

How effective are physical activity interventions in improving health and sedentary behavior of employees in Delhi, India?

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1.Introduction:

Our current environment is different from any previous era's surroundings. The need for physical activity in the workplace has indeed increased in recent years. With the rise of sedentary jobs and an overall decrease in physical activity due to technological advancements, there has been a growing recognition of the negative health effects associated with prolonged sitting and a lack of movement during the workday. (Thorp et al., 2011). Due to work demands, some professions, like full-time software developers, may be more susceptible to sedentary behavior.

Sedentary behavior is derived from Latin word "sedere" which means "to sit"(Owen et al., 2011) , Sedentary behavior refers to activities that involve little to no physical movement and typically require sitting or reclining. (1.0-1.5 METs) (Owen et al., 2011) .Sedentary behavior has also been characterized as excessive sitting rather than insufficient exercise and includes sitting while travelling, at work, and at leisure. Physical activity in the workplace refers to engaging in movement and exercise during work hours. It is becoming increasingly recognized as an important aspect of maintaining overall health and well-being, as sedentary work environments have been linked to various health issues.

Sedentary behavior has been extensively researched from a scientific standpoint over the previous decade. As a result, it has emerged as a new health risk factor. It is critical to assess the prevalence of sedentary behavior since excessive sedentary behavior has been linked to an increased risk of obesity and type 2 diabetes.(de Rezende et al., 2014; Mañas et al., 2017), metabolic syndrome, (Thorp et al., 2011)

Workplaces play a crucial role in promoting well-being among employees in the twenty-first century. The impact of workplaces extends beyond just the physical aspects and encompasses various dimensions of employees' lives, including their emotional, economic, and social well-being, as well as the well-being of their families.

Promoting physical exercise has considerable advantages for both the employee and the organization. Physically active employees can provide considerable tangible benefits to the organization, such as lower absence expenses, lower employee turnover, and increased productivity. (Dallat et al., 2013). Intangible benefits include increased staff morale, engagement, and a good attitude towards the 'caring' organization. As a result, many organizations now see encouraging physical activity as an extra work perk.

Many Indians spend the majority of their hours at workplace. Physical inactivity and sedentary behavior are common concerns in the modern workplace, including Indian software companies. As a result, the workplaces needs to implement changes in the culture, environment, systems, and policies, companies can create a work environment that encourages safe and regular physical activity to improve physical health, reduce sedentary behavior and improve overall physical and mental wellbeing of employees.

It has been commonly stated that workplace PA measures to boost mental well-being and staff productivity should focus on lowering sitting time through increased PA across organizations.(Puig-Ribera et al., 2015)

Understanding how physical activity is promoted in workplace health promotion programs and its effects on employees' activity levels is crucial for improving overall well being and health of employees. Workplace health promotion programs that focus on increasing physical activity have the potential to positively impact employees' activity levels and contribute to a healthier workforce.

By conducting a systematic review, the project aim to contribute to the existing body of knowledge and the impact of workplace interventions on employees' activity levels. Additionally, identifying the types of interventions that workplaces use to promote physical activity can provide valuable insights for designing effective strategies in the future. among employees in Indian IT sector.

1. Literature Review:

2.1 Physical activity Interventions at workplace

Physical inactivity is a significant contributor to poor health among adults. Leading a sedentary lifestyle and not engaging in regular physical activity can have detrimental effects on various aspects of health.

With people spending around half of their waking life at work, it has been claimed that the workplace is an ideal venue in which to execute such efforts. A workplace physical activity intervention (WPAI) is a targeted intervention implemented in the workplace setting to motivate employees to improve their physical activity rates. These interventions aim to prevent employees from acquiring unfavorable health effects associated with physical inactivity. (Dishman et al., 1998)

Increases in physical activity inventions can contribute in improving the overall health and wellbeing, reduced stress levels among employees. (Scherrer et al., n.d.).

A wide range of physical activities might be the focus of workplace interventions. For example, it appears likely that programs aimed at reducing sedentary behavior will be successful. (Shrestha et al., 2014), active transport (Petrunoff et al., 2016) and even team sport could positively influence individual and group physical activity behavior.

By implementing health promotion strategies , organizations can create a workplace culture that supports employee well-being and enhances job-related outcomes..(Grimani et al., 2019; Mänttari et al., 2021)

2.2 Physical activity interventions and Sedentary behavior

Sedentary behavior refers to any awake behavior that involves very low energy levels, typically less than or equal to 1.5 metabolic equivalents (METs), while reclining, sitting or lying down.. (Tremblay et al., 2017).

Even after statistical correction for MVPA, research suggests that longer periods of inactivity are linked to high risk of cardiovascular disease .(Warburton et al., 2007). Additionally, some evidence indicates that breaks from sedentary behavior are advantageous for metabolic health.

There is mounting evidence indicating that sedentary behavior, independent of physical activity levels, is a risk factor for poor health outcomes.(Katzmarzyk, 2010; Thorp et al., 2011).

Several authors have identified excessive sitting and insufficient physical activity during working hours as a developing important public health risk. (Straker & Mathiassen, 2009)), and recommendations have been proposed to ensure sufficient PA at work. In response to this worry, workplace interventions have been proposed as an effective method of reducing SB and/or increasing PA. (Buckley et al., 2015).

Researchers have recognized the importance of addressing sedentary behavior in the workplace and have conducted studies to evaluate the effectiveness of interventions in reducing sedentary time and improving health outcomes. Individual (e.g., sitting time self-monitoring), organizational (e.g., walking and standing meetings), and environmental tactics have traditionally been incorporated into these interventions. (Maylor et al., 2018). According to a systematic review, multicomponent treatments that combine human, organizational, and environmental level tactics may be the most successful for reducing workplace sitting (mean decrease of 89 minutes/8-hour workday). (Chu et al., 2016)

2.3 Physical activity interventions and Health Problems

Physical activity plays a critical role in the prevention and management of chronic illnesses. Engaging in regular physical activity has been shown to have numerous health benefits and can help prevent and manage various chronic conditions. (Warburton et al., 2007).

Regular physical activity lowers BMI and can be rehabilitative, assisting in the treatment of musculoskeletal problems. Numerous studies show that physical activity can reduce depression and anxiety symptoms, increase mood, and help with stress management. (Amlani & Munir, 2014; Blake et al., 2009).

According to the World Health Organization, physical inactivity is linked to a variety of negative health outcomes and is the fourth highest risk factor for worldwide mortality.

Increasing physical activity has been consistently linked to improvements in both physical health and mental well-being. Regular physical activity has been linked with a wide array of benefits, that includes improved physical health, mental health, and overall quality of life with work functioning being a subdomain of this. (Penedo & Dahn, 2005) Physical and mental health problems, as well as a lower health-related quality of life, have been associated to lower work productivity. Workplace health-enhancing PA (HEPA) programs have been shown to improve employee health outcomes. (Conn et al., 2009).

Promoting more physical activity in the workplace can be a win-win strategy that benefits both workers' health and business success. (Hutchinson & Wilson, 2012)

3. Methodology:

3.1 Research design

Research design is a blueprint that suggests a step-by-step procedure for collecting, measuring and analyzing the research data in an effective way. It is a method in which different ingredients are studied in a logical manner. This is a strategic plan that describes the processes and strategies for researchers to gather and interpret their data for their study. Exploration, definition, and explanation are the three important study plans the researchers often use. This research is aimed at gathering and evaluating data by exploratory and concise studies. For the understanding of phenomena of interest and for the development of knowledge by way of the construction of good theory and testing hypotheses, exploratory study is important. This study includes literature reviews for more detailed information on the research problems and issues associated with the physical activity interventions, sedentary behavior, and health issues of employees in Indian Information technology sector. This is focused on comprehensive, descriptive surveys and detailed examination of the data obtained. The effects are used in strategic decision taking. The outcomes of this work are used.

3.2 Data Collection:

Both primary and secondary data will be used for this research. For further analysis, primary data is collected from a random sample of respondents. Since selected respondents are employees of IT companies of India thus, questionnaire was developed in both physical and e-format. This increased the reachability of the researcher to select respondents. In today's highly technological environment, people are more willing to fill out e-questionnaires due to their convenience. Using tools like Google Forms to create electronic questionnaires offers several advantages, including compatibility with smartphones. After development of questionnaire, the link to questionnaire is e-mailed or sent through social media for recording of responses. Secondary data will be collected from various books, magazines, journals (print and online), and websites.

3.3 Data Analysis

The tentative use of tools as per the objectives is as follows: statistical tools like descriptive statistics will be used to calculate the general opinion. Based on the normality of data further parametric or non-parametric tests will be used. Data will be analyzed using SPSS version 25 AMOS version 21 for applying techniques like ANNOVA, Descriptive analysis, Inferential analysis .

3.4 Participants:

The target population is the set of interviewees or items with which data is sought by the investigator. The Indian IT sector was considered in this report. The IT sector comprises several IT companies, but this analysis involves five major IT companies. The most significant contributors to the GDP are TCS, Wipro, Accenture, Infosys, and HCL. The software engineers, senior software engineers, technical leads and HR personnel were chosen to fill the data.

3.5 Limitation:

Limited Companies: The study was limited to five major IT companies only. The companies included in the study are TCS, Accenture, Wipro, HCL and Infosys. The other IT companies, i.e., Tech. Mahindra, Oracle and Google can also be considered for the research. •

Limited Region: The study considered IT companies from India only. The same companies have their branches in other countries as well, so they can also be considered for the research.

3.6 Potential Significance

This work instils empirical and inductive theories and encourages the creation of rational thinking and behavioral practices. This study helps in employees in Indian IT sector. To date, limited research has assessed the impact of physical activity intervention on reducing sedentary behavior and improving overall health of employees that in turn leads to overall productivity of organizations. The findings of this analysis would naturally benefit the Indian IT sector, Physical activity interventions can have a significant impact on improving sedentary behavior and the overall health of employees in the Indian IT sector. Sedentary behavior, characterized by prolonged sitting or low levels of physical activity, is a common issue among office workers, including those in the IT sector.

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