ASSOCIATION OF NECK PAIN WITH STRESS AND DEPRESSION IN TEACHING PROFESSION: A REVIEW

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Abstract

Teaching professionals frequently experience musculoskeletal pain (MSP), both in developed and developing nations. According to earlier research, the prevalence varied from 20% to 95%. The upper limbs, low back, and neck and shoulder were the most often reported MSP locations. But according to a recent systematic review, there is currently a dearth of studies on MSP among teachers; this is especially the case in Malaysia. Only three MSP studies with Malaysian school teachers that evaluated low back pain (LBP) were found. The same systematic study discovered that individual, physical, and psychological factors were among the multifactorial causes of MSP in school teachers. Two of the individual characteristics that were discovered to be positively linked with MSP were the gender of the female and aging. In the meanwhile, common physical aspects associated with employment included bad posture, improper workstation configuration, lifting, and transporting heavy goods. limited job control, limited social support, and high psychological job demands were the identified work-related psychosocial characteristics."

Paper Identification

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Introduction

Musculoskeletal pain (MSP) is common among school teachers in both developed and devel- oping countries. Previous studies found that the prevalence ranged from 20% to 95%. The more common reported sites of MSP were neck and shoulder, low back and the upper limbs. However, a recent systematic review suggested that research on

MSP among teach- ers are still lacking, this is more true in Malaysia. We were only able to locate three studies of MSP conducted among school teachers in Malaysia, all assessing low back pain (LBP). The same systematic review found that MSP among school teachers had a multifactorial origin, which included individual, physical and psychosocial factors. The individual factors included female gender and increasing age, which was found to be positively associated with MSP. Meanwhile, poor postures, inappropriate workstations, lifting and carrying heavy objects were the common work-related physical factors. The work-related psychosocial factors identi- fied were high psychological job demands, low job control and low social support."

OBJECTIVE: To Associate the neck pain with stress and depression in teaching profession

Material and Method:

An electronic database search, title and abstract search was conducted between 2010 to at present using Google Scholar, PubMed, Physiotherapy Evidence Database (PEDro) and Cochrane database. The study was double checked and the review used only full-text papers. A total of 12 studies were chosen to investigate to the associate of neck pain and depression in teaching profession. Neck discomfort that is brought on, made worse, or both by one's job or workplace is known as work-related neck pain (WRNP). It is among the most prevalent patient complaints among the general public, particularly among employees who use computers heavily at work.There have been reports of varying WRNP prevalence in various occupational categories. It is a well-known truth that a variety of individual, physical, and psychological variables contribute to the multifaceted etiology of neck discomfort connected to employment.Six A wide variety of individual risk variables, including age, gender, smoking, alcohol use, physical activity, and psychosocial risk factors, are linked to the development and persistence of WRNP in addition to working ergonomics. The majority of WRNP research is done in rich, industrialized nations, and less is known about the working population in middle-class and lower-income nations like India.

Neck discomfort that worsens at the end of the workday and that has persisted for two weeks or longer during the previous 12 months without obvious explanation based on history and clinical examination is known as work-related neck pain (WRNP). According to the CDC, an adult who has smoked 100 cigarettes or more in their lifetime is considered a smoker. An adult who has smoked 100 cigarettes or more but has stopped smoking at the time of interview is referred to as a former smoker. c) Adults who have never smoked or who have smoked fewer than 100 cigarettes in their lifetime fall into this category. State of health: When a person rates their own health on a 5-point rating system, they are classified as either: a) Very good/good/average—"GOOD"—or b) Poor/very poor—"POOR". One of the most prevalent musculoskeletal conditions is neck discomfort, which had an age-standardized prevalence rate of 27.0 per 1000 people in 2019. This review of the literature first discusses the epidemiology and trends of neck pain worldwide before delving into the biological and psychological risk factors connected to the development and course of neck pain. A complex illness, neck discomfort is a significant issue in contemporary life. Neck discomfort is nevertheless highly essential even though it might not be the most frequent musculoskeletal disease [1, 2]. Neck pain has a staggering financial impact because of difficulty at work, medical expenses, and decreased productivity. With an estimated $134.5 billion in medical costs in 2016, low back and neck pain accounted for the largest portion of all ailments among the 154 that were treated in the US [3]. It was reported in 2012 that 25.5 million Americans missed an average of 11.4 days of work due to neck pain [4]. 2017 saw a 3551.1 global age-standardized prevalence and an incidence rate of 806.6 cases per 100,000 people for neck pain.

Around the world, neck pain (NP) is becoming a prevalent public health issue that places a heavy burden on people's health and quality of life, as well as on communities, the social economy, health systems, and individuals due to its high rate of disability.One Neck pain was ranked as the fourth leading cause of disability, behind ischemic heart disease, cerebrovascular sickness, and lower respiratory infections, with an annual prevalence rate of over 30%. Neck pain was described as an unpleasant subjective experience by the Bone and Joint Decade 2000–2010 Task Force on Neck Pain and Related Disorders.4. A painful sensory or emotional experience that is "associated with, or resembling, actual or potential tissue damage, or described in terms of such damage" is what the International Association of Study of Pain Task Force defines as pain.5 Any type of acute, subacute, or chronic neck pain for which an anatomic structure cannot be determined to be the source of discomfort is considered non-specific neck pain. If pain persists for 12 weeks or more, it is considered chronic. According to the biopsychosocial model, pain and disability are the outcome of a complex and multifaceted interplay of physiological, psychological, and social factors. These elements interact to produce chronic and complex pain syndromes.

One in two people worldwide have had neck pain at some point in their lives, making it a serious public health issue. Nonetheless, the prevalence is rising in several professional groups as well as the general population. It has grown to be a major global cause of failure, particularly in the last ten years. People who have persistent neck pain also experience detrimental effects on their regular activities. Additionally, this circumstance might worsen people's psychological states and make day-to-day living more challenging. Any area of the body can experience pain, which is a sensory, unpleasant feeling that is associated with prior events and may or may not be accompanied by tissue damage. Pain's link to emotional states suggests that it is both a subjective and an objective sensation, even if it is indicated that pain is carried by nerve fibers.

n comparison to males (30%), women (45%) reported more neck/shoulder symptoms in the last seven days (Table 4). Compared to younger participants, the prevalence among men was greater in the older group. The frequency of complaints related to the neck and shoulders declined as forward head tilt rose, while in women, it increased when trapezius activity, head, upper arm, and wrist velocity increased.

Neck pain, with or without radiculopathy, can have significant negative effects on physical and mental wellbeing. Mental health symptoms are known to worsen prognosis across a range of musculoskeletal conditions. Understanding the association between mental health symptoms and health outcomes in this population has not been established. Our aim was to systematically review the association between psychosocial factors and/or mental health symptoms on health outcomes in adults with neck pain, with or without radiculopathy.

Neck pain is a common public health concern among adults and leading cause of disability worldwide.1 Among other musculoskeletal disorders neck and low back pain are considered as the 2nd leading causes of years lived with disability.2 The 12-months prevalence of non-specific neck pain in young adults was found between 42 to 67%.3 This prevalence is rising each year causing work absenteeism, disabilities, sleep disturbance and reduced quality of life.4 The economic burden of neck pain is high for both the individual and the society due to costs related to healthcare, loss of work productivity, and absenteeism Negative emotions such as anxiety and depression are common in people suffering from neck pain and they have profound impact on their overall mental health.11 Different researches have reported that poor quality of life following the diseases leads to depression and anxiety in people suffering from neck and low back pain.12 The exact cause of this relationship is not well defined in the literature as some studies suggest that pain can possibly cause immunological changes that eventually results in depression and anxiety.13 Whereas some other studies suggested that increased inflammatory biomarkers were

found in the blood of patients with chronic pain disorders that leads to mental disturbances causing stress and anxiety.

Muscle pain in the neck and shoulder girdle is a common complaint.9,33,35,48 There are no generally accepted cri- teria for classification. In occupational medicine um- brella terms, such as repetitive strain injury (RSI), cumu- lative trauma disorder (CTD), occupational cervicobrachial disorder (OCD), or work-related muscu- loskeletal disorder (WMSD), have been used.6,19 From a population-based perspective, others have argued that these are misleading terms, implying a single uniform etiology, and that they should be avoided.34 No specific pathoanatomic or pathophysiologic mechanisms have as yet been uncovered, and opinions on muscle pain range from pure skepticism8,17,47 to discussions about a neu- ropathic origin16 or a nociceptive dysfunction.

Three main dimensions on which physical exposure may be quanti- tatively measured have been suggested: level or magni- tude of force, repetitiveness, and duration of exposure.44 However, most studies provide only scarce information on these dimensions. The role of psychosocial factors as contributors to musculoskeletal disorders is uncertain, but several studies suggest a positive association between neck pain and high job demands, low social support, low job control, and low job satisfaction. 3,32 Prospective studies based on questionnaires have found that disabil- ity, but not workload,14 have little influence on one's own work situation, but not repetitiveness, 13 and psy- chological distress and psychosomatic problems, but not occupation,30 were predictors of neck pain. Neck pain is a prevalent musculokeletal condition among workers in the United Status. This study explores a set of workplace phychosocial and organization related factors for neck pain. Definition of neck pain.

Neck pain was defined as self-reported non-specific neck pain within the past three months using a single questionnaire item, "During the PAST THREE MONTHS, did you have...Neck pain?" This definition of neck pain is consistent with the measurement of chronic neck pain defined by the Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders Demographic characteristics and socioeconomic status Demographic variables used in the analysis included gender, age, and race/ethnicity. Age was coded into four age groups: (a) 18-25, (b) 26-40, (c) 41-55 and (d) 56-64 years. Race/ethnicity was coded into five groups: (a) Hispanic, (b) Non-Hispanic White, (c) Non- Hispanic Black, (d) Non-Hispanic Asian, and (e) Non-Hispanic Others. Socioeconomic status (SES) variables were education and income. Other Health-related factors Two other health-related factors available in the NHIS were leisure-time physical activity and serious psychological distress. Leisure-time physical activity was defined as engaging in moderate physical activity for at least 30 minutes per day for 5 or more days per week or vigorous physical activity for at least 20 minutes per day for 3 or more days per week. Workplace psychosocial factors The psychosocial variables in this study. Were, job insecurity, work-family imbalance and exposure to hostile work environment.Job insecurity was measured by the following question: "Please tell me whether you: strongly agree, agree, disagree, or strongly disagree with this statement: I am/was worried about becoming unemployed." Responses of "strongly agree"" and "agree" were defined as high job insecurity and "disagree" and "strongly disagree" were used to define low job insecurity. Work-family imbalance was measured by the following question: "Please tell me whether you: strongly agree, agree, disagree, or strongly disagree with this statement: It is/was easy for me to combine work with family responsibilities." Responses of "strongly disagree" and "disagree" were defined as high work- family imbalance and "disagree" and "strongly disagree" were used to define low work-family imbalance.

Complaints of arm, neck, and shoulder (CANS) are myriads of nonacute and nonsystemic musculoskeletal complaints of the neck and upper extremity with contingent time severity of symptoms in clinical presentation. It

affects millions of computer users with grave economic and productivity impacts on individuals and establishments. A universally accepted definition of CANS developed by a Delphi consensus strategy is musculoskeletal complaints of arm, neck, and/or shoulder not caused by acute trauma or by any systemic disease. Data from all over the world, especially from developed countries, have been collected and studies have shown that a large group of office workers might be at risk for CANS. In developing countries, such as Nigeria, Sudan, and Sri Lanka, an increase in the number of computer users due to rapid industrialization and telecommunication drive has led to an psurge in complaints of musculoskeletal pain.

Cervical spine studies have shown that chronic neck pain is associated with psychological states such as anxiety, depression, kinesiophobia and catastrophiz- ing. These psychological states are believed to lead to a biochemical sequence of events leading to ex- perience of greater pain and disability. The same 8 psychological states can also indirectly deteriorate pa- tients' symptoms due to movement and exercise avoid- ance or restraining from daily activities. These Corresponding author: Zacharias Dimitriadis, TEI Lamia, De- partment of Physiotherapy, 3rd km O.N.R. Lamia-Athens, 35100, Lamia, Greece. facts reveal that psychologically compromised patients with chronic neck pain may have a more excruciated experience of their condition. Anxiety is one of the most important psychologicalstates that are believed to be associated with the ex- istence of higher levels of pain and disability in musculoskeletal pain conditions. Bru et al.] found that anxiety presents a weak correlation with pain intensity. Additionally, Luo et al. recruited a sample com- prised mainly of patients with idiopathic chronic neck pain and found that anxiety presents a similar associ ation with neck pain disability. Leino and Magni found that the existence of stress symptoms is a signifi- cant marker for the development of neck/shoulder pain 5 years after the initial assessment. Depression also seems to be correlated with neck pain and disability although the findings of different studies are not consistent with each other. Luo et al.observed a weak correlation between depression and neck pain disability.

Review Literature

1. Sourav Chakraborty, Debasish Sinha, Sita Chatterjee, Mausmi Basu, Raghunath Misra. 2020. An observational cross sectional study was conducted among 270 Bank employees of selected Nationalised banks from June-July 2018 using a pre designed pre tested structured questionnaire. Statistical analysis plan: For Descriptive statistics: mean± SD, for categorical variables: frequency(n) & proportion(%),to test association: chi square test. Results: About 47.41% suffered from WRNP. Significant association were found between WRNP and higher age, education below graduation, duration of employment, bad posture, environment, mental stress, job pressure) and ergonomics of work station, height of monitor screen, distance from mouse to edge of table etc. Conclusion: Sensitization of all bank employees about WRNP and its effects, training programme for good working posture and improvement of working environment may be addressed.(1)
2. Somaye Kazeminasab, Seyad aria Nejadghaderi, Parastoo amiri, Hojjat Pourfathi, Mostafa araj-khodaei, Mark J.Mm. Sullman, Ali-Asghar, Saeid safari.2022. Studies were included that used human subjects and evaluated the effects of biological or psychological factors on the occurrence or progression of neck pain, or reported its epidemiology. Results: Psychological risk factors, such as long term stress, lack of social support, anxiety, and depression are important risk factors for neck pain. In terms of the biological risks, neck pain might occur as a consequence of certain diseases, such as neuromusculoskeletal disorders or

autoimmune diseases. There is also evidence that demographic characteristics, such as age and sex, can influence the prevalence and development of neck pain, although further research is needed. Conclusions: The findings of the present study provide a comprehensive and informative overview that should be useful for the prevention, diagnosis, and management of neck pain.(2)

3. Dipti B. Geete, Bhavana S. Mhatre, Saraswati Iyer.2022 87 patients with chronic non-specific neck pain were recruited in this cross-sectional study. The disability was evaluated with neck disability index, anxiety with the generalized anxiety disorder scale (GAD-7), and depression with patient health questionnaire (PHQ9). Results: Out of 87, 60 were females and 27 were male. For correlation, Spearman's test was applied for the outcome measures. There was a moderate positive correlation found between disability and anxiety (r=0.55) and between neck pain and depression (r=0.63). Conclusions: There is a moderate positive correlation between self-reported disability and anxiety (GAD7) and also between self-reported disability and depression (PHQ9) in patients with chronic non-specific neck pain.(3)

Discussion

This review assessed the current associate of neck pain with stress and depression in teaching profession. The aim of this review was to synthesize to associate of neck pain with stress and depression.This review showed that teaching profession job has sitting standing both, they use 5-6 hours screen time laptop/phone, So should follow ergonomic and reduce their screen time to prevent neck pain with stress and depression in teaching profession.

According to E.N.Zamiri, F.M. Moy, V.C.W. Hoe (2017) This was a cross-sectional study conducted among teachers in the state of Penang, Malaysia. The participants were recruited via a two stage sampling method. Information on demographic, psychological distress, work-related psychosocial factors, and musculoskeletal pain (LBP and NSP) in the past 12 months was collected using a self-administered questionnaire. Poisson regression was used to estimate the prevalence ratio (PR) for the associations between psychological distress and work-related psychosocial factors with LBP and NSP.

According to Zacharias dimitriadis, eleni kapreli,nikolaos strimpakos, Jacqueline ann Oldham.2015. This study was aimed at investigating the association between psychological states (anxiety, depression, kinesiophobia, catastrophizing) of patients with chronic idiopathic neck pain and self-reported pain and disability.Forty five patients with idiopathic chronic neck pain (more than 6 months, at least once a week) participated. Their psychological states were assessed by using the Hospital Anxiety and Depression scale, Pain Catastrophizing scale and Tampa Scale for Kinesiophobia. Self-reported disability was recorded with the Neck Disability Index. Pain intensity was recorded by using a visual analog scale.Neck pain intensity was significantly correlated with anxiety ($p< 0.05$). Disability was significantly correlated with anxiety, depression and catastrophizing ($p< 0.05$). Multiple regression analysis showed that pain-induced disability can be significantly predicted by anxiety and catastrophizing.

Result

According to a data search from 2010 to at present roughly fifteen free full articles suggest that static stretching exercises are beneficial in improving pain, ROM and flexibility in non- specific chronic neck pain.

Conclusion

Current data indicate that Teachers job has sitting standing both, and 4-5 hours screen time that is one of the most common region of typical neck pain with stress and depression. From a practical point of view, ergonomics advice

are an affordable and easily workable method with a good therapeutic effect in pain in the musculoskeletal system of a functional nature. Muscle spasm and muscle imbalance are positively influenced by the administration rest and to reduce screen time.

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