



Impact of Office Chair on Health in Faculty at Jazan University

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ABSTRACT

Since the introduction of the parameters and guidelines for office chairs, great effort has been put while designing, manufacturing and assembling well equipped ergonomic office chairs. Designing of these office chairs led to many new additions and advancements of various major components like the seat height, adjustable back rest and adequate thigh support. So, this study was planned and executed to check the usage of ergonomic office chairs by the faculty members and the prevalence of pain in various areas and joints among male faculty members under different colleges of Jazan University. Total of 150 male faculty members from different colleges under Jazan University participated in this study. All individuals have explained the need for the current study and their consent was taken. The data were collected from all the subjects and complied which was put for statistical analysis. The result after analysis showed the prevalence of pain in lower back in 63 subjects (42%) followed by pain in upper back for 37 subjects (24.67%), shoulder pain in 17 subjects (11.33%), buttock pain in 15 subjects (10%), elbow pain in 9 subject (6%), pain behind thighs in 5 subjects (3.33%), knee pain in 4 subjects only (02.67%) and no non-subject expressed pain in wrists, fingers and ankles as their prior most discomfort.

Keywords: Office chair, Ergonomics, Prevalence, Back pain

INTRODUCTION

Since the introduction of parameters and guidelines for office chairs, great effort has been put while designing, manufacturing and assembling well equipped ergonomic office chairs [1]. Designing of these office chairs led to many new additions and advancements of various major components like the seat height, adjustable back rest and adequate thigh support. To bring this advancement into action the commonest adjustable feature added among office chairs was an “adjustable knob” underneath the seat by means of which any individual could adjust the height of the seat and degree angle to support the lower and upper back according to his overall height, leg length for a comfortable and ergonomic sitting. But, in few instances either these features are not explained to all individuals when deployed or individuals do not give importance to the adjustment to be made in the chair according to their personal body structures, hence making them devoid of using the office chairs in the optimal ergonomic manner [2]. This non-effective use of office chair in combination with the actual daily use of these chairs lead to development of faulty postures by using them during office hours which the individuals maintain without knowledge and hence predisposes self to problems like thoracic kyphosis, forward head syndrome, cervical radiculopathy, elbow stiffness, carpal tunnel syndrome, flat back, pain in buttock and sciatica [3].

So, this study was planned and executed to check the usage of ergonomic office chairs by the faculty members and the prevalence of pain in various areas and joints among male faculty members working as lectures, assistant, associate and professors under different colleges of Jazan University.

PATIENTS AND METHOD

Study Design

The faculty members from different colleges under Jazan University participated in this study. Total of 150 male

faculties from different colleges under Jazan University participated in this study. The duration of the study was 5 months.

The objective of the Study

This study was planned and executed to check the usage of ergonomic office chairs by the faculty members and the prevalence of pain in various areas and joints.

Inclusion Criteria

- Male faculty working in different colleges under the aegis of Jazan University
- Age group between 35 to 50 years
- Chair work for at least 4 hours per day or 5 days per week since last 6 months

Exclusion Criteria

- Men less than 35 years and above 50 years were not included in the survey
- Women were excluded from the current study
- Individuals with a previous history of accidents, injuries and any kind of traumas
- Individuals having physical pains but not willing to be a part of the study

Outcome measure: Demographic data, Assessment of pain, and office chair information

Instrumentation: Office chair

Procedures: A self-designed questionnaire was devised and used for the the current study. The major components being:

- Demographic data
- Assessment of pain
- Office chair information

All subjects were asked to determine any one area out of the following where they experience maximum pain while elaborating its characteristics given in Annexure 1. Data were analysed statistically.

Annexure 1 Outcome measure

Demographic Data			
Name			
Age			
Gender			
Address			
Assessment of Pain			
Pain in neck	Yes		No
Pain in shoulders	Yes		No
Pain in elbows	Yes		No
Pain in wrists	Yes		No
Pain in fingers	Yes		No
Pain in upper back	Yes		No
Pain in lower back	Yes		No
Pain in buttocks	Yes		No
Pain behind thighs	Yes		No
Pain in knees	Yes		No
Pain in ankles	Yes		No
Pain in toes	Yes		No
If Pain Persists			

Onset	Immediate	Gradual		
Duration	Intermittent	Constant		
Side	Right	Left		
Type	Sharp	Dull	blunt	
Aggravating factors	Sitting	Standing	walking	
Relieving factors	Sitting	Standing	walking	
Pain intensity maximum during	Morning	afternoon	Evening	Night
Pain intensity minimum during	Morning	Afternoon	Evening	Night
Office chair information				
Basic knowledge seat adjustment	Yes		No	
Basic knowledge of back support adjustment	Yes		No	
Do you adjust the seat each time?	Yes		No	
Do you adjust the seat at regular intervals?	Yes		No	

RESULTS

The data was collected from all the subjects and compiled which was put for statistical analysis. The result after analysis showed the prevalence of pain in the lower back in 63 subjects (42%) followed by pain in the upper back for 37 subjects (24.67%), shoulder pain in 17 subjects (11.33%), buttock pain in 15 subjects (10%), elbow pain in 9 subject (6%), pain behind thighs in 5 subjects (3.33%), knee pain in 4 subjects only (2.67%) and no non subject expressed pain in wrists, fingers and ankles as their prior most discomfort (Figures 1 and 2).

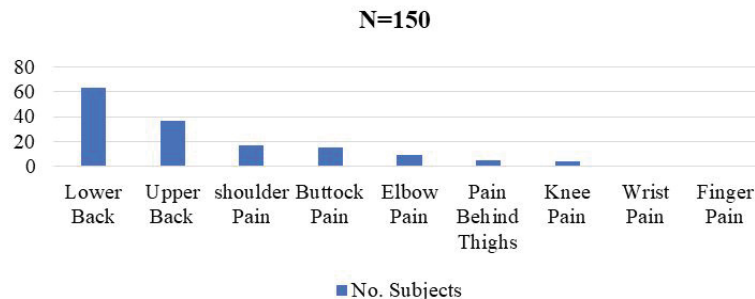


Figure 1 Represents number of subjects reporting lower back pain in 63 subjects (42%) followed by pain in upper back for 37 subjects (24.67%), shoulder pain in 17 subjects (11.33%), buttock pain in 15 subjects (10%), elbow pain in 9 subject (6%), pain behind thighs in 5 subjects (3.33%), knee pain in 4 subjects only (2.67%) and no non subject expressed pain in wrists, fingers and ankles as their prior most discomfort

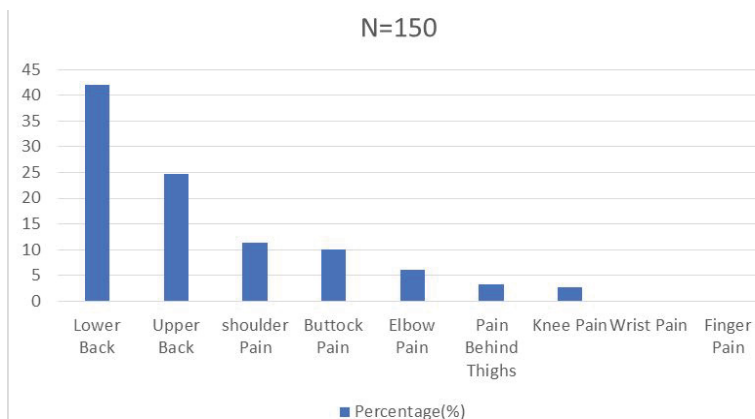


Figure 2 Represents the area of pain in terms of percentage

DISCUSSION AND CONCLUSION

In the present study, most of the faculty members have basic information regarding seat height and back support adjustment via a knob located below the seat, but pay negligence towards its adjustment and/or re-aligning it at regular intervals. So, it mean that faculties in Jazan University are provided with good ergonomic office chairs despite which there is higher prevalence of lower back pain in 63 subjects (42%) followed by pain in upper back for 37 subjects (24.67%), shoulder pain in 17 subjects (11.33 %), buttock pain in 15 subjects (10%), elbow pain in 9 subject (06%), pain behind thighs in 5 subjects (03.33%), knee pain in 4 subjects only (02.67%) and no non subject expressed pain in wrists, fingers and ankles as their prior most discomfort. This can be attributed to the negligence and casual granted ease from faculty members towards their health. While planning this study in the early stages, the author thought faculties with master and doctorate degrees in health sciences would show a low prevalence in pain in various joints and areas due to faulty postures while using their office chairs, but with a surprise the author came to a conclusion that even after being highly qualified, having information about the chair adjustments and knowledge of importance of physical health, majority of faculties do not consider health as their prior most priority, as there is a famous saying "Health is Wealth"

DECLARATIONS

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Conflict of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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