International Journal of Health Sciences and Research
www.ijhsr.org ISSN: 2249-9571

Original Research Article

Gender and Age Effects on Prevalence of Waking Early Morning Cervical Pain and Stiffness Symptoms

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ABSTRACT

Around 30% males and 50% females experience an episode of neck disorder at least once in a lifetime. Currently, work related neck disorders are most commonly exhibited by mild intensive computer users. Such subjects often report neck related problems and early morning cervical symptoms. Nocturnal biomechanical stresses or postures often precipitate specific waking cervical symptoms depending on the stress imposed over cervical spine. The study conducted involved 35 participants, of either sex, between ages 18-60 years working in the Ravi Nair Physiotherapy college campus. Exclusion criteria involved patients with trauma, cervical spondylosis, cervical hypermobility, history of whiplash injury and non-co-operative individuals. Methodology involved interviewing the participants regarding gradation of waking early morning cervical symptoms on a proforma including frequency, intensity and duration of cervical pain, cervical stiffness, cervicogenic headache and radiating scapular or arm pain. After statistical treatment of the data, it was concluded that there was high prevalence, duration and frequency of waking cervical pain, cervical stiffness, headache and radiating scapular or arm pain in large random population of variable sex and age.

Keywords: cervical pain, cervical stiffness, radiating scapular pain, waking early morning

INTRODUCTION

Around 30% males and 50% females of variable age groups are affected by neck disorders during their lifetime. [1] Prevalence of cervical pain and stiffness is around 9.5% and 17% respectively of the global population. [2] Work related neck problems, are nowadays commonly seen with intense computer users. [3]

Various nocturnal biomechanical stresses or postures generate specific waking cervical symptoms, and are dependent on scale of stress generated on the cervical spine. [4] Sleeping under a wide spectrum of positions and position shifts often induces elevated stress on pain sensitive structures. [5] Cervical pain symptoms are observed in varied population as low back pain, however very less research has been steered regarding the behavior of cervical pain. The unexplored folds in this regard may possibly be due to often benign and reduced enervating involvement of cervical pain, however upper back pain, mainly the neck region related conditions can describe many days of absenteeism as low back pain.

Waking cervical pain or stiffness is as a result from cervical spine structure having a network of nerve supply. Waking headaches originated from cervical region may be initiated from upper three tiers of

the cervical spine. Cervical originated scapular and arm pain are very likely to be attributed to the lower levels of cervical spine. Sleeping in variable positions and shifts, will actually be inducing high stress on structures experiencing pain. [6]

Patients approaching orthopedic health care often claim the waking cervical symptoms. Consideration of above aspect, it would be valuable to analyze the behavior of these waking symptoms in a randomized population and to discover probable risk factors that are linked with generation of these symptoms. The study reports the prevalence, duration and frequency of waking cervical stiffness, headache and scapular or radiating arm pain, and their co-relationship with gender and age.

MATERIALS AND METHODS

The study design included 35 participants of either sex that is male and female, between age group 18 to 60 years. The participants were selected randomly from the individuals working in Ravi Nair Physiotherapy College, Sawangi, Wardha, Maharashtra, India. Participants excluded were either of the following – patients with trauma and diagnosed radiologically with cervical spondylosis and cervical hypermobility, patients with whiplash history and psychiatric or non-co-operative patients.

All the participants were informed in written about the study protocol and a written consent was signed from each of them prior to the study. All the participants were provided freedom to leave the study or the interview questions at their will and wish. The subject participants were interviewed and asked about the waking early morning symptoms in a format including following aspects – cervical pain, cervical stiffness, cervicogenic headache and radiating scapular or arm pain. The graduating series of experiences also included the duration of symptoms and the frequency of symptoms experienced throughout the week. Observations received were interpreted and scaled, and revealed to individual participant for confirmation of the results. All the subjects were asked to attend the interview, however not all of them were present during the session of questionnaire.

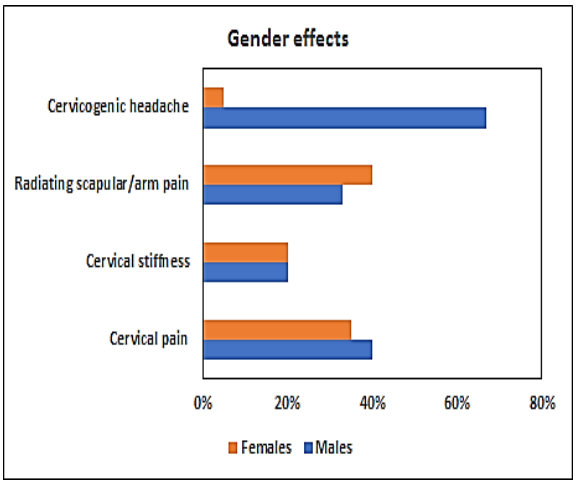
RESULTS

The observations collected and interpreted, were subjected to statistical treatment.

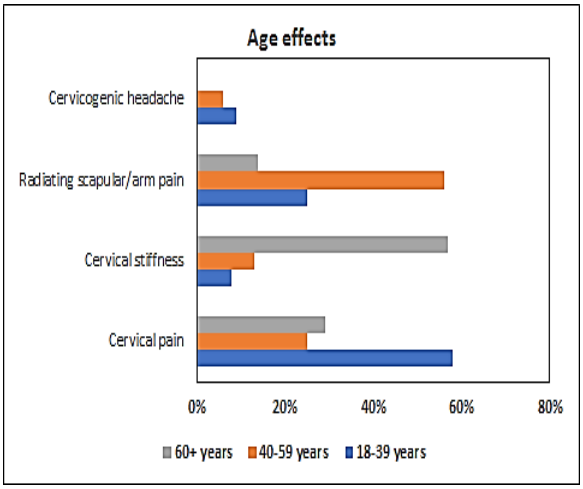
Table 1. Total number of subjects having one symptom or combination of symptoms

	Cervical pain	Cervical stiffness	Radiating scapular	Cervicogenic headache
Cervical pain	4	-	-	-
Cervical stiffness	12	2	-	-
Radiating scapular	9	4	2	-
Cervicogenic headache	1	-	1	-

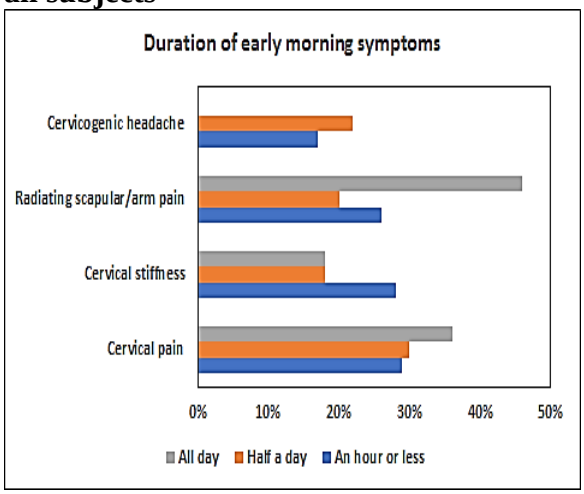
Prevalence of waking symptoms – Gender effects



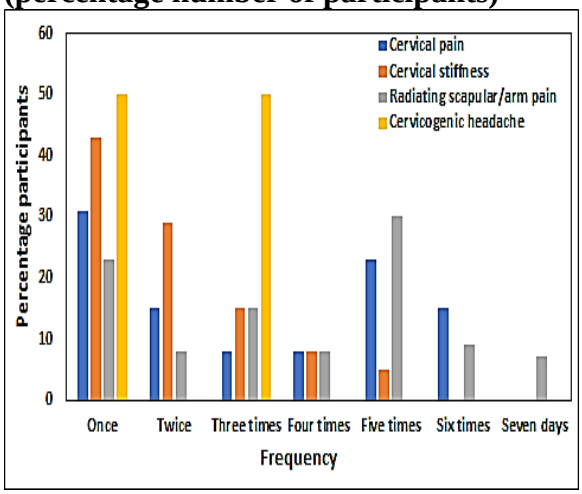
Prevalence of waking symptoms – Age effects



Duration of early morning symptoms in all subjects



Frequency of waking symptoms in a week (percentage number of participants)



DISCUSSION

Waking cervical pain or stiffness may initiate from any structure of the cervical spine region that has a nerve supply which may be from any level of the cervical spine. Waking headaches of cervical region are mainly attributed to the upper three levels of the cervical spine. Scapular and arm pain of cervical origin are more likely to be referred from the lower levels of the cervical spine. Sleeping in variable positions with more position shifts place more stress on pain sensitive structures.

Cervical pain was found to be more prevalent in females as compared to males (p=0.0266), whereas radiating scapular or arm pain is more prevalent in females as compared to males (p=0.0296). Cervical stiffness and cervicogenic headache was comparatively predominant in females (p=0.724 and p=0.7607 respectively).

The prevalence of cervical pain was more in individuals within age groups 18-39 years (p=0.047) and 40-59 years (p=0.077). In comparison to other age groups, the cervical stiffness was predominantly indicated in the age group 60 years and above (p=0.047).

Radiating scapular or arm pain was more significant in the age group 40-59 years (p=0.02) as compared to the other age groups.

There was a significant association between symptoms of cervical pain and cervical stiffness (p=0.064), and cervical pain and radiating scapular or arm pain (p=0.066).

Subjects who reported waking with one symptom were likely to also wake with one of the other symptoms. Thus, it seems important to focus attention on the concept of nocturnal stress, which is likely to give rise to each of these individual symptoms types. Waking cervical pain and stiffness may arise from any structure of the cervical spine that has a nerve supply. Waking headache of the cervical origin may be attributed to the upper three levels of the cervical spine, while scapular pain of the cervical origin is more likely to be initiated from the lower levels of the cervical spine. Thus, it seems logical that different nocturnal biomechanical stresses or postures will produce specific waking cervical symptoms dependent on the level of the cervical spine under stress.

There are many subsequent factors that the present study does not account for with the production of waking symptoms. These include medical conditions, medication, mental health, nocturnal bruxism, disruption to sleep, alcohol consumption, pillow type and sleep positions. The above factors even demand an in-depth investigation in future.

CONCLUSION

Prevalence of cervical symptoms was studied in the present investigation for variable age groups, symptoms and, frequency and duration of the pain condition. From the results and statistical analysis, it was concluded that there is high prevalence, persistent duration and high frequency of waking cervical pain, cervical stiffness, headache and radiating scapular or arm pain in a large random population based study involving participants having different age and sex. Waking cervical symptoms may be compounded by or occur in conjugation with occupational health issues.

ACKNOWLEDGEMENTS

The authors acknowledge head of Ravi Nair Physiotherapy College, Sawangi, Wardha for providing facilities for successful completion of the study.

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How to cite this article: Samal S, Samal S. Gender and age effects on prevalence of waking early morning cervical pain and stiffness symptoms. Int J Health Sci Res. 2017; 7(11):128-131.

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