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A STUDY ON WORK ENVIRONMENT AND PERFORMANCE OF AN EMPLOYEE IN I.T INDUSTRY – WITH REFERENCE TO CHENNAI CITY

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Abstract
The objective of the study was to find out the effect of BMI on psycho-physical health (posture, flexibility, work related musculoskeletal discomforts and occupational stress of computer workers in a developed ergonomic setup. On the other hand, there are large differences between developing and developed countries in applying ergonomics knowledge, a descriptive inferential study has been taken to analyze the effect of BMI on posture, flexibility, and work related musculoskeletal discomfort and occupational-psychosocial stress. Studies have indicated the application of ergonomics in improving the quality of work life, through increasing productivity. Work urgency, accuracy and demands compel the computer Professionals to spend longer hours before computers without giving importance to their health, especially body weight. Increase of body weight leads to improper Body Mass Index (BMI), which may result in altered posture (standing &work sitting), reduce flexibility, aggravate work related musculoskeletal discomfort and occupational-psychosocial stress. A total of 500 computer workers, aged 25-35yearswererandomly selected from Software and a BPO company in Chennai city, India for the participation in this study Therefore, this study has tried using the studies of society and culture dominated by manufacturing service, Study results showed increased productivity, improved work life quality and reduced stress.

Keywords: Ergonomics, Work life, Stress, Psychological, Physical.

Introduction

The amazing growth of Information and Communication Technology (ICT) has an implication for every aspect of civil society. It has got enormous advantages in easing the delivery of information around the world as well as the central role of information in the global economy which will shape the dynamics of the new millennium the Indian scenario, all these ICTs are being used for various purposes not only for gathering information but also for giving opportunities to utilize them for imparting skills as well as enhancing the knowledge by way of showing various data to any remote locations with the help of connectivity Computer use has increased dramatically over in the past decade. Most office workers use computers for at least some of the tasks that they perform and many use computers for the majority of times that they spend at work. Increased psycho-physical stress has been associated with the use of computers due to lesser opportunity to shift one's body position or perform a task away from the computer station as well as reduced inter personal interaction Workers of the industries and offices usually suffer from musculoskeletal discomforts due to their workload, which causes injuries tot het issues. Many studies of this condition have investigated symptoms in the neck and upper extremities musculoskeletal problems are the foremost health concern associated with the Video Display Terminal (VDT) use. Early studies of VDT operators showed large percentages reporting musculoskeletal disturbances although fewer VDT operators reported muscular problems in contrast to visual problems, the extent of the effects was less transient and more pronounced. Studies confirmed that VDT users have musculoskeletal complaints than do nonusers The influence of a VDT does not seem to be directly affecting musculoskeletal system but rather affect the physical behavior of the user. It induces poor posture if placed at a non-ergonomically designed workstation, forces a sedentary lifestyle and frequently demands ongoing repetitive motions. Computer professionals suffer from a lot of musculoskeletal discomforts, occupational stress, loss of flexibility and postural disorders due to their improper BMI i.e. over weight and obesity. Organizational productivity reduces due to the abovementioned factor which is not checked. Therefore, an attention is necessary to ensure the correct BMI towards the achievement of the goal in the workplace by physical assessment, laboratory investigation, proper dietary regimen and exercise protocol. So

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a comparison of performance than the base year indicated lower costs and increased revenue and expanded with less manpower in data analysis questionnaire "quality of work life" and "body mapping" which showed that significant difference in confidence interval between the sample and control population is ninety-nine percent and there is reduction of stress and increase in quality of work life. Those indices indicated the positive effect of interventions ergonomics.

Review of Literature

Huang and Malina (2005) conducted a cross-sectional study to evaluate the relationship betweenBMI and a physical fitness index (PFI) based on four indicators of fitness.

Brunetet al.(2006) conducted a cross-sectional study to evaluate the physical fitness and body composition of 1140 children (591 boys and 549 girls) involved in the "Quebecen Forme" (QEF) and to compare the data obtained to the reference values of1981 Canada Fitness Survey (CFS) and found that, body mass index (BMI).

Araet al.(2007) conducted a cross sectional study in a regional representative sample of 1068 children 7 to 12 years of age to determine the relationship between physical activity levels and adiposity and found out the level of physical activity had a significant effect on BMI.

Ayaet al.(2008) did a study to examine the gender difference that exists in the relationship between percentage body fat and body mass index in Japanese children (187boys and 163 girls aged 9-10 years, 137 boys and 155 girls aged 12-13 years) using a population based cohort and reported that correlation in boys were not as strong as those observed in girls.

de Greefet al.(2009) conducted a study to assess health related physical fitness of5584 sedentary elderly in the Nederland with the help of Groninger Fitness Test (GFT) andreported that, lower physical fitness status has been seen among the age group of 55-65

Need for the Study

Computer professional's physical health is important for the nation building. They are the back bone of modern economic development provided, they safeguard their own backbone. However, in modern days' work urgency, work accuracy and work demands force the computer professionals to spend longer hours with computers neglecting their health, especially body weight. Increase of body weight leads to improper BMI, which may affection their work posture, flexibility, work related musculoskeletal discomfort and
Occupational stress.

Significance of Study

This study will provide an insight to the Clinicians and Ergonomists about the relationship of BMI with posture, flexibility, work related musculoskeletal discomfort and occupational stress in order to formulate well designed training program to avoid overweight for making the computer professionals fit at their sedentary work and free from musculoskeletal injury and stress. For the IT companies his will help in saving money from the insurance, minimize worker absence and better productivity.

Statement of Problems

Effect of different BMI on posture (static/standing & dynamic/work sitting), flexibility, work related musculoskeletal discomfort and occupational stress of computer workers working in an ergonomic setup at Chennai city.

Objectives

1. To find out the effect of Body Mass Index on posture (standing/standing and dynamic/work sitting) of computer workers in a developed ergonomic setup.

2. To find out the effect of Body Mass Index on flexibility of computer workers in a developed ergonomic setup.
3. To find out the effect of Body Mass Index on work related musculoskeletal discomfort of computer workers in a developed ergonomic setup.
4. To find out the effect of Body Mass Index on occupational stress of computer workers in a developed ergonomic setup.

Hypothesis

Following the objectives certain hypothesis were formulated.

- Respondents do not differ significantly the effect of Body Mass Index on flexibility of computer workers towards educational qualification in a developed ergonomic setup.

Methodology

Data Analysis

This study is based on primary and secondary data. Primary data collected from a random sample of 100 respondents in Chennai city with the help of well drafted, pretested and structure questioner. Besides necessary secondary sources were also referred. The collected data were discussed through various statistical measures such as mean, SD, f-ratio and other analysis of I.T Sectors towards quality of work life through ergonomics.

Results and Discussion

Table 1,Respondents' Opinion On Body Mass Index on Flexibility of Computer Workers towards Educational Qualification in A Developed Ergonomic Setup.

Education Qualification	N	Mean	Std.Deviation	F-ratio	LS
H.S.C	25	18.88	4.26	2.34	N.S
Diploma	16	17.69	2.24		
Graduate	20	17.05	1.85		
PostGraduate	39	18.56	2.26		
Total	100	18.52	2.91		

Source: Primary Data.

Ho: Respondents do not differ significantly on Body Mass Index on flexibility of computer workers towards educational qualification in a developed ergonomic setup the result reveals that the obtained F-ratio (2.34) is not significantly at 0.01 level. Hence the stated hypothesis is accepted. So respondents do not differ significantly on the computer workers towards educational qualification in a developed ergonomic setup.

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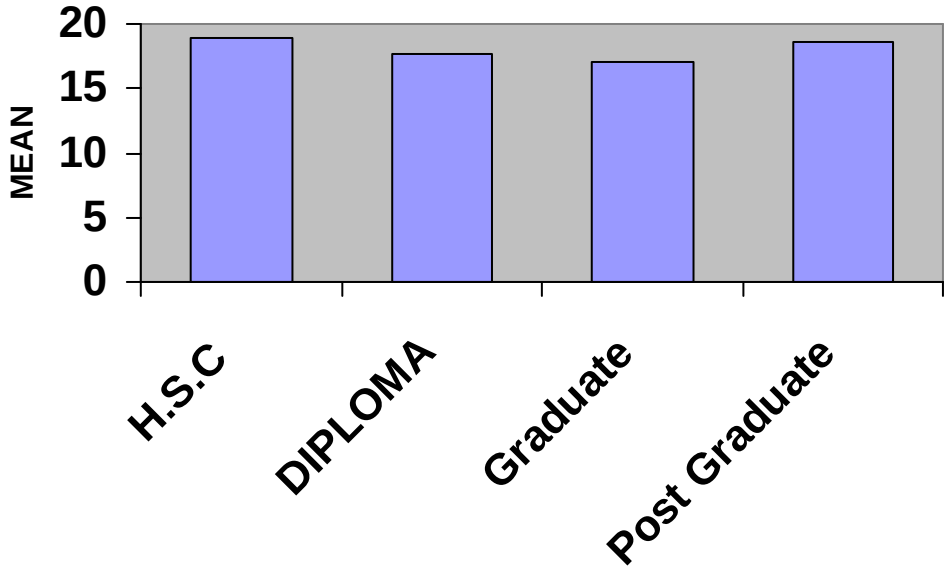
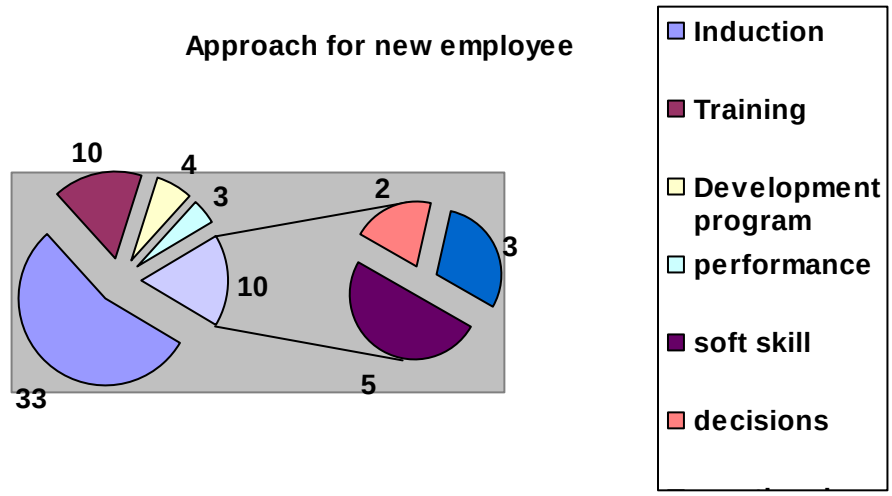
RESPONDENT OPINION
BASIS OF EDUCATIONAL QUALIFICATION IN ERGONMICS SET UP



Data Analysis

A) Exhibit1: Occupational stress of computer workers

Exhibit 1



Source: Primary Data.

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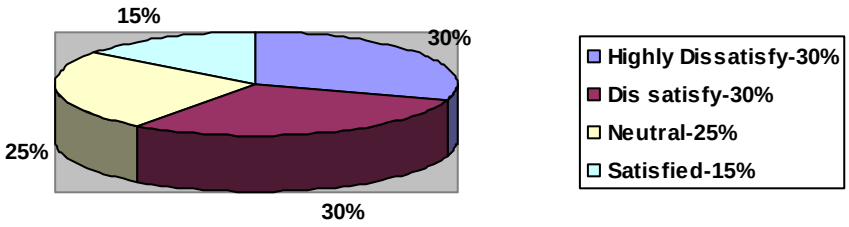
B) Body Mass Index on work related musculoskeletal discomfort of computer workers in a developed ergonomic set up.**?**

Total respondent	**= 100**
1) Highly Dissatisfy	= 30%
2) Dissatisfy	= 30%
3) Neutral	= 25%
4) Satisfied	= 15%



Source: Primary Data.

Findings

1. 40% of respondent indicated that the Computer worker's health is foremost important for better productivity of any IT or BPO Company. Correct ergonomic setup, frequent rest, stretching and strengthening exercises may reduce few degrees of physiological and psychological load in the body, otherwise it might lead to serious work related musculoskeletal disorders and occupational-psychosocial stress in due course of time.
2. 20% were indicated that an effort has been made here to find out the influence of BMI over Psychophysical health parameters in a developed ergonomic setup:
3. 40% were says that checklist helped in confirmation of the working posture of computer workers at the workstation as well as the workstation was found ergonomically suitable according to technical user comfort for every subject. Male dominated subjects were considered here because of their voluntary willingness towards the participation. Out of. Mostly female subjects were found more reluctant to participation for non-restricted body flexibility of lower back and hamstring muscles been noticed during data collection.
4. 50% of respondent indicate that the Work experience of more than one year has been taken here because the subjects do get maximum musculoskeletal complains at that time, which has been confirmed during the interaction.
5. 60% were indicate that the respondent has a Daily minimum eight hours (of working period (including one hour lunch break and other micro breaks) was taken for the study, but it has been seen that they work more than ten hours on some days due to their workload.

Suggestion

1. Ergonomic studies have shown systems with weak de- signing, neglected ergonomic principles and have brought staff and workers disorders. Not considering to the ergonomic principles at work can provide spiritual and physical tensions, low productivity and unsuitable work life quality and effective execution of ergonomic programs and increasing ergonomic awareness.
2. Nowadays improving productivity has been recognized as one of the most important cultural and socio-economic development alternatives as access to success in speeding productivity improvement is one of main conditions of access to suitable place in world competition and improving people's life
3. This has been forecast to one third at the end of the fifth program and improving judiciary and administrative sys- tem for increasing movement and efficiency, improving service delivery to people, assuring staff livelihood, in- creasing indices of work and life environment and spiritual and physical hygiene.
4. Since results of different re- searches have shown logical and positive impact on applying productivity and total ergonomic knowledge, efficient development, maintaining human rights, welfare, social security, relative increase of per capita income, thought innovation and so on
5. Ergonomic changes have not achieved the useful effectiveness in producing environment thus all attempts of ergonomic researchers should be coordinated in decreasing ergonomic risk factors and as a result improving quality of work life practically and usefully. The conducted researches show that distributing ergonomics knowledge among staff is for helping and better execution of service and production programs.
6. The results of conducted study show that ergonomic uses in designing tools will provide much effect on psychic health, work satisfaction, increasing efficiency, security and health and as a result it will improve work life.

Conclusion

Ergonomic studies have shown systems with weak de- signing, neglected ergonomic principles and have brought staff and workers disorders. Not considering to the ergonomic principles at work can provide spiritual and physical tensions, low productivity and unsuitable work life quality and effective execution of ergonomic programs and increasing ergonomic awareness [1]. Nowadays improving productivity has been recognized as one of the most important cultural and socio-economic development alternatives as access to success in speeding productivity improvement is one of main conditions of access to suitable place in world competition and improving people's life Studies have indicated the application of ergonomics in improving the quality of work life, reducing musculoskeletal disorders and increasing productivity. On the other hand, there are large differences between developing and developed countries in applying ergonomics knowledge, the need of applying the science of culture, especially in developing countries and the third world is vital, but the culture implementation and pay evaluation of total ergonomics (micro and macro) is low. Therefore, this study has tried using the studies of society and culture dominated by I.T Industry, results showed increased productivity, improved work life quality and reduced musculoskeletal disorders.

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