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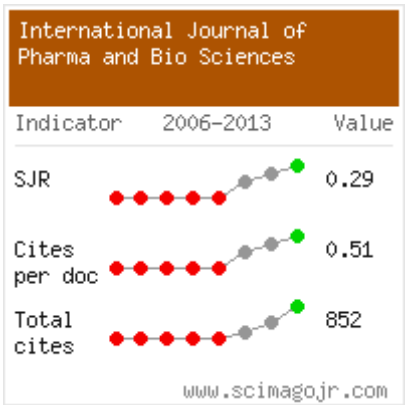

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PAIN AND DISABILITY IN SECONDARY SCHOOL TEACHERS - CORRELATION STUDY

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ABSTRACT

Non-specific neck pain is sudden-onset, bout of neck pain common in teachers. This correlation study was conducted to find out the relationship of various factors like age, teaching experience, travel distance, working hours per week, hours of lessons handled per week, hours of working with computer per week and hours of household work per week with pain and disability in secondary school teachers with non-specific neck pain. 249 teachers with non-specific neck pain were assessed for neck pain by Northwick Park Neck Pain Questionnaire, and Disability by Neck Disability Index. There was significant correlation between age and pain with p=0.011, experience and pain with p=0.002 and teaching experience and disability with p=0.020. There was significant negative correlation between working hours per week and pain with p=0.028 and hours of lessons handled per week and disability with p=0.028. This study concluded the existence of correlation between various factors with neck pain and disability.

KEYWORDS: Non-Specific Neck Pain, Secondary School Teachers, Northwick Park Neck Pain Questionnaire, Neck Disability Index.

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INTRODUCTION

Non-specific neck pain is common in people who spend most of their time working at a desk with a bent forward posture. Journal of Spine 2006 survey shows that prevalence of mechanical cervical pain is higher in middle age working population[1]. Neck pain is a common ailment that affects 50-70% of people, some time in their lives. In majority of cases, the patho anatomical source of an individual's pain cannot be identified and are therefore defined as non-specific in nature[2]. With up to 37% of individuals developing persistent symptoms, neck pain is a condition that places a large economic burden on the health care system[3]. Neck pain is an alarming fact, more prevalent in people who have major jobs at desk. The high frequency of neck pain and its impact on functioning, including work performance, make this an important problem. Neck pain is not a monolithic issue. Naturally the occupational hazard being created on these teachers is equally huge, and the greatest being non-specific neck pain. In a wrong working position, neck extensor muscles will be excessively stretched during a long period of working with forward position of head and neck[4]. Aryal states that most of the teachers faced numerous, physical and psychological problems due to work load and stress at the school[5]. Teachers face a series of problems within the school and the same at home due to school associated causes[6]. Sometimes, teaching is carried out under unfavorable circumstances, in which teachers mobilize their physical, cognitive, and affective capacity to reach teaching production objectives, over demanding or generating over effort of their psycho-physiologic functions[7]. Thus, teaching leads to stress, with consequences to physical and mental health and with an impact on professional performance[8,9]. Social transformations, educational reforms and new teaching models have influenced current conditions of teaching, leading to changes in the profession. Therefore, teachers go from a stable and relatively safe status to a state of instability at work, subsequent to new, precarious and unregulated working modes[7]. Ariens et al reported that high job demands, poor coworker support, low job control, low skill discretion, and low job satisfactions had a positive relationship with neck pain[10].

MATERIALS & METHODS

Population
Secondary school teachers of Puducherry region

Study Design
Correlation Study

Participants
249 subjects (101 Males, and 148 females) with non-specific neck pain who fulfilled the eligibility criteria, from the secondary schools in Puducherry were recruited for the study. Institutional ethical committee clearance was obtained. All the subjects were screened for inclusion and exclusion criteria. The inclusion criteria were those subjects with mechanical neck pain with Quebac task force classification of one or two[11], age between 25-45 Years, unilateral tightness (of upper trapezius & levator scapulae), with teaching experience of at least 3 years. Subjects were excluded if they had cervical spine fracture, radiating pain at arms or upper extremity or associated with headaches or facial pain, diagnosed with serious pathology like severe sprain, malignancy, infection, inflammatory disorder, osteoporosis, diagnosed cases of disc prolapse, stenosis, vertebro-basilar insufficiency, spondylolisthesis, pregnancy, and non-cooperative subjects. All subjects were thoroughly clinically examined.

Measuring Tools
Neck Pain Questionnaire (NPQ)
The NPQ is a 10-item questionnaire that asks subjects to rate their neck pain. NPQ got the short term repeatability and internal consistency[12].

Neck Disability Index (NDI)
The NDI is a 10-item questionnaire that asks subjects to rate how their neck pain is affecting

the daily living. The total NDI scores were converted to a percentage score (0-100); and from that, a change score was calculated. The NDI has been found to have good reliability as well as good construct and concurrent validity in an ambulatory clinic population[13].

DATA ANALYSIS & RESULTS

The statistical test used was Pearson's Product Moment Correlation Coefficient (PPMCC) for analysing the association between variables like age, gender, teaching experience, travel distance, working hours per week, hours of lessons handled per week, hours of working with computer per week and hours of household work per week with pain and disability. Statistical significance was set at $p<0.05$. PPMCC revealed that there was significant correlation between age and neck pain with r=0.161 at p=0.011. There exist no correlation between age and disability as r=0.113 at p=0.076. There was a significant correlation between experience and neck pain with r=0.192 at p=0.002 and experience with disability with r=0.147 at p=0.020. There existed no correlation between distance and pain (r=0.065, p=0.308), distance and disability (r=0.050, p=0.434). There was a significant negative correlation existing between working hours per week and neck pain with r= -0.139 at p=0.028, while there was no correlation between working hours per week and disability (r= -0.114, p=0.071). There was no correlation between lessons handled per week and pain (r= -0.108, p=0.089). There was a significant negative correlation between hours of lessons handled per week and neck disability with r= -0.139 at p=0.028. There was no correlation between working with computer per week and pain as r= -0.087, p=0.171) and working with computer per week and disability, as r= -0.025, p=0.691. There was no correlation between household work per week and pain as r= -0.108, p=0.089) and household work per week and disability, as r= -0.091, p=0.152.

DISCUSSION

The existence of correlation between age and neck pain was in consensus with the incidence of neck pain increasing slightly with age and peaked between the ages of 30 and 45 Years[14]. The increase in experience increases the possibility of neck pain and associated disability. Physical risk factors (such as prolonged sitting and neck flexion) have been identified as predictors of neck pain in the study of a mixed population of workers from various industries, health, and professional settings[15]. There was a significant negative correlation between working hours per week and neck pain, which was in contrast to people who worked for longer hours more likely than those who worked for lesser hours to report neck pain, in particular the effects of long working hours and flexibility in the timing of work schedules and their impact on both labor productivity and firm performance via the underlying long-run labor costs. A significant negative correlation between hours of lessons handled per week and neck disability implies that increase in hours of lessons handled increases the neck flexibility thereby reducing disability. Recurrent cervical spine pain is also related to physical and mental stress both at home and at work[16]. This in turn causes disability[17].

CONCLUSION

This study concluded the existence of relationship of age, experience, working hours per week and hours of lessons handled per week with neck pain and associated disability.

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