DOI:https://doi.org/10.54393/pbmj.v4i2.119

PAKISTAN BIOMEDICAL JOURNAL
https://www.pakistanbmj.com/journal/index.php/pbmj/index
Volume 4, Issue 2 (July-Dec 2021)

Original Article

Prevalence of Neck Pain Related to Working Hours Among Bankers: A Cross-Sectional Study

Muhammad Umer Arshad[1], Wajeeha Zia[2], Ghazal Jamshaid[3], Bakhtawar Khan[4], Jawad ul Hassan[5] and Azhar Akram[6]

[1]Avicena Medical College, Lahore, Pakistan
[2]Riphah International University, QIE Campus, Lahore, Pakistan
[3]University of South Asia, Cantt Campus Lahore, Pakistan
[4]Johar Institute of Professional Studies, Lahore, Pakistan
[5]University of Health Sciences, Lahore, Pakistan
[6]Hamid Latif Hospital, Lahore, Pakistan

ARTICLE INFO

Keywords:
Bankers,Musculoskeletal disorder, Neck pain, Prevalence, Work related factors

How to Cite:
Arshad, M. U. ., Zia, W, Jamshaid , G. ., Khan, B., Hassan, J. ul ., & Akram, A. (2021). Prevalence of Neck Pain related to working hours among Bankers, A cross-sectional Study: Prevalence of Neck Pain related to working hours among Bankers, A cross-sectional Study. *Pakistan BioMedical Journal*, 4(2). https://doi.org/10.54393/pbmj.v4i2.119

***Corresponding Author:**
Wajeeha Zia
Riphah International University QIE campus, Lahore, Pakistan
wajeeha_z@yahoo.com

ABSTRACT

Work-related neck pain is demonstrated as neck pain that is produced or provoked by labor or the working atmosphere. It is one of the most common complaints especially among workers who use computer extensively at their workplace. Office work demands long time in front of computer screens and if there is lack of ergonomic use, lack of awareness of proper body positioning and the positioning of the desk, keyboard, and screen all lead to pain neck. **Objective:** To find the frequency of neck pain due to necktie among bankers **Methods**: It was a cross sectional study. Data was taken from 277 participants through Neck disability index questionnaire through convenient sampling technique from all the male workers of banks who were wearing tie on regular basis. Data was presented as bar charts and pie charts by using Statistical Package for social sciences version 25 **Results:** About 184 (66.4%) were having pain in neck in past 6 months. About half of those who were suffering from pain have moderate pain 145 (86.8%), 14 (8.3) have mild pain and 8 (4.7%) were having severe pain in neck **Conclusion:** It is concluded that about 66.4% bankers were having pain and majority of bankers have moderate level neck pain due to prolong working hours.

INTRODUCTION

Neck pain is a pain felt from the occiput to the upper part of the backbone and spreading laterally to the outer and superior boundaries of the scapula [1]. Neck pain is an obstacle in the way of occupational health. When the posture of the body is not appropriate and there is prolonged and extended time in front of the computer this could possibly result in many health dangers such as neck pain [2]. Work-related neck pain (WRNP)is demonstrated as neck pain that is produced or provoked (or both) by labor or the working atmosphere. It is one of the most common patient complaints in the general population and especially among workers who use computer extensively at their workplace [3]. The musculoskeletal conditions are 2nd highest contributor of Worldwide Disability according to the Global Burden of Disease (GBD) report in 2017 [4]. Stiffer muscles or encroachment of the nerves that travels from the cervical vertebrae may generates pain in the neck [5]. It has been observed that at any phase of the life, about 70 % people experience pain in neck [6]. Around 30% of individuals with cervical pain experiences the limitations in their ADLs [7]. Pain is classified into acute or chronic as per the duration experienced by a person. The pain that comes on instantaneously as a result of some type of injury or trauma is known as acute pain which can be accomplished by the time of one week to ten days by itself of taking care by using acute protocol and on other side type of pain that takes

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longer time session to recover pain [5]. Some type of factors that possibly causing pain in neck includes fallacious positioning, neck strain, person suffering from depression or anxiety, and other activities that are mainly occupational [8]. A study showed 26% of the young adults complaint pain in neck at least once in a week neck pain is the most commonly occurring condition in developed countries that results in increasingly high the demand the medical assistance and thus results in sick leave and then financial problems may occur [9]. Many studies work on the relationship between working conditions in occupation and occurrence of pain in neck among them. There is a specific population of office workers that are at great risk in the development of cervical pain and the prevalence shows much greater rate when compared to the general population [10]. Many of the problems that office workers may face such as physical, social, economic, psychosocial and other individual based factors causes to increases the disorders of neck [11]. Office work demands long time in front of computer screens and if there is lack of ergonomic use, lack of awareness of proper body positioning and the positioning of the desk, keyboard, and screen all lead to cervical pain neck and also the shoulder pain [12]. Particularly the muscle of the shoulder mainly upper trapezius muscle has been shown to be closely associated with the shoulder pain among workers [13]. Banking is very essential for the economic stability of Pakistan. As in this career work takes longer period, various physical demands, prolonged sitting, standing postures and also considerable use of computer therefore cervical pain is very common [14]. Fast scientific developments, particularly in the use of electrical information, have affected employees. Microelectronic data are mostly presented in visual demonstration. Inappropriate body position and extended hours in front of these gadgets can consequence in many health dangers such as pain in neck [1]. The common location of the pain is of upper part of trapezius muscle which is generally contemplated to be caused due to lack continuous work and no rest breaks in between work when doing lengthened computer work [15,16]. Some studies have examined the risks associated with a tight load [17].– Many work has been done related to effect of tight clothing on body, many studies reported that the habit of tight clothes may responsible to increase the occurrence of cardiac or esophageal adenocarcinoma [18]. Tight jeans cause to decline the flow of blood and this restriction lead to decrease in the temp of the area of hip this may lead to injury [19]. Adequate evidence is stated in the literature to support that a necktie could affect the cervical ROM and muscle movement. Tight neckties decrease the neck ROM and caused stress on the trapezius. Male office workers who used to wear neckties for longer duration and appropriate selection of their tie to avert injuries to muscles influenced by restriction of cervical ROM [19-21]. The information of prevalence of neck pain among bankers will work as a foundation for further studies on applying ergonomic strategies for bank settings and different factors associated with banking sector. As it is vital to check the level of knowledge of bank workers about ergonomics and to evaluate whether they are being provided with suitable ergonomic information or not. The objective of this study was to find the frequency of neck pain due to among bankers.

METHODS

It was a cross sectional study with sample size of 312 bankers from of private sectors of Lahore. Sample size was calculated by online calculator for surveys with 95% confidence interval and 5% margin of error. Out of 312, only 277 forms were complete with 88% response rate. Data was collected through convenient sampling technique from all the male workers of banks who were wearing tie on regular basis, having no history of trauma or injury and those who felt a relief after removing tie. Participants were excluded if they had any specific medical condition affecting the cervical spine [21]. After taking permission from the ethical review board of concerned organization. Data was collected through Neck disability index (NDI) Questionnaire and some demographic questions. The basic information about research and test procedure was explained to participants and questionnaires were handed over to them and they were requested to fill them. Consent form was taken while assuring them the data will used only for research purpose and privacy will be maintained. The questionnaire was consisting of two parts. In first part variables like age, job description and working hours in front of computer were documented. In 2nd part, NDI was documented, it is a 10 item questionnaire scores from 0 to 5 with maximum score of 50. 0 to 4 is interpreted as no disability, 5 to 14 as mild, 15 to 24 as moderate, 25 to 34 as severe, above 34 is interpreted as complete disability [22]. Data was presented as bar charts and pie charts by using Statistical Package for social sciences version 25.

RESULTS:

Among 277 participants, there were 23(8.3%) who were working for 3-5hours, 46 (16.6%) were working for 6-8 hours, and 208 (75.1%) were those who were working for 9-12 hours per day. In job description, 34 (12.3%), were working as manager, 49 (17.7%) as operation manager, 82 (29.6 %) as accountant, 65 (23.5) as cashier, and 47 (17). About 184 (66.4%) were having pain in neck in past 6 months. About half of those who were suffering from pain has moderate pain 145 (86.8%), 14 (8.3) has mild pain and 8 (4.7%) were having severe pain in neck. Duration of work and type of pain is shown in bar Figure 1.

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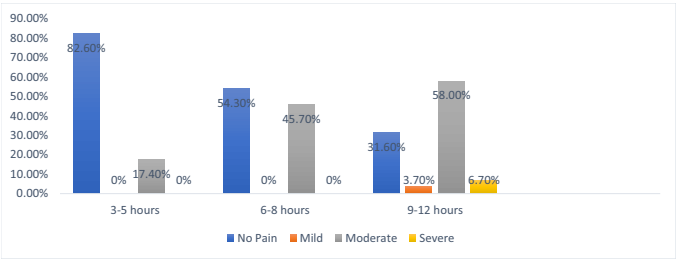

Figure 1: Histogram showing duration of working hours and neck pain

DISCUSSION

Neck pain is an obstacle in the way of occupational health. When the posture of the body is not appropriate and there is prolonged and extended time in front of the computer this could possibly result in many health dangers such as neck pain [2]. Stiffer muscles or encroachment of the nerves that travels from the cervical vertebrae may generates pain in the neck [5]. Many studies worked on the relationship between working conditions in occupation and occurrence of pain in neck among them. There is a specific population of office workers that are at great risk in the development of cervical pain and the prevalence shows much greater rate when compared to the general population [10]. Neck range of movement decreased when the muscles become stiffer and increased loading on them by external workload and awkward position or posture. The result of this study shows that neck pain is prevalent among Bank workers and there is an association between necktie and neck pain. These results are in concordance with the research conducted by Shabbir et al. who reported 71.67% of the participant's complaint pain in neck during their working hours. Muhammad Kashif et.al reported 66.36% of neck pain among Bankers. Saiful Islam recorded 45.7% of pain in Neck [1,23]. Results of the study by Yoo IG shows that the muscle performance raised when wearing tight tie as compared with not wearing and showed an association between neck tie and cervical ROM. Conclusion of his research shows that workers should select tie appropriately for the improvement and prevention of injuries [21]. According, to this study the occurrence of the neck pain was 64.4% which means neck pain was prevalent among bankers due to their necktie. Out of the 277 candidates 184 responded "YES" of having pain while 93 candidates had "NO" pain. Bank Accountant had 29.6% pain which was more than other participated groups. 86.80% participants lie in moderate category of NDI scoring. We have found that there was difference between the goniometric ranges with tie and without tie. These differences were due to the tightness of collar along with tie that restrict the movement the neck and applied stress on muscles so that the activity of the muscles reduced and stress causes pain in neck. A study by Yoo IG found that when wearing neck tie the performance of the upper trapezius significantly become increased as compared to without wearing it [21]. In this study there was association between the neck pain and the working hours which shows direct relation between increase in pain and increase in working hours 10-12 as in 2006 [11] results have shown that high prevalence of neck pain in bankers who had more than 11 hours working hour. MSK problems have a part for work place ergonomics shown by modern literature. The knowledge of designing the working place, equipment to fit the candidates, proper ergonomic plan was all crucial to avoid repeated, muscular injury which can go for long period disability. So, it is concluded that Bank profession are at high risk of getting neck pain because of long working hours sitting on a static position for longer period of time.

CONCLUSION

It is concluded that about 66.4% bankers were having pain and majority of bankers have moderate level neck pain due to prolong working hours.

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