 | Mental Health Nurses | Yes (For 1 stage) | Yes / Yes | Burnout Prevention Programme | 2 days | 1-, 3-, and 6-months intervals | MBI[1] | The intervention was effective in managing burnout |
| (27) | n=40 | Nurses | Yes | Yes / Yes | Yoga Intervention | 8 wk | - | HPLP II[2]; FMI[3]; MBI | Participants reported higher self-care, lower emotional exhaustion and depersonalization |
| (21) | n=15 | Oncology Staff | No | No / No | Compassion Fatigue Program | 4 sessions | 3 and 6 months | ProQol IV[4]; IES-R[5] | Compassion fatigue resilience programs have been shown to be effective, feasible, and scalable |
| (22) | n=38 | General Practitioners | No | Yes / Yes | Multimodal Training Programme (MTP) Integrated Brief Systemic Therapy (IBST) approach | 9 weekly sessions | 10 months | BPRS[6]; OMI[7]; FR[8]; MBI-HSS[9] | MTP showed significant improvements, better scores on overall psychopathological status, and better evolution of job satisfaction |
| (31) | n=67 | Nursing Students | No | No/ No | Mindfulness sessions | 4 wk | 4 wk | PSS[10]; MSCS[11] | Mindfulness education increased self-care in nursing students who practiced mindfulness outside class |

[1] MBI - Maslach Burnout Inventory
[2] HPLP - Health Promoting Lifestyle Profile
[3] FMI - Freiburg Mindfulness Inventory
[4] ProQol - Professional Quality of Life
[5] IES-R Revised Impact of Event Scale
[6] BPRS - Brief Psychiatric Rating Scale
[7] OMI - Struening and Cohen's Opinion about Mental Illness
[8] FR - Font-Roja Job Satisfaction Questionnaire
[9] MBI-HSS - MBI - Human Service Survey
[10] PSS - Perceived Stress Scale
[11] MSCS - Mindful Self-Care Scale

**Table 2:** Continued…

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| (23) | n=46 | Emergency Medicine Residents | No | Yes / No | The Happiness Practice (THP) – Corporate-based wellness intervention | 5 months; 6 monthly sessions | - | MBI | The program shows a decreased burnout, while increase individual happiness, resilience, innovation and sustainability |
| (26) | n=93 | Medical Students | No | Yes / No | The Joy Initiative | 10 wk | - | BAI[12]; AHI[13]; FHS[14] | Students reported improvements in life satisfaction, as well as increased ability to cope with stressors |
| (28) | n=36 | Resident Physicians | Yes | Yes / No | Balint Group Intervention | 10 sessions/6 months | - | MBI-HSS; MSQ[15] | The results indicated that Balint groups helped to slow the progression of burnout |
| (24) | n=120 | Core Faculty and Residents | No | Yes / No | Focus Groups | 4 months/14 focus groups | - | - | The results emphasize the importance of interventions targeted at the social environments in which residents work |
| (29) | n=34 | Operating Room Staff | No | Yes / Yes | Music Therapy Program | 6 wk | - | PSS-10[16]; MBI | Music therapy improved the stress levels of the operating room staff |
| (30) | n=39 | Health Care Workers within the Veteran Affairs | No | No / No | Mantram Repetition Program (MRP) | 3 months | 3 months | MBI-GS[17]; SCQ[18] | An MRP intervention may reduce burnout, particularly in those individuals who are naïve to practicing meditation |
| (25) | n=39 | Residents | No | No / No | Implemented Wellness Program | 1 year | - | CBI[19] | The results show a clinically significant overall reduction in mean burnout |
| (10) | n=132 | Primary Care Professionals | Yes | Yes / Yes | MINDUDD –Intervention based on Mindfulness-Based Stress Reduction | 8 wk and 4 wk | 3 months | FFMQ[20]; SCS[21]; PSQ[22]; MBI-GS; JSPE[23]; GADS[24] | Results show that there is a correlation between mindfulness and self-compassion and increased resilience and psychological well-being |

[12] BAI - Beck Anxiety Inventory
[13] AHI - Authentic Happiness Inventory
[14] FHS - Fordyce Happiness Scale
[15] MSQ - Minnesota Satisfaction Questionnaire
[16] PSS-10 - Perceived Stress Scale Version 10
[17] MBI-GS - MBI–General Survey
[18] SCQ - SOC Questionnaire
[19] CBI - Copenhagen Burnout Inventory
[20] FFMQ – Five Facet Mindfulness Questionnaire
[21] SCS - Self-Compassion Scale
[22] PSQ - Perceived Stress Questionnaire
[23] JSPE - Jefferson Scale of Physician Empathy
[24] GADS - Goldberg Anxiety and Depression Scale

**Table 2:** Continued…

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| (32) | n=77 | Nurses | Yes | Yes/Yes | Psychoeducational Group Program | 2 months | 1, 3 and 6 months | PTGI[25]; ProQoL; BRS [26]; SRIS [27]; SCS-SF[28]; PEI[29]; GSE [30]; PSS; BIAJS[31] | Psychoeducational group program can be an effective intervention for improving mental wellbeing |
| (33) | n=114 | Residents and Specialists | No | Yes / No | Coaching Intervention | 10 months / 6 sessions | - | Some items: QWI[32]; JIS[33]; WAFCS[34]; SCS; WDQ[35]; MBI; UWES[36] | Results show that the coaching group reported a reduction in burnout symptoms |

## Discussion

Over the last decade, an increasing number of studies on the issue of burnout have emerged. The present review seeks to analyze 16 articles, published between 2014 and 2023, which aimed at sharing burnout intervention programs with professionals from the healthcare sector.

There are advantages in the implementation of burnout intervention programs in individuals' mental health.

There is a predominance of intervention programs focused on the promotion of well-being, as a way of preventing occupational pathologies, such as burnout. By enhancing self-awareness, the individual improves self-care, which improves psychological well-being (10), which, in turn, helps prevent burnout. Furthermore, programs that work to prevent compassion fatigue indirectly prevent burnout, as compassion fatigue can progress to burnout (22). Strategies that proved to be effective in preventing/reducing burnout were relaxation exercises, breathing training, music therapy, and yoga.

Concerning psychotherapeutic interventions, mindfulness shows benefits in reducing stress and anxiety levels (22, 31), as well as promoting the development of empathy in professionals (10), so it may be a path to be followed in burnout prevention. Several intervention programs are based on Mindfulness-Based Stress Reduction (MBSR) (34). Mindfulness-based interventions have consistently shown positive effects in reducing burnout, as increasing self-awareness and the ability to cope with stress seems to be a promising avenue for improving the well-being of healthcare professionals. The practice of mindfulness has not only proved effective in managing stress, but also in promoting empathy among health professionals.

Studies incorporating practices such as yoga and music therapy have also shown promising results, as improved self-care, reduced perceived stress

[25] PTGI - Posttraumatic Growth Inventory
[26] BRS - Brief Resilience Scale
[27] SRIS - Self-Reflection and Insight Scale
[28] SCS-SF - Self-Compassion Scale-Short Form
[29] PEI - Psychological Empowerment Instrument
[30] GSE - General Self-Efficacy Scale
[31] BIAJS - Brief Index of Affective Job Satisfaction
[32] QWI - Quantitative Workload Inventory
[33] JIS - Job Insecurity Scale
[34] WDQ - Work Design Questionnaire
[35] WAAQ - Work Acceptance and Action Questionnaire
[36] UWES - Utrecht Work Engagement Scale

and emotional exhaustion highlight the importance of holistic approaches that integrate body and mind.

Balint groups have been shown to be effective in promoting mental well-being since social interaction and sharing experiences seem to play a significant role in preventing burnout (28, 35-37).

WHO has emphasized the need for healthcare professionals to have access to training and education programs that promote well-being and resiliency (2). Education and training are instrumental in enhancing professional knowledge and skills, and transversal competencies, alongside promoting global citizenship. In patient care environments, special training can be introduced that teaches professionals about different practices, and ways to empower teams and individuals, promoting, for example, transversal competencies (e.g., coping strategies, meditation, and yoga).

There is a minority of studies with follow-up draws our attention to the need to evaluate better the effectiveness of intervention programs. Interventions should take into consideration their effectiveness and without follow-up, it is difficult to understand the benefits of interventions in the medium and long term and to design and manage intervention programs based on key performance indicators.

Organizations that adopt responsible social practices have a healthier and more balanced work environment, which can help prevent burnout among their employees (38). However, organizations that neglect social and environmental issues and do not value the well-being of their employees have a more stressful work environment, which can lead to an increase in burnout (39).

Limitations were found in this systematic review. Firstly, the characteristics of the studies vary in several aspects, from the number of sessions, type/format of intervention, and target audience. Second, there is little variability regarding burnout instruments, with most studies using the MBI.

Finally, restricting the search, may have limited the discovery of relevant articles.

Some flaws need to be addressed in future research. One suggestion for future studies is to have more interventions in organizations as there are more long-term benefits (40). Organizations should invest in promoting employee health through burnout promotion programs as it can help create a healthier working environment, which can lead to a stronger organizational culture that is more likely to support global citizenship initiatives (14).

Other forms of burnout prevention were not addressed due to the study criteria and the nature of the investigation, such as volunteering, as getting involved in volunteer activities can promote positive emotions, provide a sense of accomplishment, and promote connections, which can have a positive impact on preventing burnout (41). Volunteer opportunities create a sense of shared experience and purpose for the work done, help to build mutual interests, and promote empathy. Besides that, digital connectivity can help to reduce burnout among healthcare workers by providing access to social support, information and resources (42). Internet access and digital tools provide individuals with access to information, allowing them to connect with others and begin to engage in the world's conversation and best practices, reducing isolation and promoting, for example, belonging to digital communities.

It is important to consider a greater diversity of target audiences for burnout intervention programs, such as medical assistants or direct care nurses, whose studies are still scarce, with a clear prevalence of intervention programs in physicians and nurses. Early intervention may also help to prevent the onset of burnout, being, therefore, a suggestion for future research.

## Conclusion

This systematic review provides a comprehensive overview of burnout intervention programs in the healthcare sector, emphasizing the importance of a multifaceted approach that encompasses individual well-being, organizational practices, and collaborative initiatives within the healthcare community.

These results have implications for promoting well-being. Implementing effective strategies can

not only benefit workers but also contribute to a healthier and more sustainable working environment. However, it is essential to recognize the complexity of burnout and the need for approaches that consider both individual and organizational factors. The path to preventing burnout requires an ongoing commitment to mental health and well-being, both on the part of professionals and institutions.

The significant influence of the work environment on burnout experiences underscores the responsibility of organizations in promoting mental health. Socially responsible organizational practices not only create more balanced environments but also contribute to the prevention of burnout.

The identified gaps provide a roadmap for future research, guiding efforts toward more inclusive and sustainable strategies for preventing burnout in healthcare professionals.

## Journalism Ethics considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

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## Conflict of interest

The authors declare that there is no conflict of interests.

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