ORIGINAL ARTICLE

PREVALENCE OF NECK PAIN AND ASSOCIATED FACTORS AMONG OFFICE WORKERS

Md Shah Billal Masum[1], Monirul Haqe[2], Md Monoarul Haque[3], Mohammad Shariful Islam[4]

[1.2.] Consultant, Center for Neuro & Orthopedic Rehabilitation (CNOR)
[3.] Coordinator, Research, Bangladesh Stroke Association
[4.] Physiotherapy Consultant, Ibn Sina D. Lab, Doyagonj, Dhaka

ABSTRACT

Background: Persisting neck pain is a common problem among office workers. With industrialization and growing economy, in developing countries like Bangladesh, lifestyle and work pattern is changing very quickly. With this momentum of our corporate culture we are facing some occupational hazards. Work related neck is a prominent problem and public health concern among these occupational hazards. **Objective:** To assess prevalence of neck pain and associated factors among office workers in Dhaka city was the aim of this study. **Methodology:** A cross sectional analytical study was done in 10 private offices throughout the Dhaka city from July 2013 to December 2013. Non probability purposive sampling was used to collect data. A pretested questionnaire was used to collect the data and it was reviewed and analyzed by using SPSS. **Results**: In this study 22.22% office workers experienced neck pain on regular basis and 52.22% of the respondent sometimes. Most of the respondent (55.7%) had muscle spasm which was the main cause of neck pain and preventable indeed. Rest of the respondent had abnormal sensation like burning, tingling and numbness. Result revealed that neck pain might be associated with type of job (P=0.009), sitting position (P=0.038), rest time during work (P=0.05), regular physical exercise (P=0.001), proper ventilation on the work place (p=0.035) and proper sleeping pattern (p=0.012). **Conclusion**: About 67% of the respondents suffered neck pain and among them 56% were due to muscle spasm. Regular exercise might reduce the risk of having neck pain.

Key words: Neck pain, Risk factor, Office worker.

1. INTRODUCTION

Neck pain is a common problem in the society [1]. Neck pain is assumed to be of multifactorial origin, implying that several risk factors can contribute to its development [2]. Several literature reviews have specifically considered the work related physical risk factors for the development of neck pain [3,4,5,6]. Now a day neck and shoulder pain is a very common phenomenon among office workers in Bangladesh. With the growing field of corporate world in developing country like us, problem like neck pain is a prominent public health issue. There is not available published data in this area in Bangladesh perspective on my research topic. That's why I have selected this topic to find out the present situation in Dhaka city specially to estimate the proportion of neck and shoulder pain among office workers and to determine the relevant factors like posture, time duration of desk work, ergonomics and other physical factors influencing the neck pain. Findings of this study might help to formulate preventive measure in addressing this burning issue. The aim of the current study is to estimate the prevalence of neck pain among office workers and to determine whether physical and individual factors are associated with this prevalence.

2. MATERIALS AND METHODS

2.1 Study design: This was a cross sectional study was conducted among 207 office workers throughout Dhaka city

2.2 Study area: Ten private offices were selected for data collection throughout Dhaka city

2.3 Study period: It was conducted from July 2013 to December 2013

2.4 Selection of study participant: Office workers working for prolonged sitting position and computer users in ten companies throughout Dhaka city.

- Study unit suppose to be office worker who work in prolong sitting position
- Male and female office workers aged between 18-60 years
- Work for at least 20 hours per week
- Not involved in any other paid work beside the present job
- Working for at least 6 months in their current job

- Willing to participate voluntarily for this study

2.5 Sampling technique: Non probability purposive sampling technique was used for data collection.

2.6 Data collection instrument: A pretested questionnaire was developed to collect data. Questionnaire included both close and open ended questions and included question related to socio demographic status, lifestyle factors, work related factors.

2.7 Data analysis and interpretation: After collection of data, all interviewed questionnaire were checked and rechecked. Corrected data were entered into the computer. The data were analyzed by using the statistical software named SPSS (Statistical Package for Social Science). Chi-square test was used to see association.

2.8 Ethical Issues: Ethical clearance was obtained from individual institutions. The objectives of the study were explained to each participant. Written informed consent was obtained before beginning each interview.

3. RESULTS

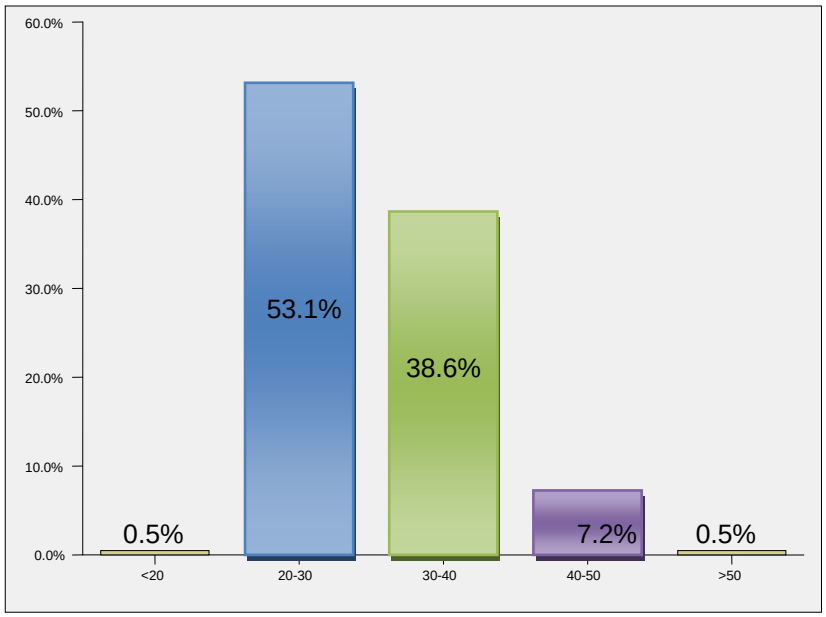

Figure 1: Age distribution of the participants.

Age of the respondent was represented by the bar graph in figure 1. More than half of the respondents (53.1%) were from the age group of 20-30 years followed by the age group 30-40years.

Table 1: Distribution of the respondents according to sex.

Sex	Frequency	Percentage
Male	153	73.9
Female	54	26.1
Total	207	100

In table 1 frequency distribution according to the sex of the participants were shown. Most of the respondents were male and the percentage of male was 73.9% which was near 3 quarter of the total sample.

Table 2: Distribution of the respondents according to education level.

Education	Frequency	Percentage
Secondary School Certificate	4	1.9
Higher Secondary Certificate	13	6.3
Graduation	89	43.0
Post graduation	101	48.8
Total	207	100

Highest group of people completed their post graduation (48.8%) followed by graduation 43% and rest of them completed higher secondary or lower.

Table 3: Type of job of the participants.

Type of job	Frequency	Percentage
Clerical	51	24.6
Administrative	95	45.9
Both	61	29.5
Total	207	100

From above table 45.9% respondent was from administrative job followed by the percentage of respondent doing both clerical and administrative job 29.5%. About 24.6% respondents did clerical job.

Table 4: Distribution of respondent according to maintain sitting posture during work.

Maintain sitting posture	Frequency	Percentage
Yes	179	86.5
No	4	1.9
Sometimes	24	11.6
Total	207	100

Table 4 shows 86.55% people maintained sitting position constantly during work and 1.9% did not need work in sitting position remaining respondent maintain sitting position only a portion of time during work.

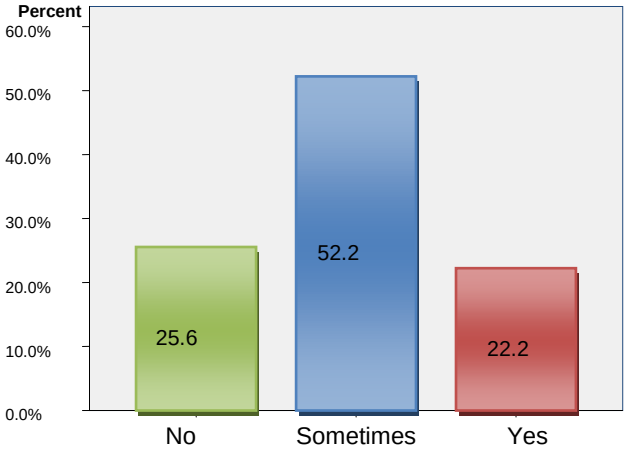

Figure 2: Distribution of neck pain.

Among them 22.22% office workers experienced neck pain on regular basis and 52.22% of the respondent sometimes. About 25.6% respondents did not suffer any neck pain.

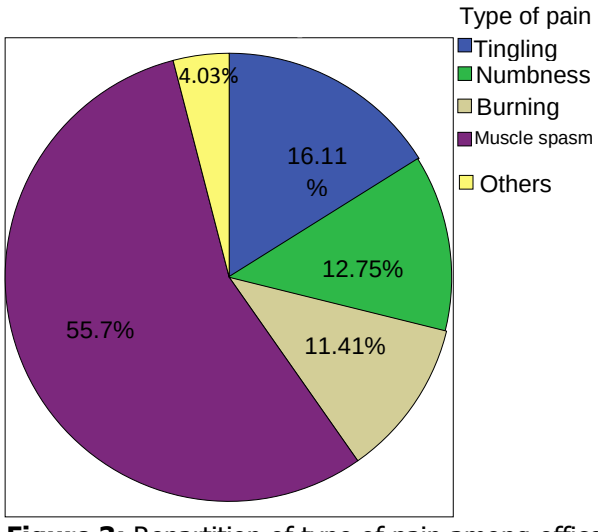

Figure 3: Repartition of type of pain among office workers.

More than half of the respondents (55.7%) suffered from neck pain with muscle spasm which was mainly occurred due to over fatigue of the muscles and can be reduce by taking short break in between the work hour. Another 40% of the respondents reported tingling, numbness and burning sensation as a quality of pain which might be due to the neural problem they had developed.

Table 5: Association between jobs related factor and neck pain.

Type of job	Neck pain status			Total	χ2	p value
	No	Sometimes	Yes			
Clerical	24	15	12	51		
Administrative	25	50	20	95	13.475	0.009
Both	19	36	6	61		

Association between type of job and neck pain was calculated from the cross tabulation by Chi square test where Chi square value showed a highly significant relation with a P value of 0.009. Respondent working in administrative area are more prone to having neck pain.

Table 6: Sitting posture during work and neck pain status.

Sitting posture during work	Neck pain status			Total	χ2	p value
	No	Sometimes	Yes			
Yes	58	86	35	179		
No	4	0	0	4	10.170	0.038
Sometimes	6	15	3	24		

Sitting posture during work showed significant association with neck pain which was calculated by Chi square test and had a p value of 0.038.

Table 7: Regular exercise and neck pain status

Regular exercise	Neck pain status			Total	χ2	p value
	No	Sometimes	Yes			
Yes	15	6	13	34	18.417	0.001
No	53	95	25	173		

Association between exercise and neck pain revealed a highly significant association with a p value of 0.0001. Regular exercise might reduce the risk of having neck pain.

4. DISCUSSION

Bangladesh is a developing country and the industrialization process is also getting momentum. Now a day's, various types of occupational health problems are increasing due to rapid industrialization and mechanization. Use of computer is tremendously increasing in our country. Government is also encouraging people to increase its use and to develop the qualitative improvement. Foreign organizations including most of the government organization and private organizations are using computer in the country. So, every day more people are coming in contact with the system [7]. In this study 22.22% office workers experienced neck pain on regular basis and 52.22% of the respondent sometimes. In a study conducted by Cagnie, B.; Danneels to see the 12 month prevalence of neck pain in office workers revealed 45.5% prevalence of neck pain. Being physically active decreases the likelihood of having neck pain. Significant associations were found between neck pain and often holding the neck in a forward bent posture for a prolonged time, often sitting for a prolonged time and often making the same movements per minute. Mental tiredness at the end of the workday and shortage of personnel were significantly associated with neck pain [8]. In this study sitting posture during work showed significant association with neck pain. Besides association between exercise and neck pain revealed a highly significant association.

5. CONCLUSION

About 67% of the respondents suffered neck pain and among them 56% were due to muscle spasm. Respondent working in administrative area are more prone to having neck pain. Sitting posture during work showed significant association with neck pain. Association between exercise and neck pain revealed a highly significant association. Prolonged sitting position might be associated with neck pain which can be reduce by having short break in between by standing on the side of the desk. Exercise has significant impact on neck pain which can be followed to reduce the possibility of neck pain.

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6. REFERENCES

1. Ariëns GAM, Borghouts JAJ, Koes BW: Neck pain in the epidemiology of pain. ed Crombie IK (IASP Press, Seattle, WA); 1999. pp 235–255
2. Ariëns GAM, Bongers PM, Douwes M, Miedema MC, Hoogendoorn WE, van der Wal G, Bouterb LM, van Mechelen W. Are neck flexion, neck rotation, and sitting at work risk factors for neck pain? Results of a prospective cohort study. Occup Environ Med, 2001;58:200-207.
3. Kuorinka I, Forcier L, eds (1995) Work related musculoskeletal disorders (WMSD): a reference book for prevention. London: Taylor and Francis,;17-137.
4. Bernard BP, ed (1997) Musculoskeletal disorders (MSDs) and workplace factors. Cincinnati (OH): United States Department of Health and Human Services.
5. Stock SR. Workplace ergonomic factors and the development of musculoskeletal disorders of the neck and upper limb: a meta-analysis. Am J Ind Med, 1991;19:87–107.
6. Ariëns GAM, Van Mechelen W, Bongers PM, et al. Physical risk factors for neck pain. Scand J Work Environ Health, 2000;26:7–19.
7. Khatun MH, Gupta PS, Haque MM. Proportion of Neck Pain and its Associated Risk Factors among Office Workers in Dhaka City. European Academic Research, 2015;II(11).
8. Cagnie B, Danneels L, Van Tiggelen D, De Loose V, Cambier D. Individual and work related risk factors for neck pain among office workers: a cross sectional study. Eur Spine J, 2007;16(5):679-86.

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