Prevalence of Shoulder Pain Among School Teachers of Lahore, Pakistan


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ABSTRACT

The shoulder joint is the most mobile joint in the body. It performs movements in different directions and can easily be injured due to any repeated movements, participation in sports or any labor work. Shoulder pain is one of the most important complaint due to which teachers apply for retirement before time. The aim of the study was to determine frequency of shoulder pain in school teachers of Lahore, Pakistan. Methods: It was an observational study in which thousand school teachers were given self-administered Performa. Schools were selected randomly. The data analysis was done by using SPSS 21 version. Results: The prevalence of shoulder pain came out to be 306 (30.6%). The number of teachers teaching from five years was 577 (57.7%) and the mean age calculated was 30.86. Conclusion: This study concluded high prevalence of shoulder pain in school teachers.

Keywords: Shoulder Pain, Shoulder discomfort, school, teachers

1. INTRODUCTION

Shoulder joint is one of the largest joint present in body. Any disturbance in it can lead to different disorders. The shoulder joint is the most active joint of body. When there is any problem in the shoulder, it blocks the potential to work properly and cause pain and stiffness. Shoulder pain is one of the most important complaint due to which teachers apply for retirement before time. This has been experienced/ witnessed in the developing and under developing countries. As a result, musculoskeletal disorders are the leading cause of physical and working disability of the individuals [1].

The shoulder joint is the most active joint in the body. It performs movements in different directions and can easily be injured due to any repeated movements, participation in sports or any labor work. Pain can radiate to shoulder due to different systemic disease e.g. diseases of heart, gall bladder or liver. Recently, a study was held in Hong Kong, according to which shoulder pain was highly related to school teachers [2].

The type of shoulder joint is ball and socket which includes three bones i.e. humerus, clavicle and scapula. Cartilage surrounds these bones providing protection to them. Shoulder joint consists of two joints mainly which are acromio-clavicular and gleno-humeral joints [3].

According to the survey of the population it has been observed that the musculoskeletal pain especially shoulder region affects almost 18 to 26 %, population of the young people [4,5,6,7]. This is also observed that those persons doing overhead work, heavy load, powerful task and repetitive movements are more prone to musculoskeletal disorders. In
most of the circumstances it becomes very much difficult to diagnose that the pain is either because of neck or other pathologies of the shoulder [3]. Due to long working hours which includes certain types of activities like writing on board, checking the workbooks and assignments of the students and school administrative work on computers may cause them physical and mental fatigue in the developing and under developed countries of Asia [2,8,9]. While writing on the whiteboard, the teachers have to maintain certain position of shoulder and hand which is greater than 90-degree which activate trapezius and deltoid muscles to redistribute to the infraspinatus and supraspinatus muscles to stabilize the glenohumeral joint throughout this activity [10,11]. The main risk factor for shoulder pain is age, over use and injury e.g. participating in sports or other recreational activities, by profession) the conditions such as bursitis and tendonitis lead to shoulder pain. After sixty years, the chances of shoulder disorders may increase due to degeneration of soft tissues. The risk factors associated with shoulder pain include gender [12] obese individuals, systematic diseases such as arthritis, MS, DM and older age [13]. Depression and anxiety can play an important role causing pain in shoulder [14,15].

In a recent study conducted by Ponmathi et.al [16] in India in 2017 the prevalence of shoulder pain estimated was 30.3%. In another study conducted by Abdulmonem et.al [17], in Saudia Arab in 2014, the shoulder pain determined was 20.6%. In 2013, another study which was held in Saudia Arabia by Darwish et.al [18] to estimate prevalence of shoulder pain. The shoulder pain determined was 45.4%. In another study conducted by Yue et.al [2] in 2012 in China, the total sample taken was 500 and the prevalence rate determined was 48.7%. In another study conducted by Erick and Smith [19] which was conducted in Botswana in 2014, the prevalence of shoulder pain estimated in this study was 52.5%.

The purpose of this study was to find the prevalence of shoulder pain in school teachers. This study can help to understand factors due to which risk factors of shoulder pain can be minimize.

2. MATERIALS AND METHODS

This is a cross sectional and observational study. The sample size was of 1000 and data was collected from different schools of Lahore. The study time duration was of 3 months. According to inclusion criteria participants were of age limit between 20 to 60 years. The participants with any neurological disorders, any metabolic disorders causing neck pain and of tumor or cancer were excluded from the study. After taking written consent form, data was collected through self made questionnaire. The data was analyzed in SPSS version 20. Descriptive data was given as numbers, percentage and mean ± standard deviation (SD).

3. RESULTS

There were total 1000 respondents who participated in this study. Out of 1000, 306 (30.6%) participants had shoulder pain.

There were total 1000 respondents, out of 1000 respondents 246(24.6%) were male and 754(75.4%) were female. The respondents who were single were 476(47.6%) and 524(52.4%) respondents were married. The teachers who were teaching academic subjects were 770(77.0%), the respondents who were teaching physical education were 184(18.4%) while 46(4.6%) were teaching music. (Table-1) The ages of respondents ranged from 20-59 years. The mean age of the respondents was 30.86years ± 7.499 years. The intensity of pain ranged from 1-10. The mean pain intensity of respondents estimated was 5. 12 ± 2.194 while the minimum pain intensity was 1 and maximum was 10. (Table-2) Out of 306 respondents, 190(62.1%) respondents suffer from pain due to their profession.

**Table-1:** Descriptive statistics of qualitative variable

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>246</td>
<td>24.6%</td>
</tr>
<tr>
<td>Female</td>
<td>754</td>
<td>75.4%</td>
</tr>
<tr>
<td>Single</td>
<td>476</td>
<td>47.6%</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>524</td>
<td>52.4%</td>
</tr>
<tr>
<td>Single</td>
<td>770</td>
<td>77.0%</td>
</tr>
<tr>
<td><strong>Subjects Teaching</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic</td>
<td>184</td>
<td>18.4%</td>
</tr>
<tr>
<td>Music</td>
<td>46</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

Table-2: Descriptive statistics for age and pain intensity

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean + standard deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>30.86years + 7.499years</td>
<td>20years</td>
<td>59years</td>
</tr>
<tr>
<td>Pain intensity</td>
<td>5.12 + 2.194</td>
<td>1</td>
<td>10</td>
</tr>
</tbody>
</table>

4. DISCUSSION

In Botswana the prevalence rate for shoulder was 52.5%. The risk factors associated were inappropriate arm posture, increased physical activities and physical factors [16].

In 2014, a research conducted in Saudi school teachers to check the prevalence of musculoskeletal pain and its associated factors in female teachers. The prevalence of this study for shoulder was 20.6%. The difference of prevalence rate was due to the BMI, vitamin D deficiency and this may be also vary due to some chronic illness were present are associated with musculoskeletal pain [17].

This study was conducted in 24 schools from which 1000 teachers participated in the study and out of 1000 teachers 577 teachers have 5 years working experience, 241 teachers ten years and 103 teachers having 15 years experience and 79 teachers over and above ten years working experience. 306 teacher has complained the shoulder pain and the mean of pain intensity of the teachers was 5.33+ 2.229 and the minimum pain intensity was 2 and the maximum was 10. Out of the 306 teachers only 55 teachers used to deliver 2 to 3 lectures a day 110 teachers 4 to 5 89 teachers 5-6 and 52 teachers more than 6 lectures a day. It was evident from results of the study conducted in China [2] and Saudi Arabia [18] that prevalence of neck shoulder pain (NSP) is 48.7% and 45.4% respectively. Different risk factors may contribute in shoulder pain which includes inappropriate posture, work load, no breaks during lectures, etc. Moreover, the prevalence rate may vary because of the sample size and environmental conditions.

5. CONCLUSION

This study concluded high prevalence of shoulder pain which came out to be 306 (30.6%) and is quite similar with other studies.

REFERENCES