

# MANAGEMENT OF EMPLOYEE, ERGONOMIC TRAINING PROGRAM IN AN ORGANIZATION

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## ABSTRACT

In any organization, talent plays a key role in its success. The range and standard of the organization are built based on the employees who strive and work hard for the escalation of the organization. Recruitment of such talent and their placement is always a major task whereas retention of such talent is more complicated when compared to the former. The skills and talents of the employees have to be upgraded and this process is incessant.

This paper deals with the various training programs the organizations implement to upgrade their employees. It also deals with various management strategies the organizations implement to retain their employees in their organizations. There are also various training modules and methods on which this paper focuses.

The key purpose of this paper is to test the ergonomics of the training program and to assess whether these programs reduce the work-related stress in the organization and helps to improve environmental wellness in a way resulting in organizational growth and employee efficiency. Pre-intervention and post-intervention are carried out and a relation between the two was observed. However, there is a change in the pre-environmental and post-environmental results. However, the psychological stress remains unchanged.

**Keywords:** Ergonomic Training, Management Strategies, Organizational growth, Employee Training, Training Programmes.

## 1. INTRODUCTION

The word Ergonomics is a combination of two Greek words Ergon and Nomos in which ergon means work and nomos means laws. Ergonomics can be defined as the law of work or the law of a workplace. According to the International Ergonomics Association, the definition of ergonomics is Ergonomics (or human factors) is the scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data, and methods to design in order to optimize human well-being and overall system performance.

### *1.1 Types of Ergonomics.*

#### **a) Physical Ergonomics**

Physical ergonomics are related to the physical activity of an individual. It is associated with the anatomy of the human body, physiological aspects, and biomechanical characteristics.

#### **b) Cognitive Ergonomics**

Cognitive ergonomics is related cognitive capabilities of an individual. It is associated with mental processing, logic, reasoning, motor response, memory, perception, etc.

#### **c) Workplace Ergonomics**

Workplace ergonomic is related to the design of office setting in accordance with the physical elements of the office employee.

### *1.2 Ergonomic Processing*

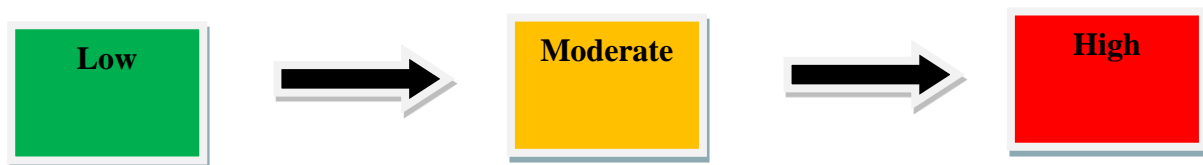
Ergonomic processing is related to

There are four stages in ergonomic processing.

- a) Assessment:** At this stage, the ergonomic kinaesthetic of the individual is evaluated. Any traces of Musculoskeletal Disorders or any cognitive dysfunction is traced out in the individual. This stage helps to identify the ergonomic disorders at the initial stages.
- b) Planning:** When any physical or cognitive disorder is assessed, the defensive measures are planned and implemented to reduce the risk factor of an individual. This stage helps to control the risks associated with ergonomic disorders.

- c) **Measuring:** At this stage, the physical or cognitive disorders are measured to assess the level of lagging and leading indicators. This stage plays an important role in improving the risk associated with ergonomic disorders.
- d) **Solution:** At this stage, a standard set of tools are established to design the work setup, train the workforce, measuring the progress, and implementing best practices in the organization to mineralize the ergonomic disorders.

### *1.3 Levels of Risk of Ergonomic Disorders*



Whatever be the ergonomic disorder, the risk factor is categorized into three categories; Low, Moderate, and High. The disorder follows this hierarchy and the risk factor can be mineralized if identified in the early stages of the disorder. It can be prevented from reaching higher levels of hierarchy.

## **2. MATERIALS AND METHODS**

### *2.1 Methodology*

75 respondents from different corporate offices in Chennai were selected by using the Cluster Sampling method out of which 45 were male and 30 were female. These samples were further classified based on their age and gender and the responses were recorded. People aging between 25-65 and above age have participated in the study who was clustered with a class interval of ten years each. The study was descriptive, quantitative, qualitative, and cross-sectional.

## 2.2 Data Collection

Primary Data and Secondary Data are acquired for the research. A well-structured questionnaire is designed to collect the primary data from the respondents. Google forms, telephonic interviews, and physical questionnaire methods are used to collect the primary data. The secondary data is collected from libraries, journals, books, and various other standard sources. Utmost care is taken to keep the data error-free, unenclosed and unbiased.

## 2.3 Sample Design

The cluster sampling method is utilized to gather the data from the respondents working in corporate offices in and around Chennai. Chennai is a fast-growing metropolis city in India and has numerous corporate offices under its belt. It is best suited to carry out a cross-sectional study associated with ergonomic training.

## 3 RESEARCH FINDINGS

Based on the data collected, the following observations had been noted. The parameter is recorded on a two-point scale with Yes or No responses and these responses are critically analyzed with sophisticated statistical tools.

### 3.1 Physical Pain

Based on the responses from the respondents it is observed that there is physical pain to the respondents in joints, muscles, and knees.

S. No	Parameter	Response (n=75)			
		Yes	%	No	%
1.	Neck Pain	42	56	33	44
2.	Back Pain	54	72	21	28

3.	Shoulder Pain	49	65.3	26	34.7
4.	Arms Pain	27	36	48	64
5.	Legs Pain	29	38.6	46	61.4
6.	Joints	27	36	48	64
7.	Feet	29	38.6	46	61.4
<b>Average</b>		<b>37</b>	<b>49.33</b>	<b>38</b>	<b>50.6</b>

**Table1:** Responses of respondents who suffer physical pain

Table1 shows the data of the respondents who suffer from various physical pains. Out of 75 respondents, 37 respondents suffer from at least one physical pain or disorder which constitutes 49.33% of the population. On the other hand, 38 respondents don't suffer from any pain or disorder which constitutes 50.6% of the population.

### 3.2 Furniture in Work Setting

Based on the responses from the respondents, it is observed that our working environment and the furniture present in the working space doesn't follow any ergonomic measures due to which our employees are working in poor environment conditions resulting in workplace disorders.

S. No	Parameter	Response (n=75)					
<b>Ergonomic Furniture &amp; Positioning</b>							
	<b>Furniture</b>	<b>Poor</b>	<b>%</b>	<b>Good</b>	<b>%</b>	<b>Satisfactor y</b>	<b>%</b>
1.	Chair	11	14.6	48	64	16	21.3
2.	Table	16	21.3	39	52	20	26.6

3.	Computer	18	24	38	50.6	19	25.3
4.	Mouse	11	14.6	33	44	31	41.3
5.	Keyboard	13	17.3	47	62.6	15	20
6.	Printer	16	21.3	39	52	20	26.6
<b>Average</b>		<b>14</b>	<b>18.6</b>	<b>41</b>	<b>54.6</b>	<b>20</b>	<b>26.6</b>

**Table2:** Responses of respondents on office furniture

Table2 shows the data of the respondents who responded that their office furniture isn't placed ergonomically in the office. Out of 75 respondents, 14 (18.66%) respondents believe that their office furniture has ergonomically poor positioning. 41 (54.2%) respondents believe their office furniture has ergonomically good positioning. 20 (26.6) respondents believe that their office furniture has ergonomically satisfied positioning.

### 3.3 Age Factor

Based on the responses from the respondents, it is observed that the age of the employees plays a vital role in ergonomic disorders. It is also observed that age is directly proportional to ergonomic disorder.

S. No	Parameter	Responses (n=75)			
		MSDs			
	Age	Yes	%	No	%
1.	25-35	27	36	48	64
2.	35-45	31	41.3	44	58.7
3.	45-55	39	52	36	48
4.	55-65	49	65.3	26	51
5.	65 above	69	92	6	8
<b>Average</b>		<b>43</b>	<b>57.33</b>	<b>32</b>	<b>42.66</b>

**Table3:** Responses of respondents based on their age

Table3 shows the data of the respondents who responded to MSDs. Out of 75 respondents, 43 respondents have MSD which constitutes 57.33% of the population. On the other hand, 32 respondents responded that they don't have any MSD which constitutes 42.66%. As the age parameter increases, the risk of MSDs is also increasing.

### 3.4 Gender Factor

Based on the responses from the respondents, it is observed that gender also plays a vital role in ergonomic disorders. Women are more prone to ergonomic disorders when compared to men. Men have more physical endurance and less cognitive whereas women have less physical and more cognitive endurance. The workplace disorders are nearly equal when compared to one another.

S. No	Parameters	Responses (n=75)							
		Male (n=45)				Female (n=30)			
		Yes	%	No	%	Yes	%	No	%
1.	Physical	29	64.44	16	35.56	19	63.33	11	36.67
2.	Cognitive	23	51.11	22	48.89	21	70	9	30
3.	Workplace	33	73.33	12	26.67	25	83.33	5	16.67
<b>Average</b>		<b>28</b>	<b>62</b>	<b>17</b>	<b>38</b>	<b>22</b>	<b>73.33</b>	<b>8</b>	<b>26.67</b>

**Table4:** Responses of respondents based on their gender

Table 4 shows the data of the respondents based on gender. Out of 75 respondents, 45 were male and 30 were female. Out of 45 male respondents, 28 (62%) believe they have anyone disorder whereas 17 male respondents (38%) believe that they don't have any disorder. Out of 30 female respondents, 22 (73.33%) believe that they have anyone disorder. Whereas 8 (26.67%) respondents believe that, they don't have any disorder.

## 4 DISCUSSION

By observing the data and analyzing it based on systematic and scientific analysis, we have observed that many people are unaware of the physical, cognitive, and workplace ergonomics. The office settings weren't placed and positioned in accordance with the ergonomics of an individual.

1. Chair and tables are placed too high or too low.
2. Keyboards and mouse are positioned too far or too near.
3. Workstations are placed without adjustable components.
4. There is a clear mismatch between equipment and furniture.
5. Many workstations don't have footrests.

These aspects are strictly responsible for Musculoskeletal Disorders which are caused only by a bad office setting. If this is the standard of office ergonomics in a fast-developing metropolitan city like Chennai, just imagine the standards and situations in remote places of Tamilnadu and rural parts of India.

### 4.1 Musculoskeletal Disorder (MSDs)

Musculoskeletal Disorder (MSDs) affects individual bones, joints, and muscles. This is a common phenomenon that occurs in every individual. This disorder is directly proportional to age. I.e. as the person ages, the disorder also enhances. But in recent times, the number of people prone to this disorder is sky-scraping.

The elevated office hours stick to the office desk with a computer or a laptop is making the disorder more and more worrisome. Many offices force their employees to work long hours on the office desks arousing the risk of MSDs. Moreover, the office desk isn't designed based on ergonomic standards which are making it worst.

These poor working conditions are forcing the employees prone to MSDs. Not only have these, the environmental factors like lighting, ventilation, aired quality, and temperature also playing a vital role in ergonomic disorders. Ergonomic disorders are not always physical. In many instances, they are cognitive



#### **4.2 Training Programs**

Each office; whether small, medium, or large scale should take the ergonomics of the office environment very seriously. The office furniture must be placed and positions with following the standards of ergonomics. An awareness program has to be conducted and physical activities have to be encouraged for the employees. Special attention has to be taken on physically challenged and pregnant women. There will be worst effects when pregnant and physically challenged individuals aren't taken proper care of the ergonomics in the office place. Lack of awareness also leads to disastrous results so more and more awareness camps and training sessions have to be held in the offices.

### **5 LIMITATIONS OF STUDY**

The study is carried out only in Chennai and cannot be implied all over India. As Chennai is a fast-growing metropolitan city, it may differ from other small cities and towns. This study is not at all taken into consideration for rural parts of the country.

### **6 CONCLUSION**

The ergonomic disorder is inevitable and as age progresses, the disorder also progresses. Following ergonomic standards in setting up workstations, and early assessment of the disorder reduces the risk factor of the individual. Lack of ergonomic standards at the workplace makes the employees hazardous. It also affects the efficiency of the employees. The ergonomic disorder is not always physical. There can be cognitive disorders related to memory, perception, and logic. As the physical disorders are physiological, cognitive disorders are psychological but if an individual prone to workplace ergonomic disorder then it can be physical or cognitive or maybe both which is the worst scenario. So the management has to take proper care regarding the ergonomic disorders of the employees. Training sessions have to be implemented in the workplace to reduce the risk to the employee. The employee and the employer have to take these training sessions seriously. Lack of awareness from the employee end of the employer end will result in devastation.

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