



# ACADEMIC STRESSORS, COPING STRATEGIES AND MUSCULOSKELETAL DISORDERS AMONG UNDERGRADUATE STUDENTS

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## ABSTRACT

The study was carried out to investigate the common academic stressors and musculoskeletal disorders among undergraduate students and common coping strategies used by them. The students were randomly selected from Prem Institute of Medical Sciences, Panipat. Written informed consent was taken from all the students who are willing to participate in the study. Questionnaire comprising of three parts was explained to all the participants. 1) Student Stress Scale, 2) Brief Cope, 3) Nordic Pain Questionnaire. Participants were requested to answer genuinely. The participants were requested to submit the filled questionnaires. Study findings reveal that most of the students experience stress due to academic demands, especially while writing tests and exams. The students were commonly using active coping and acceptance as their coping strategies. 61% of students complained of neck pain due to reading for prolonged periods during exams.

**KEY WORDS:** Cope, Pain, Stress, Injury.

## INTRODUCTION:

Stress contributes to health problems worldwide. Its presence is felt at home, office, industry, and academic environments. It is a common element in life regardless of race or cultural background (Al-Ayadhi L. Y, 2005). Among university students, perceived stress may take the form of academic stress with multiple triggering factors (academic stressors), such as academic demands, finances, time pressures, health concerns, and self-imposed stressors (Pamela L, 2009). Previous studies have shown academic stressors to be good models of naturally occurring stress in humans, and empirical evidence has shown that undergraduates suffer psychosocial distress due to unsupportive interaction with other students and teachers and financial hardship (Busari AO, 2011). Psychosocial stress is high among freshmen, women, and international students because of the adjustment they must make in their social, academic, and cultural lives in a new environment, having left all previous support persons such as parents, siblings, and high school friends (Shields N, 2001). Stress has been identified as a 20th century disease and has been viewed as a complex and dynamic transaction between individuals and their environments. Stressors can be broadly defined as situations or events that have the potential to affect health outcomes. Stress can be regarded as a psychological threat, in which the individual perceives a situation as a potential threat. Academic stress among college students has been a topic of interest for many years. College students, especially freshers, are particularly prone to stress due to the transitional nature of college life. For example, many college students move away from home for the first time, which can necessitate leaving all previously learned support systems such as parents, siblings and high school friends (Shields N, 2001). Coping has been viewed as a stabilizing factor that may assist individuals in maintaining psychosocial adaptation during stressful events. The individual may deal with stress through several methods, including removing the stressor through manipulating the environment; developing specific responses to help deal with the stressor or seeking diversion from the stressor. (Robin Watson L, 2002) Prolonged static posture/loading or sustained exertion is common and occurs more often among students preparing for examinations. In this posture, the muscles must hold the body in a single position for a long time, leading to prolonged immobility with subsequent reduction in blood flow that result in muscle tension and susceptibility to musculoskeletal injury. Adverse academic environmental factors such as poor lighting, extreme temperature, and noise can also increase the risk of injury and subsequent development of musculoskeletal disorders (Ekpenyong C. E. et al, 2011). Coping has been viewed as a stabilizing factor that may assist individuals in maintaining psychosocial adaptation during stressful events. The process of coping is a very complex response that occurs when individual attempts to remove stress or a perceived threat from the environment. Thus, the actual reaction to an environmental event may be as important as the event itself (Robin Watson L, 2002). Prolonged static posture/loading or sustained exertion is common and occurs more often among students preparing for examinations. In this posture, the muscles must hold the body in a single position for a long time, leading to prolonged immobility with subsequent reduction in blood flow that result in muscle tension and susceptibility to musculoskeletal injury. Adverse academic environmental factors such as poor lighting, extreme temperature, and noise can also increase the risk of injury and subsequent development of musculoskeletal disorders (Ekpenyong C. E., Davis K. J., Akpan U. P., Daniel N. E. 26, 2011).

## METHODOLOGY:

200 students (females) between the age group of 18-25 were included in the study. Data was collected from Prem Institute of Medical Sciences Panipat. Simple random sampling technique was used selection of subjects. Heads of the

institute were approached and permission was taken to allow their students to participate in the study. Written informed consent was taken from all the students who are willing to participate in the study. Questionnaire comprising of three parts was explained to all the participants. 1) Student Stress Scale, 2) Brief Cope, 3) Nordic Pain Questionnaire. Participants were requested to answer genuinely. The participants were requested to submit the filled questionnaires.

## DATA ANALYSIS:

Data was summarized using descriptive statistics of mean and percentages.

## RESULTS:

Writing test and exam was the main stressor and students commonly active coping as their coping strategy and neck is the most affected area.

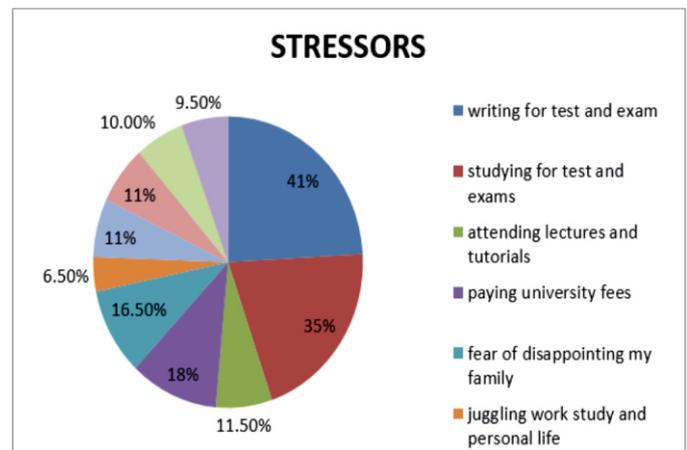


Fig.1: Showing the percentage of stressors experienced by students.

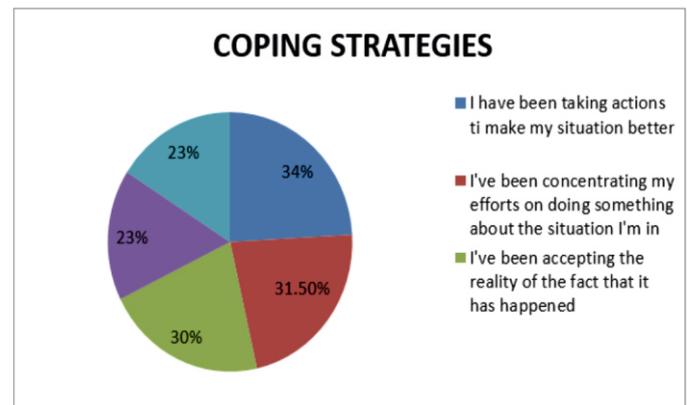
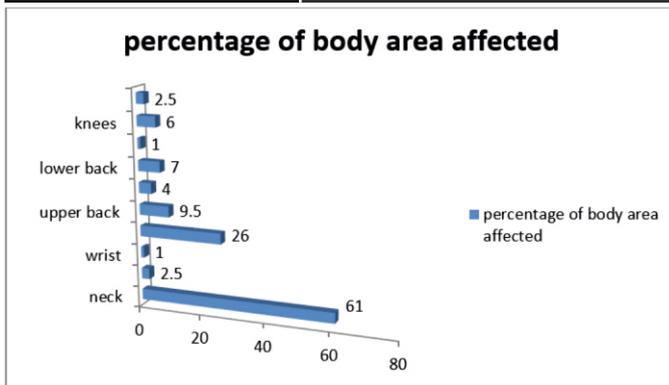


Fig. 2: Showing percentage of coping strategies used by the students

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**Fig 3: Showing the percentage of respondents who reported the body part(s) affected.**

#### DISCUSSION:

The present study was aimed to find out the prevalence of stress, sources of academic stress i.e. stressors in undergraduate students, to identify the coping strategies preferred by the students and the musculoskeletal disorders related to academic stress. The study indicates that stress was faced by the undergraduate students with different intensity. Only a few students amongst 200 were having low level of stress. A number of studies have concluded that the students belonging to medical profession are stressed due to many of the factors like academic burden, home sickness, social problem and many other different problem (Purna Prabhakar, 2011, Marwan Zaid Bataineh, 2013). MS Sherina, 2004 conducted a study at Malaysian university in 2002 and found that the prevalence of psychological stress among medical students was high and psychological stress was also significantly associated with depression. The present study finding reflects that, most of the students are experiencing stress in their daily academic activities. Students (75%) pointed out that, people at home or campus makes them feel anxious about their daily lives. This finding is in agreement with the study of (Fairbrother and Warn, 2003) that identified conflicts at home and work environment as one source of individual stress. Present study shows that none of the students are involved in taking drugs or alcohol in response to stress causing situations. This result is inconsistent with the previous findings that indicate 40% of students engaged in such activities in response to anxiety producing situations.

This study relates to the previous findings that musculoskeletal pain is a common phenomenon among young adults especially college students (Menendez et al., 2009; Lorusso et al., 2007; 2009). Several studies which were conducted among adults working in offices in Malaysia concluded that computer use could be a risk factor in developing musculoskeletal problems (Zakerian and Subramaniam, 2009; Rahman and Atiya, 2009; Sen and Richardson, 2007). However, there is little information on the prevalence of musculoskeletal complaints among college students in Malaysia using computers. This study examined the prevalence of MSD in numerous body regions among undergraduate students. Neck pain was revealed as a particularly important problem, with nearly two-thirds of respondents (61%) reporting trouble in this region. This result relates to a previous study in which neck pain was revealed as a particularly important problem, with nearly two-thirds of respondents (64.3%) reporting trouble in this region. (MJ Hayes, DR Smith, D Cockrell, 2009). Lundberg found that psychosocial stress can increase the activity of the trapezius muscle with associated development of neck pain. A consistent finding was obtained in a study carried out by Birch et al. that demonstrated increased activity of the trapezius, infraspinatus, deltoid, and extensor digitorum muscles following time pressure. These could lead to an increased biomechanical load and resulting MSDs of the affected body parts.

#### CONCLUSION:

Study findings reveal that most of the students experience stress due to academic demands, especially while writing tests and exams. The students were commonly using active coping and acceptance as their coping strategies. 61% of students complained of neck pain due to reading for prolonged periods during exams.

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