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Prevalence of Back Pain Affecting Daily Activities in Middle Aged Desktop Workers of Ahmedabad City

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ABSTRACT

BACKGROUND: Back pain is a common issue among desktop workers, impacting daily activities for many. It often arises from prolonged periods of sitting, poor posture and inadequate ergonomic setups.
INTRODUCTION: The rise of computer-centric occupations has ushered in an era where back pain permeates the daily lives of professionals. This can lead to muscle imbalances, stiffness and strain on the spine. Inadequate breaks, limited physical activity and repetitive nature of certain tasks further contribute to the issues, impacting overall well-being and productivity. Thus, the purpose of this study is to find out the prevalence of back pain affecting daily activities of desktop workers of Ahmedabad city.
METHODOLOGY: A cross sectional study was conducted among desktop workers of Ahmedabad city. A survey of 250 individuals, both male and female of age group 30-50 years was conducted using OSWESTRY DISABILITY INDEX. Participants were selected according to inclusion criteria and were made to fill Oswestry low back disability questionnaire through Google forms.
RESULT: The data examination was performed with Microsoft Excel 2010. The overall distribution of ODI scores was 37.6% No Disability, 30.4% Mild Disability, 22.4% Moderate Disability, 7.6% Severe Disability and 2% Complete Disability.
CONCLUSION: There is a prevalence of back pain affecting desktop workers of Ahmedabad city.

Keywords: Desktop workers, back pain, daily activities, Oswestry Disability Index. Desktop workers, back pain, daily activities, Oswestry Disability Index.

INTRODUCTION

The modern world has become more mechanized, leading to a rise in the risk of various diseases and musculoskeletal disorders, a decrease in physical exercise, and an increase in computer use. LBP affects two thirds of people at some point in their lives. The rise of computer-centric occupations has ushered in an era where back pain permeates the daily lives of professionals.[1] Low back pain (LBP) affects between 12% and 44% of adults at any given time, making it a serious health problem.[2] LBP affects office workers often, with a one-year frequency of 23% to 38%. Inadequate breaks, limited physical activity and repetitive nature of certain tasks further contribute to issues and impacting well-being and productivity.[3-5] The most frequent and expensive cause of work-related disability is low back pain (LBP). Low back pain (LBP) is the most expensive cause of work-related disability among people under 45 in terms of workers' compensation and medical expenses.[6] It is

also the most typical reason for a disability at work. In the USA, more than $100 billion is spent on LBP each year. Low back pain is any back discomfort that is felt between the top of the thigh and the ribcage, regardless of where it originates. Work-related low back pain is any back pain that arises while the person is at work and is clinically shown to have been caused, either entirely or in part, by their job.[7] Soft tissue and muscular injuries as well as spinal disc problems, such as spondylolisthesis and hernias, are examples of low back disorders.

According to epidemiological studies, in addition to the normal degenerative aging process, ergonomic working practices might aggravate low back diseases in individuals who already have back health issues or accelerate the degeneration of pre-existing back conditions. Bad ergonomic work circumstances lead to an increased load or strain on the back.

This can be brought on by a variety of situations, such as lifting, twisting, bending, stretching, awkward motions, and still positions. Among the duties are manual labor, running a car, and physical labor (where full body vibration is acknowledged as another significant aspect). Even though x-rays or bone scans can detect problems related to the spinal discs, they often miss other abnormalities, like damage to the muscles and other soft tissues. It's true that "non-specific" low back illnesses account for 95% of cases.[7] Low back pain is associated with numerous risk factors, including but not limited to gender, age, lifestyle, psychosocial profile, physical demands of the job, social support, and pain perception. Patients with low back pain associated with an initial episode may see improvement in two to four weeks. Observations suggest that those with low back pain problems may have serious psychological, social, and physical problems that may affect their capacity to do their work. The physical effects include deteriorating overall health and loss of body function.[8] It has been discovered that office workers frequently and severely experience low back discomfort. This may be brought on by their prolonged sitting hours, improper low back flexion or rotation, and other aspects of their working environment. However, the present body of research on the modifiable factors associated with low back pain (LBP) in office workers in modern work environments where prolonged computer use is commonplace is inadequate.[9] The study aims to find the prevalence of back pain affecting daily activities in middle aged desktop workers.

MATERIALS & METHODS

A cross-sectional study was conducted among desktop workers of Ahmedabad city, Gujarat India. A survey of 250 individuals, both male and female of age group 30-50 years was conducted using Oswestry Disability Index. Approval from the Institutional Ethical committee was attained. Participants were selected according to inclusion criteria and were made to fill Oswestry low back disability questionnaire through Google Forms and it was analysed using Microsoft Excel 2010. Data was collected over a one month period from December 1 to December 31, 2023. 10 item Oswestry low back Disability Questionnaire along with demographic data was circulated among middle aged desktop workers.

INCLUSION CRITERIA

- Male and female aged 30-50 years.
- Participants who are engaged in prolong sitting for desktop work (6-8 hours).
- Duration of computer use is more than 2 years
- Participants having low back pain.
- Willing to participate.

EXCLUSION CRITERIA

- Any spine related deformities
- Any recent surgeries related to back

OUTCOME MEASURE

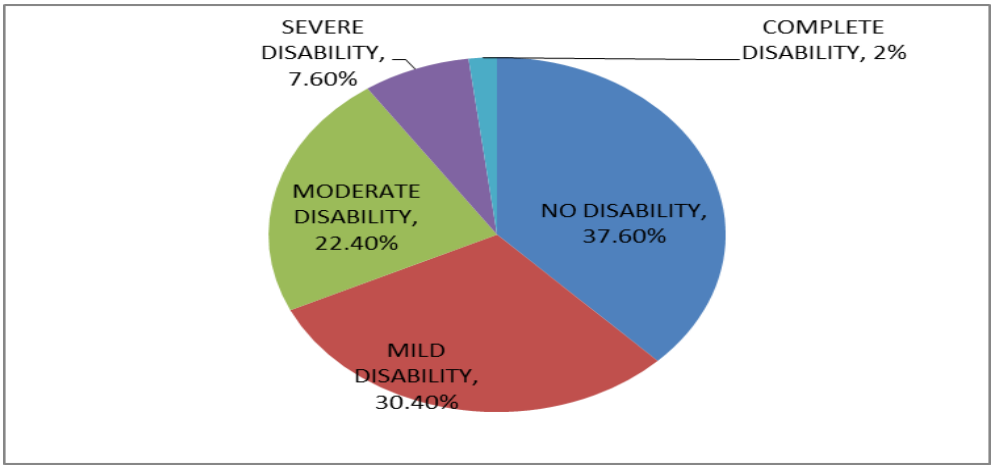
- **OSWESTRY DISABILITY INDEX: -** ODI is an extremely important tool that researchers and disability evaluators use to measure a patient’s permanent

functional disability. It is 10 item questionnaire dealing with **pain intensity**, **personal care**, **lifting**, **walking**, **sitting**, **standing**, **sleeping**, **social life**, **travelling** and **employment/homemaking** with each question, there is a possible 5 points; 0 for the first answer,1 for the second answer, etc. Add up the total 10 questions and rate them on the scale representing **0-4** = NO DISABILITY; **5-14** = MILD DISABILITY; **15-24** = MODERATE DISABILITY; **25-34** = SEVERE DISABILITY; **35-50** = COMPLETELY DISABLED.

- ICC value: **0.937**[10]

RESULT

The data examination was performed with Microsoft Excel 2010. The overall distribution of ODI scores was 37.6% No Disability, 30.4% Mild Disability, 22.4% Moderate Disability, 7.6% Severe Disability and 2% Complete Disability.



DISCUSSION

The present study was to assess the prevalence of back pain affecting daily activities in middle aged desktop workers of Ahmedabad city and result showed that back pain affects daily activities of desktop workers in mild to moderate range. Oswestry Disability Index was used. Educate about good posture for back. Interventions like back strengthening exercises and flexibility to be enhanced by stretching. Ergonomic advice to be given.

A.K.M. Rezwan et.al (2023) conducted research on "Study on Association between daily activity and low back pain among desk job workers". Study was conducted on 280 participants including both males and female desktop workers of different banks in Dhaka city of Bangladesh. It concluded that having LBP causes severe long term physical disability and creates huge societal costs.[11]

Paula T.H. et al (2006) conducted research on "Frequent computer-related activities increase the risk of Neck-Shoulder and Low Back pain in Adolescent". Study was conducted on 6003 participants, among which 14 year old girl: 1245 (78%); 14 year old boys: 1092 (66%); 16 year old girls: 1296 (79%); 16 year old boys: 1003(59%); 18 year old girls: 797 (74%); 18 year old boys: 570 (50%). It concluded that frequent computer related activities are an independent risk factor for Neck-shoulder pain and Low back pain. Daily use of computers exceeding 2-3hrs seems to be threshold for NSP and exceeding 5hrs for LBP.[12]

Bilge B.C et al (2020) conducted study on "Effects of risk factors related to computer use on musculoskeletal pain in Office workers". Study was conducted on 362 participants (female 50.8%, male 49.2%). They concluded that most painful areas of

participants using desktop computers were upper back, neck, lower back and shoulder respectively. Pain in these areas affected ADLs negatively. This pain mostly occurred after current job and experience intense pain.[13]

CONCLUSION

The present study concluded that there is a prevalence of back pain affecting desktop workers of Ahmedabad city. This study has few limitations such as the study was using electronic media tool (Google Form) to collect data. This study was constrained with insufficient sample size.

Declaration by Authors

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Conflict of Interest: The authors declare no conflict of interest.

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