Journal of Population Therapeutics & Clinical Pharmacology

A whole-system approach to improving the health and well-being of healthcare workers: a systematic review

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Abstract

Background: Work-related stress is considered the primary occupational health issue in the United Kingdom (UK), following musculoskeletal illnesses like back issues. The cost of stress-correlated sickness absences & musculoskeletal illnesses is estimated to be around £4 billion per year.

Aim and objective: To determine whether healthy workplace interventions incorporating components of this whole system approach enhance the health & well-being of healthcare personnel & promote healthier behaviors, the objective is to identify such interventions in health care settings.

Patients and methods: This systematic review includes human RCTs that were published in English. In addition, we examined the reference lists of the clinical investigations we involved & prior reviews by manual to identify any additional studies. MeSH & text keywords associated with "whole-system approach to improving the health & well-being of healthcare workers" were utilized by two authors in an independent search of online databases involving EMBASE, Scopus MEDLINE, Cochrane Library, & Web of Science.

Results: The current study exhibited notable enhancements in all evaluated health behaviors, except for moderate exercise duration, healthy commuting, smoking frequency, & depressive symptoms. The intervention produced favorable outcomes for the individuals. By implementing enhancements to existing procedures.

Conclusion: The present study offers evidence that whole workplace interventions aimed at promoting health and well-being can enhance the overall health & wellness of healthcare personnel and encourage the use of healthier behaviors.

Key words: Whole-system, Improvement, Well-being, Healthcare workers

Introduction

The prevalence of burnout, sickness absence, & distress among healthcare personnel is significantly higher in developed nations when compared to other businesses **(1, 2).**

Workplace stress is frequently denoted as "occupational stress." The premise that difficulties in satisfying the specific requirements of the workplace can result in physical or mental distress is the core reasoning behind this framework. Occupational stress is a significant health concern that impacts not only organizations but also their employees. It can result in a range of negative outcomes, including burnout, illness, absenteeism, poor morale, decreased productivity, & performance **(3,4).**

As a result of the additional strain that chronic disease burdens and quickly aging populations place on healthcare systems [8] and, consequently, healthcare personnel, there is a growing concern for enhancing the mental & physical health and well-being of healthcare professionals **(5,6).**

An increasing number of individuals advocate for the expansion of the 'quadruple aim' from the current 'triple aim' of enhancing patient experience, patient outcomes, & efficiency to encompass the improvement of healthcare staff experience during the delivery of care **(7).**

It is estimated that work-related stress is the most significant occupational health issue in the United Kingdom (UK), surpassing musculoskeletal disorders like back problems. Additionally, stress-related illness absences account for an estimated £4 billion in annual costs **(8).**

Despite concerted policy & research efforts over the past decade to support & enhance the health and wellbeing of healthcare deliverers in the United Kingdom (e.g., (5, 6), the incidence of acute and long-term sickness absence remains high **(9).**

The predominant focus of interventions aimed at enhancing the health & wellbeing of healthcare personnel has been on supporting or enhancing person coping mechanisms, rather than implementing changes to the work environment that encourage healthier conduct. The impact of stressors in the workplace on health and wellbeing is mediated by personal coping skills, which refer to an individual's capacity to manage environmental stressors **(10).** However, scholarly investigations suggest that addressing workplace stressors at a systemic level, involving cultural, organizational, social, & physical elements, could yield long-lasting and efficacious health & wellbeing interventions **(11).**

To enhance the health & wellbeing of staff in healthcare workplaces, the following five system-level modifications have been proposed: an emphasis on management capability & capacity to improve staff health & wellbeing; an awareness of local staff needs; active staff participation at all levels; leadership that is clearly visible; and support for health and wellbeing from senior management and the board **(12).**

The objective of the present study was to identify workplace treatments in health care settings that utilize components of the whole approach, and to ascertain if these interventions enhance the health and well-being of healthcare personnel and foster better habits.

Patients and methods

Criteria for considering studies for this review:

Search strategy: Two writers conducted separate searches on various online databases, such as EMBASE, Scopus MEDLINE, Cochrane Library, & Web of Science. They used a combination of MeSH terms and text keywords related to the "whole-system approach to improving the health and well-being of healthcare workers" to perform these searches. The electronic searches were restricted to randomized controlled trials (RCTs) that were published in English & performed on human subjects. We conducted a thorough manual examination of the reference lists of the clinical trials that were included, as well as earlier evaluations, to identify any additional research.

Inclusion criteria: The inclusion criteria for studies were as follows: they had to report on interventions that were implemented across all workers of a healthcare setting (e.g., a whole hospital, health center, or unit), were primarily conducted as group activities as opposed to

individual ones & assessed the effects on healthcare professionals' health behaviors or psychological wellbeing (predetermined outcomes). The study designs that were incorporated into the analysis involved RCTs, prior to and following research (with or without control, cohort studies, & surveys.

Exclusion criteria: Research that focused only on a certain subset of the population (such as individuals with high cholesterol or smokers) was not included.

Data extraction and quality assessment: The suitability of an information extraction & quality assessment instrument was determined through pilot testing on four papers by SLB and KW. KW verified the quality evaluation & data extraction performed by SLB; any disagreements were resolved via discussion. The following information was extracted from each eligible article: study year, name of the author, country, design of study, monitoring period from baseline, population age and sex, and study design.

Results

Table (1): Baseline Characteristics of the included studies

Authors (Ref)	Year of the study	country	Study design	Duration of follow-up from baseline (weeks)	Age of the population	Male % to Female%
Sun X et al., (13)	2014	China	Randomized Controlled Trial	26	Their average age ranged from ≤29 to ≥ 50 with average age of staff; (Mean (Median) in the intervention centers was 35.3 (35.3)	16.2% to 83.8%
Blake H et al., (14)	**2013**	UK	Before-after study (no control)	260	Mean ±SD at baseline was 41.06±11.24 while and follow–up was 41.65 ±11.48	At baseline was 20.45% to 79.55% While at follow-up was 23.61% to 76.39%
Hess I et al., (15)	**2011**	Australia	Before-after study (no control)	12	The average age was 39.1 years (SD 10.9)	7.2% to 92.8%
Lemon SC et al., (16)	**2010**	USA	Randomized Controlled Trial	102	aged 18 – 65 years	19% to 81%

McElligott D et al., (17)	**2010**	USA	Controlled before-after study	12 (+2-month response window)	Their age ranged from 23 to 64 years with a mean age of 39 years.	5% to 95%

Table (2): The main findings of the included studies

Authors (Ref)	Intervention	Main outcomes
Sun X et al., (13)	In community health centers, the implementation of a workplace intervention focusing on interpersonal capital.	At the center level, no intervention impacts that were deemed statistically significant were identified. However, the intervention did result in an enhancement of 1.0 (p=0.24), 0.4 (p=0.46), and 0.8 (p=0.16) in the horizontal & vertical dimensions of workplace social capital at the facility level, correspondingly. At the center level, the comprehensive intervention appeared to marginally enhance social capital in the workplace of community health centers in urban China. An interpretation of the results as causal is hindered by the high attrition rate.
Blake H et al., (14)	An intervention was implemented at the workplace, based on a theory-driven approach, and taking into consideration many levels of influence. This intervention included health campaigns; the provision of facilities, & activities aimed at promoting health. The goal was to motivate employees to make healthy lifestyle choices & maintain these alterations in their behavior over time.	Samples at baseline & monitoring were comparable. At 5 years old, significantly more respondents were physically active at work, travel, and non-work trips (via walking or cycling). A considerably greater proportion of participants adhered to current guidelines for physical activity after five years compared to their initial state. A reduced number of employers mentioned "lack of time" as a limit to physical activity after the beginning of the intervention. At five years, there were reports of significantly reduced illness absence, increased job satisfaction, & stronger organizational commitment compared to the initial findings. Consequently, NHS employees who participated in a workplace wellness intervention for a period of five years exhibited enhanced health behaviors, decreased rates of absences due to illness, and increased levels of job satisfaction & organizational commitment. It is suggested by these results that health-promoting initiatives be included in the infrastructure of the NHS.
Hess I et al., (15)	A pedometer, a nutritious cookbook, a water bottle, a sandwich container,	• A significant enhancement in all health behaviors assessed between the pre-

	and Measure Up campaign materials were distributed to each participant. A web-based survey was administered at both the baseline and follow-up stages. (intervention in the work environment) • Throughout working hours, the workplace is an effective venue for reaching a large number of adults in an effort to promote healthful eating, increase physical activity, or both. This study assesses the efficacy of a hospital-based workplace intervention in Australia.	intervention & post-intervention periods, with an exception of the duration of moderate exercise, 'healthy' traveling to work, frequency of smoking, & experience of depression. -The percentage of people who completed the follow-up survey was 66%. Individuals who did not successfully complete the follow-up evaluation didn't vary significantly from those who did. In contrast to the previous week, participants' median minutes of walking increased significantly to two hundred minutes & their minutes of vigorous physical activity rose to eighty-five minutes. The daily fruit and vegetable consumption of participants rose by 24.7 percent & 22.7 percent, respectively. A greater number of respondents also ensured that they ingested breakfast seven days a week & a minimum of one liter of water daily. -Participants reported a satisfactory outcome from the intervention. We would encourage the use of similar programs with the health sector workforce with a few process enhancements.
Lemon SC et al., (16)	Intervention: The two-year ecological intervention aimed to prevent weight gain by implementing strategies that targeted the organization, the interpersonal environment, & employees to alter weight-related norms at work.	• Lower BMI was correlated with a perception of greater organizational commitment to employee health (B = 0.73, p = 0.03). • A stronger perception of healthy eating behaviors exhibited by co-workers was found to be correlated with increased consumption of fruits and vegetables & decreased consumption of fat (B =.33, p <.001). • An increased total amount of physical activity was correlated with a more favorable perception of normative physical activity behaviors among coworkers (18.2%, p = 0.003). • Impact of dose-response on participation: The larger the number of intervention activities in which individuals participated, higher decrease in BMI: At twenty-four months, when exposure to the intervention was utilized as the

		independent variable, BMI reduced by one unit for each unit rise in intervention participation (p = 0.006). • The relationship between the intervention and body mass index was dose–response, with beneficial impacts proportional to participation level. While the intervention effectively altered organizational perceptions, in complex worksite organizations, population-level impact may require further improvement in both actual & perceived social norms.
McElligott D et al., (17)	The experimental group involved registered nurses (RNs) from various divisions within a single institution who were instructed for eight hours on the Collaborative Care Model (CCM) Program & the creation of a self-care plan. In the control group, no intervention was administered.	A significant rise (p =.02) was observed in the overall mean scores of the Health Promoting Lifestyle Profile II instrument (HPLP II), spirituality (p =.04), interpersonal relations (p =.04), & nutrition (p =.04) for the experimental group when compared to the control group over time, as determined by repeated measures analysis of variance. In addition to improving interpersonal relations, spirituality, & nutrition scores, the CCM & the creation of a self-care plan significantly increased the number of RNs practicing health-promoting behaviors overall.

Discussion

Healthcare workers encounter elevated rates of absences caused by psychological distress and job fatigue compared to their counterparts in other industries **(18).** This is widely recognized as the price of providing care. Healthcare workers who are exposed to psychosocial hazards, such as chronic occupational stress, face a higher risk of presenteeism (a reduction in productivity), anxiety, & depression **(19-21).**

Occupational stress pertains to disruptions in the workplace that have the potential to affect the physical & mental well-being of employees, thus increasing the likelihood of suffering burnout **(18, 22).** Additionally, developed countries' healthcare systems face additional financial pressures caused by factors such as a declining workforce, technological advancements, and an aging patient population **(23).**

Williams SP et al. conducted a systematic review to assess the effects of health and well-being (HWB) interventions on employees in health care organizations. The findings of the review indicated that the significance of HWB is becoming more widely acknowledged, and that most interventions resulted in quantifiable enhancements in HWB **(24).**

Five investigations into workplace health promotion interventions that utilized a whole-system approach to improve the health & well-being of healthcare personnel were found in the present systematic review.

The limited quantity of studies that have been identified underscores the lack of research on the effects of whole-system healthy workplace interventions for healthcare workers, as suggested by **Boorman.** We consider it crucial that future studies fill this research void **(12).**

The results indicate that interventions that implement a systemic approach have the potential to enhance the physical & mental health of personnel, as well as support the implementation of healthier behaviors. Interventions that integrate a minimum of one of the five recommendations for the entire system regarding enhancing the health & wellbeing of healthcare workers The implementation of healthier behaviors by healthcare staff led to improvements in physical and/or mental health, as demonstrated by **Sikka R et al. (23).**

On the other hand, despite integrating all five recommendations into their workplace social capital intervention, **Sun X et al.** failed to observe a statistically significant improvement in mental health measures **(13).**

Although establishing definitive comparisons regarding efficacy is challenging, findings from studies that evaluated participation in intervention activities indicate that staff involvement from the outset in determining the activities was associated with increased participation **(15, 25).**

Conclusion

Determining the specificity of the interventions is impossible due to their considerable variation in development, context, design, & implementation. However, it is noteworthy that the number of recommendations included in the interventions did not appear to correlate with the effectiveness of this research. The heterogeneity of outcome measures, however, renders this comparison tentative. The present research gives evidence that healthcare staff health & wellbeing can be enhanced, and healthier behaviors promoted through whole-system healthy workplace interventions.

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