

FREQUENCY OF NECK PAIN AND ITS IMPACT ON ACTIVITIES OF DAILY LIFE IN MADRASSA STUDENTS AT HAYATABAD PESHAWAR

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ABSTRACT

OBJECTIVE: To determine frequency of neck pain and its impact on activities of daily life in madrassa students at Hayatabad Peshawar, Khyber Pakhtunkhwa.

METHODS: A cross sectional study was conducted at five different full-time madrassas at Hayatabad Peshawar. Neck Disability Index (NDI) questionnaire was used to collect data through convenience sampling from 302 students of madrassas who were willing to participate. All the participants were male and were divided into two groups Ilam and Hifz group. SPSS version 20 was used for data analysis.

RESULTS: Out of 302 male students, 101 (33.4%) were suffering from neck pain. The total disability on the basis of groups was found to be 60.6% in ilam group and 39.4% in hifz group with a p value of 0.434 which shows is statistically insignificant. On the basis of madrassas, the statistical significant differences were found i.e. ($p=0.001$), and severe disability was only reported in madrassa darul uloom which was 1.8%. There is negative correlation of neck pain with age and BMI and a positive correlation with study duration but the results were statistically insignificant. All activities of daily living were affected by neck pain causing headache 234 (77.5%) in majority, followed by concentration 137 (45.3%) and then reading 130 (43.1%).

CONCLUSION: It is concluded that students of madrassa are prone to develop neck pain and almost 1/3rd of the population were having neck pain. No statistical significant differences were found between Ilam and Hifz group regarding neck disability, but statistical differences were found among madrassas. There is negative correlation of neck pain with age and BMI and a positive correlation with study duration but the results were statistically insignificant. Neck pain can also have an impact on activities of daily life.

KEY WORDS: Neck pain, neck pain in madrassa students, prevalence of neck pain and sitting posture.

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INTRODUCTION

Neck pain is the pain felt anywhere on the dorsal region of cervical spine from the inferior part of occiput to the spinous process of first thoracic vertebra.¹ Among musculoskeletal disorders (MSD), neck pain has high prevalence at work settings and has considerable effect on every aspect and field of individual's life including their families, communities, health-care systems and businesses and approximately 67% of individuals are affected at some point in their life due to neck pain.²⁻⁵ Neck pain is usually associated with non-neutral spine posture which put a constant load on neck stabilizer muscles and individuals with a neck pain fails to maintain a normal upright erect sitting posture.⁶ Improving living standards and advanced technologies put greater impact on quality of life and health of people.³ It is also related to the variety of occupation and institutions like computer operators and students who spend much of their time in slump posture, same position is adopted by madrassa students.^{2, 3, 6} Slump sitting is forward flexion posture which is associated

with increased head/neck and thoracic spine flexion and greater anterior head translation contributing to create stress regions in cervical spine giving rise to postural pain.⁶ Because of this awkward posture of the madrassa students and teachers, they are prone to develop musculoskeletal disorders including neck pain, which is the main cause of work related disabilities and absenteeism from work or job.^{2, 7, 8}

Madrassa students kneel on the floor, their knees are bent due to which legs come beneath the thighs and hips lie on the heel of feet and ankles are turns outward with spine flexed and head in forward flexion.² The increased episodes of repetitive traumatic forces from this bad posture of madrassa students put muscles, nerves, tendons of neck, joints and vasculature under stress resulting in neck pain and is not developed due to single episode of trauma.² Psychosocial factors may also contribute in developing neck pain and understanding its associations and relating it to aetiology of neck pain is critical to identify.⁹ The symptoms may vary from mild discomfort

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and pain to disability and decreased body function.² It is still not clear that to what extent neck disorder is caused by work and bad sitting postures, although its impact on activities of daily living is huge and can lead to reduced productivity, sickness absentees and chronic occupational disability.¹⁰

According to survey in Australia 2010, neck pain is influenced by many factors including personal and environmental factors with high prevalence in general population is between 0.4% to 86.8% and is more common in developed countries as compared to developing countries.⁴ In US, three months prevalence of neck pain was 31% and was second leading cause of disability.¹¹ One month prevalence of all reported spinal pain in UK general population was 29%, of which about half was intense, other half was chronic, 40% was disabling and 89% people with neck pain also reported pain at other sites of body.¹² Frequency of neck pain varies from 27.1% in Norway to 47.8% in Québec, Canada per annum. Due to neck pain each year between 11% and 14%, the activities of workers were affected.¹³ Another study conducted in Norway showed overall frequency of 34.4%.¹⁴ A systematic critical review of Denmark 2005 showed high prevalence of neck pain in Scandinavian countries than Europe and Asia.¹⁵

The rationale of the study is to address the prevalence of neck pain arising due to prolonged forward flexion posture, poor ergonomics, and very few facilities available to the madrassa students. In Peshawar Khyber Pakhtunkhwa, no such studies have been identified regarding the prevalence of neck pain in madrassa students. This study thus adds to the body of knowledge by reporting on prevalence of neck pain and its impact on activities of daily living among madrassa students in Islamic countries where they use to sit for hours in poor posture. In addition, low height furniture may be a contributing factor in the development of the neck pain, as these furniture will influence the

posture adopted by the madrassa students. This study will help the madrassa students to identify the percent risk for developing neck pain so that they can make strategies to cope with this problem and thus will enhance their activities of daily living.

METHODS

This survey was conducted on full time madrassa students at Hayatabad Peshawar, KP from September 2018 to January 2019. After the approval of the research proposal by the Institutional Review Board (IRB), a visit was made to the Muhtamim of each madrassa for permission of data collection. The purpose of the study was explained to them. They were further explained that the participation is entirely voluntarily and only those students will be included who want to participate. NDI questionnaire was used and some linguistic modifications (translation) of questions were made to avoid confusion about questions and to make it easier to the participants to understand and interpret then. After that we went to their classes which they call Darajah, NDI questionnaire was explained and handed over to those 302 students who fulfill the eligibility criteria after screening. Information sheet was given and consent form was signed. Weight was checked by using weight machine and heights were measured by measuring tape, then BMI was calculated using online BMI calculator.

Male students, age 9-30 years, full time madrassa students, study duration of minimum 6 months were included in the study. Any trauma to head and neck, congenital disorders, degenerative diseases, inflammatory diseases were in the excluded from the study.

NDI questionnaire was distributed among 302 students, selected through convenience sampling, of five different full time madrassas at Hayatabad Peshawar in November and December 2018. The questionnaires were collected after one week and the response rate from madrassa students was 100% (302/302). The data was entered and

analyzed in a personal computer using statistical package for social sciences (SPSS) software version 20. Data was presented using descriptive statistics in the form of frequencies, percentages, mean and standard deviation (SD). Spearman and Pearson Correlation and Chi-Square tests were used to evaluate the association between the variables. Data was presented in pie chart, bar charts and tables. The outcomes were considered significant if p value was less than 0.05 (p < 0.05).

RESULTS

A total of 302 students with the mean age ± standard deviation (SD) was 18.37 ± 3.734 years. The body mass index (BMI) was 21.7855 ± 3.85156 kg/m². The study duration was 22.9305 ± 17.24299 months. In this study of 302 participants, in which all participants were male, a survey was conducted using Neck Disability Index Questionnaire at five full time madrassas of Hayatabad Peshawar, to find out the frequency of neck pain which came out to be 33.4% (n=101). Out of 302 participants there were 183 (60.6%) students in llam group and 119 (39.4%) in Hifz group.

On the basis of groups, out of total population, 95 (51.9%) were having no disability, 68 (37.2%) were having mild disability, 18 (9.8%) were having moderate disability while only 2 (1.1%) were having severe disability in llam group. In Hifz group no disability was noted in 60 (50.4%), mild disability was noted in 51 (42.9%), moderate disability was noted in 8 (6.7%), while no severe disability was found in Hifz group. The p value was found to be 0.434 which shows that no statistically significant difference was found between groups.

On the basis of madrassas, out of total population, mild disability was 28 (57.1%), moderate disability was 6 (12.2%) and severe disability was 0.0% in madrassa Junaidia Ghafuria. In madrassa Salman Farsi, 12 (25.0%) were having mild disability, 4 (8.3%) were having moderate disability and severe disability was 0.0%. In madrassa Shah Waliullah, mild disability was 25 (52.1%),

moderate disability was 7 (14.6%) and severe disability was 0.0%. In madrassa Darul furqan, 31 (28.2%) mild disability, 6 (5.5%) moderate disability and 2 (1.8%) severe disability was noted. In madrassa Darul uloom, 23 (48.9%) mild disability, 3 (6.4%) moderate disability and severe disability was 0.0%.

In total 119 (39.4%) mild disability, 26 (8.6%) moderate disability and 2 (0.7%) severe disability was found with a significant value of 0.001, which shows statistical significant differences exist between madrassas. It should be noted that "complete disability" was found neither between groups nor among madrassas.

The impact of neck pain on activities of daily life was analyzed using NDI which gave the following results in descending order. Headache 234 (77.5%), concentration 137 (45.3%), reading 130 (43.1%), driving 117 (38.7%), work 111 (36.8%), lifting 91 (30.2%), sleeping 83 (27.5%), recreation 72 (23.8%) and personal care 62 (20.6%).

Spearman correlation of neck pain with age and BMI was found with a p value of 0.146 and 0.342 respectively while positive correlation with the study duration was found with a p value of 0.469 which shows that results are statistically insignificant. Negative Pearson correlation of neck pain with age and BMI was found with a p value of 0.183 and 0.859 respectively while positive correlation with the study duration was found with a p value of 0.516 which shows that results are statistically insignificant.

DISCUSSION

Among musculoskeletal disorders (MSD), neck pain has high prevalence at work settings and has considerable effect on every aspect and field of individual's life including their families, communities, health care systems and business and approximately 67% of individuals are affected at some point in their life due to neck pain.²⁻⁵ Neck pain is related to variety of occupations, institutions and sitting postures like computer operators, frequent cell phone

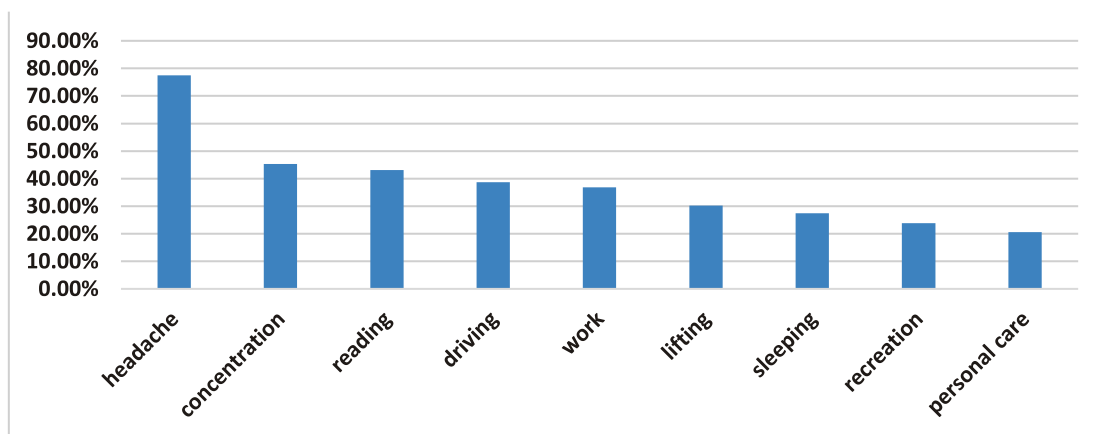


Figure showing effect of neck pain on ADLs

users, teachers and students who adopt same slump posture.^{2,3,6}

Our study emphasizes on the frequency of neck pain, neck disability, and correlation of neck pain to age, BMI, study duration and impact of neck pain on activities of daily life in madrassa students at Hayatabad Peshawar. This cross-sectional study illustrated frequency of neck pain 33.4%. The life time prevalence of neck pain of 3100 secondary school teachers in Hong Kong has been reported as 69.3%.¹⁶ Other study on 900 Turkish school teachers showed the prevalence of 42.5%.¹⁷ In the cross-sectional study of 684 undergraduate students in Thailand, the prevalence of neck pain reported was 46%.¹⁸ Our frequency of neck pain is small as compared to others because our research was limited to small institutes in Hayatabad, Peshawar while their study was conducted on a large scale. Another cross-sectional study was conducted in Iran on computer users for 6 months duration, in which random selection of 220 participants was done, their prevalence was found to be 41.1%¹⁹ which again concluded that frequency of neck pain in madrassa students is low as compared to the office workers (computer users).

The total disability associated with neck pain in our study was found to be 60.6% in llam group and 39.4% in Hifz group. While another study shows that 18% of general population reports neckpain annually out of which 5% of patients stated significant disability in association with neck pain.²⁰

According to our study, the p value of neck pain with age is statistically insignificant. These results were in agreement with the results of Baiduri et al September 2011 study, who also found statistically insignificant difference of age with the neck pain.²¹ Another study conducted by Fatemeh Ehsani et al on 15 January 2017 was in contrast to our study, indicates that as compared to youngers, the older computer workers are more prone towards developing neck pain.¹⁹ On the basis of BMI, statistically insignificant differences were found in our study. The results of our study are strikingly similar to the results of Fatemeh Ehsani et al 15 January 2017 that there was statistically insignificant difference of BMI and neck pain.¹⁹ The results of our study was also similar to the another research by Webb et al that BMI has insignificant differences with neck pain.¹¹ Another study in contrast to our study conducted by Fazli Azim et al in Karachi February 2016 concluded that BMI has significant difference with the prevalence of neck pain in madrassa teachers.²

The results of our study were statistically insignificant in terms of study duration. These results are in contrast to the study of Fatemeh et al 15 January 2017 that length of employment was a potential risk factor for neck pain.¹⁹ Magdy A. Darwish et al 2013 Saudi Arabia results showed a statistically significant difference between neck pain and increasing number of teaching years.⁸

The results of our study indicate that all aspects of daily life are affected by neck pain causing headache in majority, followed by concentration and then reading. Similarly, in other study by Sait Ashina et al 2014 New York, USA, concluded that neck pain is highly prevalent in those individuals who was having primary headache.²² In the patient specific focal group interview, the neck pain was major complaint in book or newspaper readers. Other previously reported studies listed daily work, carrying things (lifting), dressing (personal care), travelling (driving) and recreation, the major functional activities affected by the neck pain.⁵

CONCLUSION

It is concluded that students of madrassa are prone to develop neck pain and almost 1/3rd of the population were having neck pain. No statistically significant differences were found between llam and Hifz group regarding neck disability, but statistical differences were found among madrassas. There is negative correlation of neck pain with age and BMI and a positive correlation with study duration but the results were statistically insignificant. Neck pain can also have an impact on activities of daily life.

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