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Physical Activity-Based Workplace Wellness Programs for Employee Well-Being

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ABSTRACT

This study aims to analyze the effectiveness of physical activity-based employee wellness programs in improving employee health and well-being and to identify factors influencing successful implementation in the workplace. This study used a literature review approach by examining 19 relevant journal articles on employee wellness programs, workplace health promotion, workplace physical activity interventions, and Indonesian workplace health contexts. The selected articles were relevant to employee health, physical activity, musculoskeletal complaints, body composition, psychological well-being, burnout, work fatigue, absenteeism, work ability, and productivity. The data were analyzed using narrative-thematic synthesis by grouping the findings into two main themes: program effectiveness and implementation success factors. The findings indicate that physical activity-based employee wellness programs contribute to increasing physical activity, reducing musculoskeletal complaints, improving several body composition indicators, decreasing stress and burnout, supporting employee well-being, and reducing work fatigue and absenteeism. However, their effects on productivity, clinical indicators, healthcare costs, and job performance remain inconsistent. Program effectiveness is influenced by multicomponent design, organizational support, employee participation, needs-based planning, health education, monitoring, contextual adaptation, and sustainable evaluation.

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AUTHORS' CONTRIBUTION

A. Conception and design of the study;
B. Acquisition of data;
C. Analysis and interpretation of data;
D. Manuscript preparation;
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INTRODUCTION

Changes in modern work have created important consequences for employee health and well-being. Technological development, work digitalization, prolonged computer use, and increasing productivity demands have caused many employees to spend most of their working time sitting and engaging in limited physical activity. This condition affects not only physical health but also psychological health, including work stress, fatigue, musculoskeletal complaints, and decreased well-being. In organizational contexts, employee health is a strategic issue because employees with health problems

may have lower work capacity, be more vulnerable to reduced productivity, and require more systematic organizational support.

The workplace is a potential setting for health promotion because adults spend a substantial part of their productive time in the work environment. Malik, Blake, and Suggs (2014) explain that the workplace can serve as an important route to promote physical activity because it can reach working-age adults and overcome common barriers to exercise, such as lack of time. Similarly, Schaller, Stassen, Baulig, and Lange (2024) emphasize that workplace health promotion should not be understood merely as an additional activity, but as an approach that integrates individual behavioral change with workplace environmental support. Thus, the workplace has a strategic position in shaping healthy habits, reducing sedentary behavior, and strengthening an active lifestyle culture among employees.

One approach that organizations can use to support employee health is the employee wellness program. This program refers to organizational efforts designed to improve employee health and well-being through health education, physical activity, healthy lifestyle support, health screening, stress management, and the development of a work environment that supports healthy behavior. In occupational health and applied sports science, physical activity-based employee wellness programs are highly relevant because physical activity can be flexibly implemented in workplaces through activities such as stretching, workplace exercise, walking programs, active breaks, pedometer use, health education, and simple fitness interventions adjusted to job characteristics.

The urgency of physical activity-based employee wellness programs becomes stronger when connected to physical health problems commonly experienced by employees. Office workers, for example, often sit for long periods, perform repetitive movements, and have limited opportunities to move. This condition can increase the risk of musculoskeletal complaints, particularly in the neck, shoulders, back, and other body parts associated with work posture. Moreira-Silva et al. (2016) found that workplace physical activity programs can reduce general pain as well as neck and shoulder pain among employees. More recent findings by Karatrantou and Gerodimos (2024) also show that workplace exercise interventions combining flexibility, strength, and balance can reduce pain duration and intensity, decrease absenteeism, and improve work capacity among office workers. These findings indicate that employee wellness programs do not merely function as recreational activities but can become preventive strategies for maintaining employees' physical health.

In addition to physical health, physical activity-based employee wellness programs are also relevant to psychological health. Work stress, fatigue, and burnout are increasingly discussed in organizations because they can interfere with energy, concentration, engagement, and performance quality. Naczenski, de Vries, van Hooff, and Kompier (2017) showed that physical activity is associated with reduced exhaustion, the core component of burnout. Physical activity may help employees recover psychologically from work demands, increase energy, improve mood, and strengthen individual capacity to deal with work pressure. Therefore, physical activity-based

employee wellness programs can be positioned as an approach that supports psychological well-being, not merely physical fitness.

From an organizational perspective, employee wellness programs are often linked to productivity, work ability, absenteeism, and work efficiency. Employees with better physical and psychological health tend to have more optimal work capacity. However, previous findings indicate that the effects of workplace wellness programs on organizational and clinical outcomes remain inconsistent. Tarro, Llauradó, Ulldemolins, Hermoso, and Solà (2020) showed that workplace interventions may reduce absenteeism, although evidence regarding productivity and work ability still requires further examination. Song and Baicker (2019) found that workplace wellness programs improved several self-reported healthy behaviors, but did not significantly affect clinical indicators, healthcare spending, absenteeism, tenure, or performance after 18 months. Similarly, Reif, Chan, Jones, Payne, and Molitor (2020) reported no significant effects on biometrics, medical diagnoses, or healthcare use after 24 months, although employees' health beliefs improved. These findings suggest that program effectiveness should be analyzed carefully by considering intervention type, program duration, employee participation, organizational support, and the outcomes used.

Based on the explanation above, the study of physical activity-based employee wellness programs is important to provide a more comprehensive understanding of their contribution to employee health and well-being. This topic is also relevant to sports science, occupational health, and public health because it places physical activity as a health promotion strategy in the workplace. This study aims to analyze the effectiveness of physical activity-based employee wellness programs in improving employee health and well-being and to identify factors that influence successful implementation in the workplace. Therefore, the research questions are: (1) how effective are physical activity-based employee wellness programs in improving employee health and well-being?; and (2) what factors influence the success of physical activity-based employee wellness programs in the workplace?

METHODS

This study used a literature review approach to analyze the effectiveness of physical activity-based employee wellness programs in improving employee health and well-being. This approach was chosen because previous findings on workplace wellness programs remain dispersed across various outcomes, including physical activity, musculoskeletal complaints, body composition, work stress, burnout, absenteeism, work ability, and productivity.

The literature was collected from scientific journal articles available through Google Scholar, PubMed, Scopus, Web of Science, and other relevant academic sources. Additional Indonesian journal articles were included to strengthen the contextual relevance of the review. The search used combinations of keywords such as employee wellness program, workplace wellness program, workplace health promotion, workplace

physical activity, workplace exercise, employee well-being, occupational health, burnout, absenteeism, work ability, productivity, program kesehatan di tempat kerja, aktivitas fisik, kesejahteraan karyawan, and kelelahan kerja.

A total of 19 relevant articles were included in the final synthesis. The inclusion criteria were articles that discussed wellness programs or health promotion in workplace contexts, focused on employees or working adults, included physical activity or exercise as part of the program or main variable, and reported outcomes related to employee health, well-being, musculoskeletal complaints, burnout, work fatigue, absenteeism, work ability, or productivity. Articles were excluded if they did not discuss workplace settings, were unrelated to employees or occupational contexts, focused only on clinical patient populations, or lacked sufficient methodological information.

The data were analyzed using narrative-thematic synthesis. Each article was reviewed based on author, publication year, study design, intervention focus, outcome variables, and main findings. The findings were then grouped into two themes: the effectiveness of physical activity-based employee wellness programs and the factors influencing successful implementation. The synthesis was presented in tables and discussed narratively to compare findings, identify patterns, highlight Indonesian contextual evidence, and formulate practical implications for workplace health promotion.

RESULTS AND DISCUSSION

Based on the literature review, physical activity-based employee wellness programs make an important contribution to employee health and well-being. These programs are not only directed at increasing physical activity but are also related to reduced musculoskeletal complaints, improved body composition, decreased stress and burnout, and improved work outcomes such as work ability and absenteeism. However, program effectiveness is not uniform across all indicators. Some studies show positive results in health behavior and physical conditions, while other studies find that program effects on clinical indicators, healthcare costs, and work productivity are not always significant in the short term. Therefore, the findings of this review are presented in two parts: the effectiveness of physical activity-based employee wellness programs and the factors that influence successful implementation.

Table 1.
Effectiveness of Physical Activity-Based Employee Wellness Programs

No.	Author and Year	Study Focus	Main Findings
1	Conn et al. (2009)	Workplace physical activity interventions	Improved physical activity, fitness, anthropometric indicators, attendance, and job stress.
2	Malik et al. (2014)	Workplace health promotion and physical activity	Some studies increased physical activity, but evidence remained mixed.
3	Moreira-Silva et al. (2016)	Physical activity and musculoskeletal pain	Reduced general pain, neck pain, and shoulder pain among employees.

No.	Author and Year	Study Focus	Main Findings
4	Naczenski et al. (2017)	Physical activity and burnout	Physical activity may reduce exhaustion, the main component of burnout.
5	Mulchandani et al. (2019)	Physical activity and cardiometabolic health	Reduced body weight, BMI, and waist circumference, but not all clinical markers improved.
6	Song and Baicker (2019)	Wellness program and health-economic outcomes	Improved self-reported healthy behaviors, but not clinical, cost, or performance outcomes.
7	Tarro et al. (2020)	Workplace interventions and work outcomes	Reduced absenteeism, while evidence for productivity and work ability remained limited.
8	Reif et al. (2020)	Wellness program and health beliefs	Improved health beliefs, but not biometrics or healthcare use.
9	Ramezani et al. (2022)	Strategies to increase workplace physical activity	Multicomponent, theory-based, monitored interventions tended to be more effective.
10	Schaller et al. (2024)	Physical activity in workplace health promotion	Behavioral and environmental approaches should be combined for sustainability.
11	Karatrantou and Gerodimos (2024)	Workplace exercise for office workers	Reduced pain and absenteeism while improving work and functional capacity.
12	Zhang et al. (2025)	Physical activity-led workplace health promotion	Improved physical activity, stress, diet, body composition, and some clinical outcomes.
13	Putri and Erwandi (2025)	Workplace health program in Indonesia	Program needed improvement through health education, sports facilities, and early detection.
14	Usman et al. (2024)	Wellness program for hospital employees	Reduced body weight, BMI, and body fat, but not visceral fat.
15	Jusuf and Martha (2025)	Workplace health promotion review	Improved worker health, especially physical activity and well-being.
16	Kamila, Koerniawati, and Siregar (2025)	Nutrition, physical activity, and work fatigue	Nutritional status and physical activity were significantly associated with work fatigue.
17	Arevin et al. (2024)	Wellness, engagement, and productivity	Wellness strategies were associated with engagement, lower absenteeism, and productivity.
18	Nadraini, Safei, and Susanto (2025)	Wellness programs for mental and physical health	Improved healthy behaviors and mental health, but clinical and economic effects varied.
19	Grasiaswaty and Putri (2024)	Physical activity and employee well-being	Physical activity was significantly related to employee well-being in Jakarta.

The findings in Table 1 show that physical activity-based employee wellness programs generally contribute to increasing physical activity and supporting employee health and well-being. Evidence from international studies is strengthened by recent Indonesian studies, which show that workplace health programs, wellness interventions, and physical activity are relevant to employee health, body composition, work fatigue,

and well-being in local organizational contexts. Therefore, workplace wellness programs can be understood as practical health promotion strategies that may be adapted to the needs of different organizations.

In terms of physical health, workplace wellness programs can help reduce musculoskeletal complaints and improve several indicators of body composition. Moreira-Silva et al. (2016) and Karatrantou and Gerodimos (2024) showed that workplace physical activity and exercise programs can reduce pain and improve functional capacity among employees. Mulchandani et al. (2019) also found that workplace physical activity interventions can reduce body weight, BMI, and waist circumference, although effects on blood pressure, lipids, and glucose are not always significant. In the Indonesian context, Usman et al. (2024) showed that a wellness program combining nutrition education, low-calorie meals, and exercise significantly reduced body weight, BMI, and body fat among hospital employees. These findings suggest that physical activity-based wellness programs may be stronger when integrated with nutrition education, health monitoring, and early disease detection.

Physical activity-based wellness programs also have potential benefits for psychological health and employee well-being. Naczenski et al. (2017) showed that physical activity is associated with reduced exhaustion as the main component of burnout, while Zhang et al. (2025) found that physical activity-led workplace health promotion interventions can reduce psychological stress. Indonesian evidence also supports this pattern. Grasiaswaty and Putri (2024) found a significant relationship between physical activity and employee well-being among employees in Jakarta, while Kamila, Koerniawati, and Siregar (2025) reported that nutritional status and physical activity were significantly associated with work fatigue. These findings indicate that wellness programs should not only focus on physical fitness, but also support fatigue prevention, psychological recovery, and employee work capacity.

However, the effectiveness of employee wellness programs on organizational outcomes remains inconsistent. Tarro et al. (2020) found that workplace interventions may reduce absenteeism, but evidence regarding productivity and work ability remains limited. Song and Baicker (2019) and Reif et al. (2020) also showed that workplace wellness programs can improve health behaviors and health beliefs, but do not always produce significant short-term effects on clinical indicators, healthcare spending, absenteeism, or job performance. Thus, behavioral and well-being outcomes may change more easily than clinical and economic outcomes, which require longer program duration, stronger organizational support, and continuous evaluation.

Table 2.
Factors Influencing Successful Employee Wellness Program Implementation

No.	Success Factor	Explanation
1	Multicomponent program design	Programs are more effective when they include not only physical activity but also health education, counseling, nutrition support, monitoring, and behavioral reinforcement.
2	Organizational and leadership support	Programs require policy support, facilities, time allocation, and leadership commitment so that employees feel safe and encouraged to participate.

No.	Success Factor	Explanation
3	Active employee participation	Program success is influenced by employee involvement in activities, facility use, monitoring processes, and the application of healthy behavior in daily work routines.
4	Fit with employee needs	Programs should be designed based on job characteristics, health risks, working time, employee fatigue, and the real needs of workers in each organizational context.
5	Integration of behavioral and environmental approaches	Programs are more sustainable when individual behavior change is combined with workplace environmental support that facilitates physical activity and healthy choices.
6	Health education and nutrition support	Wellness programs become stronger when physical activity is combined with nutrition education, healthy meals, weight management, and balanced lifestyle promotion.
7	Health screening and early disease detection	Periodic health screening can help organizations identify health risks such as obesity, hypertension, diabetes, high cholesterol, stress, and work fatigue before they become more serious.
8	Monitoring and feedback	The use of pedometers, applications, health screening, attendance records, or periodic evaluation can help employees monitor progress and increase motivation.
9	Mental health and stress management support	Programs should include stress management, psychological support, burnout prevention, and work-life balance initiatives to strengthen employee well-being.
10	Program duration and sustainability	Health changes and organizational outcomes require time, so programs should be implemented continuously rather than as short-term or ceremonial activities.
11	Realistic outcome evaluation	Programs should be evaluated using appropriate outcomes such as physical activity, pain, body composition, stress, burnout, fatigue, absenteeism, work ability, and well-being, not only short-term costs or job performance.
12	Contextual adaptation	Programs should be adapted to local organizational culture, work patterns, employee demographics, and workplace conditions to improve relevance and participation.

Based on Table 2, the success of physical activity-based employee wellness programs is influenced by program design, organizational support, employee participation, and contextual relevance. Programs are more effective when they are developed as multicomponent interventions that combine physical activity with health education, nutrition support, monitoring, feedback, and behavioral reinforcement. Ramezani et al. (2022) found that interventions integrating activity, information, motivation, support, monitoring, and feedback tend to be more effective. Recent Indonesian evidence also strengthens the importance of designing workplace wellness programs according to real employee health problems, such as obesity, high cholesterol, hypertension, diabetes risk, work stress, and work fatigue. Therefore, workplace wellness programs should not only promote physical activity but also include nutrition education, early disease detection, mental health support, and continuous monitoring.

Organizational support is also essential for sustainable implementation. Schaller et al. (2024) emphasized that workplace health promotion should combine behavioral and environmental approaches, meaning that organizations need to create conditions that make healthy behavior easier to practice. This support may include leadership commitment, adequate facilities, time allocation for active breaks, realistic workloads, and a work culture that values health as part of productivity. Overall, physical activity-

based employee wellness programs should be viewed as long-term occupational health investments. Programs that are systematically designed, needs-based, contextually adapted, supported by the organization, and continuously evaluated have greater potential to improve employee health, well-being, and work-related outcomes.

CONCLUSION

Based on the review of 19 articles, physical activity-based employee wellness programs play an important role in improving employee health and well-being. The findings show that these programs contribute to increasing physical activity, reducing musculoskeletal complaints, improving several indicators of body composition, decreasing stress and burnout, supporting employee well-being, and reducing the risk of work fatigue and absenteeism. Evidence from Indonesian studies also strengthens the relevance of this topic in local organizational contexts, particularly in relation to workplace health programs, nutrition education, exercise, body weight management, employee well-being, and work fatigue. However, the effectiveness of wellness programs on productivity, clinical indicators, healthcare costs, and job performance remains inconsistent. Therefore, employee wellness programs should be understood as long-term workplace health promotion strategies that require appropriate program design, organizational support, active employee participation, contextual adaptation, and continuous evaluation.

Organizations are encouraged to develop physical activity-based employee wellness programs in a simple, planned, and needs-based manner. The program may include active breaks, stretching, walking programs, workplace exercise, ergonomic education, nutrition education, healthy meal support, physical activity monitoring, health screening, stress management, and early disease detection. These programs also need to be supported by organizational policies, adequate facilities, clear implementation time, leadership commitment, and a work culture that encourages active and healthy behavior. Future research is recommended to examine the effectiveness of physical activity-based wellness programs in Indonesian organizational settings using empirical and longitudinal designs, so that stronger contextual evidence can be obtained regarding program models that are effective, sustainable, and applicable for improving occupational health and employee well-being.

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