



## Original Article

## Prevalence of Low Back Pain and Disability among Computer Operators Working in the Banks of Peshawar: A Cross-sectional Study

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## ABSTRACT

Low-back disorders are linked to awkward postures and hinders both work performance and quality of life. **Objective:** The aim of this study was to find the prevalence of low back pain and disability among computer operator working in banks of Peshawar. **Methods:** A cross sectional study was conducted on 300 computer operators. The UBL, HBL and BOK Banks in Peshawar were targeted for recruitment of participants. Non probability convenience sampling technique was used for subject's enrolment. Both male and female participants with age ranges from 25 to 50yr, working as computer operator in banks were included in study. The Oswestory of low back pain questionnaire and Numeric pain rating scale questionnaire were used to collect the data from the participants. **Results:** Out of 300 participants, maximum age respondents were 185 (61.7%) range from 25-33 years and minimum age were 26 (8.7%) ranged in 43-50 years. Male enrolled responses were 273 (91.0%) while females were 27 (9.0%). The prevalence of low back pain was 72.3 % among computer operators working in the banks of Peshawar. Based of NPRS, 27.7% computer operator reported no pain while the maximum number of participants i, e., 39.3% (n=118) suffered from mild pain. The maximum participants have minimal disability and reported as 52% (n= 156) while the minimum participants, only 10% (n=30) have sever disability. **Conclusions:** The current study revealed that, the prevalence of low back pain is high among computer operators working in Peshawar banks.

## INTRODUCTION

Low-back disorders are linked to awkward postures in a working environment and can be described as chronic or acute discomfort in the lumbosacral, buttock, or upper leg region [1]. It hinders both work performance and quality of life [2]. Most people encounter low back pain (LBP) at some point during their working lives [3]. In both industrialized and emerging nations, it has been regarded as one of the most expensive illnesses among the working population [4,5]. The sixth-most significant contribution to the global disease burden, and one of the top ten diseases, was recognized as LBP in the 2010 Global Burden of Disease Study (death and disability) [6]. Additionally, it has a more significant effect on world health than lung cancer, diabetes, obstructive pulmonary disorders, tuberculosis,

malaria, and the Human Immunodeficiency Virus combined [7]. Many office workers experience LBP, which leads to sick days, considerable degrees of impairment, and major limitations on regular activity and involvement, including work activities [8]. There is evidence that the nature of office employment and the office environment both enhance the risk of LBP [9]. Most bank employees work sedentarily, and the placement of their chairs, tables, and computers was not chosen with their health in mind. They have increased lower back tension from prolonged sitting and standing, which ultimately results in LBP [10]. LBP among office professionals, notably bankers, has a detrimental effect on the economy since it causes more absences from work and lower productivity [11]. It is having



an impact on the economy, society, and public health on a global scale [8]. Up to 80% of people in wealthy nations have a lifetime incidence of LBP, which ranges from 58 to 84 percent globally [12]. In Kuwait, a survey of computer users who work in banks revealed that 80% of participants had experienced at least one musculoskeletal disorder incident in the year prior and that 57% had experienced attacks in the week prior. More than half of the musculoskeletal system problems among bank employees were LBP-related (MSDs) [13]. The factors most strongly linked to LBP were shown to be overweight persons, smoking, lifting weight, stooping, sitting for long period of time, low fitness level, sedentary lifestyle, and uncomfortable posture at work [14]. With the right imaging techniques, the history and physical examination can identify a particular etiology. However, only 20% of cases receive an accurate diagnosis due to the spine's intricacy and biomechanics, making it challenging to pinpoint a specific anatomic lesion [15]. Lifting, bending, twisting, and stooping at work have all been identified as potential risk factors for low back pain in people of working age [16]. A growing body of research indicates that adults who have previously worked in physically demanding jobs have an increased chance of developing LBP [17]. After controlling for body mass index and psychological conditions, a prospective study with more than 1500 participants found that previous occupational biomechanical exposure to bending/twisting or driving for at least 10 years increased the odds of having persistent LBP in retired adults aged 58 to 67 years [17]. Similarly, retired postal workers aged 70 to 75 years with LBP had a history of regularly moving heavy objects for more than 20 years [18]. Several studies conducted on prevalence of low back pain in different countries targeting different occupation. No up to date literature is reported on regional base. Knowing the prevalence and disability cause by low back pain can help in designing the preventive strategies. This is admirable as a stimulus to local preventive action that would be to consider to what extent the prevalence estimate in this workplace population represents the occurrence of LBP in bank computer operator, such wider objectives would draw out the study's importance beyond the local occupational setting. So therefore, the aim of this study is to find the prevalence of low back pain and disability among computer operator working in banks of Peshawar.

## METHODS

A cross-sectional study was conducted from Feb 2022 to Aug 2022. The data was collected from HBL, UBL and BOK banks located on the route from haji camp bus stand to Hayatabad, Peshawar. A total of 300 computer operator working in a banks of Peshawar were recruited in study. The

sample size was calculated Raosoft calculator by taking the population size of 1350, with 95% confidence interval and 5% margin error. After the approval of the study from research committee of Abasyn university Peshawar, permission was obtained from Bank managers. Purpose of the study was explained to all the patients and inform consent was obtained. Participants were recruited in the study via purposive sampling. Both male and female with age ranges from 25 to 50 year, working as a computer operator in a bank were included in this study. A participants were excluded, in case of any recent surgical history belonging to spine, lumber radiculopathy, recent history of fracture or dislocation, or any other lumbar pathology. The data was collected via Oswestory Low Back Pain questionnaire and numeric pain rating scale. The Oswestory of low back pain questionnaire was used for functional limitation. The score is categorized as Minimal disability, Moderate disability, Severe disability, crippled and exaggerated. Numeric pain rating scale were used for pain intensity. The prevalence of low back pain was determined by NPRS. All the categories (except None) of NPRS were added to determine the prevalence of LBP. The data were analyzing on SPSS software version 25.0. The frequency and percentage were calculated. The data were presented in the form of tables and charts.

## RESULTS

The objective of this study was to find the prevalence of low back pain and disability among computer operators working in the banks of Peshawar. A total of 300 participants working in the banks of Peshawar were recruited. Questionnaires were circulated among these and all of the enrolled showed a positive response towards the questionnaire. Out of 300 participants, maximum age respondents were 185 (61.7%) range from 25-33 years and minimum age were 26 (8.7%) ranged in 43-50 years. Male enrolled responses were 273 (91.0%) while females were 27 (9.0%). The rest of variables are mentioned in Table 1.

Variables	Frequency (%) (n=300).
<b>Age ranges (yrs)</b>	
25-33	185(61.7%)
34-42	89(29.7%)
43-50	26(8.7%)
<b>Gender</b>	
Male	273(91.0%)
Female	27(9.0%)

**Table 1:** Frequency and percentage of participants Age

This study found that the prevalence of low back pain is 72.3% among computer operators working in the banks of Peshawar. A total of (n=217) computer operators were affected from low back pain. Based of NPRS, 27.7% computer operator reported no pain while the maximum number of participants i, e., 39.3% (n=118) suffered from

mild pain. Additionally, the participants having moderate pain were 22%(n=66) while minimum participant i, e., 11% (n=33) were suffering from severe low back pain as mentioned in Table 2.

NPRS	Frequency(%)
None	83(27.7%)
Mild	118(39.3%)
Moderate	66(22.0%)
Severe	33(11.0%)
Total	300(100.0%)

**Table 2:** Frequency and percentage of participants Pain intensity  
Table 3 shows the frequency and percentage of Participant's disability. Based on Oswestry Disability index, the maximum participants have minimal disability and reported as 52% (n= 156) while the minimum participants, only 10% (n=30) have sever disability. Moderate disability was reported as 38%(n=114). The mean (SD) of disability scores were 23.2(10.3).

Oswestry Disability Index	Frequency(%)
Minimal disability	156(52.0%)
Moderate disability	114(38.0%)
Severe disability	30(10.0%)
Total	300(100.0%)

**Table 3:** Frequency and percentage of participants Disability

## DISCUSSION

The main purpose of our study was to find the prevalence of low back pain and disability among computer operators working in the banks of Peshawar. In this study a total number of 300 participants were recruited from Peshawar banks. According to our current study the prevalence of low back pain is 72.3% among computer operators working in the banks of Peshawar. A total of (n=217) computer operators were affected from low back pain. These findings are consistent with a study by Tauqeer S. et al., that 52.4% (n=86/164) of bankers reported having low back pain. The sample size in this study (n=164) was less than that in the current study, which also used the Japanese Orthopedic Association Back Pain Evaluation Questionnaire. Despite this, the survey indicated that a substantial percentage of bankers suffer from low back discomfort, more often males than women. Bankers were found to be unable to do daily tasks because of low back pain [19]. According to the same study by Kanyenyeri et al, 45.8% of bank employees reported having back pain, and factors including sitting with the back bent, twisting the spine, and not taking breaks while working are all independently linked to this condition [20]. According to research, the factors most strongly linked to LBP were shown to be overweight persons, smoking, lifting weight, stooping, sitting for long period of time, low fitness level, sedentary lifestyle, and uncomfortable posture at work [14]. LBP among office professionals, notably bankers, has a detrimental effect on

the economy since it causes more absences from work and lower productivity [11]. Based of NPRS, our study found that 27.7% computer operator reported no pain while the maximum number of participants i, e., 39.3% (n=118) suffered from mild pain. Additionally, the participants having moderate pain were 22%(n=66) while minimum participant i, e., 11% (n=33) were suffering from severe low back pain. These findings were also studied by Kanyenyeri et al., while investigating the prevalence of LBP among bankers. This study found that 78.8% of bankers were suffered from mild pain while 21.2% had severe pain [20]. Based on Oswestry Disability index, the current study found that maximum participants have minimal disability and reported as 52% (n= 156) while the minimum participants, only 10% (n=30) have sever disability. Moderate disability was reported as 38%(n=114). These findings were observed by M. Tariq et al., to ascertain the prevalence of functional limitations brought on by low back pain among Muzaffarabad's bankers. The percentage of participants with a moderate functional disability was 51%, a severe functional disability was 42%, a crippling functional disability was 6%, and the worst functional disability was 1% [21]. While our study reported no crippling and worst functional disability. Another study observed a work related low back pain disability. A total of 226 working employees were assessed by Quebec disability questionnaire. According to the final score for the severity of the disability, 37.25% had a moderate disability, while 41.17% had a little disability [22]. The development of LBP among bank personnel is significantly influenced by occupational factors, such as length of employment (>10 years) and lengthy working hours. In addition, a number of elements, including as age, persistent sickness, obesity, and physical activity, should be considered in order to prevent LBP in bank personnel [23].

## CONCLUSIONS

The current study revealed that, the prevalence of low back pain is high among computer operators working in Peshawar banks. It was found that most of the bank employees were suffered from mild pain followed by moderate pain. Furthermore, due to low back pain the most of the bank employees have mild functional disability followed by moderate disability

## Conflicts of Interest

The authors declare no conflict of interest.

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