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## ERGONOMICS AWARENESS TRAINING FOR EMPLOYEES

Monu Dhiman<sup>1</sup>, Dr. Surendra Kumar Bhogal<sup>2</sup>

<sup>1,2</sup>Department of Management

<sup>1,2</sup>Venkateshwara Open University, Itanagar, Arunachal Pradesh

### Abstract

The article investigated the effects of ergonomics on employee performance by determining the level of ergonomics knowledge in the Mumbai IT industry, identifying the variables that impede ergonomics use, and identifying the best techniques and methodologies used by various firms across industries. Despite the fact that an increasing number of academics in the Mumbai region are aware of the importance of ergonomics design and execution, there is still a knowledge gap in the Mumbai region. This is reflected in the low rate of adoption. Through a survey of the literature, the study took an exploratory approach. Furthermore, various problems such as lack of knowledge, insufficient relevant studies, personnel considerations, resource limits, technology developments, and so on have hampered the effective implementation of ergonomics in the Mumbai region. Also recognised were certain best practises and strategies used by various businesses across industries. Researchers in the field of ergonomics and industry practitioners, on the other hand, are encouraged to increase their efforts in doing relevant research, organising conferences and seminars, and publicising why ergonomics should be a part of our daily activities. Organizations should also train personnel on ergonomics and include the human aspect into the ergonomics design process by gathering extensive data.

**Keywords:** Employee performance, Ergonomics awareness, Ergonomics design, Hindrances, Implementation methods and practices.

### 1. INTRODUCTION

The awareness training for Ergonomics is considered as the most crucial parts of an effective procedure of an ergonomics. It is said that the team's ability to recognize and correct ergonomics concerns in the workplace is considered critical to the success of your process of ergonomics. On the shop floor, the members of the team are actual specialists in the field of workplace



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improvement. They are involved in the process of ergonomics in order to raise awareness, make suggestions for improvement. Awareness about Ergonomics training is considered as a great way to get production workers involved.

The ergonomics training program's learning objectives for employees are as follows:

- 1) To conduct research about MSD (musculoskeletal disorder) prevention principles and risk factors.
- 2) To identify proper lifting technique and body mechanics.
- 3) To Research on the discomfort and early symptoms of MSDs.
- 4) To gain a better understanding of the basics of good ergonomics as well as the consequences of poor ergonomics.
- 5) To accept responsibility for your own health and well-being.

## **2.LITERATURE REVIEW**

### **An ounce of cure is worth a pound of care**

The term Movement System Disorder or Musculoskeletal Disorder (MSD) is basically used to explain musculoskeletal disorders. The injuries and conditions that impact the human body's mobility or musculoskeletal system are known as MSDs. The human body's musculoskeletal or movement system is composed of several separate parts that move in a highly coordinated manner. It is said that the movement system consists of tendons, ligaments, muscles, blood vessels, nerves, discs, and structures that support the neck, back and limbs, and assist a person in accomplishing practically everything you do throughout the day. Consider the amazing machines used on a daily basis! Nobody wants the "machine" of the movement system to become rusted and tired, malfunctioning, or harmed (Munoz Morgado, 2018). Consider how vital the body's mobility system is to a person for a moment. Without it, how would a person be able to make a living? How could a person appreciate life to the fullest if they didn't have it, or if they didn't have a piece of it? The truth is that a person would be in serious danger without a well-oiled movement system machine. "Take care of your body," says an old adage. It's a person's sole option for a home." This is the reality. In this life, a person only has one body, and he or she wishes for it to last a lifetime. It will serve a person in the same way you care for it. If someone



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works hard on it but neglects to care for it, there will be consequences, and the individual will have a terrible time. In order for the movement system to perform it was designed to be as the well-oiled machine, a person must be concerned about caring for it with the caution and it requires care. Taking care of the mobility system should be a top priority when it comes to improving one's quality of life. The financial and personal repercussions of these injuries add up quickly. Medical bills cost businesses billions of dollars, and lost productivity costs them even more. Further, Workers should deal with a prescription medicines, painful injury, surgery, injections, and all of the other consequences that are negative of MSD, which is unneeded and avoidable (Maurice et al. 2019). To develop MSDs can take days, weeks, months, or even years to develop. Tendonitis and carpal tunnel syndrome may not appear overnight. The curve of MSD Curve shows how from a fatigue-recovery imbalance, MSDs emerge. There have been numerous approaches to MSDs, but they always fall into one of two categories: reactive or proactive. Let's have a look at the consequences of each (Mazzoni et al. 2018). This is the reactive approach of MSD management known as "wait and see." And it generally ends with a big "Oops!" Unfortunately, most of the existing system operates in this manner. The existing MSD management mechanism is reactive and backwards! The best strategy to handle MSDs is not to use passive treatment methods like medicines or surgery. This therapy strategy isn't working. It is not successful for people who are always there to work hard for a living and also for the business organizations which spend billions of dollars treating musculoskeletal disorders and injuries each year. Injections, drugs (prescribed) and surgery are not considered as the most effective types of treatment. This isn't right. As one of the best type of healthcare is to take care of our bodies and taking precautions to avoid diseases and damage to our movement systems. The MSD issue has been handled in a reactive manner for far too long. The approach which is reactive, since it places an ambulance at the bottom of the cliff which further waits for the people who are suffering a severe pain and movement system dysfunction before treating them with injections, surgery, drugs, that do not address MSD risk factors or fundamental causes. The pain of landing at the bottom of the cliff is excruciating, and the so-called treatments supplied by the medical care business frequently fall short of restoring full function (Brandt et al. 2018). A person must be proactive in order to minimize the necessity for intrusive procedures such as injections and surgery. A person must post and follow "warning" signs, construct a sturdy fence, and install

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safety netting just in case. It is necessary to consider preventive. This is the most effective strategy to keep people safe, as well as the most effective process to control MSD. One of the best possible way to deal with MSD is to prevent it.

The suitable way to avoid MSD by staying healthy and fit for the career you've chosen, is to surround oneself with a sturdy fence. MSD is caused by a variety of factors. Because the terms "repetitive motion injury," "overuse injury," and "ergonomic damage" suggest a single cause and, by extension, a single treatment, they should not be utilized. This isn't the most effective way to prevent anything bad from happening.

MSD stands for Multiple Sclerosis. A well-thought-out preventative approach is necessary to avoid certain musculoskeletal injuries.

### **MSD Risk Factors and Prevention Principles**

Knowing what caused something, understanding what caused it, and then eliminating those reasons are the only ways to prevent it. It's difficult to prevent anything if people aren't aware of the cause. It's critical to consider the elements that lead to MSDs. This question's answer establishes the groundwork for a successful MSD prevention approach. Individuals must be aware of MSD factors that involve risk to create a strong and an efficient and an effective barrier to keep us safe (Chintada, 2021). A number of factors can contribute to movement system fatigue. Muscles, like the human movement system's engine, utilise fuel (glycogen) to execute functions such as moving and holding things (Sanjog, Patel & Karmakar, 2019). As a result of the burning of fuel for energy, your body's muscles, like a car, produce poisonous waste. Lactate is considered as one of these hazardous waste products also known as or lactic acid. Frequently building up of the lactic acid in the soft tissues, will cause fatigue in the muscle, inflammation, stiffness in the muscle (contracture), and imbalance in the movement system and malfunction over the period of time. The health of the movement system has been slowly diminishing, indicating an imbalance. When the body's recovery can't keep up with the exhaustion it experiences throughout the day, this is what happens (Mahmod et al. 2020). So, what are the risk factors that cause tiredness to outrun recovery when a person is exposed to them? When unpleasant postures, severe stresses, and high job repetition are present in the workplace, workers are at a higher risk in order to develop an MSD.



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### **Train like an industrial Athlete to Stay Injury-Free**

Recognize and report early indicators of exhaustion: Professional athletes are constantly weary and aching after practice. They seek assistance, when they do and advice from their sports trainer on how to care in order to be ready for practice in the coming day. Daily stretching before a shift has been proved to decrease the injuries. Stretching boosts joint synovial fluid (the lubricant that holds bones and cartilage together), allowing for greater range of motion and less joint degeneration (Teymourian, Seneviratne & Galar, 2019). Dehydration of the muscles and tendons causes muscle fatigue, tension, and tendonitis. (Dempsey et al. 2018). Rest and sleep are essential components of a healthy lifestyle and MSD prevention. Muscle recovery is delayed when people don't get enough sleep, and inflammation levels rise as a result of increased stress hormone production. If we don't get enough sleep, we're more likely to get hurt or develop chronic conditions.

### **3.METHODOLOGY**

Research methodology is viewed as a distinct subject in and of itself, having its own literature, tactics, and abilities. It will give a quick overview of the lookup process, including research problem, research design, data collection, sample selection, proposal and producing a lookup report. Initially, the descriptive research design was used to describe the ergonomic training programme; however, as the study progressed, the researcher used the exploratory research design to investigate the various factors that contribute to improving ergonomics training in the IT industry. Employees from the IT industry were chosen as respondents for this study. The responders should be between the ages of 18 and 45. The respondent should be a long-term employee of the firm. The respondent must be able to communicate in English or Hindi. The study's final sample of respondents includes hundreds of employees from ten most renowned IT companies (Tentatively). The core data for this study was acquired using a questionnaire that was created with IT industry employees as respondents. The core data was gathered using standard questionnaires sent to Mumbai-based IT firms. Publications of the federal and state governments, journals, books, newspapers, and reports are all examples of secondary data collection methods. Secondary data was gathered for this study via in-print and non-print business projects and news, journals, research papers, previous studies, and other online sources. Some government



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annexures and reports are also taken into account, as are the findings of central government reports.

#### **4. RESULTS**

The study identified major ergonomic deficiencies to be IT Workstation poor furniture, lighting and temperature control. The study reveals that 70%, 62%, 45%, 42% and 30% shown relative errors in terms of Chair height, chair back/arm rest, temperature, desk height and lighting respectively. The study revealed that these relative errors are responsible for most of the work-related musculoskeletal disorder (WRMD's) which are: eye strain, shoulder pain, arm pain and back pain. Stretching improves soft tissue temperature, increases soft tissue flexibility, and lubricates our bones and cartilage by increasing blood flow and nutrients to joint structures. Stretching also enhances a joint's ability to move via a wider range of motion while using less energy, lessening tendons and muscle resistance. Stretching has also been demonstrated to improve muscular balance, posture, and muscle coordination in numerous studies. Keep in mind that for the prevention of MSD team work is required. For ensuring a safe working environment, the firm is held responsible and all workplace athletes are considered accountable for appropriately using their bodies, staying fit for work, correctly preparing their bodies for work, and further maximizing recovery

#### **5. CONCLUSION AND RECOMMENDATIONS**

The reviews of research given above show that there is a low degree of ergonomics knowledge in the country; this could be because employers in Mumbai are unaware of the benefits of incorporating ergonomics into their employees' daily activities. The reviews also revealed that a number of factors have hampered the effective implementation of ergonomics in Mumbai, including lack of awareness, insufficient relevant studies, resource constraints, technological changes, communication and integration disconnection between employees and ergonomics designers, personnel considerations, ergonomic knowledge, and training. Finally, some best practises and methods for employee ergonomics were identified from the review, including, but not limited to, the integration of the human element into work design, ergonomic maturity levels



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(reactive, preventive, proactive, and advanced), and workspace quality (office design, furniture and spatial arrangements, lightings and heating arrangements, noise level). Researchers and practitioners in the field of ergonomics in the country should focus their efforts on conducting relevant studies on the link between ergonomic awareness and employee performance, organising conferences and seminars, and promoting ergonomics in the media across the country. Employees should be orientated and trained in ergonomics so that they are aware of the advantages of ergonomics and can fit into the organization's ergonomic designs. Finally, they should incorporate the employee/human factor into the ergonomics design process, since this will help employees and ergonomic designers communicate more effectively.

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