

## Prevalence of Cervical Radiculopathy Associated With Neck Pain And Disability Among Computer Users In Faisalabad

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#### Abstract

**Aim of the Study:** Cervical Radiculopathy is a condition that affects muscles, nerves and movements. This pain can be acute or chronic. Computer operators are exposed to variety of health hazards with little attention paid to them. The aim of this study was to check the prevalence of cervical radiculopathy including neck pain and disability among computer operators.

**Material and methods:** Cross sectional study was conducted in which convenient sampling was done. In this study, sample size was 150. Data was collected by using Screening form and Neck Disability Index (NDI) Questionnaire to identify Neck pain and Cervical Radiculopathy symptoms (pain and disability) was filled from the participants. All data was analyzed by using SPSS (Statistical Package for Social Sciences) software version

**Results:** Among participants with neck pain, 78 out of 126 (61.9%) had cervical radiculopathy, compared to 7 out of 24 (33.3%) without neck pain. The relationship was found to be significant,  $\chi^2 (1, N = 150) = 8.799, p = .003$  suggesting that individuals with neck pain were significantly more likely to have cervical radiculopathy.

There is a strong and statistically significant association between the intensity of pain (VAS score) and the level of neck disability (NDI score) ( $p < 0.05$ )

## **Introduction**

Cervical radiculopathy is a condition in which nerve is compressed or irritated. Commonly referred to as a "pinched nerve," cervical radiculopathy can result in numbness and weakening in the muscles as well as discomfort that travels into the arm and/or shoulder (Borrella-Andrés et al., 2021).

In the modern era of information technology, computer operators use computers extensively (Bhardwaj and Mahajan, 2017). Cervical radiculopathy is common among individuals who spend long hours using computers, and repetitive postures. Prolonged mechanical pressure to the peri-cervical structures, such as the forward head posture, is one potential biological cause of neck discomfort in computer users (Takasaki et al., 2025). Forward head position is associated with flexion of the lower cervical spine (C4-C7) and hyperextension of the upper cervical spine (Sheikh Hoseini et al., 2018). It manifests as pain, discomfort, numbness and tingling sensation, parasthesia, headaches, changes in reflex, weakness in the hand and shoulder, scapular pain, and uncomfortable motions (Kang et al., 2020).

Neck pain is a leading cause of morbidity and disability in both daily life and the workplace (Genebra et al., 2017). Mostly neck pain is the first sign to appear. It is important to suspect cervical radiculopathy, which results in sensory complaints and motor weakness, when the arm and shoulder experience pain that originates in the neck (Apaydin et al., 2024).

Factors that affect the biomechanics are Prolonged Static Positions, Repetitive Movements (Typing and mouse use are examples of repetitive motion activities that can aggravate nerves and cause muscle pain), Poor Posture, Lack of Breaks (Long-term computer use without enough breaks can cause muscle tiredness and raise the risk of injury) (Rodrigues et al., 2017).

Poor ergonomics is major cause of neck pain and cervical radiculopathy. Pain is directly impacted by the height and separation of the desk, chair, and computer monitor. The chair affects the spine's curvature and pressure distribution, which can result in asymmetry, compensation, increased pressure through the vertebral bodies, and muscular fatigue (Lamprecht, 2018). Employers must be encouraged to use ergonomic principles, which can guarantee a rise in profitability and a reduction in the symptoms of work-related diseases among their employees without the need for costly alternatives (Mekhora et al., 2000).

This study aims to investigate the relationship between cervical radiculopathy and neck pain and disability in computer users working in different banks and offices of Faisalabad and to highlight the need for ergonomic awareness and postural education.

## **METHOD**

This is cross-sectional study. Sample size is 150 Computer users age 25-50 years. Study Settings are Banks and offices in Faisalabad (United Bank Limited (UBL) , Muslim

commercial Bank, Bank Alfalah Limited, Sitara Textile IT department, Orkans International Faisalabad).

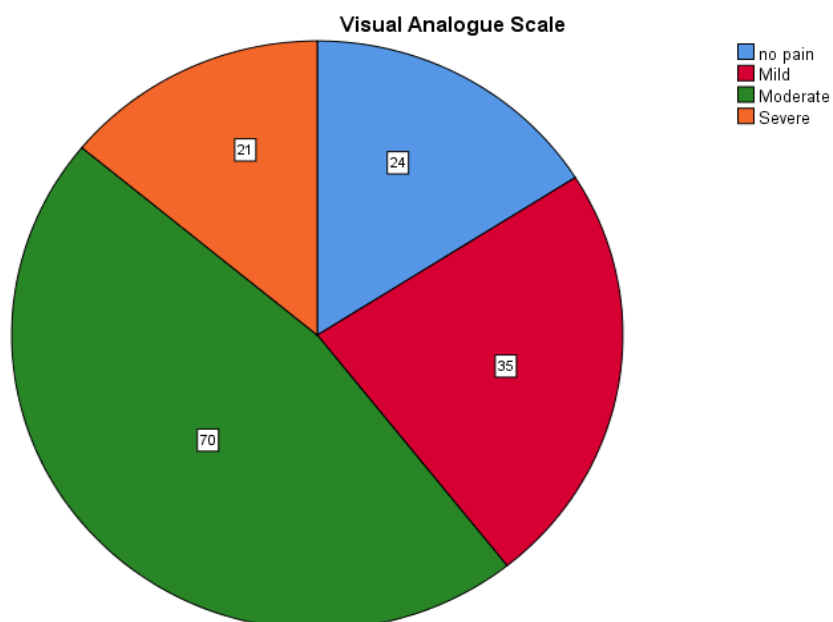
Neck Disability Index (NDI) questionnaire is used to assess the level of neck-related disability. Visual Analog Scale (VAS) is used to quantify pain intensity (0–10 scale).

Inclusion Criteria	Exclusion Criteria
<ul style="list-style-type: none"> <li>➤ Age range is 25-50 (Joseph and Roy, 2023).</li> <li>➤ Both genders (Bhardwaj and Mahajan, 2017).</li> <li>➤ Cervical radiculopathy without Neck pain</li> <li>➤ Cervical radiculopathy associated with neck pain (Bhagawati and Gwilym, 2015).</li> <li>➤ Visual Analogue Scale</li> <li>➤ Minimum 6 hours of sitting</li> </ul>	<ul style="list-style-type: none"> <li>➤ All kinds of neck injury</li> <li>➤ Infectious diseases (varicella, hepatitis A, etc.)</li> <li>➤ Arthritis</li> <li>➤ Terminal illness</li> <li>➤ Cervical myelopathy</li> <li>➤ Cervical fracture</li> <li>➤ Cervicogenic headache</li> </ul>

## Results

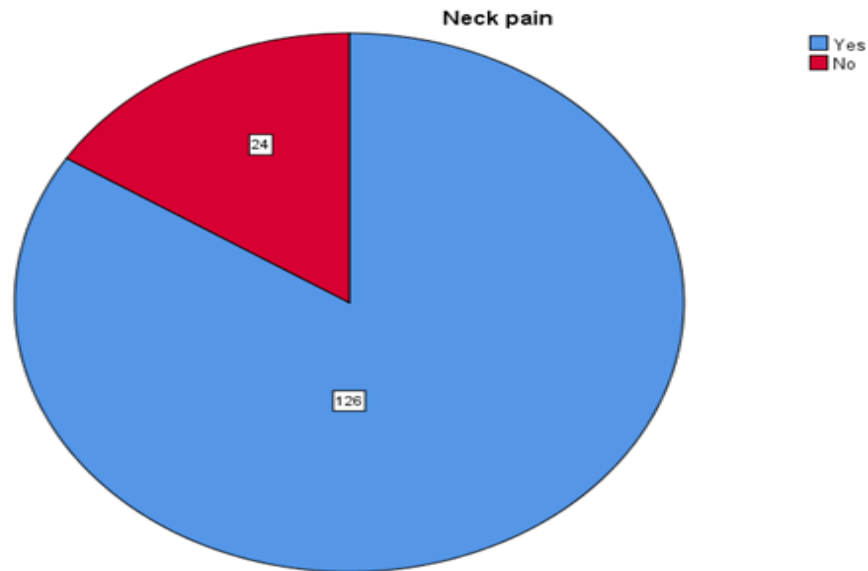
VAS Scores:

VAS Scores	
Pain Intensity	Percentages
No pain	16.0%
Mild pain (1–3)	23.3%
Moderate pain (4–6)	46.7%
Severe pain (7–10)	14.0%



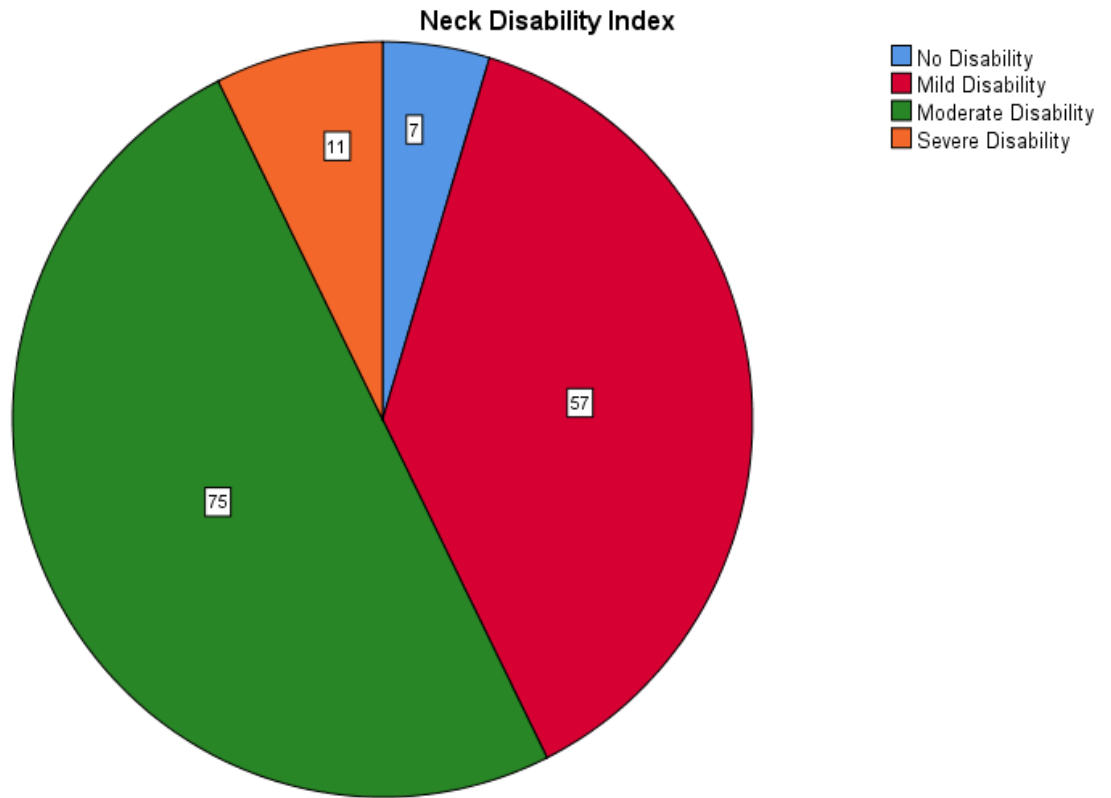
**Pie chart showing the visual analogue scale of Participants**

<b>Neck pain</b>	
<b>Neck pain</b>	<b>Percentage</b>
Yes	84%
No	16%



**Pie chart showing the neck pain of Participants**

<b>NDI Scores</b>	
<b>Disability</b>	<b>Percentages</b>
No disability (0–4)	4.7%
Mild disability (5–14)	38.0%
Moderate disability (15–24)	50.0%
Severe disability (25–34)	7.3%



**Pie chart showing the neck disability index of Participants**

<b>Significant Associations (Chi-square test)</b>	
<b>Factors</b>	<b>P- value</b>
CR and Neck Pain	p = 0.003
VAS and NDI	p = 0.000
NDI and Neck Pain	p = 0.000

## **Discussion**

This cross-sectional study was conducted to assess the prevalence of cervical radiculopathy and its co relation with neck pain and functional disability due to work-related posture among computer users in Faisalabad. The findings revealed a significant burden of pain and disability linked with prolonged sitting and poor posture, particularly among middle-aged individuals.

The study showed that 56.7% of the members were deducted with cervical radiculopathy, and 84% reported neck pain, with 46.7% reporting moderate pain and 14% severe pain. Joseph & Roy, (2023) study among IT professionals in Bangalore found a 50% prevalence of cervical radiculopathy, supporting our result

## **Conclusion**

This study concludes that cervical radiculopathy is significantly prevalent among computer users in Faisalabad, especially those with prolonged exposure to sedentary work and poor ergonomic habits. Among participants with neck pain, 78 out of 126

(61.9%) had cervical radiculopathy, compared to 7 out of 24 (33.3%) without neck pain. Patients with mild pain mostly had mild to moderate disability. Patients with moderate pain showed a clear trend toward moderate disability (36 out of 70). Those with severe pain had higher chances of severe disability, though a few still reported only moderate disability.

### **Recommendations**

The recommendations are following:

For Computer Users:

Adopt Ergonomic Practices.

Take Frequent Breaks.

Exercise Regularly.

Use Support Cushions.

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