Prevalence of Neck Pain Among Military Personnel

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Highlights:

- Prevalence of neck pain in military personnel.
- Pain due to lift weight in military personnel.
- Loosing concentration due to pain in military personnel.

Abstract:

Neck pain arises due to any inflammation, injury or postural changes. There is a huge number of military personal who experience neck pain due to their routine which includes wearing heavy bullet proof jackets, holding guns for long time and especially and most common their posture problems when they are performing duties on military posts .There is a a lot of researches done on prevalence of neck pain in different populations but on military there is less researches done.

Objective:

The objective was to determine the prevalence of neck pain among military personnel.

Methodology:

This cross sectional study was conducted in military soldiers and officers of Pak army of Lahore, Gujranwala and Sialkot. Sample size of 140 was calculated. Standardize neck disability index questionnaire were used for data collection. Prevalence of neck pain was measured by Neck Disability Index (NDI) and intensity was measured by Visual Analog Scale (VAS).The data was gathered and SPSS was used to analyzed the results.

Results:

Results showed that the 65% personnel were felt mild and moderate neck pain. 98.5% respondents said that they lost their concentration due to neck pain in reading or other activities. 96.0% respondents reported neck pain due to lifting heavy weight. The prevalence of mild and moderately neck pain in daily activity of personnel was 64.7% without any factors. Sleep disturbance due to pain also reported in 94.8% respondents.

Conclusions:

It is concluded that neck pain intensity was varied according to factors, like in lifting heavy weight most of the personnel felt moderate pain and due to driving and reading felt mild pain.

Keywords:

Neck Pain, Lifting Heavy Weight, Driving.

Introduction:

The structure of neck consists of bones, ligaments and muscles which supports head and allow movements. Neck pain arises due to any inflammation, injury or postural changes. Pain in the neck region is also caused due to fall injuries and contact sports. Bundle of nerves which are in under control of brain and spinal cord present in neck and many muscles and bones are also present in this region which provides strength and stability[1]. Many other spinal problems also caused neck pain. Neck pain may come due to muscle rigidity in the cervical and upper back, and pressing of the nerves arising from cervical vertebrae. The head is supported on by the lower part of the neck and upper part of the back. Neck pain in a military personnel is a major issue because of their daily activities which includes wearing heavy bullet proof jackets, holding guns and giving duties on check posts and doing root marches at night[2]. There is a problem of cervical region called military neck and also known as linear cervical vertebra or kyphosis in neck also

seen in soldiers and this is due to the standing up straight and tall posture of a soldier standing at attention[3]. However, if the loss of curvature is important, soldier may feels symptoms such as pain / rigidity in the cervical region and headaches. The damage of nerve bundles as a result of this condition can relate with the communication links between the brain and the body. Prescription and over-the-counter analgesics can relief pain, but the pain may return as soon as the analgesics dissipate[4]. Due to accidents damage in cervical region, inappropriate posture, again and again same movements and occupational conditions, such as watching at a specific position for a long time may cause to happen this condition. however, there are different other factors, such as the cervical angle is lost, whether there is herniated disc or osteoarthritis in the cervical., . You lose the curve with time so it can take time to regain it. Physical therapist gives treatment, along with neck strength, endurance and stretching exercises and also postural changes can help remove pain and gives short term as well as long terms effect.[4,7,8] In the last 20 years, the fast developments and technological advances in the industry have created the problem of cervical region in military officers and soldiers. [9]. These disorders primarily affect the neck and upper limbs, and are less effective in the back and waist regions. As a result of these adverse effects, worker productivity is reduced, high workforce loss occurs, and both workforce and treatment costs are adversely affected[10]. Normal neck function supports the success of daily life activities. In the most of the people, cervical discomfort and dysfunction are prevalent and affect 67% of the people in their whole life[11]. The yearly prevalence of neck pain was reported to be 32% in Chinese military population[12]. Inappropriate posture of the neck during working or sleeping is the most common cause of cervical neck pain. Sitting with the neck flexed forward can also cause neck pain. Neck rigidity may also be caused after suffering a jerk in the neck from a motor vehicle crash. Sleeping with a hard pillow below the neck may also cause in producing neck pain[13]. Etiology of neck pain in military soldiers is because of many different causes. It may involve such as lifting heavy weapons for a long period of time and driving tanks in their daily military exercises. Neck pain also includes headache, which is a stressful and due to this person may feel down at work[1]. Furthermore, psychosocial demands may be highly correlated with physical demands, which also indicate a confounding effect of physical factors on the relation between work-related psychosocial variables and the occurrence of neck pain[15].

Objectives:

The objective was to determine the prevalence of neck pain among military personnel.

Methodology:

A cross-sectional study design was used. Data was collected from the soldiers and officers of different military units of Lahore, Gujranwala and Sialkot. Convenient sampling technique was used in this study. Sample size was 140 with 8% precision level. In inclusion Criteria Military personnel who are experience neck pain, Working 8 to 10 hours a day, Without any history of trauma and Age 18- 45 years were included. Data was collected from 140 participants through a standardized neck pain index questionnaire and it was convenient approach for collecting samples. Data was entered in SPSS version 22 and graphs were formulated afterwards to find out the prevalence of neck pain in the army personnel.

Results:

	Frequency	Percent
No Pain while Lifting weight	5	3.6
Mild pain while Lifting weight	30	21.4
Moderate pain while Lifting weight	69	49.3
Severe pain while Lifting weight	36	25.7
Total	140	100

Table 1: Pain While Lifting Heavy Weight

Here we asked from military personnel pain while lifting heavy weight. It shows that 3.6% personnel had no pain. 21.4% personnel said that they faced mild local pain. Most important 49.3% military personnel said that they were faced average pain during lifting pain. Furthermore 25.7% military personnel said that they faced severe pain when they lift heavy weight.

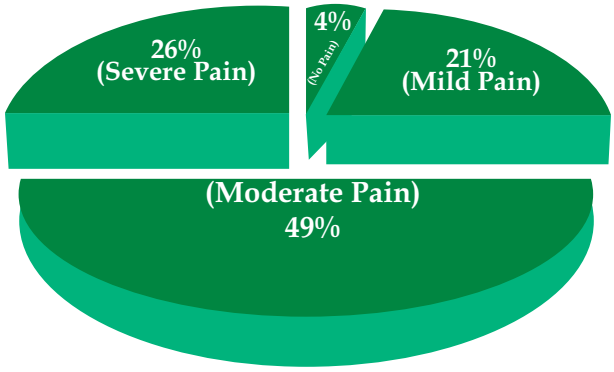

Figure 1: Pain Due to Lifting Weight

Above Chart also described that 4 % personnel had no pain. 21. % personnel said that they faced mild local pain. Most important 49. % military personnel said that they were faced average pain during lifting weights. Furthermore 26% military soldiers said that they faced severe pain when they lift heavy weight

	Frequency	Percent
Valid No	2	1.4
Mild	59	42.1
Moderate	76	54.3
High	3	2.1
Total	140	100.0

Table No 2: Losing Concentrate due to neck pain

Concentration can also be loses due to neck pain which was asked here. Only 1.4% personnel said that they did not lose their concentration. Further 42.1% personnel said that they mildly lost their concentration due to neck pain in reading or other activities. Most important 54.3% military personnel said moderately lost their concentration. 2.1% military soldiers said that they highly lost their concentration. This can also be observed in above table.

Figure 2 : Losing Concentrate due to neck pain

Above chart also shows that only 1.4% respondents said that they did not lose their concentration. Further 42.1% respondents said that they mildly lost their concentration due to neck pain in reading or other activities. Most important 54.3% respondents said moderately lost their concentration. 2.1% respondents said that they highly lost their concentration.

Discussions:

Discussion shows the comparison between current study to previous studies. In the previous study, Dunn AS et al (2016) neck pain was studied and 310 questionnaires were distributed. Their results showed that 51.6% prevalence of local neck pain was existed whereas in current study researcher distributed 140 questionnaires and results showed that 66.7% personnel was felt pain without affecting any other factors[16].Furthermore Harrison et.al (2015) described the neck pain prevalence. Researchers took the data from Mini-Finland Health Survey study showed that 48.3% neck pain was existed in general sample of population. Researchers focused on working activities but in the current study 66.7% prevalence of neck pain was existed in military soldiers and officers and current study was focused on working activities, driving, reading, concentration, lifting heavy weight and sleep [17]. Bovim G et.al showed neck pain increases with bad posture and 51.4% prevalence of neck pain was found in general population, and results showed that there was positive impact of good environment and exercise on neck pain. But on the other side according to current study

continually exercise without rest enhances the intensity of neck pain[18]. Seivers and Makela described the risk factors of neck pain and showed that age, general health length of employment, regular exercise and job satisfaction were found main factors of neck pain whereas in the current study driving, lifting heavy weight, reading, Concentration were the main risk factors which change the intensity of neck pain and neck pain also disturbed to concentration, sleep and physical work[19]. Manchikanti et.al did the extensive cross-sectional study on prevalence of neck pain and described the risk factors of neck pain of short run long run. 629 questionnaires were distributed and showed that 78% lifetime prevalence of neck pain, 53% weekly prevalence and 19% prevalence was existed in one day. On the other hand in the current study only local or lifetime or short term prevalence was measured and it was 66.7% in military soldiers and officer[20].

Conclusion:

In the military sector ,soldiers and officers work continously for hours sometime without any rest. Due to this activity they feel pain in different area of body especially low back pain, headache, neck pain, knee and other join pain. It was concluded that in this current study researcher was focused on neck pain, effect of neck pain and risk factors of neck pain. In this study intensity of neck pain was measured in different categories. The prevalence of mild and moderately neck pain in daily activity of military personnel was 64.7% without any factors. Neck pain intensity was varied according to factors, like in lifting heavy weight most of the soldiers felt moderate pain and due to driving & reading most of the soldiers and officers felt mild neck pain which was measured by Visual Analog Scale (VAS). Concentration was much affected by neck pain. 42% felt mild and 54.3% soldiers felt moderate neck pain.

Recommendations:

Correct posture is the main cause to avoid neck pain. Heavy weight lifting which cannot be bear in continues work. Rest is also the main suggestion in neck pain. Physiotherapy is a good solution when neck pain occurs. This study should be at large with large area.

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