Non-Pharmacological Management of Occupational Stress in Health Professionals: Integrative Review

Manejo Não Farmacológico do Estresse Ocupacional de Profissionais da Saúde: Revisão Integrativa

Manejo no farmacológico del estrés laboral en profesionales de la salud: revisión integrativa

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RESUMO

Objetivo: explorar intervenções não farmacológicas para manejo do estresse entre profissionais de saúde, evidenciando práticas integrativas e complementares. Trata-se de uma revisão integrativa, operacionalizada conforme o protocolo PRISMA. Consultou-se as bases de dados: PUBMED, EMBASE, SCOPUS e LILACS, para busca de artigos originais, publicados na língua inglesa, portuguesa ou espanhola, entre janeiro de 2020 a julho de 2024. A amostra final foi composta por 39 publicações, sendo que 29% abordaram mindfulness isoladamente e 10% combinaram mindfulness com acupuntura, relaxamento, yoga ou musicoterapia; 15% abordaram prática de yoga isoladamente, 8% aromaterapia e 8% implementaram técnica de relaxamento e/ou respiração consciente. Dos estudos, 57,5% eram ensaios clínicos, 20% quantitativos exploratórios e 10% experimentais tipo antes e depois. Conclusão: as PICS contribuem para o gerenciamento não farmacológico do estresse e recuperação promoção de bem-estar entre profissionais da saúde, cujos benefícios psicofisiológicos parecem ser positivos e sustentáveis promovendo ambientes de trabalho mais saudáveis e sustentáveis para esses profissionais

Descritores: Terapias complementares; Estresse Ocupacional; Pessoal de saúde; Equipe de Assistência ao Paciente; Saúde do Trabalhador.

ABSTRACT

Objective: to explore non-pharmacological interventions for managing stress among health professionals, highlighting integrative and complementary practices. Method: This is an integrative review, operationalized according to the PRISMA protocol. The following databases were consulted: PUBMED, EMBASE, SCOPUS and LILACS, to search for original articles published in English, Portuguese or Spanish between January 2020 and July 2024. Results: The final sample consisted of 39 publications, of which 29% addressed mindfulness alone and 10% combined mindfulness with acupuncture, relaxation, yoga or music therapy; 15% addressed yoga practice alone, 8% aromatherapy and 8% implemented relaxation and/or conscious breathing techniques. Of the studies, 57.5% were clinical trials, 20% were quantitative exploratory studies and 10% were before-and-after experimental studies. Conclusion: ICPs contribute to non-pharmacological stress management and recovery, promoting well-being among health professionals, whose psychophysiological benefits appear to be positive and sustainable, promoting healthier and more sustainable work environments.

Descriptors: Complementary therapies; Occupational stress; Healthcare staff; Patient Care Team; Workers' health.

RESUMEN

Objetivo: explorar las intervenciones no farmacológicas para el manejo del estrés entre los profesionales de la salud, destacando las prácticas integrativas y complementarias. Método: Se trata de una revisión integradora, operacionalizada según el protocolo PRISMA. Se consultaron las bases de datos PUBMED, EMBASE, SCOPUS y LILACS para buscar artículos originales publicados en inglés, portugués o español entre enero de 2020 y julio de 2024. Resultados: La muestra final se compuso de 39 publicaciones, de las cuales el 29% abordaron mindfulness solo y el 10% combinaron mindfulness con acupuntura, relajación, yoga o musicoterapia; el 15% abordaron solo la práctica de yoga, el 8% aromaterapia y el 8% implementaron técnicas de relajación y/o respiración consciente. De los estudios, el 57,5% eran ensayos clínicos, el 20% estudios exploratorios cuantitativos y el 10% estudios experimentales del tipo antes y después. Conclusión: las PICS contribuyen a la gestión no farmacológica del estrés y a la recuperación, promoviendo el bienestar entre los profesionales de la salud, cuyos beneficios psicofisiológicos parecen ser positivos y sostenibles, promoviendo entornos de trabajo más saludables y sostenibles.

Descriptores: Terapias complementarias; Estrés laboral; Personal sanitario; Equipo de atención al paciente; Salud de los trabajadores.

REVIEW

Introduction

Stress, mediated by the Autonomic Nervous System (ANS), can lead to imbalances in the organic systems, leading to psychophysiological illness. Stress is classified as occupational when the demands and duties of work are perceived as sources of tension by the professional. In this context, stressors are related to the psychoemotional nature of work. For health professionals, these factors include shift work, long hours, demand and complexity of assignments, interpersonal relationships, and compassion fatigue, among other demands, which vary according to the professional category.[1]

Exacerbated responses to these demands can cause psychophysiological changes. Among healthcare professionals, the most common signs and symptoms include emotional exhaustion, depersonalization, decreased feelings of personal accomplishment, and deterioration of interpersonal relationships with patients and coworkers. Such manifestations compromise the psychophysiological health of the worker and negatively impact the organizational dynamics of the employing teams and institutions.[2]

In this context of vulnerabilities, Integrative and Complementary Practices (ICPs) have gained relevance by offering a non-pharmacological, holistic, and interdisciplinary approach to the promotion, prevention, and treatment of psychoemotional and physical diseases. ICPs aim to re-establish organic homeostasis and promote harmony between the individual, the environment and society.[3] In Brazil, PICS are available as therapeutic resources, alone or complementary to conventional therapies, both in the public and private networks, and their use has grown considerably in the last five years.[4]

PICS such as meditation, yoga, acupuncture and aromatherapy, are widely used to mitigate episodes of stress and anxiety, offering an expanded approach to the health-disease process. In addition, they promote holistic care and encourage self-knowledge and self-care, considering the individual needs of each person.[5] They also improve neurophysiological processes, restore self-perception of well-being, and have shown positive effects on stress and depression. They also promote occupational self-compassion and contribute to the acquisition of coping skills, minimizing occupational stress and enhancing job satisfaction.[4]

In view of this scenario, the justification for the present study lies in the need to summarize scientific knowledge about the effectiveness of PICS in the reduction and management of occupational illness, as well as in the promotion of the physical and emotional well-being of health professionals. Thus, the objective of this study is to explore non-pharmacological interventions for stress management among health professionals, focusing on the identification and analysis of integrative and complementary practices (ICPs) evidenced in the national and international scientific literature.

Method

This is an integrative review, guided by the following guiding question: Which ICPs were implemented for stress management in health professionals and what were the results evidenced? The review was carried out in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol, which ensures transparency and methodological rigor in the process of searching, selecting, and synthesizing data.

The databases for searching for articles, consulted in August 2024, were: PUBMED, EMBASE, SCOPUS, and LILACS. The inclusion criteria were: original articles published in English, Portuguese, or Spanish, between January 2020 and July 2024. Exclusion criteria included publications that did not answer the guiding question, studies presented in the form of clinical protocols, manuals, literature reviews, reports of course completion papers, and articles not available in full. Duplicate posts in the databases were counted only once.

The search strategies were adjusted according to the specificities of each database, respecting the selection criteria and using descriptors in Health Sciences (DeCS): complementary therapies, health personnel, patient care team and their variations in English, as detailed in Chart 1.

Chart 1 - Details of the databases consulted, their keywords and search strategies used.

DATABASE: Keywords	**Search Strategy**
PUBMED: Complementary Therapies; Health Personnel; Patient Care Teams	"complementary therapies"[MeSH Terms] OR ("complementary"[All Fields] AND "therapies"[All Fields]) OR "complementary therapies"[All Fields]) AND ("health personnel"[MeSH Terms] OR ("health"[All Fields] AND "personnel"[All Fields]) OR "health personnel"[All Fields])) AND (“Patient Care Teams”[MeSH Terms]) ((casereports [Filter] OR classicalarticle [Filter] OR clinicalstudy [Filter] OR clinicaltrial [Filter] OR clinicaltrialphasei [Filter] OR clinicaltrialphaseii [Filter] OR clinicaltrialphaseiii [Filter] OR clinicaltrialphaseiv [Filter] OR randomizedcontrolledtrial [Filter]) AND (fft[Filter]) AND (2020/1/1:2024/7/31[pdat]) AND (english[Filter] OR portuguese[Filter] OR spanish[Filter]))
EMBASE: Complementary Therapies; Health Personnel; Patient Care Teams	(“Complementary Therapies” AND “Health Personnel”) OR (“Complementary Therapies” AND “Patient Care Teams”) AND ([controlled clinical trial]/lim OR [randomized controlled trial]/lim) AND [article]/lim AND ([english]/lim OR [portuguese]/lim OR [spanish]/lim) AND [embase]/lim AND [01-01-2020]/sd NOT [01-08-2024]/sd
SCOPUS: Complementary Therapies; Health Personnel; Patient Care Teams	(complementary AND therapies AND health AND personnel) OR (complementary AND therapies AND patient AND care AND teams) AND (PUBYEAR > 2020 AND PUBYEAR < 2024 AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "sh")) AND (LIMIT-TO (LANGUAGE , "English") OR LIMIT-TO (LANGUAGE , "Portuguese") OR LIMIT-TO (LANGUAGE , "Spanish"))

LILACS: Complementary therapies; Health personnel; Patient Care Team	(“terapias complementares” AND “pessoal da saúde”) OR (“terapias complementares” AND “equipe de assistência ao paciente”) AND (db:("LILACS") AND type_of_study:("quantitative_research" OR "prognostic_studies" OR "risk_factors_studies" OR "diagnostic_studies" OR "clinical_trials" OR "screening_studies" OR "observational_studies" OR "evaluation_studies" OR "etiology_studies")) AND (year_cluster:[2020 TO 2024])

The selection of the identified articles was carried out in three stages: evaluation of the title, followed by analysis of the abstract and, finally, full reading of the article. To ensure the methodological quality of this integrative review and to minimize possible selection and interpretation biases, the double-checking strategy was adopted. Two reviewers conducted all the steps independently, then reached consensus. In cases of disagreement between the reviewers, a third reviewer was consulted for a final decision. This process ensured uniformity, validity and rigor in the stages of this review.

The data from the primary studies were organized and synthesized in a spreadsheet developed by the researchers in Microsoft Excel® (2019 version), containing the following variables: authorship, year of publication, country of study, objective, sample characteristics, method, PICS investigated, results evidenced, and conclusion and/or final considerations, enabling the analysis, synthesis, and presentation of the data.

Results

The final sample consisted of 39 studies, as illustrated in Figure 1, prepared according to the PRISMA protocol. Regarding research methods, 23 (57.5%) studies were clinical trials, 7 (20%) exploratory quantitative, 4 (10%) experimental before-and-after studies, 3 (7.5%) pilot studies, 1 (2.5%) experience report, and 1 (2.5%) descriptive qualitative. Among the countries where the studies were conducted, the United States stands out, with 10 (25%) publications, followed by Brazil with 8 (20.5%), Iran with 7 (17.5%), Turkey and South Korea with 3 (7.5%) each, China and India with 2 (5%) each, and, finally, Australia, Italy and Germany with 1 (2.5%) study each.

The Integrative and Complementary Practices (ICPs) were analyzed and grouped according to their similarities and specific characteristics. Of the included studies, 11 (29%) applied mindfulness in isolation[6,16] while 4 (10%) combined mindfulness with other practices such as acupuncture, relaxation, yoga, and music therapy.[17-20] Yoga practice was addressed in isolation in 6 (15%) studies21-26 Aromatherapy was studied in isolation in 3 (8%) articles27-29 and in one (2%) combined with auriculotherapy and reiki.[30] Relaxation and/or mindful breathing techniques were implemented in 3 (8%) studies.[31-33]

Other interventions included the practice of auriculotherapy alone in 2 (5%) studies[34-35], and in one (2%) in combination with music therapy, chromotherapy, and relaxation.[36] The other ICTs addressed included therapeutic touch[37-38], reiki and/or laying on of hands39-40 phytotherapy41, acupuncture and auricular massage[42], relaxation with virtuous reality[43], in addition to animal-assisted therapy or manual therapy.[44] The synthesis of publications, organized according to the PICS investigated, is shown in Chart 2.

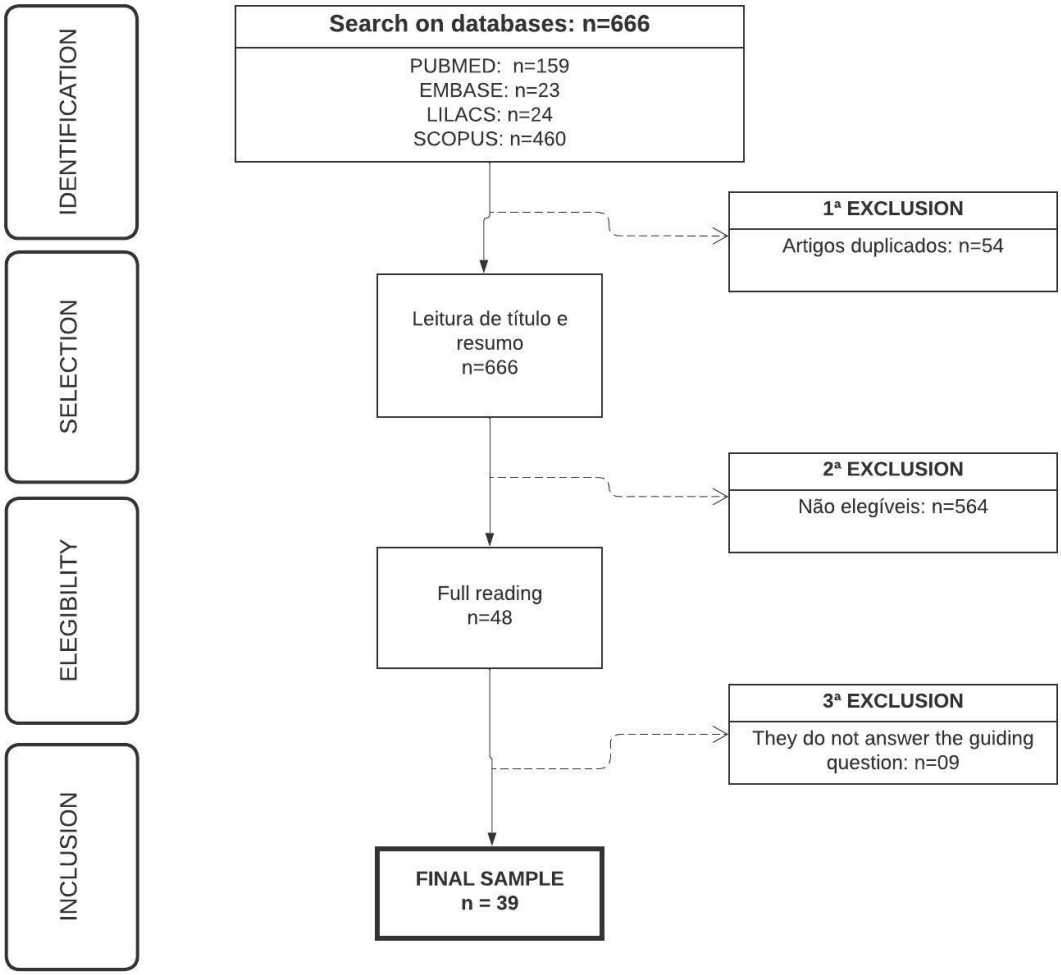

Figure 1 - Flowchart for the selection of studies, based on the PRISMA recommendation.

Chart 2 - Characterization of primary studies according to country of conduction, year of publication, type of study, population studied, evidence on PICS, and considerations/conclusions.

Country of realization, year of publication	Type of Study	Population studied; Evidence on PICS	Considerations / Conclusions
PICS: Mindfulness			
Brasil, 2022[6]	Exploratory quantitative	Clinical psychologists demonstrate knowledge and recommendation of mindfulness, but its use is limited.	It suggests the need for training and encouragement of the use of mindfulness as a self-care tool
EUA, 2020[7]	RCT	Highlights the potential of mobile meditation apps to support the mental health of emergency professionals	Suggests effectiveness of meditation apps for stress management in high-pressure environments.
Coréia do Sul, 2020[8]	non-randomized CT	Online mind-body training reduces stress and improves psychological outcomes in women in health.	Long-lasting benefits in stress reduction and psychological improvement
EUA, 2023[9]	Experimental Before and After	Virtual reality mindfulness intervention improves heart rate variability.	Suggests the feasibility of virtual interventions for stress management in critical settings

China, 2021[10]	Experimental Before and After	Kindness meditation increases empathy and communication skills in doctors.	Highlights the importance of meditation for interpersonal skills in the clinical setting
Irã, 2021[11]	RCT	Online mindfulness-based stress reduction program with COVID-19 nurses	It highlights the benefits of mindfulness programs for professionals in high-demand situations.
Irã, 2023[12]	RCT	Kindness meditation reduces compassion fatigue in neonatal ICU nurses.	Support the use of meditation to prevent emotional exhaustion.
EUA, 2022[13]	RCT	Transcendental meditation reduces stress among health professionals.	Effectiveness of transcendental meditation with significant reduction in occupational stress.
EUA, 2023[14]	RCT	Hybrid mindfulness meditation (face-to-face and digital) reduces stress for pediatric residents.	Validation of Hybrid Mindfulness Training Methods for Medical Residents with Perceived Stress Reduction
EUA, 2024[15]	RCT	Heartfulness meditation promotes work engagement and well-being.	It suggests that gratitude and meditation practices benefit occupational engagement and promotion of well-being.
Brasil, 2020[16]	Controlled pilot study	Mindfulness training improves mental health and resilience in healthcare students.	It suggests the implementation of mindfulness as a preventive practice for future health professionals
PICS: Mindfulness combined with other PICS			
Alemanha, 2024[17]	Exploratory quantitative	Health professionals show interest and gaps in knowledge about Mindfulness, acupuncture and relaxation	It highlights the need for training in integrative practices to expand adherence.
Brasil, 2022[18]	Exploratory quantitative	Essential self-care for ICU workers during the COVID-19 pandemic.	Highlights the importance of relaxation and mindfulness for self-care in preserving the mental health of professionals in critical work contexts
Índia, 2023[19]	ECR	mHealth-assisted meditation and breathing intervention reduces burnout in healthcare workers.	Significant reduction of burnout and improvement in the quality of professional life
Turquia, 2022[20]	ECR	Mindfulness-based breathing and music therapy reduces stress and increases well-being in nurses.	Reinforces the use of mindfulness and music therapy as combined practices to reduce stress and increase psychological well-being
PICS: Yoga			
Austrália, 2022[21]	Exploratory quantitative	Yoga and group exercises assist in the management of occupational stressors among medical residents.	Indicates that personalized yoga can be a valuable resource with positive perceptions about reducing occupational stress
EUA, 2021[22]	Exploratory quantitative	Yoga-based breathing techniques are feasible and accepted by health workers during the pandemic.	It encourages the implementation of yoga and breathing practices in high-pressure contexts.
Austrália, 2020[23]	Exploratory quantitative	Personalized yoga reduces burnout and traumatic stress in medical residents.	He points to yoga as an effective strategy to reduce burnout in resident physicians.

Turquia, 2023[24]	RCT	Laughter yoga improves psychological resilience and sleep quality of nurses during the pandemic.	It suggests that laughter can be a complementary tool to improve mental health with increased psychological resilience and improved sleep quality
Brasil, 2020[25]	Exploratory quantitative	Yoga meditation improves the sleep quality of health professionals.	It highlights the positive, objective and subjective impact of meditation on the recovery of well-being and rest.
Índia, 2021[26]	RCT	Structured yoga program reduces stress and improves the quality of professional life of nurses.	It supports yoga as a valid technique to promote well-being in health professionals.
PICS: Aromatherapy			
Irã, 2022[27]	RCT	Damask rose aromatherapy reduces anxiety and improves sleep quality in operating room professionals.	It indicates that aromatherapy can help reduce stress and improve rest in hospital environments.
Coréia do Sul, 2020[28]	RCT	Inhalation of patchouli oil significantly reduced stress levels and improved the quality of working life of emergency room nurses.	Suggests the use of aromatherapy to improve nurses' well-being in high-pressure situations
Irã, 2023[29]	RCT	Aromatherapy, with rose and lavender essential oil, reduced stress and promoted occupational well-being in nurses	Supports the use of essential oils as an intervention to reduce stress in healthcare workers
Brasil, 2022[30]	Qualitative, descriptive	Participants reported improved mental and emotional health with the use of aromatherapy, auriculotherapy, and reiki during the pandemic.	It corroborates the effectiveness of integrative practices for stress management in public health crises.
PICS: Breathing and/or conscious relaxation			
China, 2020[31]	RCT	Biofeedback showed significant reduction in occupational stress and depressive symptoms and improved resilience in psychiatric nurses.	Biofeedback can be a useful tool for increasing resilience and reducing stress for healthcare workers
Irã, 2020[32]	Experimental Before and After	Benson's relaxation technique reduces occupational stress in midwives.	Demonstrates the effectiveness of relaxation as an accessible technique to relieve stress in situations of high professional demand
Irã, 2022[33]	RCT	Progressive muscle relaxation significantly reduces stress and anxiety in COVID-19 nurses.	Supports the use of progressive muscle relaxation to reduce the emotional burden of frontline workers.
PICS: Auriculotherapy			
Brasil, 2021[34]	Pilot Study	Chinese auriculotherapy promotes mood improvement and stress relief in health professionals.	Auriculotherapy can be a complementary alternative to improve emotional well-being
Coréia do Sul, 2021[35]	RCT	Auricular acupressure reduces stress, anxiety, and depressive symptoms in nurses.	It suggests potential benefits of auricular acupressure to reduce emotional burden and stress symptoms.
Brasil, 2022[36]	Experience	Auriculotherapy, music therapy,	It confirms the importance of ICPs

	Report	chromotherapy and relaxation promote mental health and help health professionals in self-care.	in promoting well-being and prevention of psycho-emotional illnesses among health professionals
PICS: Toque terapêutico			
EUA, 2023[37]	RCT	Healing touch reduces perceived stress of acute care nurses.	Validates the therapeutic touch technique as effective for stress management and emotional support in the hospital setting
Turquia, 2021[38]	RCT	Emotional freedom techniques showed a significant reduction in stress, anxiety, and burnout levels in nurses during the pandemic.	Demonstrates the effectiveness of emotional release techniques to be integrated into occupational health programs
PICS: Reiki and/or laying on of hands			
Brasil, 2020[39]	RCT	Laying on of hands reduces anxiety, stress and autonomic response of professionals working in hospitals.	It suggests that hand-laying techniques can have a positive impact on the emotional health of health workers.
Itália, 2024[40]	Pilot Study	Reiki enhances empathy and care behaviors in professionals who work in pediatric palliative care.	It points to the benefits of Reiki as promising to increase empathy and care in health professionals in palliative care contexts.
Demais PICS			
Irã, 2023[41]	RCT	Herbal use of wild lavender reduces occupational stress in emergency medical technicians.	Reinforces the use of medicinal plants in reducing occupational stress by promoting the well-being of health workers
EUA, 2021[42]	RCT	Acupuncture and acupressure significantly reduce burnout in healthcare workers.	Validates acupuncture as a viable technique for the management of burnout in health professionals
EUA, 2022[43]	Experimental Before and After	Immersive relaxation with tranquilizing virtual reality reduces subjective stress for healthcare workers during COVID19.	It suggests that virtual reality can be an innovation in promoting mental health and reducing stress for health professionals in hospital settings
EUA, 2020[44]	RCT	Dog therapy and coloring art therapy reduce stress in emergency workers.	Suggests that playful interventions can be incorporated to relieve stress in high-pressure medical settings

Discussion

The present integrative review allowed us to observe that Integrative and Complementary Practices (ICPs) have diversified and promising applications for stress management in health professionals, promoting well-being, especially in critical work scenarios, with greater exposure to stress and other emotional problems. Among the ICPs evidenced in the national and international literature of the last five years, mindfulness meditation, yoga, aromatherapy, and breathing and conscious relaxation techniques stood out.

Mindfulness was the most recurrent practice among the articles analyzed, with 15 studies addressing its application.[6-20] The isolated practice of

mindfulness positively impacts stress management and emotional well-being, by increasing the capacity for mindfulness and emotional self-regulation of professionals. In addition, it strengthens resilience and reduces symptoms of anxiety and depression, providing adequate psycho-emotional resources for managing the intense demands of work.[6-16]

Specifically, in a study conducted in 2020 with doctors and nurses working in emergency services, the group that used a mindfulness meditation app showed significant improvements in levels of well-being, which were maintained for up to 30 days after the end of the practices.[7] Other benefits of mindfulness include improved resilience levels and stress coping strategies[8], as well as reduced anxiety and increased feelings of relaxation.[9] However, some studies[13-14] suggest that there is no significant change in outcomes such as burnout and insomnia.

In turn, the combination of mindfulness with other therapies, such as acupuncture, relaxation, yoga and music therapy[17-20], proved to be especially effective in providing a synergistic effect, enhancing the benefits of each practice. The combination of mindfulness and yoga, for example, amplified the reduction of stress levels and increased the feeling of psycho-emotional balance and well-being.[19] The combination with music therapy[20] created a relaxing environment that favored the engagement of professionals in the practice.

Studies on yoga[21-26] corroborate that, when practiced regularly, this technique contributes to the reduction of mental exhaustion, improves physical and emotional flexibility, and helps regulate the stress response. These effects appear to be due in part to yoga's impact on the nervous system, promoting deep relaxation and reducing cortisol levels – a relevant benefit for professionals subjected to high emotional pressure.[26]

With regard to burnout, a significant reduction in the rates was observed among the studies that used yoga, alone[21-23] or in combination with other PICS, such as mindfulness and/or relaxation.[19] These results were evidenced through scales such as the Maslach Burnout Inventory (MBI)[19] and the Professional Quality of Life (ProQOL).[23] Other benefits of yoga include increased life satisfaction and compassion, as well as physical improvements, such as lung function and vital parameters, especially blood pressure.[22,23]

Breathing and conscious relaxation techniques[31-33] have also demonstrated efficacy for regulating heart rate and improving oxygenation, directly contributing to the relief of muscle tension and the reduction of high alertness, commonly associated with stress and anxiety. Such practices promote a sense of calm and increase mental clarity, which are essential for healthy coping with stressful situations. Specifically, techniques such as Benson relaxation[32] and progressive muscle relaxation[33] have been shown to be effective in reducing occupational stress in nurses.

However, an American study that compared deep breathing techniques with Healing Touch touch therapy showed greater efficacy of the latter.[37] In a study conducted in Turkey, a single session of touch therapy was able to significantly reduce levels of stress, anxiety, and burnout in nurses.[38] In addition, Reiki sessions and the laying on of hands also had beneficial effects in reducing symptoms of emotional exhaustion.[39-40] Aromatherapy, used in isolation[27-29], contributed to the reduction of stress and promoted a calming environment, which can facilitate the disconnection of professionals with

stressful situations, in addition to strengthening emotional self-control for decision-making. The combination of aromatherapy with auriculotherapy and Reiki[30] has been shown to amplify relaxation and reduce anxiety, being suitable for deep emotional recovery and well-being.

Among the essential oils used, the benefits of rosa damascena oil and patchouli oil were highlighted: rosa damascena oil has been shown to significantly reduce anxiety levels and improve sleep quality[27], in addition to reducing stress in nurses.[29] Inhaling patchouli oil was effective in reducing stress, although it has not shown significant effects on vital parameters such as blood pressure and heart rate, or on fatigue and burnout levels.[28]

Self-healing and energy alignment PICS, such as auriculotherapy alone[34-35] and combined with music therapy, chromotherapy and relaxation[36], in addition to Reiki and laying on of hands[39-40], stood out for their ability to reduce stress and improve mood. Reiki, in particular, has been shown to be effective in restoring emotional balance and spirituality, promoting deep relaxation and well-being.[39-40] Specifically among nursing professionals, auriculotherapy significantly reduced mental confusion and tension scores, as measured by the Brunel Mood Scale.[34]

The combination of auriculotherapy, aromatherapy and Reiki provided a feeling of emotional well-being and relief from physical complaints, such as osteoarticular discomfort.[30] In addition to generating a perception of appreciation and acceptance among professionals.[30-34].

PICS that are still poorly scientifically based on the psycho-emotional well-being of professionals, such as phytotherapy[41], acupuncture and auricular massage[42], immersive relaxation with virtual reality[43] and animal-assisted therapy[44] have shown positive results in reducing subjective stress. Peculiarly, dog-assisted therapy[44] reduced stress levels and was shown to decrease salivary cortisol. In general, these practices that add natural and technological resources offer new perspectives for the expansion of emotional support strategies for health professionals, respecting the individualities and beliefs of each individual.

The data from this integrative review show promising results, which support the non-pharmacological management of stress in health professionals through ICTs to reduce stress levels and promote the well-being of these workers. It is noteworthy that each PICS, or a combination of them, offers a unique approach, which can be adjusted according to the needs and preferences of each professional, contributing to enhance results and create an environment of care and appreciation that supports the psycho-emotional health of these professionals.

However, the need to develop more robust and contextualized studies for the Brazilian reality is emphasized. That consider both the structure of the health system, and regional and local specificities, as well as the choice of PICS respecting the beliefs and desires of the health professional, in order to support the planning of strategies according to the reality experienced.

Conclusion

The results of this study indicate that Integrative and Complementary Practices (ICPs) contribute positively to the well-being of health professionals, especially in work environments where stress is high. Among the most recurrent practices, mindfulness meditation, yoga, breathing and conscious relaxation techniques and aromatherapy stand out.

The practice of mindfulness meditation was the most cited in the articles analyzed, proving to be effective in managing stress and increasing emotional self-regulation and mindfulness. Combining mindfulness with other therapies, such as acupuncture, yoga, and music therapy, has been shown to enhance the benefits of each practice, amplifying the positive effects on emotional well-being.

Yoga has been shown to be useful in reducing mental exhaustion and improving physical and emotional flexibility, in addition to assisting in the homeostasis of the stress response by decreasing cortisol levels, benefiting professionals exposed to situations of high emotional pressure. Breathing and conscious relaxation techniques also stood out for regulating heart rate and reducing muscle tension. While aromatherapy promoted a calming environment and facilitated disconnection from stressful stimuli.

These findings suggest that PICS, alone or in combination, constitute an effective and holistic non-pharmacological approach to occupational stress management, promoting psychophysiological health and general well-being among health professionals. Future studies should focus on the adaptation of ICTs to the Brazilian context, with the aim of identifying appropriate and effective practices for stress management, promoting healthier and more sustainable work environments for these professionals.

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References

1. Ribeiro RP, Marziale MHP, Martins JT, Galdino MJQ, Ribeiro PHV. Estresse ocupacional entre trabalhadores de saúde de um hospital universitário. Rev Gaúcha Enferm [Internet]. 2018 Jul 23;39. Disponível em: https://www.scielo.br/j/rgenf/a/93bFnj3GkbyPtrpjyGvn8cj/?lang=pt

2. Santos Érika KM, Durães RF, Guedes M de S, Rocha MFO, Rocha FC, Torres JDRV, Barbosa HA. O estresse nos profissionais de saúde: uma revisão de literatura. HU Rev [Internet]. 2019 Nov 7 [citado 2024 Sep 13];45(2):203-11. Disponível em: https://periodicos.ufjf.br/index.php/hurevista/article/view/25645

3. Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Atenção Básica. Política nacional de práticas integrativas e complementares no SUS: atitude de ampliação de acesso. 2. ed. Brasília: Ministério da Saúde; 2015.

4. Schwambach LB, Queiroz LC. Uso de Práticas Integrativas e Complementares em Saúde no tratamento da depressão. Physis [Internet]. 2023;33:e33077. Available from: https://doi.org/10.1590/S0103-7331202333077

5. Pereira EC, Rocha MP da, Fogaça LZ, Schveitzer MC. Occupational health, integrative and complementary practices in primary care, and the Covid-19 pandemic. Rev Esc Enferm USP. 2022;56. Disponível em: https://doi.org/10.1590/1980-220X-REEUSP-2021-0362

6. Azevedo ML, Xavier MC, Menezes CB. Conhecimento, recomendação e uso de mindfulness por psicólogos clínicos brasileiros. Psicol ciênc prof. 2022;42:e237527. Disponível em: https://doi.org/10.1590/1982-3703003237527

7. Lambert KG, Aufricht WR, Mudie D, Brown LH. Does a phone-based meditation application improve mental wellness in emergency medicine personnel? Am J Emerg Med. 2020;38(12):2740–1. Disponível em: https://doi.org/10.1016/j.ajem.2020.04.058

8. Lee D, Lee WJ, Choi SH, Jang JH, Kang DH. Long-term beneficial effects of an online mind-body training program on stress and psychological outcomes in female healthcare providers: a non-randomized controlled study. Medicine. 2020;99(32):e21027. Disponível em: https://doi.org/10.1097/MD.0000000000021027

9. Pascual K, Fredman A, Naum A, Patil C, Sikka N. Should mindfulness for health care workers go virtual? A mindfulness-based intervention using virtual reality and heart rate variability in the emergency department. Workplace Health Saf. 2023;71(4):188–94. Disponível em: https://doi.org/10.1177/21650799221123258

10. Chen H, Liu C, Cao X, Hong B, Huang DH, Liu CY, et al. Effects of loving-kindness meditation on doctors' mindfulness, empathy, and communication skills. Int J Environ Res Public Health. 2021;18(8):4033. Disponível em: https://doi.org/10.3390/ijerph18084033

11. Nourian M, Nikfarid L, Khavari AM, Barati M, Allahgholipour AR. The impact of an online mindfulness-based stress reduction program on sleep quality of nurses working in COVID-19 care units: A clinical trial. Holist Nurs Pract. 2021;35(5):257-63. Disponível em: https://doi.org/10.1097/HNP.0000000000000466

12. Asadollah F, Nikfarid L, Sabery M, Varzeshnejad M, Hashemi F. The impact of loving-kindness meditation on compassion fatigue of nurses working in the neonatal intensive care unit: A randomized clinical trial study. Holist Nurs Pract. 2023;37(4):215-22. Disponível em: https://doi.org/10.1097/HNP.0000000000000590

13. Joshi SP, Wong A-KI, Brucker A, Ardito TA, Chow S-C, Vaishnavi S, Lee PJ. Efficacy of transcendental meditation to reduce stress among health care workers: A randomized clinical trial. JAMA Netw Open. 2022;5(9):e2231917. Disponível em: https://doi.org/10.1001/jamanetworkopen.2022.31917

14. Purdie DR, Federman M, Chin A, Winston D, Bursch B, Olmstead R, Bulut Y, Irwin MR. Hybrid delivery of mindfulness meditation and perceived stress in pediatric resident physicians: A randomized clinical trial of in-person and digital mindfulness meditation. J Clin Psychol Med Settings. 2023;30(2):425-34. Disponível em: https://doi.org/10.1007/s10880-022-09896-3

15. Desai K, O'Malley P, Van Culin E. Impact of heartfulness meditation practice compared to the gratitude practices on wellbeing and work engagement among healthcare professionals: Randomized trial. PLoS One. 2024;19(6):e0304093. Disponível em: https://doi.org/10.1371/journal.pone.0304093

16. Braun SE, Dow A, Loughan A, Mladen S, Crawford M, Rybarczyk B, et al. Treinamento de mindfulness para estudantes profissionais de saúde: Um estudo piloto controlado por lista de espera sobre resultados psicológicos e relevantes para o trabalho. Terap Complement Med. 2020;51:102405. Disponível em: https://doi.org/10.1016/j.ctim.2020.102405

17. Hesmert D, Klocke C, Stolz R, Huber R, Samstag Y, Hübner K, et al. Exploring the gap: attitudes, knowledge, and training needs in complementary and integrative medicine among healthcare professionals at German university hospitals. Front Med. 2024;11. Disponível em: https://doi.org/10.3389/fmed.2024.1408653

18. Sangoi KCM, Silva FS, Simonetti SH, Fontana RT. Autocuidado de trabalhadores de uma UTI COVID-19. Nursing (Ed. Bras., Impr.). 2022;25(287):7692–7702. Disponível em: https://doi.org/10.36489/nursing.2022v25i287p7692-7702

19. Bhardwaj P, Pathania M, Bahurupi Y, Kanchibhotla D, Harsora P, Rathaur VK. Efficacy of mHealth aided 12-week meditation and breath intervention on change in burnout and professional quality of life among health care providers of a tertiary care hospital in north India: a randomized waitlist-controlled trial. Front Public Health. 2023;11:1258330. Disponível em: https://doi.org/10.3389/fpubh.2023.1258330

20. Yıldırım D, Çiriş Yıldız C. The effect of mindfulness-based breathing and music therapy practice on nurses' stress, work-related strain, and psychological well-being during the COVID-19 pandemic: A randomized controlled trial. Holist Nurs Pract. 2022;36(3):156-65. Disponível em: https://doi.org/10.1097/HNP.0000000000000511

21. Taylor J, Stratton E, McLean L, Richards B, Glozier N. How junior doctors perceive personalised yoga and group exercise in the management of occupational and traumatic stressors. Postgrad Med J. 2022;98(1161):e10. Disponível em: https://doi.org/10.1136/postgradmedj-2020-139191

22. Narayanan S, Tennison J, Cohen L, Urso C, Subramaniam B, Bruera E. Yoga-based breathing techniques for health care workers during COVID-19 pandemic: interests, feasibility, and acceptance. J Altern Complement Med. 2021;27(8):706–9. Disponível em: https://doi.org/10.1089/acm.2020.0536

23. Taylor J, McLean L, Richards B, Glozier N. Personalised yoga for burnout and traumatic stress in junior doctors. Postgrad Med J. 2020;96(1136):349-57. Disponível em: https://doi.org/10.1136/postgradmedj-2019-137413

24. Sis Çelik A, Yarali S. The effect of laughter yoga on the psychological resilience and sleep quality of nurses during the pandemic: A randomized controlled trial. Altern Ther Health Med. 2023;29(5):146-52. Disponível em: https://pubmed.ncbi.nlm.nih.gov/37023316/

25. Guerra PC, Santaella DF, D'Almeida V, Santos-Silva R, Tufik S, Len CA. Yogic meditation improves objective and subjective sleep quality of healthcare professionals. Complement Ther Clin Pract. 2020;40:101204. Disponível em: https://doi.org/10.1016/j.ctcp.2020.101204

26. Mandal S, Misra P, Sharma G, Sagar R, Kant S, Dwivedi SN, Lakshmy R, Goswami K. Effect of structured yoga program on stress and professional quality of life among nursing staff in a tertiary care hospital of Delhi-A small scale phase-II trial. J Evid Based Integr Med. 2021;26:2515690X21991998. Disponível em: https://doi.org/10.1177/2515690X21991998

27. Mahdood B, Imani B, Khazaei S. Effects of inhalation aromatherapy with Rosa damascena (damask rose) on the state anxiety and sleep quality of operating room personnel during the COVID-19 pandemic: A randomized controlled trial. J Perianesth Nurs. 2022;37(4):493-500. Disponível em: https://doi.org/10.1016/j.jopan.2021.09.011

28. Shin YK, Lee S-Y, Lee J-M, Kang P, Seol GH. Effects of short-term inhalation of patchouli oil on professional quality of life and stress levels in emergency nurses: A randomized controlled trial. J Altern Complement Med. 2020;26(11):1032-8. Disponível em: https://doi.org/10.1089/acm.2020.0206

29. Emadikhalaf M, Ghods AA, Sotodeh-Asl N, Mirmohamadkhani M, Vaismoradi M. Effects of rose and lavender scents on nurses' job stress: A randomized controlled trial. Explore (NY). 2023;19(3):371-5. Disponível em: https://doi.org/10.1016/j.explore.2023.01.002

30. Santos VHM, Maia MCW, Rézio LA, Bittencourt MN, Leite VF. Repercussões vivenciadas por profissionais de saúde atendidos com práticas integrativas e complementares durante a pandemia. Rev Rene (Online). 2022;23:e80668. Disponível em: https://doi.org/10.15253/2175-6783.20222380668

31. Hsieh HF, Huang IC, Liu Y, Chen WL, Lee YW, Hsu HT. The effects of biofeedback training and smartphone-delivered biofeedback training on resilience, occupational stress, and depressive symptoms among abused psychiatric nurses. Int J Environ Res Public Health. 2020;17(8):2905. Disponível em: https://doi.org/10.3390/ijerph17082905

32. Jourabchi Z, Satari E, Mafi M, Ranjkesh F. Effects of Benson's relaxation technique on occupational stress in midwives. Nurs. 2020;50(9):64-8. Disponível em: https://doi.org/10.1097/01.NURSE.0000694836.00028.28

33. Ganjeali S, Farsi Z, Sajadi SA, Zarea K. The effect of the demonstration-based progressive muscle relaxation technique on stress and anxiety in nurses caring for COVID-19 patients: A randomized clinical trial. BMC Psychiatry. 2022;22(1):791. Disponível em: https://doi.org/10.1186/s12888-022-04456-3

34. Silva NO, Kuba G, Kurebayashi LFS, Turrini RNT. Efeito da auriculoterapia chinesa sobre o humor de profissionais de saúde: estudo piloto. Rev Enferm UFSM. 2021;11:e53–e53. Disponível em: https://doi.org/10.5902/2179769261883

35. Lee S-N, Kim B, Park H. The effects of auricular acupressure on stress, anxiety, and depression of outpatient nurses in South Korea. Complement Ther Clin Pract. 2021;44:101447. Disponível em: https://doi.org/10.1016/j.ctcp.2021.101447

36. Silva J, Silva DB, Nascimento LC, Gomes RA, Freire GG, Gondim ALM, Braga LP. Promoção da saúde mental dos trabalhadores da saúde: as práticas integrativas e complementares como estratégias de cuidado. Rev Ciênc Plur. 2022;8(3):29054. Disponível em: https://doi.org/10.21680/2446-7286.2022v8n3

37. Rosamond RL, Giarratano G, Orlando S, Sumner J, Devier D, McDaniel LS, Wardell DW. Healing touch: A strategy for acute care nurses' stress reduction. J Holist Nurs. 2023;41(4):347-59. Disponível em: https://doi.org/10.1177/08980101221142193

38. Dincer B, Inangil D. The effect of emotional freedom techniques on nurses' stress, anxiety, and burnout levels during the COVID-19 pandemic: A randomized controlled trial. Explore (NY). 2021;17(2):109-14. Disponível em: https://doi.org/10.1016/j.explore.2020.11.012

39. Carneiro ÉM, Oliveira LFA, Silva DAA, Sousa JBF, Timóteo RP, Neto OB, et al. Effects of the laying on of hands on anxiety, stress and autonomic response of employees in a hospital: a double-blind randomized controlled trial. Complement Ther Med. 2020;52. Disponível em: https://doi.org/10.1016/j.ctim.2020.102475

40. Zucchetti G, Ciappina S, Bottigelli C, Campione G, Parrinello A, Piu P, Lijoi S, Quarello P, Fagioli F. Reiki intervention for supporting healthcare professional care behaviors in pediatric palliative care: A pilot study. Palliat Support Care. 2024;22(3):493-8. Disponível em: https://doi.org/10.1017/S1478951523001852

41. Jadidi A, Irannejad B, Salehi M, Safarabadi M. Effect of Stachys lavandulifolia on occupational stress in emergency medical technicians. Explore (N Y). 2023;19(6):803–5. Disponível em: https://doi.org/10.1016/j.explore.2023.04.003

42. Afrasiabi J, McCarty R, Hayakawa J, Barrows J, Lee K, Plouffe N, Schomberg J. Effects of acupuncture and acupressure on burnout in health care workers: a randomized trial. J Trauma Nurs. 2021;28(6):350–62. Disponível em: https://doi.org/10.1097/JTN.0000000000000614

43. Beverly E, Hommema L, Coates K, Duncan G, Gable B, Gutman T, et al. A tranquil virtual reality experience to reduce subjective stress among COVID-19 frontline healthcare workers. PLoS One. 2022;17(2):e0262703. Disponível em: https://doi.org/10.1371/journal.pone.0262703

44. Kline JA, VanRyzin K, Davis JC, Parra JA, Todd ML, Shaw LL, Haggard BR, Fisher MA, Pettit KL, Beck AM. Randomized trial of therapy dogs versus deliberative coloring (art therapy) to reduce stress in emergency medicine providers. Acad Emerg Med. 2020;27(4):266-75. Disponível em: https://doi.org/10.1111/acem.13939

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