Integrative review: Mental health interventions with healthcare professionals in the hospital settings

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Healthcare professionals are exposed to various work conditions that can affect their mental health. Starting from the following question: "what interventions have been conducted in the field of mental health for healthcare teams working in a hospital context?", we conducted an integrative review covering the period from 2001 to 2022, using the databases PubMed, Web of Science, Scopus, and Biblioteca Virtual em Saúde (BSV). Nine original studies with different methodological designs were included. Several variables were analyzed, including stress, burnout, job satisfaction, depression, anxiety, resilience, well-being, and quality of life, among others. Except for job satisfaction and self-efficacy, the remaining variables showed positive results.
Keywords: Psychosocial intervention, healthcare professionals, general hospital

Revisión integrativa: Intervenciones en salud mental con profesionales de la salud en el contexto hospitalario
Los profesionales de la salud están expuestos a diversas condiciones laborales que pueden afectar su salud mental. A partir de la siguiente pregunta: "¿qué intervenciones se han llevado a cabo en el campo de la salud mental para los equipos de salud que trabajan en el contexto hospitalario?", realizamos una revisión integradora en el período de 2001 a 2022, utilizando las bases de datos: PubMed, Web of Science, Scopus y Biblioteca Virtual en Salud (BVS). Se incluyeron nueve estudios originales con diferentes diseños metodológicos. Se analizaron diversas variables, como estrés, agotamiento, satisfacción laboral, depresión, ansiedad, resiliencia, bienestar y calidad de vida, entre otras. Con excepción de la satisfacción laboral y la autoeficacia, las demás variables arrojaron resultados positivos.
Palabras clave: intervención psicosocial, profesionales de la salud, hospitales generales

Revisão integrativa: Intervenções em saúde mental com profissionais de saúde no contexto hospitalar
Profissionais de saúde são expostos a diversas condições no trabalho que podem afetar a sua saúde mental. A partir da seguinte pergunta: "quais intervenções vêm sendo realizadas

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no âmbito de saúde mental para equipes de saúde que atuam no contexto hospitalar?", conduzimos uma revisão integrativa, no período de 2001 e 2022, através das bases: PubMed, Web os Science, Scopus e Biblioteca Virtual em Saúde (BSV). Foram incluídos nove estudos originais, com diferentes desenhos metodológicos. Diversas variáveis foram analisadas, como estresse, burnout, satisfação no trabalho, depressão, ansiedade, resiliência, bem-estar e qualidade de vida, entre outras. Com exceção da satisfação no trabalho e autoeficácia, as demais variáveis apresentarem resultados positivos.

Palavras-chave: intervenção psicossocial, profissionais de saúde, hospital geral

Revue intégrative: Interventions en santé mentale avec des professionnels de la santé dans le contexte hospitalier

Les professionnels de la santé sont exposés à diverses conditions de travail qui peuvent affecter leur santé mentale. À partir de la question suivante: «quelles interventions ont été menées dans le domaine de la santé mentale pour les équipes de soins travaillant dans un contexte hospitalier ?», nous avons réalisé une revue intégrative, pendant le période de 2001 à 2022, à partir des bases de données PubMed, Web of Science, Scopus et Biblioteca Virtual em Saúde (BSV). Neuf études originales avec des conceptions méthodologiques différentes ont été incluses. Plusieurs variables ont été analysées, telles que le stress, l'épuisement professionnel, la satisfaction au travail, la dépression, l'anxiété, la résilience, le bien-être et la qualité de vie, entre autres. À l'exception de la satisfaction au travail et de l'auto-efficacité, les autres variables ont montré des résultats positifs.

Mots clés: intervention psychosociale, professionnels de la santé, hôpital général

Healthcare professionals are exposed to certain factors that could be considered risk factors for the development of psychological distress, such as stress, burnout, anxiety, and depression. Among these factors, it is possible to mention: lack of social skills and/or coping skills for challenging situations, organizational factors, and low social support at work (Ruotsalainen et al., 2014).

When considering organizational aspects, the hospital settings present some peculiarities, such as high workloads, handling complex cases, close contact with patients and their families, and often dealing with death (Gracia-Gracia & Oliván-Blázquez, 2017).

The proximity to the suffering of patients and their families could also lead to the emergence of negative and cumulative feelings, which constitute the condition known as vicarious trauma. Studies on this condition have been intensified after the September 11 attacks, when healthcare professionals began to show signs related to a traumatic experience due to close contact with individuals directly affected by traumatic events (Kadambi & Ennis, 2004; Branson, 2019).

In the wake of the COVID-19 pandemic, healthcare professionals have once again found themselves at the forefront of a crisis, being exposed to a multitude of health risks, including those of a mental nature. Notably, these risks encompass the fear of contagion and mortality (personal, as well as that of their patients and loved ones), close proximity to suffering, and extended working hours (Ottisova et al., 2022).

Given the issues raised in this study, it was important to investigate the interventions being implemented for healthcare professionals in the hospital settings, specifically concerning mental health. Therefore, the objective was to identify and describe the types of mental health interventions which have been used for healthcare professionals who were working in the hospital settings, between 2001 and June 2022.

Method

In order to ensure methodological rigor, this review was conducted following the recommendations outlined in the "Preferred Reporting Items for Systematic Reviews and Meta-Analyses" (PRISMA) statement guidelines (Moher, Liberati, & Altman, 2009).

Information Sources, Study Selection, and Review Process

The search strategy was developed by a researcher with expertise in conducting systematic reviews and in the field of Hospital Psychology. Subsequently, it was reviewed and refined by a group of researchers experienced in conducting systematic reviews and with expertise in the healthcare domain.

The search was conducted in mainly four databases: PubMed, Web of Science, Scopus, and *Biblioteca Virtual em Saúde* (BSV). The following databases were included in the search: LILACS, Index Psicologia Periódicos; BDENF-Enfermagem, IBECS, Secretaria Estadual de Saúde de São Paulo. The keywords were selected based on their indexing in the Health Sciences Descriptors (DeCS) database. The search covered the period from 2001 to June 2022, and articles published in English, French, Spanish, and Portuguese were considered for inclusion. The research was conducted from April 6th to June 2nd, 2022. Gray literature was not included on this review. The search strategies according to each database are provided in Table 1.

During the search process, the articles were screened following the PICO (Population, Intervention, Comparison, Outcome) framework (Santos, Pimenta, & Nobre, 2007), as specified below:

a) Population: studies involving healthcare professionals of both genders, of any age, working in the hospital settings, and who were the target of some form of direct mental health intervention;

b) Intervention: studies which reported any type of direct mental health intervention, focusing on the implementation

or execution of a mental health care strategy for healthcare professionals working in the hospital settings. As defined by the International Classification of Health Interventions (ICHI Beta, 2017; cited in Soklaridis et al., 2020), an intervention is understood as "a service performed for or on behalf of a population with the purpose of accessing, improving, maintaining, promoting, or modifying functional or health conditions"

c) Outcome: studies which reported the development of the intervention, the acceptability of the proposed intervention by the study population, and/or evidence of effectiveness related to the proposed intervention;

d) Types of publication: Studies published as full articles and available in the databases mentioned above.

e) Countries of origin: No restrictions.

Table 1

Search strategies used for this review, according to the database used

Database	Search date (mm/dd/yyyy)	Key-words	Limits
PubMed	04/06/2022	*(((Psychosocial Intervention) OR (Psychotherapeutic Processes) OR (Psychotherapy)) AND ((Patient Care Team) OR (team work) OR (multidisciplinary team) OR (multiprofessional team) OR (interdisciplinary team) OR (health personnel) OR (health worker)) AND ((hospital general) OR (Tertiary Care Centers)))*	Time: 2001 - present Languages: Portuguese, English, French, Spanish Publication type: full article
Web of Science	05/28/2022		Time: 2001 - present
Scopus	05/31/2022		Time: 2001 - present Languages: Portuguese, English, French, Spanish Publication type: full article
BVS	06/02/2022		Time: 2001 - present Languages: Portuguese, English, French, Spanish Excluded Medline, already included in Pubmed

It should be noted that the comparison between groups was not included as a criterion, as this is an integrative rather than systematic review, and the presence of a control group was not used as an inclusion criterion.

The exclusion criteria used were: a) publications in the format of books, e-books, theses, and dissertations; b) theoretical studies, reviews, editorials, protocols description, screening, guidelines, etc.; c) studies focusing on screening signs and symptoms of mental disorders in healthcare professionals, including validation of instruments, without proposing an intervention; d) other studies involving healthcare professionals, such as practice descriptions, understandings of practices, interventions that do not directly involve the mental health of professionals, healthcare professionals working in non-hospital settings; e) studies in the healthcare field conducted with patients and/or family members rather than professionals, whether they are screening studies, psychometric studies, or proposals for mental health interventions; and f) studies addressing other topics, such as education.

The entire process of developing the search strategy, including the definition of descriptors, databases, limits, conducted tests, as well as the dates of the searches, located articles, both included and excluded, and the justifications, were tabulated in a shared Microsoft Excel file among the involved researchers.

A total of 1,573 articles, excluding duplicates, were screened based on their titles and abstracts. Out of these, 1,517 were excluded after applying the criteria presented before, leaving 54 articles as eligible, which were then fully analyzed. Upon full-text analysis, 43 articles were excluded, resulting in 11 articles being assessed for methodological quality, of which 9 were included in the present review. The number of selected articles at each stage of the process is shown in Figure 1.
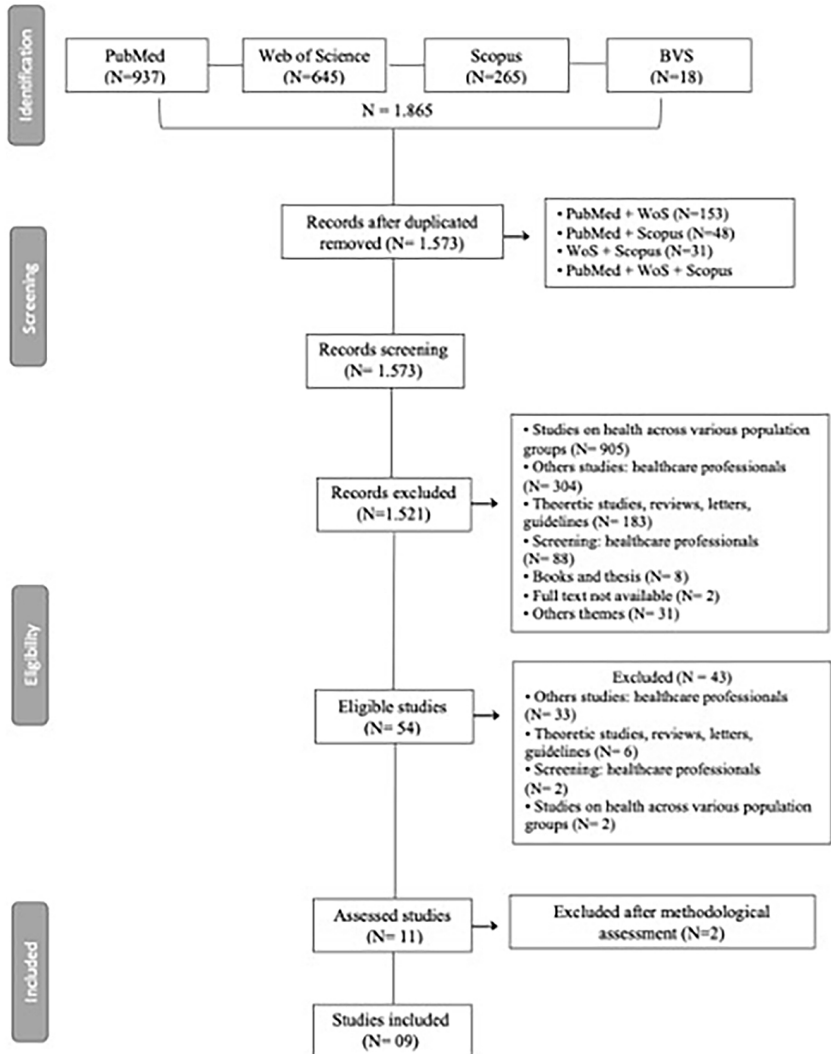
Figure 1. Flow diagram

Evaluation of methodological quality

To assess the methodological quality of the studies included in this review, it was adopted the criteria proposed by Kmet et al. (2004). The authors provide criteria for evaluating of quantitative and qualitative studies based on the analysis of the study's objectives and design, participant selection and sample size, data collection and analysis, and the robustness of result reporting.

All articles selected for this stage were evaluated for methodological quality and assigned a score ranging from 0.0 to 1.0, with a score of 1.0 indicating excellent methodological quality (Kmet et al., 2004).

The authors propose the inclusion of articles in reviews that exhibit a high level of methodological rigor. Consequently, they suggest that the cutoff score for inclusion should be determined through careful deliberation by the researchers involved in the review study, ranging from 0.55 (liberal) to 0.75 (conservative). Furthermore, they emphasize the importance of considering the potential loss of articles due to imprecision in the original studies when settings the cutoff score (Kmet et al., 2004).

Among the 11 articles included in this phase, two were qualitative studies and nine were quantitative studies. The evaluations of the qualitative research are presented in Table 2, while the evaluations of the quantitative research are presented in Table 3. These tables were constructed following the model proposed by Soklaridis et al. (2020).

As observed in the tables above, the quality scores of the original articles ranged from 0.81 to 0.4. Following the recommendations of Kmet et al. (2004), a cutoff of 0.55 was chosen, which is considered liberal, in order to retain the maximum number of included articles. Therefore, out of the 11 articles selected for inclusion in the present review, 9 remained for analysis.

Table 2

Evaluation of the methodological quality of the original qualitative studies, according to the criteria suggested by Kmet et al. (2004) and the score of methodological quality assessment

Assessment criteria	Original study	
	S1	S2
1. Question / objective clearly described?	2	1
2. Design evident and appropriate to answer study question?	2	1
3. Context for the study is clear?	1	2
4. Connection to a theoretical framework / wider body of knowledge?	2	2
5. Sampling strategy described, relevant and justified?	1	1
6. Data collection methods clearly described and systematic?	1	1
7. Data analysis clearly described, complete and systematic?	1	1
8. Use of verification procedure(s) to establish credibility of the study?	1	2
9. Conclusions supported by the results?	1	1
10. Reflexivity of the account?	0	0
Final score	0.6	0.6

However, it is important to mention that the indicators with lower scores relate to sample size and selection, lack of control for confounding variables, and statistical analyses that, although well conducted, were performed on a small number of participants. One of the reasons for this is that the majority of the studies employed quasi-experimental and exploratory designs.

Table 3

Evaluation of the methodological quality of the original quantitative studies, according to the criteria suggested by Kmet et al. (2004) and the score of methodological quality assessment

Assessment criteria	Original study								
	S3	S4	S5	S6	S7	S8	S9	S10	S11
1. Question or objective sufficiently described?	2	1	2	2	2	2	2	2	1
2. Design evident and appropriate to answer study question?	1	1	2	1	2	2	1	1	1
3. Method of subject selection (and comparison group selection, if applicable) or source of information/input variables (e.g., for decision analysis) is described and appropriate.	1	1	1	1	1	1	2	2	1
4. Subject (and comparison group, if applicable) characteristics or input variables/information (e.g., for decision analyses) sufficiently described?	2	2	2	2	2	2	2	2	2
5. If random allocation to treatment group was possible, is it described?	1	3	1	3	2	2	3	3	3
6. If interventional and blinding of investigators to intervention was possible, is it reported?	3	3	0	3	3	3	3	3	3
7. If interventional and blinding of subjects to intervention was possible, is it reported?	3	3	2	3	3	3	3	3	3
8. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement / misclassification bias? Means of assessment reported?	2	0	1	2	1	2	1	1	1
9. Sample size appropriate?	1	0	1	1	1	1	1	1	0
10. Analysis described and appropriate?	1	1	2	2	2	2	2	2	1

Assessment criteria	Original study								
	S3	S4	S5	S6	S7	S8	S9	S10	S11
11. Some estimate of variance (e.g., confidence intervals, standard errors) is reported for the main results/outcomes (i.e., those directly addressing the study question/ objective upon which the conclusions are based)?	1	1	1	1	2	2	2	2	2
12. Controlled for confounding?	0	0	0	1	0	2	1	1	0
13. Results reported in sufficient detail?	1	2	1	1	2	1	2	2	1
14. Do the results support the conclusions?	2	1	2	1	2	1	2	2	1
Final score	0.62	0.45	0.64	0.68	0.79	0.78	0.81	0.4	0.63

Results

In this section, we provide a comprehensive overview of the included studies, followed by an exploration of key research questions to shed light on the following aspects: a) what types of interventions were being implemented? b) how were the interventions evaluated? c) what were the findings?

General Characterization of Studies: Descriptive Data

The included papers were published between the years 2013 and 2022, conducted in four different countries: United States (4), China (3), Lithuania (1), and Taiwan (1). All full texts were published in English, in nine different journals. Seven studies were found in the PUBMed database, one in Scopus, and one of them was identified as a duplicate in both PUBMed and Web of Science databases.

The sample sizes utilized in the studies ranged from 384 (Zhang et al., 2021) to nine (Snyder, Mournet, & Pao, 2022), with the samples exclusively composed of nursing professionals in four studies (Chen,

Fang & Fang, 2015; Karpavičiūtė & Macijauskienė, 2016; Magtibay et al., 2017; Lin Lin et al., 2019). Traeger et al. (2013) included nurses and social workers, while Zhang et al. (2021) included physicians and nurses. The studies with a greater diversity of professional backgrounds were Cheng, Tsui and Lam (2015), which encompassed physicians, nurses, physiotherapists, and occupational therapists, and Mehta et al. (2016), which involved physicians, nurses, and social workers. Lastly, Snyder, Mournet and Pao (2022) focused exclusively on social workers.

In six studies, a majority of the participants were female (Traeger et al., 2013; Mehta et al., 2016; Magtibay et al., 2017; Lin Lin et al., 2019; Zhang et al., 2021; Snyder, Mournet & Pao, 2022). One study exclusively included female participants (Karpavičiūtė & Macijauskienė, 2016), while one study did not provide information regarding the gender distribution of participants (Cheng, Tsui & Lam, 2015).

Regarding the age of the participants, the presentation of data varied among the studies. Some studies reported the minimum and maximum ages of participants (Cheng, Tsui & Lam, 2015; Karpavičiūtė & Macijauskienė, 2016; Magtibay et al., 2017; Lin Lin et al., 2019; Zhang et al., 2021), while others reported the mean age (Traeger et al., 2013; Chen, Fang & Fang, 2015; Mehta et al., 2016). One study did not provide this information (Snyder, Mournet & Pao, 2022). Overall, the age of the participants ranged from 21 to 63 years.

The primary focus of the interventions, which will be further detailed, was the assessment of stress levels associated with professional activities (Traeger et al., 2013; Cheng, Tsui & Lam, 2015; Chen, Fang & Fang, 2015; Karpavičiūtė & Macijauskienė, 2016; Mehta et al., 2016; Lin Lin et al., 2019). Other variables related to occupational health that were evaluated included burnout (Traeger et al., 2013), depressive symptoms (Cheng, Tsui & Lam, 2015; Zhang et al., 2021), and anxiety symptoms (Zhang et al., 2021), general health (Karpavičiūtė & Macijauskienė, 2016; Rodrigues et al., 2018), fatigue (Karpavičiūtė & Macijauskienė, 2016), resilience (Lin Lin et al., 2019), self-efficacy, interpersonal reactivity, and affect perception (Mehta et al., 2016). These data are compiled in Table 4 below.

Table 4

Methodological characteristics of the original studies

Author (year)	Journal	Country	Study Site	Design	Intervention	Participants (N)	What was assessed	How was assessed	When was assessed	How was analyzed
Traeger et al. (2013)	Oncol. Nurs. Forum	USA	Cancer Center	Development and evaluation of an intervention modality	Focus groups	*Phase 1:* Nurse (9) Soc. Wor. (8) *Phase 2:* Nurse (9)	Feasibility Acceptability Burnout Stress	SDS MBI PSS	Baseline FUP: 2 months	Thematic analysis Statistic
Cheng, Tsui e Lam (2015)	J Consult Clin Psychol	China	Public Hospital	Double blind randomized controlled trial	Diary writing	Physician (99) Nurse (165) Physio+ OC (36)	Depression Stress	CES-D PSS Diaries	Baseline After int. FUP: 3 months	Thematic analysis Statistic
Chen et al. (2015)	Int J Nurs Pract	Taiwan	General Hospital	Cross-sectional study	Aroma therapy	Nurse (110)	Stress	Questionnaires	Baseline 4 days after int.	Statistic
Karpavičiūtė e Macijauskienė (2016)	Int J Environ Res Public Health	Lithuania	General Hospital	Quasi-experimental	Silk painting activity	Nurse (115)	Stress Health Fatigue	SDS WEMWBS SF-36 RSS MFI-20	Before and after int	Statistic
Mehta. et al. (2016)	J Pain Symptom Manage	USA	Major academic medical center	Quasi-experimental	3RP (adapted)	Physician (6) Nurse (7) Soc. Wor. (2)	Relaxation response Stress Adaptive Strategies Resilience	PSS PANAS IRI GSE	Baseline FUP: 2 months	Statistic
Magtibay et al. (2017)	J Nurs Adm	USA	Major academic medical center	Quasi-experimental	Training Program	Nurse (50)	Stress Anxiety Mindfulness Happiness Resilience Burnout	SHS GAS PSS MAAS CD-RISC CBI	Baseline, Weeks 8, 12, 24	Statistic
Lin Lin et al. (2019)	Workplace Health Saf	China	General Hospital	Randomized Controlled Trial	Mindfulness	Nurse (90)	Stress Resilience Job satisfaction	SDS PSS PANAS CD-RISC MMSS	Baseline After Int FUP: 3 months	Statistic

Returning to the guiding question of this review, "what interventions have been carried out in the field of mental health for health teams that work in the hospital context?", we now detail them as presented in the original papers.

What types of interventions were being implemented?

Each one of the nine articles included in the analyses of this review conducted a specific type of intervention, as presented in Table 5. Five of them conducted the intervention in a group format (Traeger et al. 2013; Mehta et al, 2016; Karpavičiūtė & Macijauskienė, 2016; Lin Lin et al, 2019; Snyder, Mournet & Pao, 2022); and four, individually (Cheng, Tsui & Lam, 2015; Chen, Fang & Fang, 2015; Magtibay et al, 2017; Zhang et al, 2021). Therefore, the sequence of the description of the interventions will be presented based on this division.

Regarding group interventions, they presented many particularities among themselves, concerning the methodology used, face-to-face or online realization, concerning the approach taken to understand the data produced, and the number of meetings and participants in each activity. These are essential factors for the understanding of the group process.

The group interventions conducted were: focus group (Traeger et al., 2013), educational groups (Mehta et al., 2016), painting workshops (Karpavičiūtė & Macijauskienė; 2016), mindfulness groups (Lin Lin et al., 2019) and Meaning-Centered Psychotherapy - MCP - groups (Snyder, Mournet & Pao, 2022). In this way, each intervention presents a specific type of setting for its realization, as described in Table 5.

The aims of group interventions were diverse, involving training for difficult-to-manage issues at work (Traeger et al., 2013), allowing the expression of creativity, promoting relaxation, reducing stress and improving the connection between staff (Mehta et al, 2016), relaxation and socialization among colleagues (Karpavičiūtė & Macijauskienė; 2016), expanding the connection between feelings and thoughts in order to facilitate coping with painful affections and challenging

situations (Lin Lin et al., 2019), prevention of burnout and improvement in well-being (Snyder, Mournet & Pao, 2022).

The number of sessions ranged from a single one (Traeger et al., 2013) to 10 (Karpavičiūtė & Macijauskienė; 2016), lasting one (Traeger et al., 2013; Snyder, Mournet & Pao, Mehta et al, 2016), two (Karpavičiūtė & Macijauskienė; 2016; Lin Lin et al., 2019) or four hours (Mehta et al, 2016).

Table 5

Description of the interventions implemented according to the original study

Author (year)	Intervention	Intervention description
Traeger et al. (2013)	Focus groups	Study was conducted in two phases. In the first one, the focus was on the challenges faced in caring for patients during chemotherapy infusion. The information obtained was used to organize a training program for nursing staff (Phase 2), each group of this phase had a duration of 1h. During phase 2, a training group was held in one morning, with the presentation of seven modules covering issues that are difficult to manage in professional practice. The aim was to reduce the difficulties in handling this type of situation. Feasibility, acceptability and potential effectiveness in reducing burnout and stress symptoms were assessed.
Cheng, Tsui, Lam (2015)	Diary writing	The interventions were conducted in two groups: gratitude and problems. In both groups, professionals were asked to write in a diary a few words about at least one event that occurred during the day, whether it was an event of gratitude or a problematic issue they faced at work. The intervention lasted four weeks.
Chen, Fang, Fang. (2015)	Aromatherapy	The professionals were divided into two groups and were given either a pendant with lavender essential oil at a concentration of 3% or a pendant without the lavender oil. In both cases, the professionals had to wear the pendants on a chain at chest height. The intervention lasted four days and at the end of each day, participants were asked to report the presence or absence of stress symptoms.

Author (year)	Intervention	Intervention description
Mehta et al. (2016)	Silk painting activity	A total of five group sessions were held, the initial one lasting four hours followed by four two-hour educational sessions, conducted in a group setting, coordinated by a physician. The sessions were held every two weeks for two months. Based on principles of cognitive-behavioral therapy, the goals of the program included: 1) eliciting the relaxation response, 2) general reduction of stress reactivity, 3) increased connection with self and others. The intervention incorporated an approach to introduce and reinforce new skills, including didactic presentation, with in-session activities, discussions, and weekly practice assignments. Each session began with practicing a new exercise to elicit the relaxation response (e.g., breath awareness), followed by the didactic presentation and in-class exercises.
Karpavičiūtė e Macijauskienė (2016)	Relaxation Response Resiliency Program (3RP adapted)	An artistic activity (painting) was carried out, without the principles of art therapy. The workshops, lasting two hours, were conducted once a week, with five-time options, and participants were divided into four groups. They occurred at the workplace and each participant could choose the best time within their availability, but not during their working hours. It was suggested that participants experiment with the arts and engage with the silk painting activity, express their creativity, relax, socialize with colleagues. The intervention lasted 10 weeks.
Magtibay et al. (2017)	Training Program	A web-based format consisting of 12 learning modules. Each module contained a self-assessment, to be done before and after each module, short videos to introduce the topic and reading assignments from the complementary book (The Mayo Clinic Guide to Stress-Free Living). The exercises were designed to take the concepts from theory to practice. They were offered access to the online content plus a copy of the book at no cost. There were four discussions facilitated by the book's author and the principal investigator, either face-to-face or by telephone. The aim of the program was to increase peace, joy, resilience and altruism, reduce stress and improve well-being. The intervention lasted for 20 weeks.

Author (year)	Intervention	Intervention description
Lin Lin et al. (2019)	Mindfulness	Modified Mindfulness-Based Stress Reduction (MBSR) program: this intervention proposal incorporated some elements of cognitive behavioral therapy and placed greater emphasis on promoting greater awareness of the relationship between thoughts and feelings, which could facilitate coping with painful affect in challenging circumstances. The sessions were weekly, in a group, lasting two hours, plus a daily practice at home lasting 20 minutes. In addition, a virtual chat group was created through WeChat, where the slides presented in each session and audio recordings of mindfulness with guided exercises were sent, which helped participants to share their practice experience or to ask questions to the instructor.
Zhang et al. (2021)	Psychological counseling lines	Lines of care were created through groups on the WeChat app, with different objectives: 1) To team members who might present mild to moderate anxiety and depression (assessed by scales): conducting group psychological intervention to promote knowledge of COVID-19 prevention and control, humanistic care and specific measures that included psychological support, psychological counseling, cognitive therapy, behavior correction, music interventions as therapy. 2) For staff members who might be diagnosed with severe anxiety and depression: assessment for diagnosis with specialists in psychological counseling and individual psychological intervention in psychological clinics in online and offline modalities; those severely diagnosed might take anxiolytic and antidepressant medication, if necessary, according to the needs of the department, might withdraw from the frontline and receive leave for mental health treatment.
Snyder, Mournet e Pao (2022)	Meaning-centered psychotherapy (MCP)	There were seven group psychological intervention sessions (9 people), lasting one hour, with different objectives and exercises around explicit weekly themes. All sessions were conducted virtually, over six consecutive weeks. Each session opened with a check-in, review of new content relevant to the theme of the session, time for self-reflection, group reflection and discussion questions. The last session involved a discussion on the closure of the activities.

In each group session, the number of participants oscillated widely between studies, ranging from 9 (Traeger et al., 2013; Snyder, Mournet & Pao, 2022), 11 or 12 (Karpavičiūtė & Macijauskienė; 2016), 15 (Mehta et al, 2016) and 25 to 30 (Lin Lin et al., 2019).

Three studies conducted only face-to-face activities (Traeger et al., 2013; Karpavičiūtė & Macijauskienė; 2016; Mehta et al, 2016), one, only online (Snyder, Mournet & Pao, 2022) and one conducted face-to-face and online activities, the latter being the exchange through messaging applications (Lin Lin et al., 2019).

Such activities were based on different theoretical frameworks, such as Cognitive-Behavioral Therapy (Mehta et al, 2016; Lin Lin et al., 2019), Behavioral Intervention (Traeger et al., 2013), Meaning-Centered Psychotherapy (Snyder, Mournet & Pao, 2022), while Karpavičiūtė and Macijauskienė (2016) report not having used a therapeutic approach to guide the intervention.

Among the interventions conduced individually, the proposals were also unique in each study. These included the production of diaries with accounts of events that occurred during a workday (Cheng, Tsui & Lam, 2015), aromatherapy (Chen, Fang & Fang, 2015), stress and resilience training (Magtibay et al., 2017), and psychological counseling (Zhang et al., 2021).

Three of the studies aimed at reducing stress among healthcare professionals (Cheng, Tsui & Lam, 2015; Chen, Fang & Fang, 2015; Magtibay et al., 2017). Two aimed at improving depressive symptoms (Cheng, Tsui & Lam, 2015; Zhang et al., 2021) and one also checked for anxiety symptoms (Zhang et al., 2021). The study conducted by Magtibay et al. (2017) also included in its objectives the increase of feelings of peace and happiness, resilience, altruism.

The duration of the interventions was between four days (Chen, Fang & Fang, 2015) and 20 weeks (Magtibay et al., 2017). Cheng, Tsui and Lam (2015) and Zhang et al. (2021) conducted the interventions for a period of one month.

The interventions occurred exclusively face-to-face in two studies (Cheng, Tsui & Lam, 2015; Chen, Fang & Fang, 2015), in one of them, there was the possibility of face-to-face meetings, but the conduction

was mostly online (Magtibay et al., 2017), while Zhang et al. (2021) performed only online interventions.

The therapeutic approaches which guided the studies were Cognitive Behavioral Therapy (Cheng, Tsui & Lam, 2015; Zhang et al., 2021), Stress Management and Resiliency Training (SMaRT) (Magtibay et al., 2017) and aromatherapy (Chen, Fang & Fang, 2015).

How were the interventions evaluated?

Regardless of what was intended to be assessed, all studies proposed the use of some self-report instrument, seven of which used validated techniques (Traeger et al. 2013; Cheng, Tsui & Lam, 2015; Karpavičiūtė & Macijauskienė, 2016; Mehta et al, 2016; Magtibay et al, 2017; Lin Lin et al, 2019; Zhang et al, 2021). Only two used questionnaires developed by the authors to conduct the research (Chen, Fang & Fang, 2015; Snyder, Mournet & Pao, 2022).

The most frequently focused variable in the included studies was stress, with the Perceived Stress Scale being the most used instrument, present in five studies (Traeger et al. 2013; Cheng, Tsui & Lam, 2015; Mehta et al, 2016; Magtibay et al., 2017; Lin Lin et al., 2019), while Karpavičiūtė and Macijauskienė (2016) chose to use the Reeder Stress Scale. Chen, Fang and Fang (2015) used their own questionnaire for this assessment.

The signs and symptoms of burnout were assessed in two studies using different scales, the Maslach Burnout Inventory (Traeger et al., 2013) and the Copenhagen Burnout Inventory (Magtibay et al., 2017).

Two studies assessed signs and symptoms of depression using the Center for Epidemiologic Studies-Depression Scale (Cheng, Tsui & Lam, 2015) and Patient Health Questionnaire-9 (Zhang et al., 2021). Similarly, signs and symptoms of anxiety were also assessed in two studies through two different instruments, Generalized Anxiety Scale (Magtibay et al., 2017) and Generalized Anxiety Disorder 7-Item Scale (Zhang et al., 2021).

Karpavičiūtė and Macijauskienė (2016) assessed issues of well-being and quality of life using two instruments, the Warwick–

Edinburgh Mental Well-Being Scale and the Short Form-36 Health Survey Questionnaire. Eight additional variables were targeted for evaluation, as shown in Table 6 below.

Table 6

Variables analyzed according to assessment instruments used in the original study

Variable	Assessment instrument	Original study
Resilience	Connor-Davidson Resilience Scale	Magtibay et al. (2017) Lin Lin et al. (2019)
Perceptions of Affections	Positive and Negative Affect Schedule	Mehta et al. (2016) Lin Lin et al. (2019)
Reactivity	Interpersonal Reactivity Index	Mehta et al. (2016)
Self-efficacy	General Self-Efficacy Scale	Mehta et al. (2016)
Fatigue	Multidimensional Fatigue Inventory	Karpavičiūtė e Macijauskienė (2016)
Happiness	Subjective Happiness Scale	Magtibay et al. (2017)
Mindfulness	Mindful Attention Awareness Scale	Magtibay et al. (2017)
Job satisfaction	The McCloskey/Mueller Satisfaction Scale	Lin Lin et al. (2019)

Considering that the variables and techniques mentioned above involve the evaluation of effectiveness related to the proposed intervention, it is important to verify at what moments they were applied.

The exception of Snyder, Mournet and Pao (2022) who performed only one evaluation after the intervention, which is justified by their research objective, the others carried out at least two assessments at different time points, with the first one being prior to the intervention in all cases. The additional assessment time points are described in Table 4, but varied from immediately after the intervention (Cheng, Tsui & Lam, 2015; Karpavičiūtė & Macijauskienė, 2016; Lin Lin et al., 2019) to up to three months after its completion (Cheng, Tsui & Lam, 2015; Lin Lin et al., 2019).

Also, except for Snyder, Mournet and Pao (2022), all studies conducted statistical analysis of the data from the applied instruments. While Snyder, Mournet, and Pao (2022) performed an exploratory thematic analysis, Cheng, Tsui, and Lam (2015) not only conducted statistical analysis but also carried out content analysis based on the materials produced by the participants in their dairies.

The statistical analyses involved comparisons between the different time points of instrument administration and, when applicable, within comparison groups.

Among the studies that used a control group for data comparison, three of them compared the intervention group with subjects who did not participate in the intervention (Cheng, Tsui & Lam, 2015; Karpavičiūtė & Macijauskienė, 2016; Lin Lin et al., 2019). One study used a placebo control (Chen, Fang & Fang, 2015), and one study compared professionals from different sectors within a hospital unit (Snyder, Mournet & Pao, 2022). It is worth noting that Cheng, Tsui, and Lam (2015), in addition to the comparison with a group that did not undergo any intervention, also compared with a third group that underwent a different type of intervention, as described in Table 5.

The other studies did not use a control group in their methodological design (Traeger et al., 2013; Mehta et al, 2016; Magtibay et al., 2017; Snyder, Mournet & Pao, 2022).

It should be noted that two studies evaluated the acceptability and feasibility of the proposed interventions through the use of a self-administered questionnaire (Traeger et al., 2013; Snyder, Mournet & Pao, 2022).

What were the findings?

As mentioned earlier, the original studies aimed to evaluate the effectiveness of specific interventions for indicators such as stress levels (Traeger et al., 2013; Chen, Fang & Fang, 2015; Cheng, Tsui & Lam, 2015; Karpavičiūtė & Macijauskienė, 2016; Mehta et al., 2016; Magtibay et al., 2017; Lin Lin et al., 2019), burnout (Traeger et al., 2013; Magtibay et al., 2017), depression (Cheng, Tsui & Lam, 2015; Zhang

et al., 2021), anxiety (Magtibay et al., 2017; Zhang et al., 2021), well-being and quality of life (Karpavičiūtė & Macijauskienė, 2016), resilience (Magtibay et al., 2017; Lin Lin et al., 2019), perceived affect (Mehta et al., 2016; Lin Lin et al., 2019), job satisfaction (Lin Lin et al., 2019), self-efficacy (Mehta et al., 2016), fatigue (Karpavičiūtė & Macijauskienė, 2016), happiness (Magtibay et al., 2017), and mindfulness (Magtibay et al., 2017).

Furthermore, Traeger et al. (2013) and Snyder, Mournet, and Pao (2022) also sought results related to the acceptability and feasibility of the proposed interventions.

The results of the original studies are shown below according to the variables analyzed, as summarized in Table 7.

Table 7

Overview of the results found according to the variables assessed

Variable assessed	Study	Results
Stress	Traeger et al. (2013)	Significant reduction in stress levels in the comparison between baseline and FUP (2 months)
	Chen, Fang, Fang (2015)	Significant reduction in stress levels after the 3rd and 4th. day of the intervention compared to the control group (placebo).
	Cheng, Tsui e Lam (2015)	Significant reduction in stress levels in the gratitude group relative to the others, difference increases over time. No differences between problem and control group.
	Karpavičiūtė e Macijauskienė (2016)	No significant difference between groups (tendency for the control group to show worse results).
	Mehta et al. (2016)	Significant reduction in stress levels after intervention.
	Magtibay et al. (2017)	Significant reduction in stress levels at weeks 8 and 24.
	Lin Lin et al. 2019)	Significant reduction in stress levels, both shortly after the intervention and at FUP (3 months).
Burnout	Traeger et al. (2013)	Significant reduction only in the emotional exhaustion subscale of the MBI.
	Magtibay et al. (2017)	Significant reduction in all burnout indicators at weeks 8 and 24.

Variable assessed	Study	Results
Depression	Cheng, Tsui e Lam (2015)	Symptom reduction in the gratitude group, at FUP (3 months). After treatment, no difference between groups. No differences between problem group and placebo in all the comparisons.
	Zhang et al. (2021)	No significant reduction in symptoms when comparing between groups and assessment times.
Anxiety	Magtibay et al. (2017)	Significant reduction of anxious symptoms at weeks 8 and 24.
	Zhang et al. (2021)	Significant reduction in anxiety symptoms in the group composed of frontline staff working in the fight against COVID, compared to those who did not work in this sector.
Perceived affect	Mehta et al. (2016)	No significant changes
	Lin Lin et al. (2019)	Significant changes in relation to the perception of positive and negative affections, post-intervention as in FUP (3 months).
Resilience	Magtibay et al. (2017)	Significant changes in relation to the perception of positive and negative affections, post-intervention as in FUP (3 months).
	Lin Lin et al. (2019)	Significant increase in the FUP (3 months).
Well-Being	Karpavičiūtė e Macijauskienė (2016)	Improvement in the perception of well-being in the intervention group, in relation to the control, with a significant improvement in the subscales' vitality and energy (SF-36).
Fatigue	Karpavičiūtė e Macijauskienė (2016)	Significant improvement in the intervention group compared to control
Happiness	Magtibay et al. (2017)	Significant improvement in all post intervention assessments.
Mindfulness	Magtibay et al. (2017)	Significant improvement in all post intervention assessments.
Job satisfaction	Lin Lin et al. (2019)	No significant changes
Self-efficacy	Mehta et al. (2016)	No significant changes

Stress

Among the seven studies that assessed the effectiveness of the intervention in relation to stress indicators, four conducted group activities (Traeger et al., 2013; Karpavičiūtė & Macijauskienė, 2016; Mehta et al., 2016; Lin Lin et al., 2019), while three, individual (Chen, Fang & Fang, 2015; Cheng, Tsui & Lam, 2015; Magtibay et al., 2017).

Except for the study conducted by Karpavičiūtė and Macijauskienė (2016), which showed only a trend towards reduction in stress levels after the intervention, all other studies indicated a significant reduction among participants in the intervention groups, either in comparison over time (baseline and post-intervention) and/or compared to a control group (Traeger et al., 2013; Chen, Fang & Fang, 2015; Cheng, Tsui & Lam, 2015; Mehta et al., 2016; Magtibay et al., 2017; Lin Lin et al., 2019).

In the study conducted by Traeger et al. (2013), the reduction in stress levels was observed in the follow-up assessment, which took place two months after the intervention. The same result was indicated in the study by Mehta et al. (2016), which utilized the same time frame between assessments.

In the same way, Magtibay et al. (2017) found a significant reduction in stress levels at two times intervals, 8 and 24 weeks after the intervention. On the other hand, Lin Lin et al. (2019), indicated the reduction in the evaluations carried out after the intervention and in the follow-up, after three months.

In comparison with the placebo group, Chen, Lang and Lang (2015) found a significant reduction in stress levels after the third and fourth day among participants who used the pendant with lavender essential oil.

In addition to the assessment over time, Cheng, Tsui and Lam (2015) conducted comparisons between different groups: one that did not undergo any intervention, the gratitude group, and the problem group (see: Table 5). The results indicated a significant reduction in signs and symptoms of stress in the gratitude group, which persisted

over time. No significant differences were observed between the problem group and the control group.

In all the studies, the assessment of stress levels was conducted using self-administered scales, as mentioned above.

Burnout and job satisfaction

The two studies that aimed to assess signs and symptoms of burnout (Traeger et al., 2013; Magtibay et al., 2017) indicated a significant reduction in some indicators when comparing different assessment time points. They used different instruments, namely the Maslach Burnout Inventory (Traeger et al., 2013) and the Copenhagen Burnout Inventory (Magtibay et al., 2017).

The results from Traeger et al. (2013) indicated a significant reduction in levels of emotional exhaustion in the assessment that occurred two months after the intervention. While, the results from Magtibay et al. (2017) showed a significant reduction in all stress indicators classified by the Copenhagen Burnout Inventory at weeks 8 and 24 after the intervention.

We would like to note that the intervention conducted by Traeger et al. (2013) was group-based, while the intervention by Magtibay et al. (2017) was individual-based.

Lin Lin et al. (2019) analyzed a construct related to burnout, job satisfaction, using a validated instrument, the McCloskey/Mueller Satisfaction Scale, in a group intervention. The results did not indicate a significant difference over time for the group that underwent the intervention, as well as in the comparison with the control group.

Depression

The two studies that assessed signs and symptoms of depression, performed individual interventions and used different instruments to measure the indicators, that is, the Center for Epidemiologic Studies-Depression Scale (Cheng, Tsui & Lam, 2015) and the Patient Health Questionnaire-9 (Zhang et al., 2021).

Cheng, Tsui, and Lam (2015) identified a reduction in depressive symptoms among participants in the gratitude group in the follow-up assessment, three months after the intervention. No significant differences were found between the placebo and problem groups throughout the study, nor between the gratitude and placebo groups immediately after the intervention. Nevertheless, Zhang et al. (2021) did not find any significant differences between the groups or over time in terms of depressive symptoms.

Anxiety

The signs and symptoms of anxiety, similar to depression, were assessed in two studies that conducted individual interventions and used different assessment instruments: the Generalized Anxiety Scale (Magtibay et al., 2017) and the Generalized Anxiety Disorder 7-Item Scale (Zhang et al., 2021).

Both studies found a significant reduction in anxiety symptoms at some point during the research. Magtibay et al. (2017) identified this reduction in the assessments conducted at weeks 8 and 24, while Zhang et al. (2021) observed this reduction after one month of intervention among professionals working on the front lines of COVID-19 combat.

Resilience

Two studies assessed resilience using the same instrument, the Connor-Davidson Resilience Scale. However, one study conducted an individual intervention (Magtibay et al., 2017), while the other study was conducted in a group setting (Lin Lin et al., 2019).

A significant improvement in resilience was observed in both studies. Magtibay et al. (2017) reported this improvement in the assessments conducted at weeks 12 and 24 after the intervention, while Lin Lin et al. (2019) observed it after three months.

Perceived affect

Once again, two studies assessed the presence and intensity of positive and negative affective states using the same instrument, the Positive and Negative Affect Schedule, in group interventions (Mehta et al., 2016; Lin Lin et al., 2019).

While Lin Lin et al. (2019) found significant changes in the presence and intensity of positive and negative affects immediately after the intervention and at the follow-up assessment (3 months), Mehta et al. (2016) observed trends towards changes, but without statistical significance.

Other variables assessed in only one study

Some variables were assessed in only one of the studies included in this review, namely: well-being, quality of life and fatigue (Karpavičiūtė and Macijauskienė, 2016); happiness and mindfulness (Magtibay et al., 2017) and; self-efficacy (Mehta et al., 2016).

In the study conducted by Karpavičiūtė and Macijauskienė (2016), which involved a group intervention, they found a significant improvement in vitality and energy related to *quality of life* and *well-being* in the analysis conducted after the intervention. They also described a significant improvement in *fatigue* based on the post-intervention assessment.

Considering the findings of Magtibay et al. (2017) regarding *happiness* and *mindfulness*, improvements were observed in both, in the three assessments conducted at weeks 8, 12, and 24 after the individual intervention.

Lastly, when evaluating *self-efficacy*, Mehta et al. (2016) did not find significant changes between the different assessment time points after the group intervention.

Acceptability

Among the nine studies included in this review, two of them aimed to assess the acceptability of the proposed intervention (Traeger et al., 2013; Snyder, Mournet & Pao, 2022).

Regarding the training group proposed by Traeger et al. (2013), the participants found the program convenient, and relevant topics for professional practice were addressed. In the assessment conducted two months after the training, the participants continued to perceive that the strategies learned in the training helped them in performing their work activities.

Snyder, Mournet, and Pao (2022) proposed a group training related to Meaning-Centered Psychotherapy (MCP) practices. After each session, the participants completed an evaluation questionnaire regarding the continuing education practice. The evaluated aspects included organization and presentation, usefulness of the information for the participants, availability of the presenter for participation and participant questions, and the presenter's knowledge of the topic and overall relevance of the content. Except for the overall relevance, which was rated as excellent by 88.9% in sessions 4 and 5, all other aspects were consistently rated as 100% excellent in all sessions.

Although it was not explicitly stated in the study objectives, Karpavičiūtė and Macijauskienė (2016) also sought feedback from the participants regarding the group intervention conducted. Among the participants, 75% reported liking the activity and expressed intentions to continue engaging in painting activities. They considered that the intervention had a positive impact, reducing work-related stress, and improving well-being.

Overview of findings

In summary, among the nine included studies, analyses were conducted on 14 different variables, namely: *stress* (Traeger et al., 2013; Chen, Fang & Fang, 2015; Cheng, Tsui & Lam, 2015; Karpavičiūtė & Macijauskienė, 2016; Mehta et al., 2016; Magtibay et al., 2017; Lin Lin et al., 2019), *burnout* (Traeger et al., 2013; Magtibay et al., 2017), *job satisfaction* (Lin Lin et al., 2019), *depression* (Cheng, Tsui & Lam, 2015; Zhang et al., 2021), *anxiety* (Magtibay et al., 2017; Zhang et al., 2021), *resilience* (Magtibay et al., 2017; Lin Lin et al., 2019), *perceived affect* (Mehta et al., 2016; Lin Lin et al., 2019), *well-being* and *quality*

of life (Karpavičiūtė & Macijauskienė, 2016), *fatigue* (Karpavičiūtė & Macijauskienė, 2016), *happiness* (Magtibay et al., 2017), *mindfulness* (Magtibay et al., 2017), self-efficacy (Mehta et al., 2016), and *acceptability* (Traeger et al., 2013; Karpavičiūtė & Macijauskienė, 2016; Snyder, Mournet & Pao, 2022).

Regarding the indicators that showed improvement after participating in the interventions, among the seven studies that assessed *stress* levels, only one did not find a significant decrease in the different assessment time points among the intervention participants (Karpavičiūtė & Macijauskienė, 2016). In all the other studies, participants in the intervention group experienced a reduction in signs and symptoms of stress after participating, regardless of the type of intervention conducted and the measurement instrument used (Traeger et al., 2013; Chen, Fang & Fang, 2015; Cheng, Tsui & Lam, 2015; Mehta et al., 2016; Magtibay et al., 2017; Lin Lin et al., 2019).

In respect of the assessment of *burnout*, two studies were conducted, one with a group intervention (Traeger et al., 2013) and the other with an individual intervention (Magtibay et al., 2017), using different instruments to measure the signs and symptoms. In both studies, the results indicated a decrease in the indicators after the intervention was implemented.

In regard to signs and symptoms of *anxiety*, both studies that assessed them indicated improvement among the participants in the interventions, despite the differences in the interventions and assessment instruments used (Magtibay et al., 2017; Zhang et al., 2021).

The same pattern was observed for the assessment of *resilience*. Both studies utilized the same assessment instrument and indicated improvement in this indicator following participation in the proposed intervention (Magtibay et al., 2017; Lin Lin et al., 2019).

Only one study aimed to assess *quality of life* and *well-being* (Karpavičiūtė & Macijauskienė, 2016), fatigue (Karpavičiūtė & Macijauskienė, 2016), *happiness*, and *mindfulness* (Magtibay et al., 2017), and significant positive results were found among the participants of the interventions.

On the other hand, for the *depression* indicators, two studies were conducted, with disparate results. Cheng, Tsui and Lam (2015), found significant differences in one of the intervention groups, after two months of its completion, while Zhang et al. (2021) observed no changes. It should be noted that both studies conducted individual interventions, but the assessments were made with different instruments.

Similarly, regarding the assessment of *perceived affect*, one of the studies found significant changes (Lin Lin et al., 2019) and another did not (Mehta et al., 2016). Both used group interventions and the same assessment scale.

Concerning *job satisfaction* (Lin Lin et al., 2019) and *self-efficacy* (Mehta et al., 2016), the studies that checked these indicators found no significant differences after the intervention.

Discussion

The impact of work on the mental health of healthcare professionals is a widely discussed topic in institutional and academic settings, and it has gained even more attention since the onset of the COVID-19 pandemic (THE LANCET, 2020). It is known that this impact directly affects the quality of life and work capacity of these professionals (Ruotsalainen et al., 2014). it, was after the September 11 terrorist attacks that this topic gained further perspectives, with the conceptualization of vicarious trauma (Kadambi & Ennis, 2004; Branson, 2019).

For this reason, in conducting the present review, a time frame was set from 2001, the year of the terrorist attack. However, it is noteworthy that the oldest included article was published in 2013, 12 years after the initial date of the research.

In a meta-analysis on interventions for the prevention of occupational stress in healthcare professionals, Ruotsalainen et al. (2014) indicate that research in this area has significantly increased after the year 2010, which aligns with our findings.

However, among the studies included in our sample, we observed a limited variety of professional categories participating in the interventions. This might be due to our criteria, which exclusively included healthcare professionals, as studies that encompassed a wider range of professional groups tended to include those working in administrative, cleaning, and security sectors, not just healthcare professionals.

In this way, it could be considered that predominantly female samples point to a profile of professionals working in the healthcare field, particularly in nursing, which is the most frequently included category in the original studies. According to Machado et al. (2020), 85.1% of nursing teams in Brazil are composed of women, and they represent 50% of the workforce in the healthcare sector.

Regarding the interventions conducted in the original studies, a wide variety of approaches and objectives were observed. Stress was the most studied variable, with significant improvements reported regardless of the type of intervention implemented and the method of assessment.

More broadly, the other variables analyzed tend to show significant positive results, except for job satisfaction and self-efficacy, where no significant variations were observed. However, it is not possible to generalize these results since there were few included studies that analyzed the different variables, and most of them had a small number of participants.

Given the aforementioned limitations, it is important to exercise caution regarding the applicability of the findings and the suitability of generalizing the results described here to other settings or populations.

It was impossible not to notice that, despite some differences, a significant number of studies based their interventions on approaches involving cognitive-behavioral therapy, behavioral techniques, and their variants, without including any study with a psychoanalytic and/or psychodynamic approach. We hypothesize that this may be attributed to the increasing emphasis on evidence-based practices, which has strongly promoted the adoption of cognitive and behavioral approaches.

In this context, we could reflect on the measurement of intervention effectiveness through the extensive use of self-report scales that assess signs and symptoms related to the different studied indicators, even when the samples used were small and convenience-based, which may weaken the conclusions obtained. Therefore, we question the impact of exclusively quantitative analysis approaches in studies with small sample sizes.

We also consider the biases associated with the almost exclusive use of self-report instruments as indicators of effectiveness in the original studies, particularly when it is not an experimental and double-blind design. We acknowledge that the expectations related to the intervention could bias the evaluation of both - the participants and the researchers - regarding the results, thus influencing the indicators measured by the instruments. These results can affect the understanding and recommendation for the use of a particular intervention.

In the literature, we can find studies that discuss the use of methods and techniques recognized in the Physical and Natural Sciences in research within the Social Sciences and Humanities fields. However, these approaches may not always take into account the specificities of these fields, such as subjectivity (Santos, 2022).

It is worth noting that healthcare institutions tend to have a perspective based on biomedical principles, which often exclude subjectivity and prioritize objectivity (Moretto, 2001). This objectivity is seen as essential for scientific rigor, which can be associated, to some extent, with the principles of evidence-based practices that aim to generalize the best approaches to treat individuals.

However, we have questioned whether the methods used to evaluate effectiveness, based on evidence-based practices, which prioritize objectivity and pragmatism (Bastos, 2002), would be capable of measuring the scope of the various types of mental health intervention.

Therefore, it is important to consider the use of assessment methods that align with the specific aspects being evaluated. In this regard, it is also important to recognize that every evaluation method is inevitably influenced by the subjective perspectives of those who design

and apply it, and this should not be disregarded, but rather incorporated into the analysis (Santos, 2022).

One fact that caught our attention during the development of this review was that the two studies included and classified as qualitative did not provide scores regarding the issue of reflexivity, considered a quality criterion in the proposal by Kmet et al. (2004).

Based on a review conducted by Santos (2022) on ways to verify the effectiveness of psychodynamic psychotherapies, we can consider alternative methods of evaluation, that go beyond solely focusing on the outcome of the intervention, which is based on quantitative reduction of objective signs and symptoms. It is also crucial to consider the process itself, allowing for the incorporation of subjective aspects and qualitative analysis of the intervention proposals. This approach takes into account factors such as the relationship between participants (in the case of group interventions) and/or between the participant and the facilitator of the activity. These considerations are essential when contemplating practices aimed at promoting mental health preservation. One example cited by Santos (2022) is the evaluation grids proposed by Brun and Roussillon (2016) to assess intervention processes step by step, rather than focusing solely on the final outcome.

In this way, considering the wide diversity of intervention types included in this review, as well as the presence of positive results regarding the different variables analyzed, could we hypothesize that the opening of availability to think about mental health would already be an intervention possibility in itself?

Since it would allow participants to raise questions about the importance of psychological care, when in a group, it can facilitate the formation of bonds and connections among individuals through meaningful communication that brings the participants closer to this conversation and can also lead to a change in the institutional setting. We can consider these changes, which go beyond the proposed action, as a form of intervention.

For future studies, we suggest the inclusion of research involving professionals from various areas within a hospital complex, not limited to healthcare professionals alone. This would allow for a broader range of research and interventions to be considered. Additionally, conducting a review that encompasses different work contexts would be valuable in examining potential differences in the workplace setting.

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