

Original Article

Relationship of neck disability and fear-avoidance beliefs among bankers.

Faryal Shoukat^{ID}, Huzaifa Ather Rajar^{ID} & Nabeel Baig^{ID}

Ziauddin College of Rehabilitation Sciences, Ziauddin University, Karachi-Pakistan.



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Corresponding Author Email:

faryalshoukat-1509@hotmail.com

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Abstract

Background: Neck Disability (ND) is a global health concern among bankers due to the prolonged computer usage demand of the job. Literature reported neck pain and fear of activity among bankers; however, evidence is scarce regarding the association between them. Therefore this survey aimed to evaluate the relationship between ND and Fear Avoidance Beliefs (FAB) among bankers.

Methodology: A cross-sectional survey was conducted on bankers of Karachi, Pakistan, using a convenience sampling technique. Volunteer bankers working for two or more years, having neck pain for more than three months were enrolled in the study. ND was evaluated using Neck Disability Index (NDI) questionnaire and FAB questionnaire to assess activity fear. Statistical analysis was undertaken using SPSS version 20. Pearson correlation test was used to analyze the association between ND and FAB. P-value <0.05 was considered statistically significant at 95% CI.

Results: A total of 100 bankers were included in the study. The Pearson correlation test shows a significant moderate and positive correlation between NDI and FAB among bankers ($r=0.61$).

Conclusion: It was concluded that the bankers suffer from ND and fear of activity performance, and a significant moderate and positive association was found between ND and FAB. Hence, further experimental research related to neck posture, work-station ergonomics, and ND is needed so that the global issue can be resolved and bankers' work performance could be enhanced.

Keywords

Bankers, Fear Avoidance Beliefs, Neck Disability, Neck Pain.



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Introduction

Neck pain is the leading cause of Neck Disability (ND) worldwide¹. Evidence reported that neck pain and ND result in Fear-Avoidance Belief (FAB) and hence place a huge impact on physical, socioeconomic, and psychological health². A study reported that among all musculoskeletal disorders, neck pain is the major complaint among bankers, who are serving as the backbone in dealing with the economy worldwide³.

According to the Global Burden of Disease Study, neck pain is the 4th most common cause of mortality due to disability⁴. A recent study conducted in Lahore, Pakistan, reported that the prevalence of neck pain among bankers is 66.4%, with the majority of the bankers suffering from neck disability⁵. Evidence reported that in Iran, Bangladesh, Punjab, and India, the yearly occurrence of musculoskeletal disorder among bankers was 78.5%, 69.3%, 83.5%, and 33.8%, respectively⁶. Research in the Netherlands recorded 17% of the employee's pleasing days with neck pain⁷. Another study showed that one-third of the billion population suffers from neck pain⁸.

Banking is a profession that demands prolonged computer use and contributes to work-related neck pain⁹. Evidence shows that prolonged use of computers in a sitting position with rounded shoulders and incorrect neck posture disturbs the normal cervical curve and hence causes neck pain¹⁰. Electronic gadgets increase the activity tension in the upper trapezius, erector spinae, and neck extensor muscle, which causes pain¹¹. Prolong forward head posture is an internal factor that causes dysfunction of the shoulder and neck¹². Furthermore, less frequent breaks also increase neck stress¹¹. Incorrect neck posture shifts the gravitational center of the head from the load-bearing axis, which results in the increased length of the external moment arm¹³. Additionally, increases neck disability⁷ and reduces work performance due to fear-avoidance belief².

ND is a global health concern among bankers due to the prolonged computer usage demand of the job. Evidence shows neck pain and fear of activity

among bankers. However, evidence is scarce regarding the association between them. Therefore this survey aimed to evaluate the relationship between ND and FAB among bankers.

Methodology

A cross-sectional survey was conducted on bankers of Karachi, Pakistan. Using a convenient sampling technique, data was collected from Habib Bank Limited, Jahangir Siddiqui Bank Limited, United Bank Limited, and Silk bank. The study was conducted from February to November 2021.

Ethical approval was taken from the Ethical review committee (Ref No. ASC-PT-0121/02/2021). Volunteer bankers working for two or more years, having neck pain for more than three months, and those who gave written informed consent were enrolled in the study. Those participants who had a previous surgical history of neck and/or neck pain due to other neurological disorders were excluded.

A sample size of 100 was calculated using Epi-calculator at 95% CI. Data was collected using Google forms, and a shareable link was generated to distribute among the bankers through different social media. Two tools were administered: Neck Disability Index (NDI) to evaluate ND and FAB with the help of the questionnaire FABQ to assess activity fear. Both the tools established good validity and reliability. The NDI has an ICC value = 0.92¹⁴, and FABQ has an ICC value= of 0.90 (The intraclass correlation coefficient for FABQ-W was 0.52 and FABQ-PA was 0.59)¹⁵. NDI assesses patient pain intensity, personal care, lifting reading, headache, concentration, work, driving, sleeping, and recreation. FABQ assesses the patient fear of performing activity due to pain.

Statistical analysis was undertaken using SPSS version 20. The normality of the data was analyzed by using the Kolmogorov-Smirnov test. Descriptive statistics were run to check the mean score of ND and FAB, and the data was normally distributed. Hence, the Pearson correlation test analyzed the association between ND and FAB. P-value <0.05 was considered statistically significant at 95% CI.

Results

We included 64 patients in our study in which half of the patients were taking dutasteride and alpha-blocker. The mean age was 67.17 ± 8.9 years, with a minimum of 42 years and a maximum value of 88 years. The Mean drop in hemoglobin in all patients undergoing TURP was 1.7 ± 0.8 gm/dl. We found

that both groups had a significant difference in the size of the prostate. It is also found to have a significant difference in hemoglobin after surgery and a difference in hemoglobin ($p < 0.05$). In our study, there was significantly less hemoglobin drop following prostate surgery in patients using dutasteride than in those who were not (1.2 gm vs. 2.2 gm, respectively).

Table 1: Demographic characteristics of the bankers (N=100).

Variables	Percentage	
Age; Mean \pm SD	27.04 \pm 3.29	
Age Group	25-30 years	93%
	31-36	3%
	37-42	4%
Gender	Male	37%
	Female	63%

Neck disability score among bankers ranges from 1.30 to 3.70 (2.15 ± 0.61), and fear of avoidance belief ranges from 2.00 to 5.00 (3.23 ± 0.74). Most of the bankers reported increased neck-related pain intensity (2.13). However, recreational activities (3.28), personal care (2.47), reading (2.40), and work (2.33) also increase neck-related disability among bankers (see table 4). Most of the bankers feared that they could not do the normal work until their neck pain was treated and believed that they could not go back to work at all (3.76). Due to neck pain, bankers had the fear belief that they should not work with the neck pain (3.51). Furthermore, bankers believe that their work increases their neck pain (3.50).

Table 2: Mean score of NDI and FABQ among bankers.

Variables	Mean	SD	
NDI (Total score)	2.15	0.62	
Items	Pain Intensity	2.13	0.78
	Personal Care	2.47	1.70
	Lifting	1.95	1.20
	Reading	2.40	1.24
	Headache	1.76	0.98
	Concentration	1.56	0.81
	Work	2.33	1.54
	Driving	1.93	1.22
	Sleeping	1.80	1.20
	Recreation	3.28	1.18
FABQ (Total score)	3.23	0.75	
Items	My pain was caused by physical activity	3.22	1.21
	Physical activity makes my pain worse	3.30	1.03
	Physical activity might harm my neck	3.04	1.15
	I should not do physical activities which (might) make my pain	2.82	1.23
	I cannot do physical activities which (might) make my pain	3.00	1.26

My pain was caused by my work or by accident at work	3.02	1.04
My work aggravated my pain	3.50	1.04
I have a claim for compensation for my pain	3.30	1.00
My work is too heavy for me	3.05	1.12
My work makes or would make my pain worse	2.75	1.23
My work might harm my back	3.10	1.07
I should not do my normal work with my present pain	3.51	1.05
I cannot do my normal work with my present pain	3.40	0.96
I cannot do my normal work till my pain is treated	3.76	0.89
I do not think that I will ever be able to go back to that work	3.76	0.89

SD-Standard Deviation; NDI-Neck Disability Index; FAB-Fear-Avoidance Belief.

The Pearson correlation test shows a moderately significant positive correlation between NDI and FABQ ($r=0.61$); when pain level increases, fair of activity performance beliefs are also raised, as described in table 3.

Table 3: Correlation between NDI and FABQ among bankers.

	NDI	FABQ
NDI	1	0.61**
FABQ	0.61**	1

**Correlation is significant at the 0.01 level (2-tailed).

Discussion

This survey aimed to evaluate the relationship between ND and FAB among bankers. 100 bankers were enrolled in the study, and results revealed that most bankers suffer from ND. The study concluded a moderately significant positive association between ND and FAB among bankers. The findings of this study are in-line with the study conducted by Gorge et al., which shows a significant positive correlation between NPDI and FABQ¹⁶. Furthermore, another research showed significant moderate correlations between fear of motion, pain intensity, and disability¹⁷. Hence, the concerned authorities must look into the solutions by providing ergonomic facilities, frequent breaks during desktop work, self-stretching of the neck, and physiotherapy treatment to reduce the fear of activity performance and enhance work performance among bankers.

It was found that long hours of desktop sitting among bankers was associated with neck disability. This finding was further consolidated by another study by Caruso et al., which shows the relationship between increased physical demands and longer

working hours, which increases the risk of developing neck pain disability¹⁸. Furthermore study suggested that observing activities of the neck region produces increased skin conductance and the fear of movement in patients with chronic neck pain¹⁹.

According to TW Chiu et al., fear-avoidance beliefs are hypothesized as the most powerful cognitive variables in predicting disability²⁰. Moreover, a study added that neck pain creates a fear of performing the activity²¹. Hence it is important that activity fear belief could be reduced so that disability can be prevented.

A study was conducted to determine the level of awareness and to see whether bankers used ergonomically designed equipment or not. The results have shown that banks lack ergonomic design. The lack of awareness about ergonomics among bankers may be a major cause of neck pain disability²².

As per the authors' knowledge, this is the first study conducted in Karachi, Pakistan, that addresses the important health issue by evaluating the

relationship between ND and FAB among bankers by using valid and reliable questionnaires. This study has played a crucial role in identifying neck pain and disability among bankers so that consideration could be given to its treatment and prevention. However, some of the limitations of this study include the small sample size and the data collected using online Google forms, which may be exposed to social acceptability.

Further studies with a larger sample covering a large geographical area are needed. On the other hand relation between neck pain, disability index, and ergonomics among different professions can also be assessed.

Conclusion

It was concluded that the bankers suffer from ND and fear of activity performance, and a significant moderate and positive association was found between ND and FAB. Hence, further experimental research related to neck posture, work-station ergonomics, and neck disability is the need of time to resolve the global issue and enhance bankers' work performance.

Conflicts of Interest

The authors have declared that no competing interests exist.

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