Prevalence of Upper Trapezius Tightness Due to Chronic Neck Pain and Poor Posture in University Going Students

Research Supervisor
Dr Rabia Majeed

Head Supervisor
Dr. Somia Sabeeh Awan

Submitted By

Sumbal Habib	**14001241021**
Syeda Fizza Batool	**14001241047**
Noor Mehmood	**14001241069**
Mubashra Wajid	**14001241107**
Momina Najeeb	**14001241038**

Doctor of Physical Therapy
Session 2014-2019

School of Health Sciences

University of Management and Technology

In the name of Allah,
The most Beneficent, the Most Merciful.

All praise unto Allah, Lord of all the worlds.

The most Affectionate, The Merciful.

Master of the Day of Requital.

We worship You alone, and beg You alone for help.

Guide us in the straight path.

The path of those whom You have favored. Not of those who have earned Your anger and nor of those who have gone astray.

APPROVAL CERTIFICATE

Research Project accepted by the faculty of School of Health Sciences, University of Management and Technology, Lahore, in partial fulfillment of the requirement for the degree of Doctor of Physical Therapy (DPT).

Supervisor

Dr. Rabia Majeed

Co-Supervisor

Dr. Somia Sabeeh Awan

Director SHS

Dr. Naveed Afzal

Declaration

We declare that that the research project **"Prevalence of Upper Trapezius Tightness Due to Chronic Neck Pain and Poor Posture in University Going Students"** is based on our own work carried out during the course of our study under the supervision of **Dr. Rabia Majeed.** We assert that statements made and conclusions drawn are an outcome of our research work. We further certify that the work contained in the report is original and has been done by us under the general supervision of our supervisor.

The work has not been submitted to any other Institution for any other degree in this university. We have followed the guidelines provided by the university in writing the report.

Whenever we have used materials from other sources, we have given due credit to them in the text of the report and giving their details in the references.

Sumbal Habib **14001241021**

Syeda Fizza Batool **14001241047**

Noor Mehmood **14001241069**

Mubashra Wajid **14001241107**

Momina Najeeb **14001241038**

Dedication

Dedications and Commitment are what transfer Dreams into Realities

We want to dedicate this to our

'Beloved parents'

Whose endless efforts make us able to achieve what we are today and to our

'Teachers'

Who helped us in every field of our lives

And of course we dedicate this project to our group who worked hardly to make it

Sumbal Habib, Syeda Fizza Batool, Mubashra Wajid, Momina najeeb and Noor Mehmood

And in the end we want to thank ALLAH Almighty for everything.

Acknowledgment

We wish to express our sincere thanks to Supervisor Ma'am Rabia Majeed for providing us with all the support and guidance. We are also grateful to Prof. Moeen Azad and Prof. Moeen Butt for sharing expertise and sincere invaluable supervision. We want to take this opportunity to express our gratitude to our parents for the unceasing encouragement and attention.

Contents

List of Figures

List of Tables

List of abbreviation

UT	Upper Trapezius
ROM	Range of Motion
FHP	Forward Head Posture
NDI	Neck Disability Index
LLLT	Low level laser therapy
NHP	Neutral head posture
EMG	Electromyography
SCM	Sternocleidomastoid
TrPs	Trigger Points
VAS	Visual Analogue Scale
FHRSP	Forward head and rounded shoulder posture
PC	Personal Computer
HDsEMG	High Density Surface electromyography
LT	Lower trapezius
MT	Middle trapezius
PPT	Pressure pain threshold
MTrPs	Myofascial Trigger Points
CV	Coefficient of variation
ICC	Intra class correlation coefficient
MPS	Myofascial pain syndrome
CV	Conduction velocity
N	Total Population
X	Standard deviation
NPDIS	Neck Pain Disability Index Scale
IBM SPSS	Statistical Package for the social sciences

Abstract

Background

Pain in neck is a global issue. Study typically focuses on the tightness of upper trapezius muscle. Tightness of trapezius occurs due to poor postures and cause neck pain in students like forward head posture occurs due to muscular weakness, which in return restricts the movements of neck. By maintaining same posture for a long time, trigger points and tender points appear in upper trapezius.

Objectives

Goal of this study was to find out prevalence of upper trapezius tightness due to chronic neck pain and poor posture in university students

Methods

Total number of students were 360 who were participating for the cross sectional study. It was convenient random sampling. Students filled Neck Pain Index Disability questionnaire. Total participants were analyzed through SPSS.

Results

Most of the participants of this research showed that they had upper trapezius tightness due to chronic neck pain and poor postures. Results showed that 53.9% students could not lift heavy objects. 68.1% students could not read properly, 74.2% students had headache, 60% of students could not concentrate properly, 60.3% students had issues regarding sleep and 51.4% students

could not be able to perform their recreational activities because of chronic pain in neck and poor postures while 52% students can drive easily with normal pain intensity due to upper trapezius tightness.

Conclusion

This study showed that chronic neck pain in people cause upper trapezius tightness, which leads to, reduced ability to maintain upright posture. Due to the tightness of trapezius, the students were not able to do their activities of daily living properly. The most effected activities were reading, sleeping and recreational activities. Chronic neck pain and tightness of trapezius most commonly caused headache

Key words

Upper Trapezius, neck pain, poor posture, students

CHAPTER 1: INTRODUCTION

Pain in neck is a global issue now a day and a common root to refer for physical therapy(MOTIALLAH et al., 2013)**.** The most up-to-date researches manifest the occurrence of pain in neck considered more common in university students who are under graduate. Neck muscles can be tightened due to many reasons. Majority of the episodes of neck pain occur due to stress on the soft tissues.

Neck pain usually arises due to carrying a position for long time. Worrying, stress, sleep in awkward position, accident causing whiplash injury, osteoarthritis or strain can cause neck pain. Main muscle of the neck is trapezius (Choudhari et al., 2012)

Trapezius is a large, paired immense muscle that is triangular in shape. It exists superficially on backside of neck and thorax. These trapezius muscles combine together to form a trapezoid or diamond like shape. Trapezius muscle pairs are posterior, axio-apendicular and extrinsic muscle pairs. This position of trapezius pairs make it able to attach our shoulder girdle to the trunk (Gray, 1981)

Descending part: From occipital bone of skull (external occipital protuberance), innermost third of upper nuchal line, the descending part of trapezius originates.

Ascending part: From the supraspinous ligaments and spinous process of C7-T3, ascending part of trapezius originates.

Transverse part and upper fibers: The transverse part of trapezius arises from the spinous processes of T1-T4 or from C7-T3. On the lateral third clavicle’s posterior border, its upper fibers are inserted.

Middle fibers: These fibers are present at innermost borderline of acromion and superior lip of crest of spine of scapula

Lower fibers: They expand to the width of the shoulders.

The muscle has three divisions. These are superior, middle and inferior. Each division has its certain function in the movement of neck and shoulders. The trapezius fixates the blades of shoulder and encourages the movements of neck and shoulder.

The superior or upper segment of the muscle helps to upraise the blades of scapula and assist in tilting and rotation of the neck. The middle trapezius fixates the shoulder while performing movements of arm and brings the blades of scapula back in their place. The lower trapezius depresses the scapula and assists to bring the blades of shoulder back in their place.

The upper and lower fibers of trapezius cooperatively rotate the scapula laterally. They also side flex and extend the head and neck. Sensory nerve supply of trapezius is from ventral rami of spinal nerves (C3, C4). The motor supply of trapezius is from accessory nerve.

The blood is supplied to the trapezius from the upper part of occipital artery, middle part of superficial cervical artery and lower part of dorsal scapular artery. (Gray, 1981)

The trapezius can become painful or excruciating due to many reasons. Trapezius can become sore due to overuse and repetitive activities that cause muscular stress like weight lifting, swimming etc. Stress like excess tension can lead to muscle pain. Trauma and injuries can cause muscular tear. Poor posture can cause stress on trapezius muscle like stooping over a computer or desk for a long time. As a result, muscle become tight and short.

Poor postures can cause different syndromes which cause neck pain including. Sway back posture. This is the third most common incorrect posture. It commonly leads to low back pain. It

is also called as 'Lazy Posture'. It is mainly distinguishing by pelvic and chin thrust forward, shoulders and chest disposition backwards and hips rotated inward. This posture can lead to the low back ache because hip and pelvis have reduced support. Therefore, it applies large amount of pressure causing pain. Abdominal muscles bring the upper body forward. Their weakness can also promote the problem (Brumagne et al., 2008)

Kyphosis is a type of spinal curve. Spine has two normal kyphotic curves i.e. cervical and thoracic. Kyphotic curves have 'C' shape. This 'C' shape open towards the front. 40-45 degrees' curve is considered to be normal but if this curve is more than 40-45 degrees, it is abnormal or considered to be a spinal deformity. It is an overemphasized and progressive rounding of the spinal curve. In the patients of cervical spine dysfunction, cervical ROM is affected by thoracic spine kyphosis. As a result of poor posture, postural kyphosis or round back can occur. This state is commonly occurring when young adults and adolescents sit or stand with slouch posture (Jazini et al., 2016)

Upper cross syndrome can disfigure the muscles of neck and shoulder. This is the tightness of some muscles and weakness of other muscles (Mujawar et al., 2019)

This syndrome is caused by tight pectorals and sternocleidomastoids and weakness of deep flexors. In this syndrome there is a muscular imbalance between isotonic and weak muscles (Mujawar et al., 2019)

The back muscles of neck and shoulder become intensely tight especially trapezius. This syndrome can generate pain in shoulder, neck, back, a hunched posture, headaches and rounded shoulders. It occurs due to computer or electronic devices use, by biking, by watching television. These disfigured muscles cause strain on the structure that are present in their surrounding and

symptoms like headache, tiredness, pain and tightness in back muscles of neck and weakness in front muscles of chest and painful blades of shoulder appear.

Uneven shoulder is another condition in which one shoulder is elevated than the other shoulder. This condition is most commonly occurs due to muscular imbalance. The elevated shoulder muscles are tighter than the other one. Two major muscles trapezius and levator scapulae mainly contribute in this state. These are not of correct length and become tight due to over use.

Uneven shoulder also occurs due to structural imbalance for instance scoliosis. Dominant side shoulder is always a little lower than the non-dominant one. By performing daily life activities with one hand or with one side of the body can cause misalignment of the muscles that contribute to this syndrome.

Forward head posture (FHP) or pocking chin is a condition in which cervical is placed anteriorly and lordotic curve is increased than normal**.** It can be identified by increased lordosis of cervical spine and neck pain. It has some characteristics like extended mid cervical, flexed lower cervical and forward head. It also has increased thoracic kyphosis accompanied by rounded shoulders. Lumber changes can also occur due to neck pain and misalignment in muscles. Some traits related to FHP: headache, general soreness, neck ache, shoulder pain, muscular tightness and taut bands (Fernández-de-Las-Peñas et al., 2006)

Head alter its position away from neck this posture known as Forward Head Posture. With altered head posture center of gravity, shifts ahead with respect to neck. This position can put unusual pressure on neck bone. It can generate muscular disproportion (Harman et al., 2005)

It is very common in students and office workers. Body always finds alternative mechanisms to hold the head up and to clear the vision up if there is any muscular imbalance. In this condition

when body adapts alternative mechanisms, some muscles become elongate and weak while other become tighter and shorter from sagittal plane, the head extend forward and positioned in front of the body. This condition can cause excess stress on the spinal tissues causing malformation and deformity Forward head posture can also cause shoulder pain, craniofacial pain, neck pain, headache, decreased ranges of cervical spine, tenderness and muscular stiffness (Harman et al., 2005)

Winging of Scapula is sometimes known as winged scapula. Shoulder blades are affected by this condition. Anatomical term for the shoulder blade is scapula. Against the back of the chest wall, the scapula normally stands flat. When a shoulder blade becomes extremely noticeable, scapular winging eventuate (Martin and Fish, 2008)

Weakness can happen in the muscles of shoulders, neck and arms if the scapular winging occurs as a result of nerve damage. Due to winging of scapula the ability to raise the arm above the shoulder also affects. Some other symptoms that are associated with scapular winging includes: drooping of shoulder, pain or discomfort in shoulders, neck and back and fatigue. Winging of scapula is mainly occurs due to the damage of one nerve out of three. These nerves control the muscles of neck, arms and back. The serratus anterior muscle is controlled by the long thoracic nerve. The rhomboid muscles are controlled by the dorsal scapular nerve. The trapezius muscle is controlled by spinal accessory nerve.

Muscle ache or muscle pain is usually called as mylgia. Underline systemic disorders can cause mylgia or muscular pain. For instance atrophy, weakness and fatigue. Depressive disorders and anxiety also cause mylgia. Stiffness, tightness and pain of upper part of trapezius are called

trapezius mylgia. It can be characterized by neck and shoulder pain. This is not a disease but a symptom. Pain in muscle can lasts for days to weeks or even months.

Trapezius mylgia may also followed by different symptoms. For instance neck and shoulder sprain, muscular stiffness, muscle spasms, decreased range of motion in the shoulders or neck and tingling or numbness in one or both arms.

Trigger points often diffuse locally. They are loops of rigid spinal-skeletal muscle that will not relax. It will feel like tough, palpable contracted mass of muscle that does not move and cause referred pain. In localized musculoskeletal condition, trigger points are present. Trigger points can be present in any muscle of body, but most commonly, they are present in trapezius. By touching it, pain will be expand to the area if neck, shoulders and upper back.

Many factors can cause trigger points most importantly mechanical factors. These factors put stress on the muscle causing trigger points. For instance a whiplash injury, any repetitive activity, heavy handbags and unsupported pillow. They can be treated with massage therapy, pressure and dry needling.

Tender points and trigger points are considered same but they are different from one another. Tender points (pain with light touch) pain do not spread or refer to other areas. Tender points are mostly present in upper trapezius (Perreault et al., 2009)

Tender points usually use to diagnose fibromyalgia. They are symmetrical points and present bilaterally in nine locations of body.

These nine locations are cervical bone, occipital bone, trapezius muscle, supraspinatus muscle, gluteus, knees, greater trochanter, lateral epicondyles and 2nd rib. They are not visible or palpable but are found in systemic conditions.

Pain that is perceived at a site other than the site of prod of pain is referred pain. The pain is activated by underlying problem of any other area. Neck perceive referred pain from different area of body that indicate different problems for instance heart problem, indigestion, pain of trigger points in trapezius usually referred to neck.

To consider the tightness, pain and disability of neck, Neck Pain Disability Index Scale is used. The Neck Pain Disability Index Scale is a survey consists of ten questions, which analyze status of a patient to perform activities.

Survey was planned to provide the knowledge about the effect of daily life activities on neck ache (Choudhari et al., 2012)**.** 10 questions asked from participants like reading, working, lifting, intensity of pain, driving, sleep, headaches, hobby etc.

In the end for each question, there is a score. Total score is five. When each one from the 10 questions answered, we calculate score. For instance {15(total scored)/50(total possible score) *100=30%

In physical therapy there are many types of treatments that are available to treat the patients. These treatments are acknowledged as standard forms of practice. Treatments include usual conservative strategies like manual treatments, physical medicine methods, education of patients and medication. Conservative treatments are described as non-surgical management like manual

treatments, physical medicines, drugs and most importantly education of patients.(Aker et al., 1996)

Mechanical disorders of neck comprises of situations that cause pain in neck with or without referred ache in cervical, arm and shoulder. After investigation, studies shows that neck disorders associated with neurological deficit, headache with no association to neck pain, or other pathologies causing neck pain like neurological disorders, inflammatory diseases, dislocations, fractures, tumors, or infection were eliminated. Musculoskeletal pain is extensively treated by Low- level laser therapy (LLLT) (Chow et al., 2005)

For neck, pain the most commonly type of physiotherapy that is used is 'The McKenzie approach'. Physiotherapists offer different types of treatments for the neck pain that commonly includes exercise therapy. To manage the neck pain for spinal stabilization some exercises like Pilates are gaining popularity day by day. By using specific stabilization exercises, we can achieve re-education of the postural muscles. To accurate the misalignment between stability muscles that are present more deeply and counterparts that are positioned more superficially was the main focus (Moffett and McLean, 2005)**.**

Studies show that manual therapy has remarkable effect and is less costly for management of neckache (Korthals-de Bos et al., 2003) Neck pain is frequently treated by manual therapy techniques..

Stretching, strengthening, neck isometrics, physical modalities including ice or heat therapy, electrotherapy (ultrasound, ultraviolet rays), massage therapy and aquatic exercises are some ways to treat the neck pain. Many systematic reviews have shown that patients having acute or

chronic neck pain can be treated by manual therapy alone or it can be collaborate with other exercises to produce useful results (Moffett and McLean, 2005)

Students that go to university including 74% of undergraduates, they work per week an average of 25.5 hours**.** Astonishingly we have very less information about how undergraduates got affected due to off campus jobs and the amount of impact occur on their studies by number of hours they worked. The students who worked per week for 10-19 hour had higher grades and were ranked higher to other students who were working or non-working. It is purposed that the growth in the performance of these students was due to a well balanced work-college timings that exhibits discipline and structure which cannot be attained by working too little or too much (Dundes et al., 2006)

Significance

This study tells us about the prevalence of tightness of upper trapezius muscle due to chronic neck pain and poor posture in university going students. This study helps us to understand the various effects of UT tightness on daily life activities for instance reading, writing, lifting, driving, concentration and occurrence of headache. Our purpose was to find out the prevalence and to tell the students about its cure which most of them really did not know. Physiotherapists can make a suitable plan and can tell the students to maintain right postures. We should organize seminars and workshops to educate them.

CHAPTER 2: LITERATURE REVIEW

A lot of work has been done in regard of this. The published research papers/articles/book has been mentioned below:

The research was conducted by MOTIALLAH TAHEREH, MOSLEMI HAGHIGHI FARZANEH, GHANBARI ALI*, AMIR MOEZI SHI and was published by JOURNAL OF RESEARCH IN REHABILITATION SCIENCES in FEBRUARY-MARCH 2013. Neck pain can be arisen due to keeping the head, neck and shoulder in static position during activity of daily livings. Neck pain is commonly referred to physio department. The relation between neck pain and forward head posture was studied in healthy people and individuals with chronic ache in neck. The age group was 20-60.31 healthy people and 31 participants with chronic pain in neck were engaged in this investigation. A digital camera was used to take pictures from lateral view of right side. the images were then analyzed to measure shoulder and head postures. The tests used were T-test and chi-square. The result showed that people with chronic ache in neck had FHP and shoulders rounded. It was related to trigger points in trapezius muscle as compared to healthy individuals. With all this, it was concluded that neck pain is associated with forward head and rounded shoulder posture. Apart from correcting these faulty postures it is also necessary to find out pressure points in trapezius plus other muscles of neck to treat the soreness (MOTIALLAH et al., 2013)

The research was conducted via Jong-Hyuck Weon, Jae Seop Oh, Heon Seock Cynn, Yong-Wook Kim, Oh-Yun Kwon, Chung Hwi Yi and published in Korea. Evaluation conducted throughout the burdened shoulder isometric flexion for the effects of FHP in sitting and sagittal plane on the motion of upward rotation of scapula. Fit participants were 21 in which there were 11 men and 10 women having no antiquity of illness took part in investigation. In sitting the participants were taught to execute shoulder isometric flexion along upper right side margin in

FHP and NHP. From the muscles, upper and lower trap along with serratus anterior surface electromyography (EMG) was noted. Predicted variables were inspected by two postures into three muscles frequent trials study of alteration. Expressively in serratus anterior EMG activity decreased and in upper and lower trapezius EMG activity increased. During loading in FHP with shoulder isometrics flexion was performed and EMG activity was noted. In sitting position, FHP has an effect on shoulder and neck ache throughout burdened flexion of shoulder. The outcomes show that to maintain neutral head posture is beneficial for lessen continuous UT plus LT trap and to upgrade the bustle of SA in contrast to forward head posture throughout the burdened flexion of shoulder. (Weon et al., 2010)

The research was conducted by TOM BENDIX & MATS HAGBERG and published online on 31st May, 2007. We examined sitting position for the participants who were reading with respect to 3 special slope desk of height 22, 45 and 0 horizontal via stichometry including ten participants. While increasing the desk angle, the lumber and cervical was extended. Towards the upright posture, our trunk and head distorted. During writing and reading EMG was recorded form trapezius. For the two tasks, by changing the slopes of desk did not altered because the muscular weight was very small. An assessment used for tolerability, accomplished for the two challenges on every desk leaning, favored a horizontal desk for writing and slope desk for reading. It suggests that wirting should be done on horizontal table and readind should be done on desk slopes. (BENDIX and HAGBERG, 1984)

This research was conducted by kim, Hee, Min published by journal in 2015.The investigation was conducted for the examination that if FHP has any affect on muscular activity. 20 participants appearing in Y university of Republic of Korea in Gyeongsangnam-do. There were two groups. A FHP group having 10 participants and a control group having 10 participants in

relation to craniovertebral angle. In retraction and protraction, electrodes of the electromyography were placed on different muscles like the UT and MT fibers of trap, SC, and SCM for the checking of muscular activity. Remarkable difference was seen between FHP cluster as well as control group EMG activities of SCM, splenii and middle trapezius. However, in retraction and protraction movements of 2 groups upper trapezius EMG activity exhibited no remarkable changes. It is concluded that neck protraction and retraction can be affected by FHP (Lee et al., 2015)

The research was conducted by Fernandez, ML Caudrado JA Pareja on September 1, 2006.This paper portrays the dissimilarities inside the vision of TrPs in muscles like UT, SCM, temporalis plus sub-occipital between one-sided headache topics and dense controls, plus divisions inside the sight of pressure points amid the characteristic side and non-revealing side in headache themes. Furthermore, we appraise the divisions inside the vision of both FHP and active neck resourcefulness between headache themes and comprehensive controls and the joining among FHP and neck movability. 20 foci with one-sided headache deprived of side-move and 20 synchronized controls took an attention. Pressure points were illustrious if there was a overexcited practical weakness in a considerable fitted band, close jerk response inspired by the fast palpation of the taut band and explosion of alluded torment average of every trigger point. Side-see images were captured in individually sitting and standing locations to measure the cranio-vertebral edge. ROM of neck was patterned visually by goniometry. Individual with headache established an essentially more prominent number of dynamic Trigger points, yet not inert Trigger points, than sound controls. Lively pressure points were for the most part found one sided to headache cerebral. Headache subjects confirmed a littler vertebro-cranial opinioned than controls, therefore screening a more strikingFHP. Neck malleability in headache themes were not

exactly in controls just for surge and the absolute space of action in flexion or expansion. Be that as it may, it was a positive connotation between the vertebro-cranial point and neck transportability. Nociceptive charities from pressure points in cranial and vertebral muscles may bring consistent afferent attack of the 5^{th} facial nerve core caudalis and, immediately, beginning of the vasculotrigeminal framework. Lively pressure points found one sided to headache cerebral pains may be a instrumental component in the origination or circulation of headache (Fernandez-de-Las-Peñas et al., 2006)

The research, conducted via Seong-Yeol Kim, Sung-Ja Koo on 2016.The influence of span of cell handset custom on muscles o neck and shoulder dimness and anguish was explored in full-grown with FHP. Thirty-four fully-fledged with accelerative head deportment were neat into meetings by tenure of hand set use. Even exploited a handset for 10 mins. Group 1 was 12 aimed at 20 mins apiece, Group 2 was 11 aimed at 30 mins apiece. Lethargy of neck ES and UT muscles was appraised through EMG, and aching if the scrutiny was evaluated exploiting VAS slashes. There was a vast dissimilarity in the level of lethargy in left UT in assembly two and left neck ES and individual UT assembly three. There was a vast discrepancy in collapse in left UT in congregations one and three. The VAS verified serious distinctions in all groups when pilot plus amid congregations one and three. Uneasiness as well as tiredness compounded with all-embracing handset custom. This enquiry gave material on exact measurement of handset habit. Right carriage plus collapses of at any amount 20 minutes are agreed when employing handsets (Kim and Koo, 2016)

Investigation was conducted by different researchers on August 2010. FHP and RSP are conceived to add changes in kinematics of scapula plus muscular action chief to the progression of shoulder soreness. Yet, reviewed differences in kinematics of scapula and action of muscle with FHP and RSP were puzzled through appearance of soreness of shoulder. Reason of the research was tell motion of scapula plus muscular movement in participants liberated from shoulder ache, with as well as with no Forward Head Rounded Shoulder Posture. 80 helpers had arranged possess FHRSP or perfect position. Motion of scapula had acquire alongside through muscular action from the UT and LT plus SA throughout weighed down bending plus above head attaining chore using EMG chasing arrangement plus EMG. Disconnect diverse prototypical studies of discrepancy were secondhand to connect 3D motion of scapula plus action of muscle throughout rising chapters of all odd jobs. People by means of FHP plus RSP showed significantly more internal rotation of scapula with fewer serratus anterior action, throughout all jobs plus more upward rotation of scapula, anterior tilting throughout bending chore if contrasted to the perfect posture group. Fallouts offer sustenance for medical suggestion that FHRP has an outcome on mechanics of shoulder autonomous of shoulder ache (Thigpen et al., 2010)

The research was conducted by Won-gyu Yoo in 2013. The reason for this examination was to research the impact of retraction of neck taping on FHP and the UT muscle of PC specialists throughout PC job. Twelve guys 20–30 years were enlisted. We quantified FHP and UT muscle movement during PC work when Neck Retraction Taping. The FHP point essentially diminished throughout PC vocation performed with taping during retraction of neck contrasted with without Neck retraction taping. The UT muscle movement was additionally essentially diminished during PC work performed with retraction of neck taping contrasted with without retraction of nack

taping. We feel that the taping pressure given by Neck retraction taping may have given a mechanical impact that anticipated Forward head posture. Neck retraction taping may likewise support a legitimate head posture in patients new to the neck retraction taping (Yoo, 2013)

The research was conducted by Brecca M. Gaffney, Katrina S. Malsuf, Douglas Curran Everett, Brasley S. Davison on August 2014. Primary goal of the study was to enumerate the allocation of trap muscle act with diverse postures of scapula during sitting. The additional purpose of the study to learn about connection among vagaries of neck and posture of scapula if endeavoring toward employ dissimilar partion of the trap muscle. Neck posture, posture of scapula, and trap muscle action were noted from 20 fit contributors throughout three alert postures of shoulder. Flat viewpoints shaped through deep indicators located on shoulder plus neck and tragi were worn toward enumerate neck plus location of scapula. Using electrodes positioned above the UT MT and LT noted division of trap muscle action. Fallout established the supposition that directed postures of scapula positively trigger diverse partition of the trapezius muscle. In exacting, depression of scapula was connected with inferior site of trapezius muscle action. Elevation of scapula was joined with abduction of scapula. Adduction of scapula was joined with extension of neck. Other vicissitudes in posture of neck were independent of changes in posture of scapula. The study gives realistic hold aimed at drops in stationary burdening of UT plus enhancements in bearing of neck via oral prompting of posture of scapula (Gaffney et al., 2014)

The research was conducted by Piotr Kocur, Macirj Wilski, Jeck Lewandowiski, Prof Dawid Lochyriski and published online on July 19, 2018. occupational neck ailments be amongst mainly frequent maladaptive effect in office staff. Considerate neck myofascial involuntary appearance that distinguish symptomatic from asymptomatic office staff is serious for the thoughtful of MSK dysfunctions in job forces by neck discomfort. The purpose is to assess the

consequence of restrained occupational neck complaints on posture of head plus firmness and apparent pain threshold of UT and SCM muscles. 16 job employees by recognized moderate occupational cervical disorders and 16 asymptomatic job employees coordinated for gendr, age, BMI, and the character and age of vocation. The chief result calculated involved of dimensions of posture of head by angle of craniovertebral and myotonometric muscle firmness (Newtons per meter) of the upper trap plus SCM muscles. Subordinate production unpredictable was the alleged pain threshold algometry of the measured muscles. Linked with predicted group, subjects with occupational neck uneasiness had a considerably lesser angle of craniovertebral and more firmness of the UT myofascial tissue. No important alterations in apparent ache threshold of the myofascial tissue of the UT or SCM muscles were found among groups. The investigation female job staff with neck ache had enhanced anterior position of head and firmness of the UT muscle in sitting position, which was not connected with deviations in the force ache threshold of muscle (Kocur et al., 2018)

The research was conducted by M.Keitrys, Michael J.Gerg, Jonathas Dropk in, Judith E. Gold on September 2015. The investigation intended to decide the concequences of input tool sort, texting method, and display extent on upper edge and trap muscle action plus posture of neck throughout a petite typing job in college pupils. Operators of a bodily keypad shaped bigger thumb plus wrist muscle extensor movement, finger flexor than when typing by means of a touch display machine of similar size. Typing on each display shaped larger wrist extensor muscle action when typing with one hand or thumb in contrast among both hands or thumbs. As touch display amount superior, more individual seized the tool on lap, and chosen to utilize mutually thumbs less. Here was also fashion for wrist extensor, finger flexor and trap muscle movement as touch monitor mass enlarged, and for bigger neck flexion, even though mean

variances for neck flexion were less. Future study be able to assist tell whether the ergonomic stressors seen throughout typing are connected with MSK chaos threat (Kietrys et al., 2015)

The research was conducted different researchers, published online in 18th Feb, 2016. The investigation was managed for the purpose to decide the result of deviation in links happening EMG neck action in some participants with MCCMD. EMG noted throughout paramount unpaid scrunching were executed by positioning surface electrodes on the left SCM in addition to UT in subsequent circumstances. Noteworthy improved EMG action remained noted throughout greatest charitable griping although no momentous alterations trendy EMG action stood seen. EMG model seen justify that extra recurring amount in addition to period of teeth squeezing in retrusive occlusal associated site might show outcome popular extra medical symptoms in muscles of neck in people having MCCM maladjustment (Zuñiga et al., 1995)

The research was conducted by researchers on December 2010. Widespread computer utilize among office staff have directed to raise in occupational neck ache. Abnormal movement inside trap consists of 3 muscles plus related vagaries in stance of scapula had recognized as possible causative element. The investigation associated the action EMG of the 3 parts of the trap muscle fit controls to a neck soreness group with poor posture of scapula throughout the working of a practical typing occupation. A postural of scapula upgrading plan was worn to accurate alignment of scapula in neck ache clustter and EMG footages remained recurring. All through capturing job, sorenes of necks clustter developed larger bustle in MT and a smaller amount action in lower trapezius (LT) than the organize group. Subsequent improvement of scapula, action noted by neck ache group was alike as organize group for middle and lower parts. The results show that posture of scaupla improvement work out may be successful in changing the

sharing of movement in trap muscle to improved mirror that demonstrate by fit or fit persons (Wegner et al., 2010)

The research was conducted by researchers in October 2007. Investigation evaluated instantaneous special possessions PPT popular sedentary taut bands in UT of solo neck operation concentrated at neck near. 72helpers, 27 was male and 46 were female, contributed in this investigation. Participants practiced transmission procedure toward create the occurrence of taut bands in UT as definite and occurrence of back joint disorder at neck by the parallel sliding exam for neck. Foci stood separated illogically hooked on 2 clusters. Controlling cluster, agreed neck handling fixated at neck level plus palliative cluster, agreed mock physical practice. Outcome quantity was PPT on taut band in UT one side to side of joint malfunction, which was evaluated pretreatment and 1, 5, and 10 minutes post treatment by an evaluator blinded to the treatment distribution of subject. Miscellaneous relaxing actions, segmental, may be complex at like dated (Ruiz-Sáez et al., 2007)

The research was conducted by researchers and published online on 28th March, 2007. The properties of task were premeditated by associating wood growers' MSK sigs although catching pears through alike indications while catching apples. Themes were fifty-two women from Japan agriculturalists, continued inspect two times dusk in nighttime June for catching pears plus throughout extra twilight of late-night July for catching apples. Enquired near MSKobjections of durability plus sourness throughout every work as well as inspected for power soreness plus ache from joint motion. Dimension of support raise approach were intended for every type of catching. Appearance of arduousness plus ache in neck as well as shoulder, muscle soreness in areas of shoulder plus ache in neck motion were organize to be brightly greater if snaring pears than apples. MSK cryptograms of portions neck plus shoulder did not diverge amid two kinds of

catching. At work stance of raising arm more than 90° was seeming to clarification for 75 percent of period catching pears in battle of 40 percent for catching apples. Work hard arm rasing plus head leeway was leisurely to carefully connected by shoulder plus neck illnesses amid growers (Sakakibara et al., 1995)

Following research was led via researchers, published online on 10th November 2010. Electromyographic act of the UT for two clusters of staff noted above days, spending center was 22 plus fittness workers was 44. Together with little untried biomechanical involvement. Static and median EMG action level, number of EMG openings as well as gap time were resolute. Whimsicality of variables workday were pragmatic by conniving CV plus ICC successive recording phases. Every variable without hole time displayed suitable steadiness, major part of modification in statistics remained because of bury foci modification, notwithstanding of comparatively more hour-to-hour disparity. EMG action in trap stood minor, notwithstanding high frequency of shoulder plus neck sourness for all clusters of employees. Also, job footages, examinations remained made to rule bury foci difference in influence action if applying consistent inactive carriage plus in lively muscle motion design throughout walked arm gesture. EMG modification from effort copies nor exams by EMG footage specified advanced trap EMG action for labors through distress in shoulders plus neck in investigation. Less EMG are understood to show little threat of emergent shoulder plus neck grievances because of motion involvement aimed at every clusters of labors. Probability of ache stating devices, related to pressure plus not judged done muscle action (Westgaard et al., 2001)

The research was conducted by research published on March 14, 2013. Pressure points are palpable, taut knots in overextended bands of emaciated muscle that are aching on firmness. Pressure points are distinguishing fallouts in pressure pain. The character of pressure points in

the pathophysiology of MPS is anonymous. Localization, judgement, clinical conclusion trials of aching taut bands can be enhanced by quantitatively portraying as well as quantitatively measuring their belongings. The goal line of this research was to judge whether US imaging and elastography can differentiate symptomatic vigorous pressure points from standard muscle. Patients with lasting less than 3 months neck ache with thoughtlessly sore, palpable vigorous taut bands and fit helpers deprived of unprompted pain having tangibly normal tissue were conscripted for this research. UT in each focus were imaged plus echotexture was studied using entropy filtering of B-mode images. The imaging measures were compared in contrast to the clinical findings of a standardized physical check. It was found that spots with vigorous taut bands, total 14 people have knowingly lesser P less than 0.005. Suggestively higher nonvibrating areas p less than 0.05 throughout vibration elastography in contrast to standard, uncomplicated muscle total 15. Amalgamation of entropy investigation and vibration elastography bent 69 percent sympathy and 81 percent specificity in sharp vigorous pressure points from standard muscle. These penalties propose that vigorous pressure point have extra same touch and mixed rigorousness when linked with unpretentious muscle. Methods permissible to progress imaging dissimilarity amid alleged taut bands as well as close muscle. Fallouts agree that in foci with chronic neck aching plus vigorous taut bands, wrongdoings are not imperfect to discrete lonely knots nevertheless as an alternative move environment of the muscle nearby palpable pressure points. By extra adjustment, US imaging can be a auspicious detached method for recitation soft tissue aberrations accompanying with vigorous taut bands as well as amplification protagonist of pressure in the pathophysiology of MPS (Turo et al., 2013)

The investigation was conducted by Deborah Falla and Dario Farina in July 2005.The resolution of this exploration was to re-count typical fiber of muscle conduction velocity then its

dissimilarities ended time in UT throughout a droning high limb task in participants with chronic pain of neck plus in fit controls. EMG indications were distinguished both sided from UT of 19 patients and nine fit controls with linear glued selections of four electrodes. Foci were intreated to knock their hands in recurring means amid targets positioned mid thigh and 120° flexion of shoulder, to tired of a metronome set at 88 beats per min for upto 5 min. Muscle fiber plus swift unkind power spectral occurrence were expectable for every cycle at time instantaneous agreeing to 90° flexion of shoulder. Usual muscle fiber of UT was superior in individuals with chronic neck ache than in control foci. As well, the exercise induced deterioration in CV over time was advanced in the patient cluster. It was resolved that membrane fibers of muscle assets of UT as well as their distinctions over time throughout lively shrinkage of UT are unrelated in model of people with chronic neck sourness with repute to controls. This may be akin with the histological and morphological changes, which have earlier been standard in people with ache above UT (Falla and Farina, 2005)

The research was conducted by researchers in October 2005. Constant labor-intensive pressure has been buoyed as operative behavior for pressure points. This exploration intended to sightsee the consequence of labor-intensive pressure let-go on the pressure sympathy of inactive pressure points in UT through incomes of novel pressure algometer. Subjects total no was 37, mean was 22.1, 12 was male, 23 was male were curtained for rate of hidden pressure points in UT taut band that bent raised aching to the neck or head on labor-intensive pressure. Foci were unreliably billed into also conduct or control clusters. The PPT was chronicled pre and post-intervention with a cardinal algometer, entailing of capacitance sensor involved to landfill of palpating thumb. There was historic upsurge in the mean PPT of pressure points in UT subsequent MPR, but not following the mock handling. Pressure was observed plus continued throughout claim of

MPR plus cut in supposed sourness in addition to imperative growth in open-mindedness to conduct pressure look as if to be began by adjustment in tissue sympathy, pretty than an inadvertent diminution of pressure by taxer. The fallouts recommend that pressure points possibly will operative therapy for pressure points in UT (Fryer et al., 2005)

The study was conducted by researchers on February 2007. Area of examination stands to outline adjustments in index of pressure points in muscles like UT, SCM, levator scapulae plus suboccipital. Pressure point were documented, from surveyor not seeing the foci's complaint, notwithstanding a manic pressure advert in a physical receptivity strapped retort cracking palpation incite plus taut band. Pressure mean sum present-day on all neck persistent through ache was 4.3, of which 2.5 were covert plus 1.8 were energetic pressure points. Regulator subjects similarly displayed pressure points mean: 2; SD: 0.8. Each were unseen pressure point. Alterations in quantity of pressure points among all investigated clusters were striking for vigorous pressure p is less than 0.001 then not for covert pressure p is more than 0.5. Besides, modifications of spreading of pressure points privileged investigated muscle of neck extensive for exclusive of levator scapulae, examined muscles driven raised sourness outlines promoting to patients' signals. Patients bestowing with power-driven pain of neck had mutual Vigorous pressure points than in fit subjects (Fernandez-de-Las-Penas et al., 2007)

Objective

The objective of our investigation is to find out the prevalence of upper trapezius tightness due to poor posture and neck pain in university students.

CHAPTER 3: MATERIALS & METHODOLOGY

3.1 Study design

The study was cross-sectional.

3.2 Setting

The data were collected from University Of Management and Technology, University Of Lahore, University Of Education, Ripha International University and Punjab University.

3.3 Duration

4 months were the duration of this research.

3.4 Sample technique

Convenient sampling technique was used.

3.5 Sample size

The population of our study N=360 as 'N' denotes total population in which mean 'x'= 22.33, standard deviation= ± 4.41, minimum age taken was18 years and maximum age taken was30 years.

3.6 Sample selection

3.6.1 Inclusion criteria

Age included from 18-30

Male and female genders were included

Students with pain more than 3 months

3.6.2 Exclusion criteria

Age should not be less than 18 and should not exceed 30

Any person with red flag signs of cervical spine/ radicular pain

Person with recent traumatic injury of spine

Students with pain less than 3 months

3.7 Data collection process

The questionnaires were distributed in different universities. Questions were explained to the students so they answered them accurately.

3.8 Data collection tools

Neck Pain Disability Index Scale (NPDIS) was used

3.9 Data analysis

IBM SPSS statistics 21, version 21.0 was used for the analysis of data. Data was checked for its completeness. Data is represented in form of mean, standard deviation, frequency and percentages.

3.10 Results

4 Most of the students had neck pain due to poor posture. According to the study results showed that out of 360 students, 56.7% (204) were males and 43.3% (156) were females. The results show that the mean (±SD) age (years) of the students was 22.33 ± 4.41. Minimum age taken was 18 years and maximum age was 30 years. Analysis showed that about 20.3% (73) were engineering students, 11.7% (42) were business students, 29.4% (106) were from health sciences dept, 15.8% (57) were from social sciences dept, 4.4% (16) were from architecture dept, 3.1% (11) were from law dept, 7.8% (28) were from computer sciences dept and 7.5% (27) students were from mass communication. Analysis showed that about 58.3% (210) of the students experienced no pain, 21.9% (79) had mild pain, 10.8% (39) had moderate pain, 4.2% (15) had severe pain, 3.9% (14) had very severe pain and 0.8% (3) experienced most terrible pain. The consequence of neck pain on personal care of the students were investigated and outcomes showed that 60.6% (218) participants might take care of their own selves with no additional pain, 16.1% (58) students might take care of themselves with additional aches, about 7.2% (26) students looking after themselves were painful. About 10.6% (38) students need help but could handle majority of their own care, 4.2% (15) participants require assistance for each day, and only 1.4% (5) students had difficulty washing and dressing. The effect of neck pain on the lifting ability was that 46.1% (166) could lift heavy objects without extra pain, 30.0% (108) could lift objects having extra pain. 12.5% (45) students experienced pain by lifting off the floor, 7.5% (27) students could not lift heavy weights 3.6% (13) students could only carry extremely lightweight**,** .3% (1) were not able to carry something. The effect of reading on neck pain was as analysis showed 46.1% (166) might read as long as they wish and experienced moderate neck ache, 14.7% (53) students could read only limited amount of things due to temperate neck ache. 4.2% (15)

students could barely read due to brutal pain in neck and 3.1% (11) students could not read at all due to neck pain**.** Headache results showed that 25.8% (93) experienced no headache and 74.2% students had complained of headache. 40.0% students had no problems in concentration and 4.4% (16) students could not concentrate at all due to neck pain. In 52.2%, students neck pain had no effect on their work whereas 47.8% students got effected by neck pain. After analysis this study showed that maximum 52.2% (188) experienced no neck pain during driving 47.8% had problems during driving due to neck pain. 60.3% students had difficulty in sleeping according to analysis and 39.7% had no sleep difficulties. Maximum number of students 51.4% might not be able to perform leisure tricks due to pain in neck and poor posture while 48.6% had no difficulties.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	204	56.7	56.7	56.7
	Female	156	43.3	43.3	100.0
	Total	360	100.0	100.0	

Table 1: Gender

This table shows that out of 360 students, 56.7% (204) were males and 43.3% (156) were females.

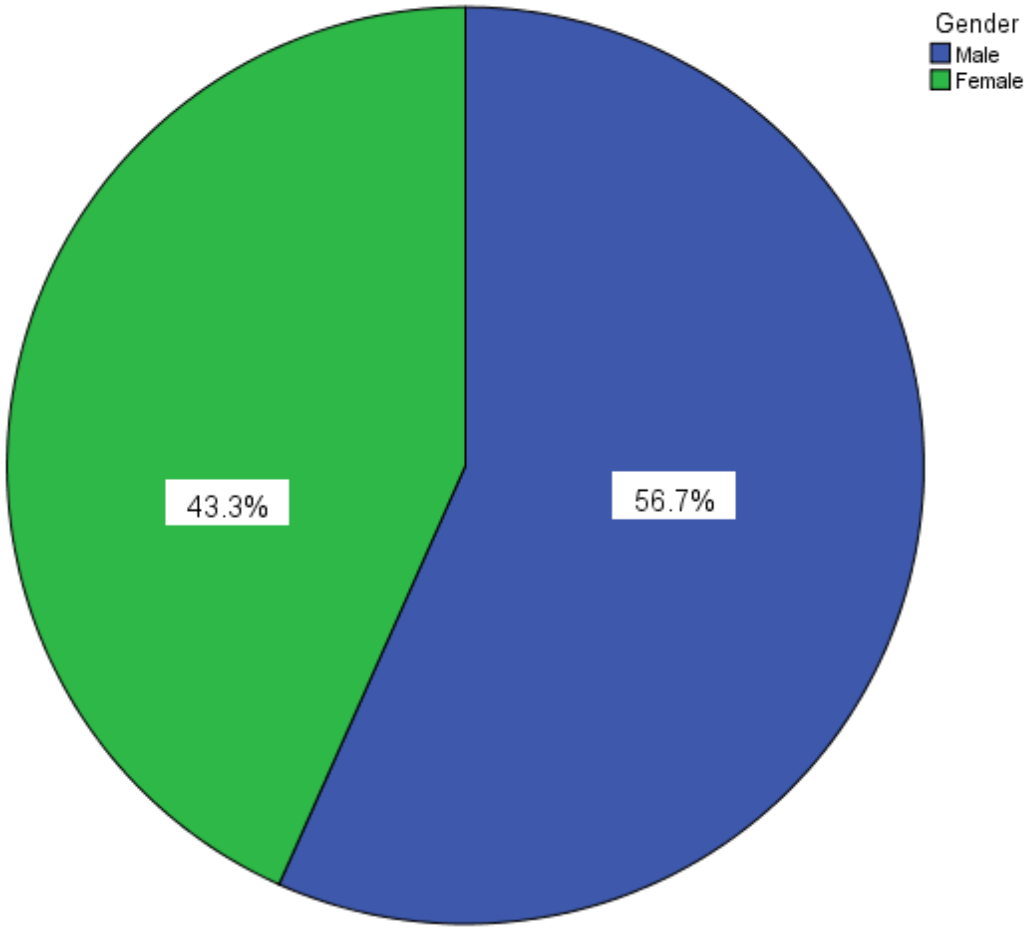

Figure 1: Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16	1	.3	.3	.3
	18	15	4.2	4.2	4.4
	19	26	7.2	7.2	11.7
	20	38	10.6	10.6	22.2
	21	43	11.9	11.9	34.2
	22	81	22.5	22.5	56.7
	23	57	15.8	15.8	72.5
	24	40	11.1	11.1	83.6
	25	35	9.7	9.7	93.3
	26	9	2.5	2.5	95.8
	27	3	.8	.8	96.7
	28	3	.8	.8	97.5
	29	1	.3	.3	97.8
	30	8	2.2	2.2	100.0
	Total	360	100.0	100.0	

Table 2: Age

This table shows that the mean (±SD) age (years) of the students was 22.33 ± 4.41.

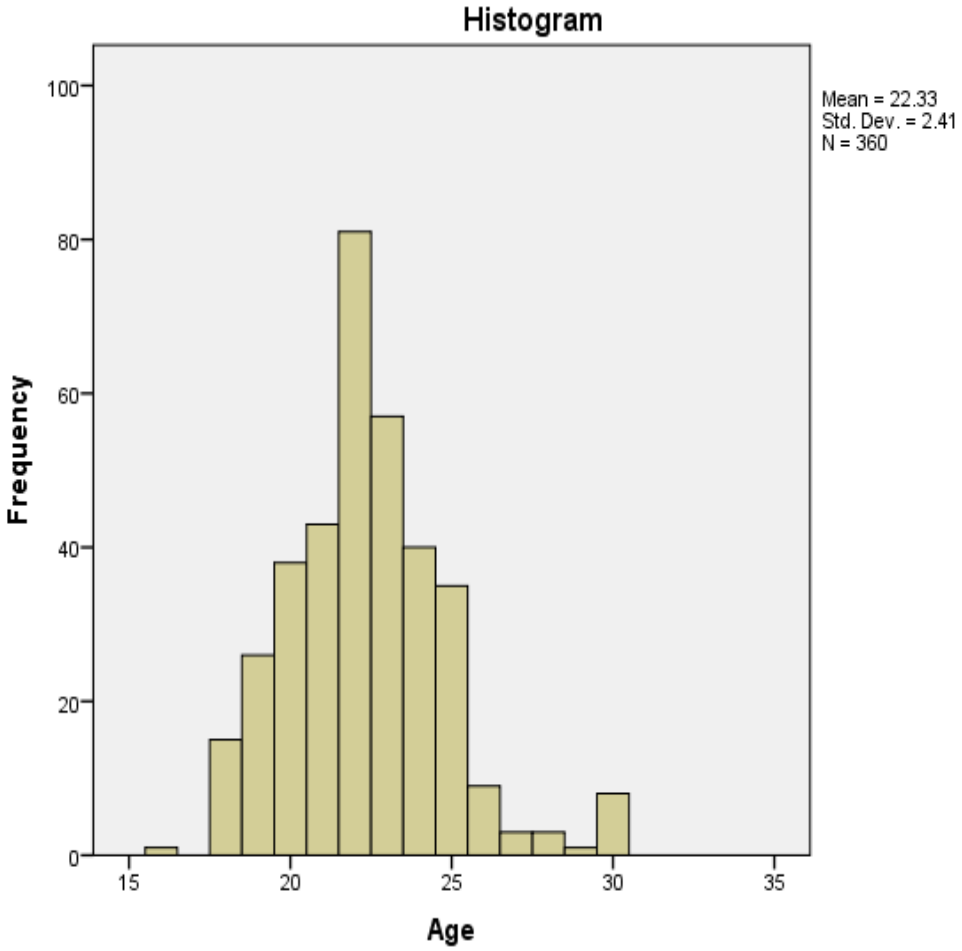
Histogram
Mean = 22.33
Std. Dev. = 2.41
N = 360
Frequency
100
80
60
40
20
0
15
20
25
30
35
Age

Figure 2: Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Engineering	73	20.3	20.3	20.3
	Business	42	11.7	11.7	31.9
	Health Sciences	106	29.4	29.4	61.4
	Social Sciences	57	15.8	15.8	77.2
	Architecture	16	4.4	4.4	81.7
	Law	11	3.1	3.1	84.7
	Computer science	28	7.8	7.8	92.5
	Mass Com.	27	7.5	7.5	100.0
	Total	360	100.0	100.0	

Table 3: Department

This table shows that about 20.3% (73) were engineering students, 11.7% (42) business, 29.4% (106) health sciences, 15.8% (57) social sciences, 4.4% (16) architecture, 3.1% (11) law, 7.8% (28) computer sciences, and 7.5% (27) students were from mass communication.

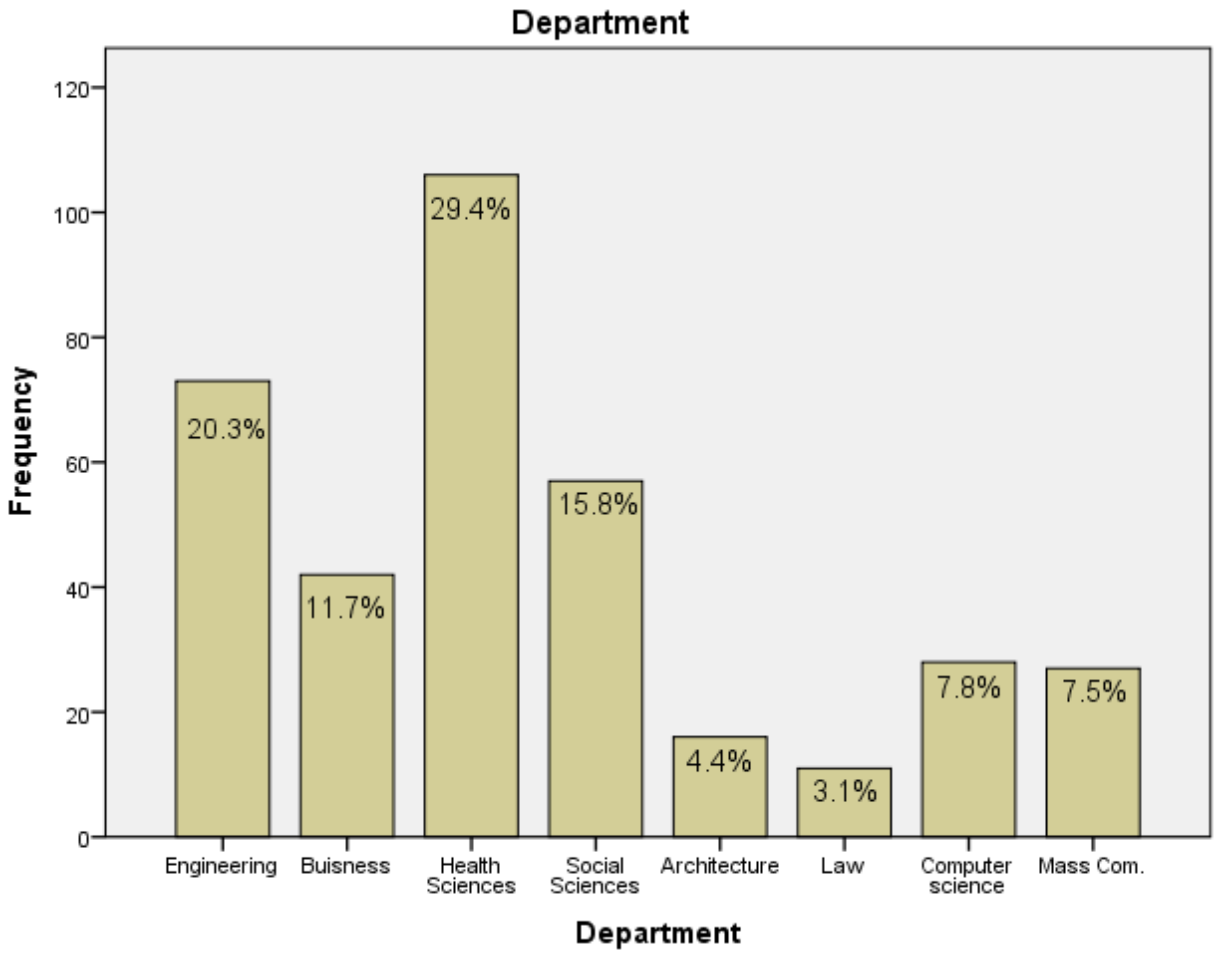

Figure 3: Department

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No pain	210	58.3	58.3	58.3
	Mild pain	79	21.9	21.9	80.3
	Moderate pain	39	10.8	10.8	91.1
	Fairly severe pain	15	4.2	4.2	95.3
	Very severe pain	14	3.9	3.9	99.2
	Worst pain	3	.8	.8	100.0
	Total	360	100.0	100.0	

Table 4: Pain Intensity

This table shows that about 58.3% (210) of the students experienced no pain, 21.9% (79) experienced mild pain, 10.8% (39) moderate pain, 4.2% (15) fairly severe pain, 3.9% (14) very severe pain and 0.8% (3) experienced worst pain.

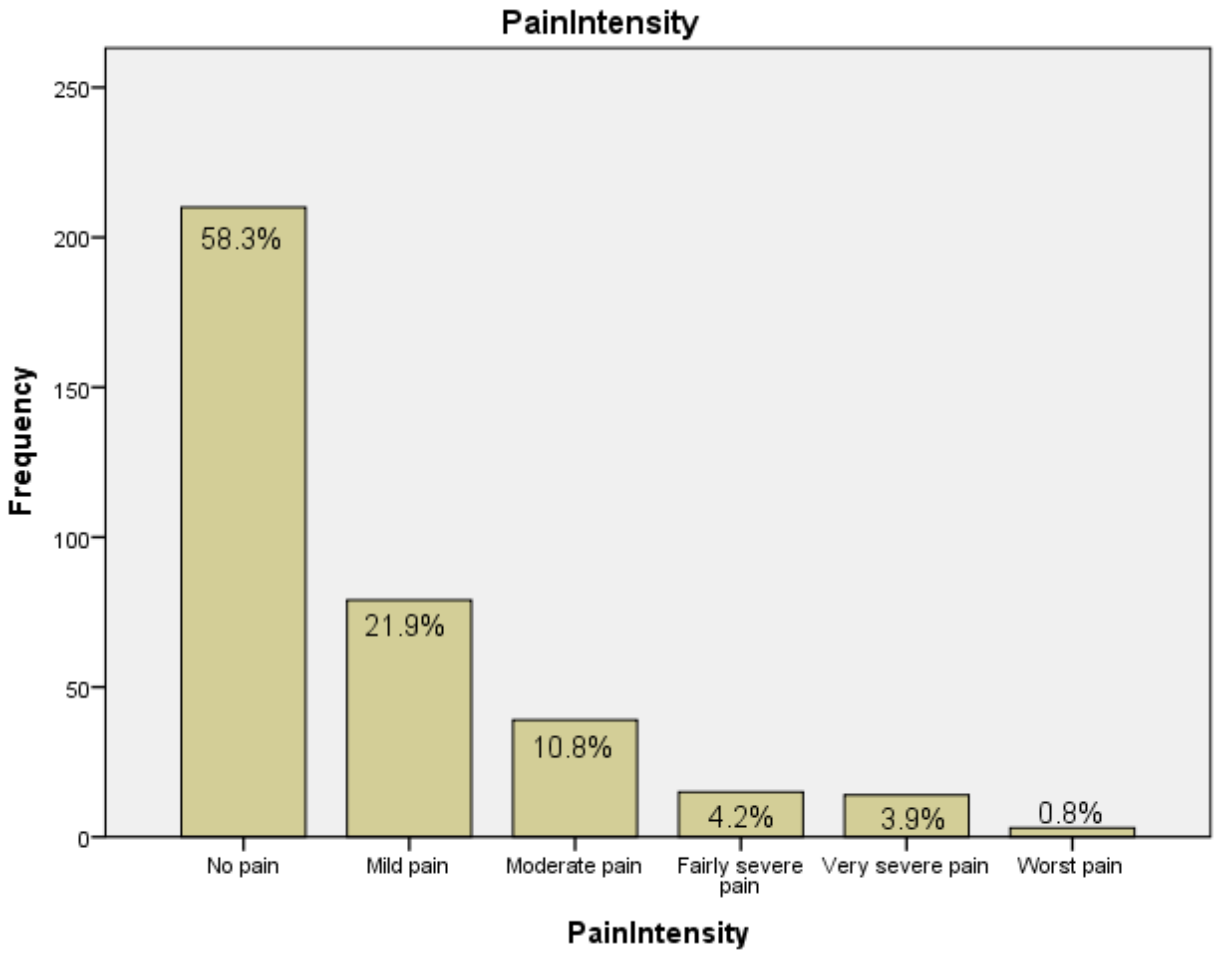

Figure 4: Pain Intensity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal without extra pain	218	60.6	60.6	60.6
	Normal with extra pain	58	16.1	16.1	76.7
	Painful to look after	26	7.2	7.2	83.9
	need help but managed	38	10.6	10.6	94.4
	Need help everyday	15	4.2	4.2	98.6
	Difficulty in washing and dressing	5	1.4	1.4	100.0
	Total	360	100.0	100.0	

Table 5: Personal Care

This table shows that about 60.6% (218) students know how to take care of themselves usually with no additional pain, 16.1% (58) students be able to take care of themselves with additional ache, for about 7.2% (26) students it is painful to look after themselves plus they are deliberate as well as cautious. About 10.6% (38) students need assistance however be able to deal with majority of their own care, 4.2% (15) students require assistance each day, and 1.4% (5) students face difficulty in washing and dressing.

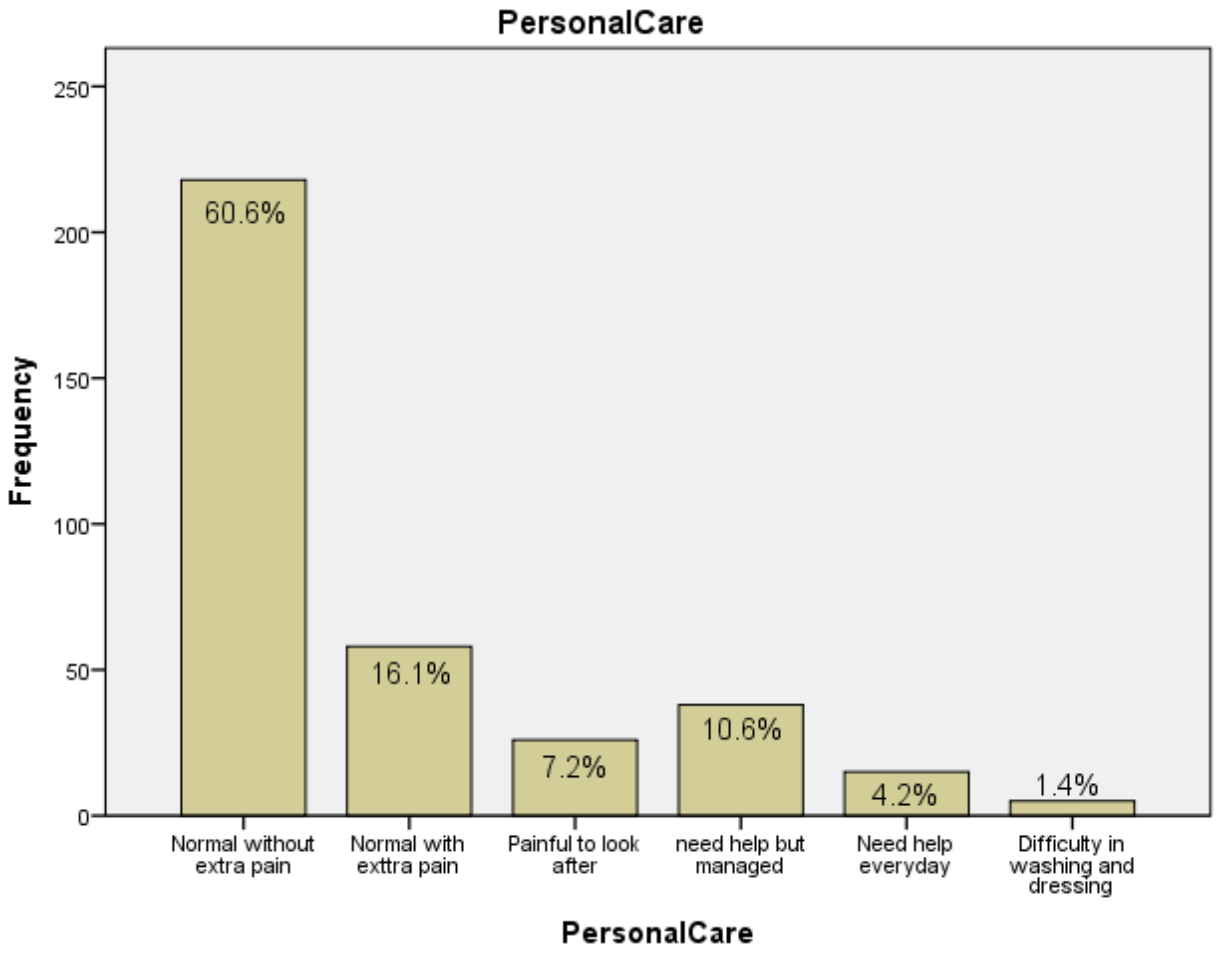

Figure 5: Personal Care

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Heavy weight without pain	166	46.1	46.1	46.1
	Heavy weight with pain	108	30.0	30.0	76.1
	Painful but can lift off the table	45	12.5	12.5	88.6
	Painful but can lift from convenient position	27	7.5	7.5	96.1
	Lift very light weight	13	3.6	3.6	99.7
	Can't lift or carry	1	.3	.3	100.0
	Total	360	100.0	100.0	

Table 6: Lifting

This table shows that out of 360 students, 46.1% (166) might raise heavy objects with no additional ache and 30.0% (108) could pick up heavy stuff however, it caused additional soreness. About 12.5% (45) students experience pain lifting off the floor but can lift off the table whereas 7.5% (27) students could not lift heavy weights due to pain but could manage lifting light to medium weights from convenient positions. About 3.6% (13) students could only lift very light weight and only 0.3% (1) could not carry anything.

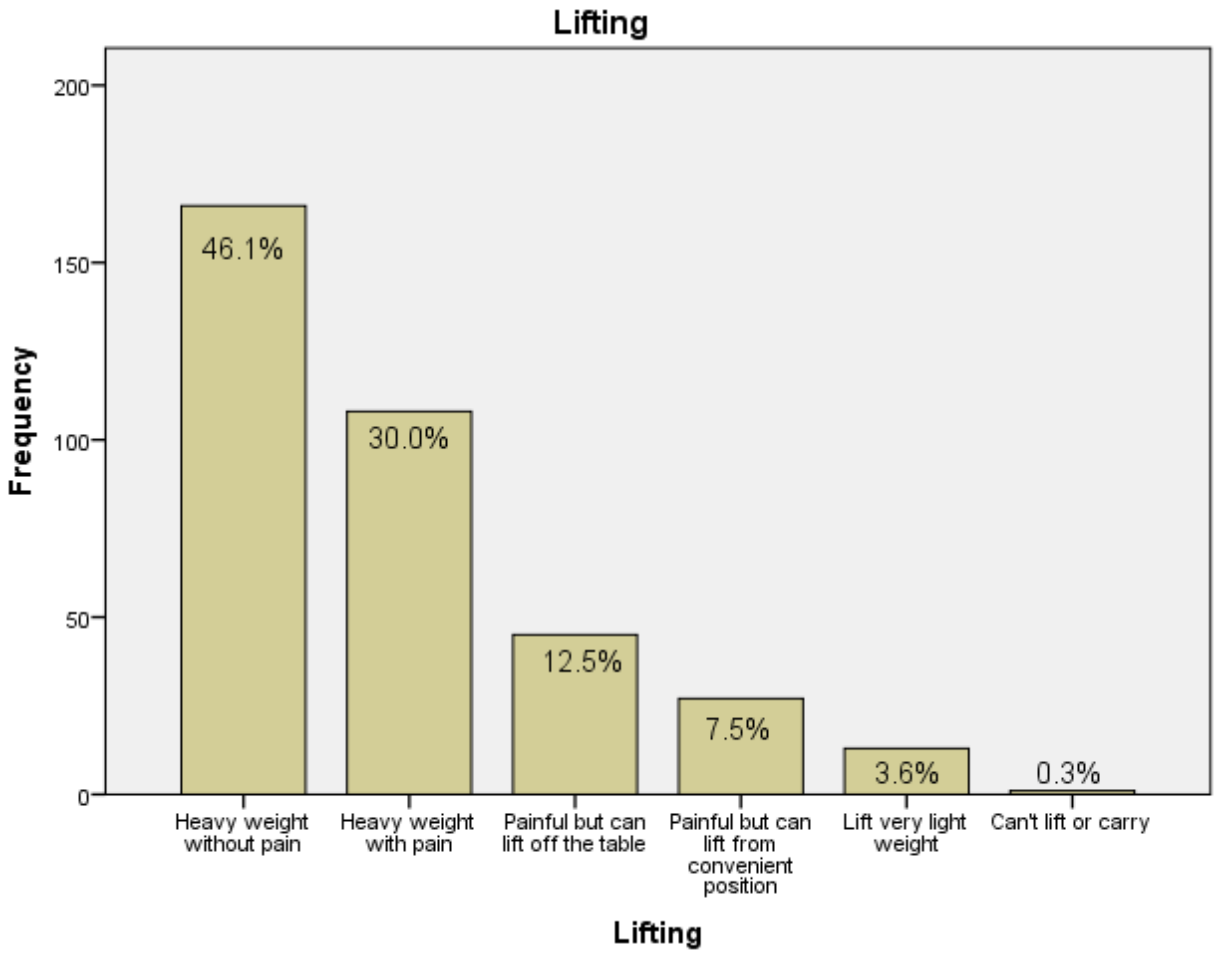

Figure 6: Lifting

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No pain	115	31.9	31.9	31.9
	Moderate pain but can read	166	46.1	46.1	78.1
	Moderate pain but can't read	53	14.7	14.7	92.8
	Severe pain	15	4.2	4.2	96.9
	Can't read at all	11	3.1	3.1	100.0
	Total	360	100.0	100.0	

Table 7: Reading

This table shows that 31.9% (115) students experienced no pain while reading, 46.1% (166) possibly read a lot, as they wish but experienced moderate neck ache. 14.7% (53) students cannot read as long as they wish due to moderate neck ache. About 4.2% (15) students could barely read at all due to brutal pain in neck whereas 3.1% (11) students could not read at all due to neck pain.

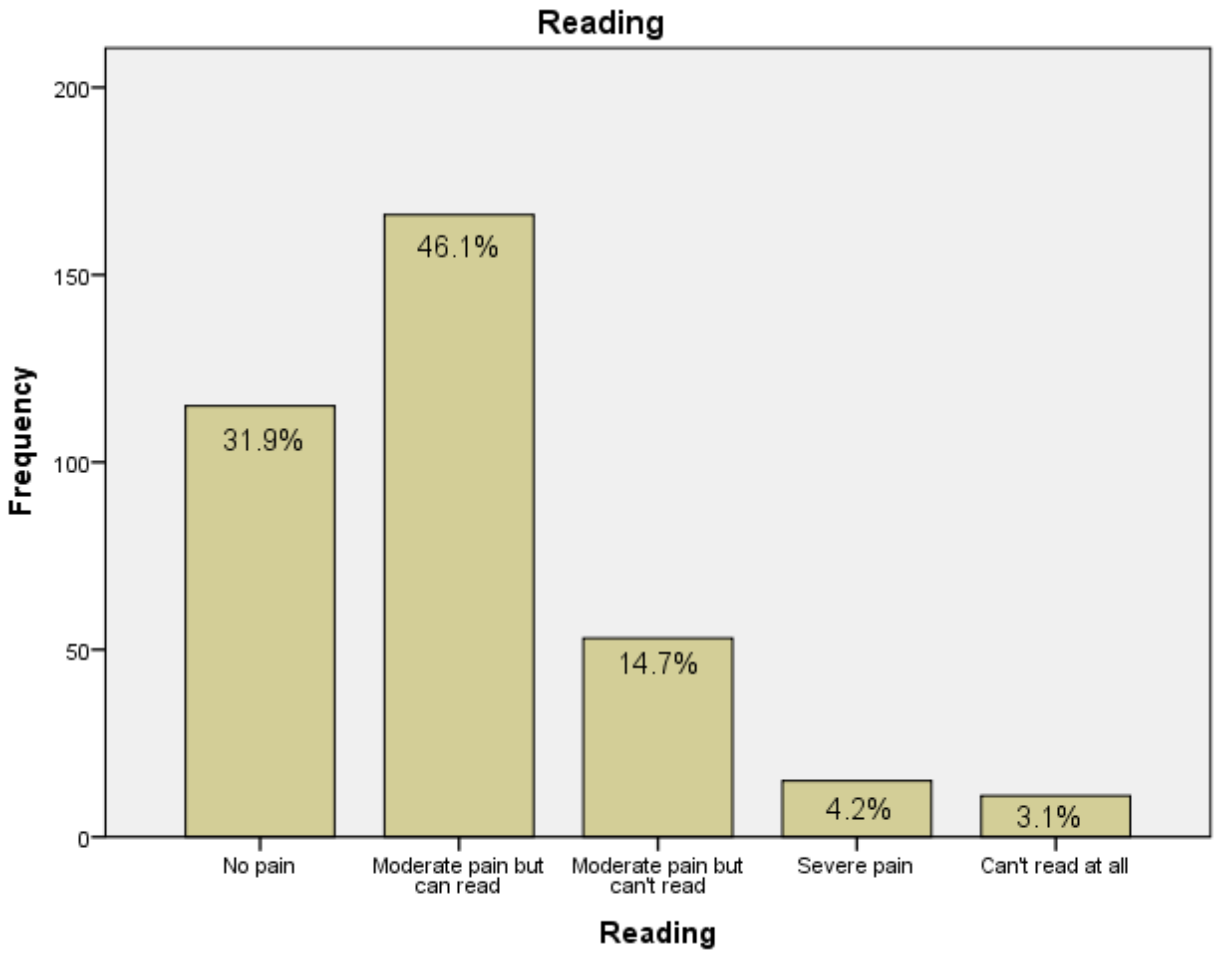

Figure 7: Reading

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	93	25.8	25.8	25.8
	Slight	128	35.6	35.6	61.4
	Moderate, infrequently	43	11.9	11.9	73.3
	Moderate, frequently	42	11.7	11.7	85.0
	Severe, frequently	28	7.8	7.8	92.8
	All the time	26	7.2	7.2	100.0
	Total	360	100.0	100.0	

Table 8: Headache

This table shows that 25.8% (93) experienced no headache. 35.6% (128) students experienced slight headache, about 11.9% (43) had moderate headaches but infrequently whereas 11.7% (42) students experienced moderate headaches frequently. 7.8% (28) students had severe headaches frequently and 7.2% (26) students experienced headaches approximately every time.

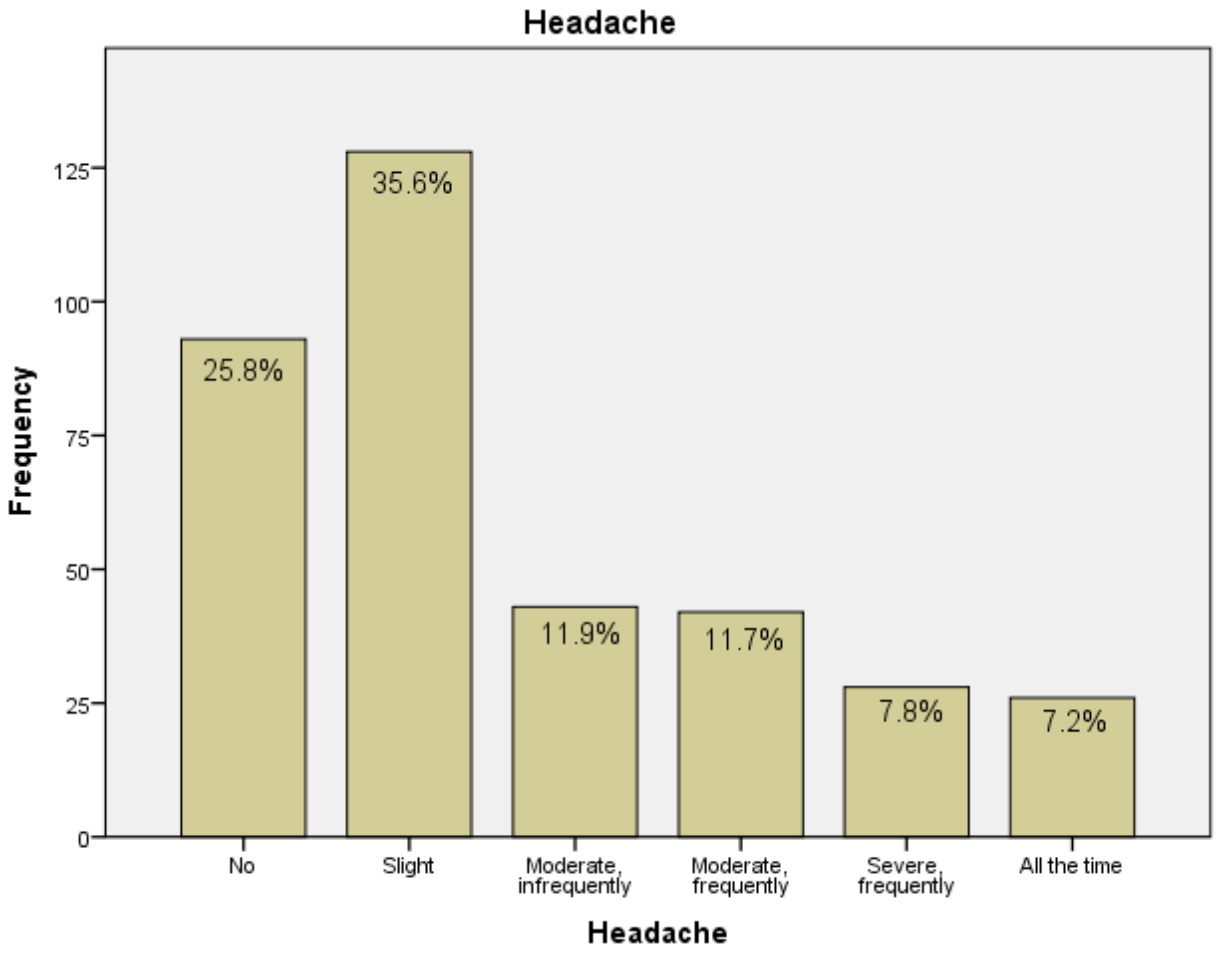

Figure 8: Headache

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No difficulty	144	40.0	40.0	40.0
	Slight difficulty	104	28.9	28.9	68.9
	Fair degree of difficulty	47	13.1	13.1	81.9
	A lot of difficulty	32	8.9	8.9	90.8
	Great difficulty	17	4.7	4.7	95.6
	Can't concentrate	16	4.4	4.4	100.0
	Total	360	100.0	100.0	

Table 9: Concentration

This table shows that 40.0% (144) students had no difficulty and could concentrate properly whereas 28.9% (104) students faced slight difficulty due to neck pain but could concentrate wholly. About 13.1% (47) students experienced fair amount of complexity in concentrating, 8.9% (32) had trouble due to neck pain. 4.7% (17) students had immense complexity in concentrating at the time they wanted to and 4.4% (16) students could not concentrate at all due to neck pain.

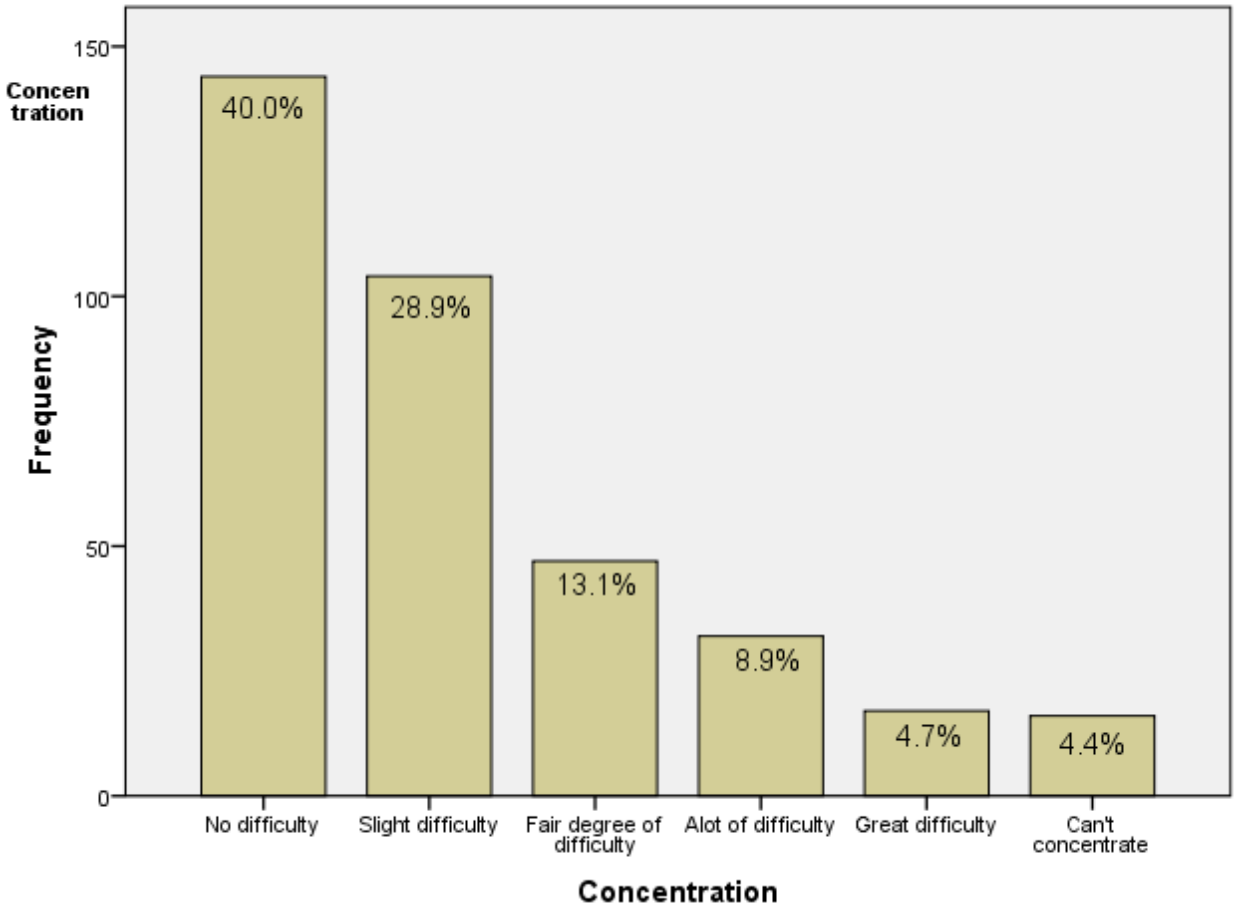

Figure 9: Concentration

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No work load limit	190	52.8	52.8	52.8
	Usual work	84	23.3	23.3	76.1
	Most of usual work	47	13.1	13.1	89.2
	Can't do usual work	15	4.2	4.2	93.3
	Hardly do any work	18	5.0	5.0	98.3
	Can't do any work	6	1.7	1.7	100.0
	Total	360	100.0	100.0	

Table 10: Work

This table shows that 52.8% (190) of the students could work as much as they wanted to, 23.3% (84) students could do only usual work and not more than that. 13.1% (47) students can do most of the usual work. About 4.2% (15) students could not do their usual work, 5.0% (18) students could hardly do any work whereas 1.7% (6) students could not do any work.

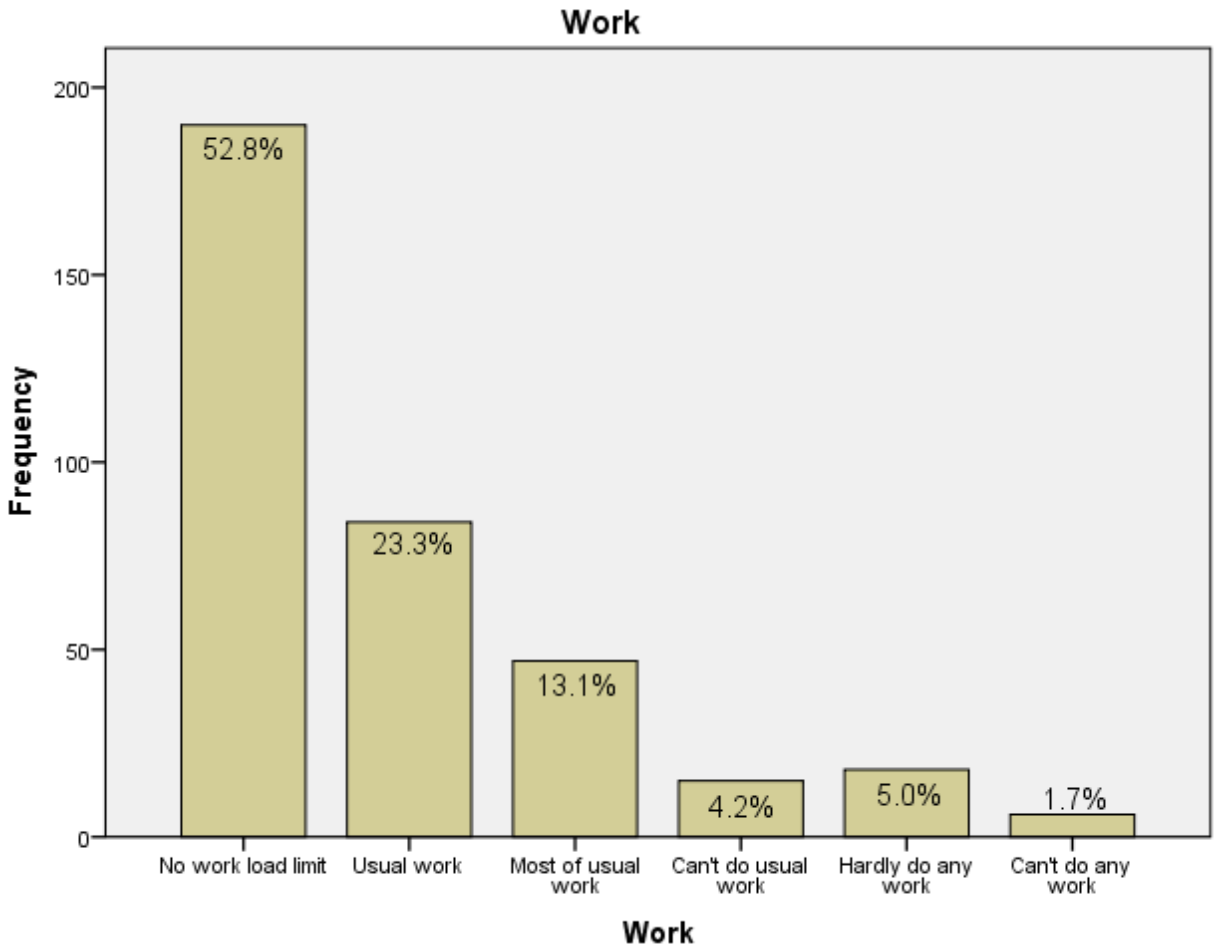

Figure 10: Work

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No pain	188	52.2	52.2	52.2
	Slight pain	77	21.4	21.4	73.6
	Moderate pain	37	10.3	10.3	83.9
	Can't drive with moderate pain	16	4.4	4.4	88.3
	Hardly drive	12	3.3	3.3	91.7
	Can't drive	30	8.3	8.3	100.0
	Total	360	100.0	100.0	

Table 11: Driving

This table shows that 52.2% (188) experienced no neck pain during driving. 21.4% (77) students could drive the car as much as they wanted with small neck ache. 10.3% (37) students could drive the car like they wanted with moderate discomfort in neck whereas 4.4% (16) students could not drive the car like they wanted because of moderate discomfort. About 3.3% (12) students could hardly drive due to severe neck pain and 8.3% (30) students possibly not be able to drive because of neck pain.

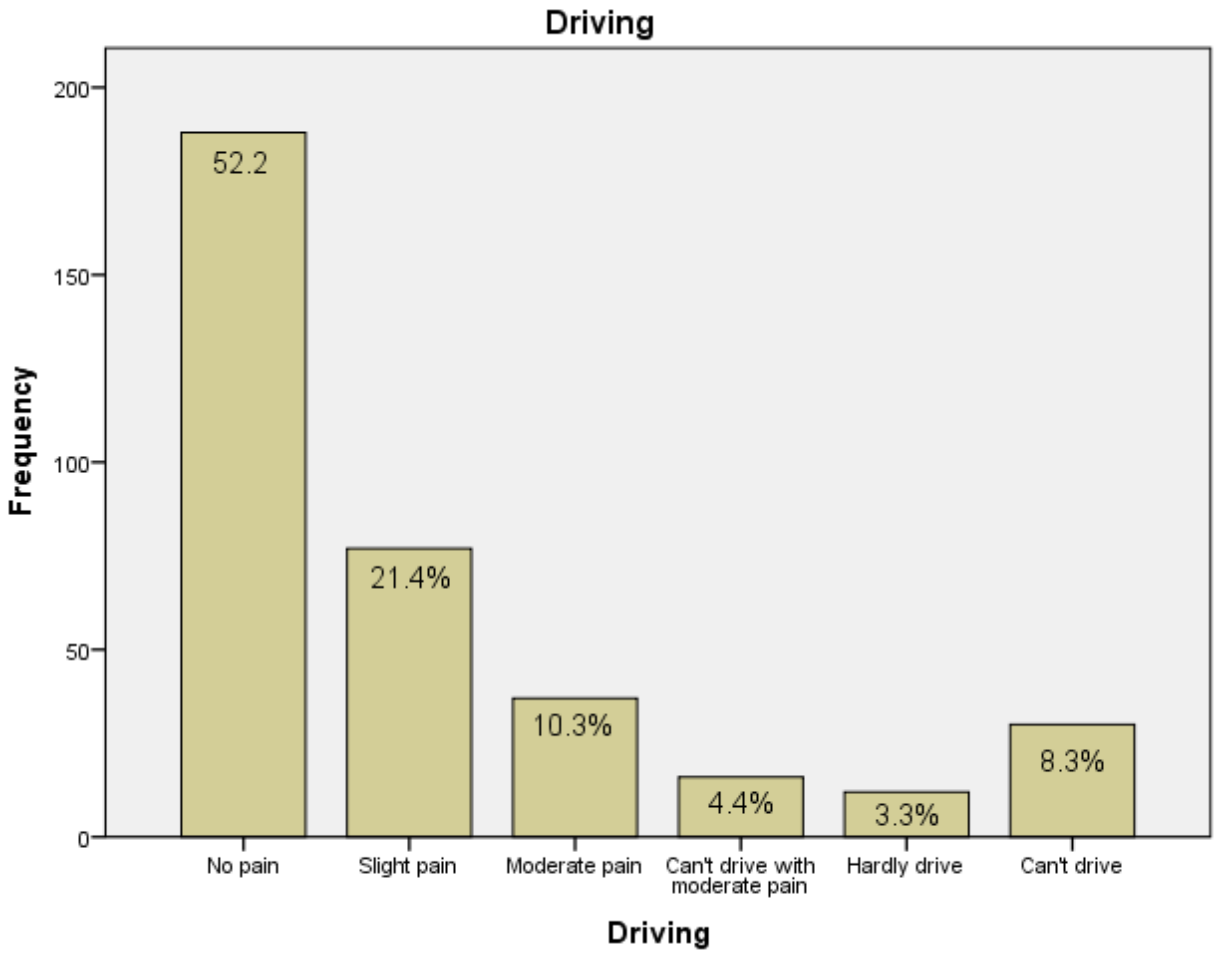

Figure 11: Driving

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No trouble	143	39.7	39.7	39.7
	Slightly disturbed	67	18.6	18.6	58.3
	Mildly disturbed	54	15.0	15.0	73.3
	Moderately disturbed	36	10.0	10.0	83.3
	Greatly disturbed	31	8.6	8.6	91.9
	Completely disturbed	29	8.1	8.1	100.0
	Total	360	100.0	100.0	

Table 12: Sleeping

This table results shows that 39.7% (143) students had no trouble in sleeping. 18.6% (67) had slightly disturbed sleep (less than 1 hour sleepless). 15.0 % (54) students had mildly disturbed sleep due to neck pain (1-2 hrs. sleepless). 10.0% (36) students had moderately disturbed sleep due to neck pain (2-3 hrs. sleepless), 8.6% (31) students had greatly disturbed sleeping patterns (3-5 hrs. sleepless), and about 8.1% (29) students had worst sleeping pattern (5-7 hrs. sleepless).

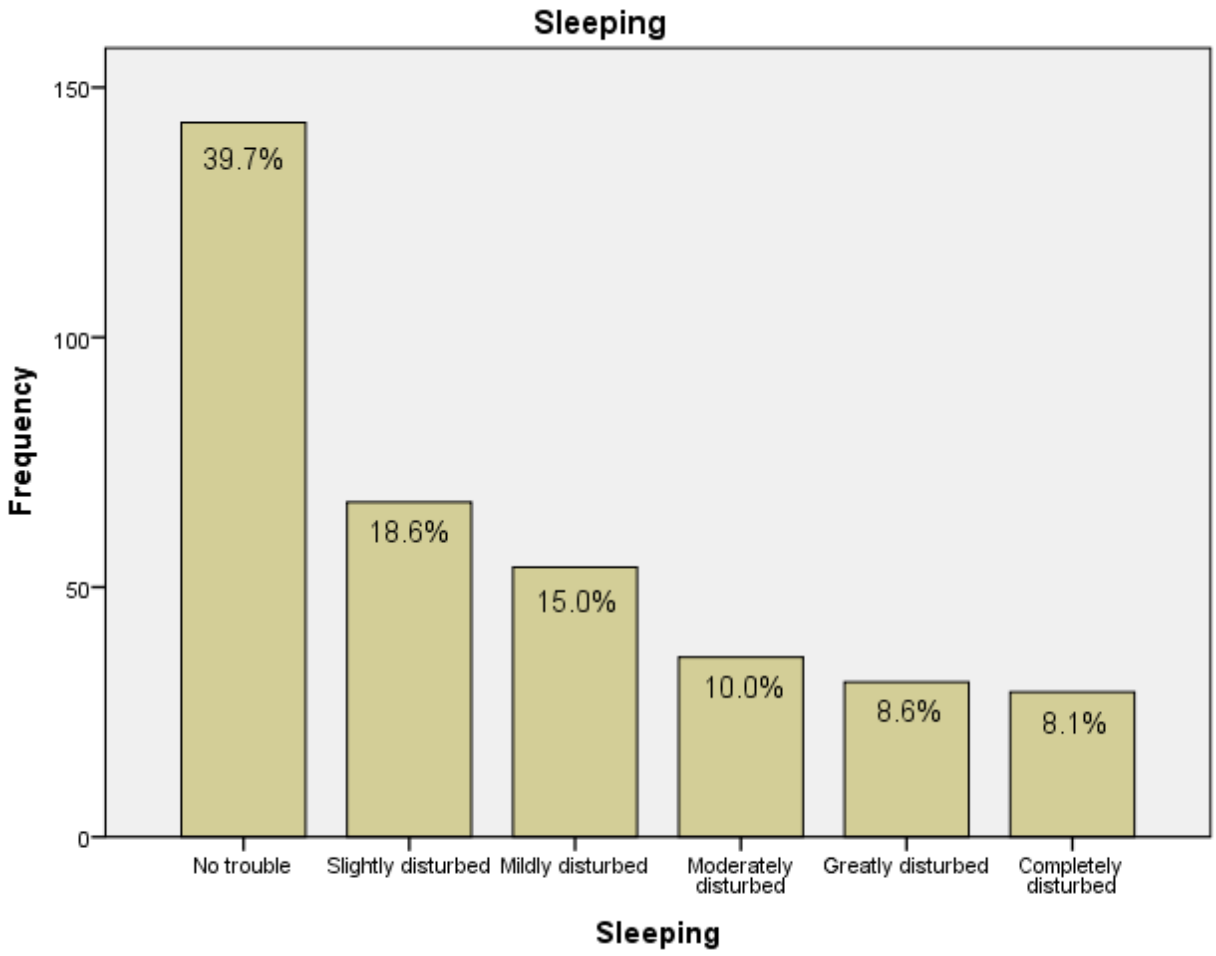

Figure 12: Sleeping

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No pain	175	48.6	48.6	48.6
	Some pain	99	27.5	27.5	76.1
	Painful but engaged in activities	37	10.3	10.3	86.4
	Painful and engaged in few activities	24	6.7	6.7	93.1
	Hardly engaged in activities	12	3.3	3.3	96.4
	No activity	13	3.6	3.6	100.0
	Total	360	100.0	100.0	

Table 13: Recreation Activities

This table shows that 48.6% (175) students could commit all recreation actions without neck ache. 27.5% (99) students were able to commit every recreation action with some neck. 10.3% (37) students were able to commit in majority of the leisure actions but not all due to neck pain. 6.7% (24) students were able to commit very less of the usual recreation activities due to pain. 3.3% (12) students were hardly engaged in recreation actions because of neck ache, and 3.6% (13) students could not perform every leisure activity at all due to neck soreness.

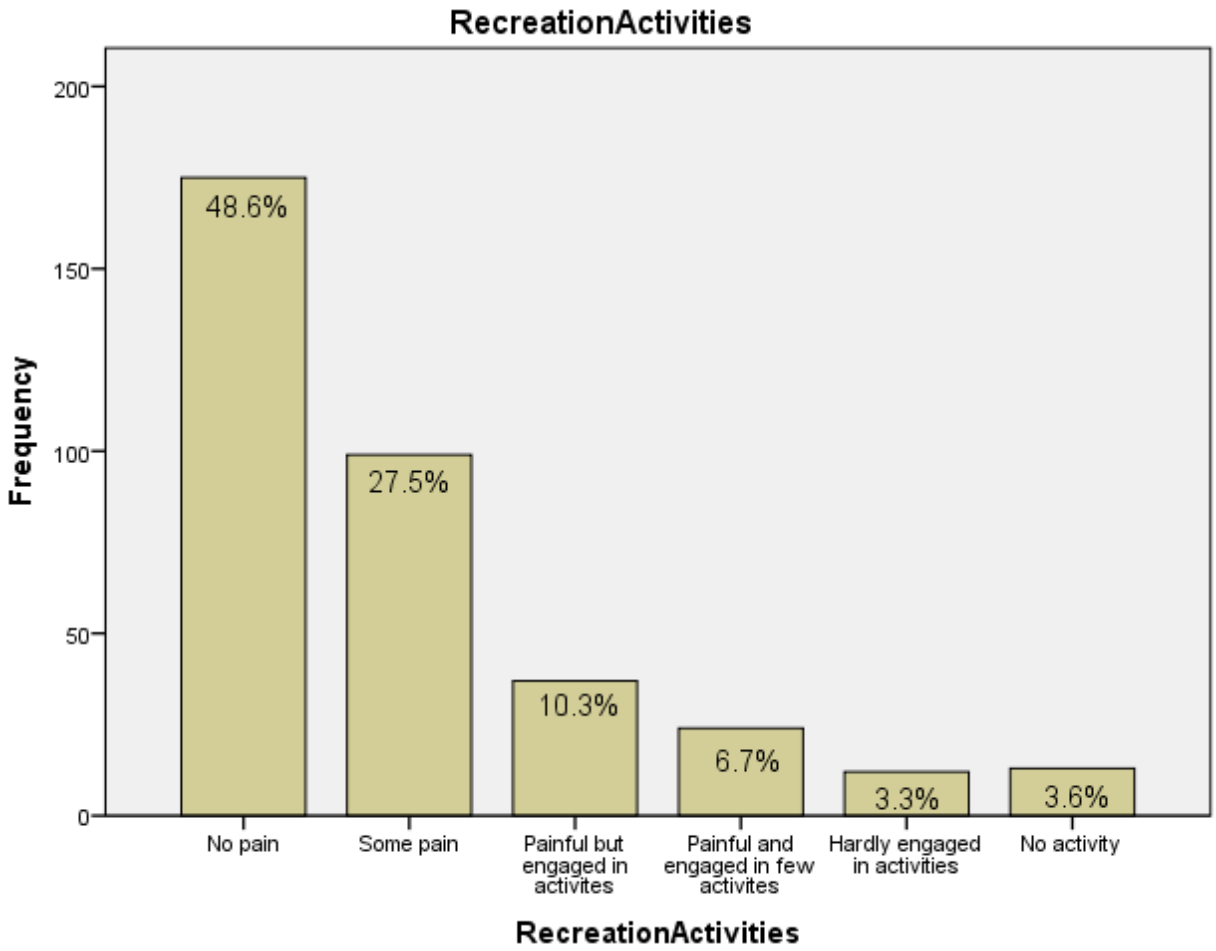

Figure 13: Recreation Activities

CHAPTER 4: DISCUSSION

The research was carried out to check the prevalence of upper trapezius tightness due to poor posture and neck pain in university going students. According to analysis, the main results show that 43.3% were female and 56.7% were male. About 21.9% of students had complained of mild pain and 0.8% was facing severe pain in neck.

This research shows that UT effected more as compared to LT and MT contrary to which other study shows that whole trapezius got affected (Moffett and McLean, 2005)

This study show that 25.8% students had no headaches due to neck pain but 7.2% students had headaches all the time in contrast to which some studies show that headaches are more common due to neck pain and rounded shoulders (MOTIALLAH et al., 2013)

Working abilities in this research shows that 52.8% participants can work with no limitation while other study shows that neck pain can cause more limitations in sitting position (Chow et al., 2005)

This study shows that 3.1% participants are not able to study due to UT tightness and neck pain contrary to which other research shows that participants can ready easily without neck pain on desk slops (Perreault et al., 2009).

Our study shows that upper trapezius tightness due to poor position and neck ache can restrict movements of neck while other research shows that upper trapezius does not has any role in limiting protraction and retraction of the neck (Korthals-de Bos et al., 2003).

Excessive use of computer in offices can cause tightness of UT muscle whereas other study shows that there is more effect on middle and lower trapezius.

CHAPTER 5: CONCLUSION

Conclusion

This study showed that chronic neck pain in people cause upper trapezius tightness, which leads to, reduced ability to maintain upright posture. Due to the tightness of trapezius the students of our study were not able to do their activities of daily living properly , most effected of them were reading , sleeping and recreational activities , also, chronic neck pain and tightness of trapezius most commonly caused headache

Limitations

Middle and lower trapezius are not included only upper trapezius is considered.

Sternocleidomestoid is not included.

Sample size is not enough to cover whole population so results cannot be generalized to whole population.

Due to shortage of time, we cannot take large sample size.

It is cost effective.

Due to shortage of time, we cannot cover the vast area.

Recommendations

More time should be provided to future studies so they can take large sample size.

We recommend covering up the limitations of this research.

We can do workshops, seminars, conferences to aware the people about UT tightness due to poor posture and we can teach them accurate posture.

We can work on the accuracy and precision of research result.

APPENDIX 1

References

MOTIALLAH, T., MOSLEMI, H. F., GHANBARI, A., AMIR, M. S. & SAADAT, Z. 2013. The correlation between forward head posture and trigger points in trapezius muscle in subjects with chronic neck pain.

CHOUDHARI, R., ANAP, D., RAO, K. & IYER, C. J. J. S. 2012. Comparison of upper, middle, and lower trapezius strength in individuals with unilateral neck pain. 1**,** 1-3.

GRAY, H. 1981. *Anatomy Descriptive and Surgical:(" Gray's Anatomy")*, Classics of Medicine Library.

BRUMAGNE, S., JANSSENS, L., JANSSENS, E., GODDYN, L. J. G. & POSTURE 2008. Altered postural control in anticipation of postural instability in persons with recurrent low back pain. 28**,** 657-662.

JAZINI, E., SARDESAI, N. R., WEIR, T. B., BANAGAN, K. E., KOH, E. Y., GELB, D. E. & LUDWIG, S. C. J. T. S. J. 2016. Effect of Surgical Setting (Tertiary versus Community Hospitals) on Hospital-Reported Outcomes for Anterior Cervical Spine Procedures. 16**,** S151-S152.

MUJAWAR, J. C., SAGAR, J. H. J. I. J. O. O. & MEDICINE, E. 2019. Prevalence of upper cross syndrome in laundry workers. 23**,** 54.

FERNÁNDEZ-DE-LAS-PEÑAS, C., CUADRADO, M. & PAREJA, J. J. C. 2006. Myofascial trigger points, neck mobility and forward head posture in unilateral migraine. 26**,** 1061-1070.

HARMAN, K., HUBLEY-KOZEY, C. L., BUTLER, H. J. J. O. M. & THERAPY, M. 2005. Effectiveness of an exercise program to improve forward head posture in normal adults: a randomized, controlled 10-week trial. 13**,** 163-176.

MARTIN, R. M. & FISH, D. E. J. C. R. I. M. M. 2008. Scapular winging: anatomical review, diagnosis, and treatments. 1**,** 1-11.

PERREAULT, A., KELLN, B., HERTEL, J., PUGH, K., SALIBA, S. J. A. T. & CARE, S. H. 2009. Short-Term Effects of Strain Counterstrain in Reducing Pain in Upper Trapezius Tender PointsA Pilot Study. 1**,** 214-221.

AKER, P. D., GROSS, A. R., GOLDSMITH, C. H. & PELOSO, P. J. B. 1996. Conservative management of mechanical neck pain: systematic overview and meta-analysis. 313**,** 1291-1296.

CHOW, R. T., BARNSLEY, L. J. L. I. S., MEDICINE, M. T. O. J. O. T. A. S. F. L. & SURGERY 2005. Systematic review of the literature of low-level laser therapy (LLLT) in the management of neck pain. 37**,** 46-52.

MOFFETT, J. & MCLEAN, S. J. R. 2005. The role of physiotherapy in the management of non-specific back pain and neck pain. 45**,** 371-378.

KORTHALS-DE BOS, I. B., MÜLLNER, M., HOVING, J. L., VAN TULDER, M. W., RUTTEN-VAN MÖLKEN, M. P., ADÈR, H. J., DE VET, H. C., KOES, B. W., VONDELING, H. & BOUTER, L. M. J. B. 2003. Cost effectiveness of physiotherapy, manual therapy, and general practitioner care for neck pain: economic evaluation alongside a randomised controlled trialCommentary: Bootstrapping simplifies appreciation of statistical inferences. 326**,** 911-914.

DUNDES, L., MARX, J. J. J. O. C. S. R. R., THEORY & PRACTICE 2006. Balancing work and academics in college: Why do students working 10 to 19 hours per week excel? 8**,** 107-120.

WEON, J.-H., OH, J.-S., CYNN, H.-S., KIM, Y.-W., KWON, O.-Y., YI, C.-H. J. J. O. B. & THERAPIES, M. 2010. Influence of forward head posture on scapular upward rotators during isometric shoulder flexion. 14**,** 367-374.

BENDIX, T. & HAGBERG, M. J. E. 1984. Trunk posture and load on the trapezius muscle whilst sitting at sloping desks. 27**,** 873-882.

LEE, K.-J., HAN, H.-Y., CHEON, S.-H., PARK, S.-H. & YONG, M.-S. J. J. O. P. T. S. 2015. The effect of forward head posture on muscle activity during neck protraction and retraction. 27**,** 977-979.

FERNÁNDEZ-DE-LAS-PEÑAS, C., CUADRADO, M. & PAREJA, J. J. C. 2006. Myofascial trigger points, neck mobility and forward head posture in unilateral migraine. 26**,** 1061-1070.

KIM, S.-Y. & KOO, S.-J. J. J. O. P. T. S. 2016. Effect of duration of smartphone use on muscle fatigue and pain caused by forward head posture in adults. 28**,** 1669-1672.

THIGPEN, C. A., PADUA, D. A., MICHENER, L. A., GUSKIEWICZ, K., GIULIANI, C., KEENER, J. D., STERGIOU, N. J. J. O. E. & KINESIOLOGY 2010. Head and shoulder posture affect scapular mechanics and muscle activity in overhead tasks. 20**,** 701-709.

YOO, W.-G. J. J. O. P. T. S. 2013. Effect of the Neck Retraction Taping (NRT) on forward head posture and the upper trapezius muscle during computer work. 25**,** 581-582.

GAFFNEY, B. M., MALUF, K. S., CURRAN-EVERETT, D., DAVIDSON, B. S. J. J. O. E. & KINESIOLOGY 2014. Associations between cervical and scapular posture and the spatial distribution of trapezius muscle activity. 24**,** 542-549.

KOCUR, P., WILSKI, M., LEWANDOWSKI, J. & ŁOCHYŃSKI, D. J. P. 2018. Female Office Workers With Moderate Neck Pain Have Increased Anterior Positioning of the Cervical Spine and Stiffness of Upper Trapezius Myofascial Tissue in Sitting Posture.

KIETRYS, D. M., GERG, M. J., DROPKIN, J. & GOLD, J. E. J. A. E. 2015. Mobile input device type, texting style and screen size influence upper extremity and trapezius muscle activity, and cervical posture while texting. 50**,** 98-104.

ZUÑIGA, C., MIRALLES, R., MENA, B., MONTT, R., MORAN, D., SANTANDER, H. & MOYA, H. J. C. 1995. Influence of variation in jaw posture on sternocleidomastoid and trapezius electromyographic activity. 13**,** 157-162.

WEGNER, S., JULL, G., O'LEARY, S. & JOHNSTON, V. J. M. T. 2010. The effect of a scapular postural correction strategy on trapezius activity in patients with neck pain. 15**,** 562-566.

RUIZ-SÁEZ, M., FERNÁNDEZ-DE-LAS-PEÑAS, C., BLANCO, C. R., MARTÍNEZ-SEGURA, R., GARCÍA-LEÓN, R. J. J. O. M. & THERAPEUTICS, P. 2007. Changes in pressure pain sensitivity in latent myofascial trigger points in the upper trapezius muscle after a cervical spine manipulation in pain-free subjects. 30**,** 578-583.

SAKAKIBARA, H., MIYAO, M., KONDO, T.-A. & YAMADA, S. Y. J. E. 1995. Overhead work and shoulder-neck pain in orchard farmers harvesting pears and apples. 38**,** 700-706.

WESTGAARD, R., VASSELJEN, O. & HOLTE, K. A. J. E. 2001. Trapezius muscle activity as a risk indicator for shoulder and neck pain in female service workers with low biomechanical exposure. 44**,** 339-353.

TURO, D., OTTO, P., SHAH, J. P., HEIMUR, J., GEBREAB, T., ZAAZHOA, M., ARMSTRONG, K., GERBER, L. H. & SIKDAR, S. J. U. I. 2013. Ultrasonic characterization of the upper trapezius muscle in patients with chronic neck pain. 35**,** 173-187.

FALLA, D. & FARINA, D. J. P. 2005. Muscle fiber conduction velocity of the upper trapezius muscle during dynamic contraction of the upper limb in patients with chronic neck pain. 116**,** 138-145.

FRYER, G., HODGSON, L. J. J. O. B. & THERAPIES, M. 2005. The effect of manual pressure release on myofascial trigger points in the upper trapezius muscle. 9**,** 248-255.

FERNANDEZ-DE-LAS-PENAS, C., ALONSO-BLANCO, C. & MIANGOLARRA, J. J. M. T. 2007. Myofascial trigger points in subjects presenting with mechanical neck pain: a blinded, controlled study. 12**,** 29-33.

Consent form

Description:

You are invited to participate final year research project conducted by students of University of Management and Technology (UMT), Lahore under the supervision of Ma'am Maria Mustafa, Lecturer at School of Heath Sciences, University of management and technology. The research will be on "Prevalence of Upper Trapezius Tightness Due to Chronic Neck Pain and Poor Posture in University Going Students".

For this purpose we are using 'Neck Pain Disability Index Scale' to find out the prevalence of UT tightness in university students.

Risk and Benefits:

No harm will be caused to students during this study. Plus this study will help to raise the awareness about prevalence of UT tightness due to neck pain and poor posture in university going students.

Confidentiality:

The information gathered during this study will solely use for the research purpose. Your personal data will not be used anywhere.

Voluntary participants:

Your participation is voluntary. You may choose not to participate or withdraw our consent anytime.

Consent:

I have read consent form and have been given the opportunity to ask questions. I give my consent to participate in this study.

Participant's name & Sign _____ **Date**

Researcher's name & Sign _____ **Date**

APPENDIX 1

Questionnaire

Name _____

Age _____

Gender _____

Department- Semester _____

Neck Disability Index Date _____

This questionnaire has been designed to give us information as to how your neck pain has affected your ability to manage in everyday life. Please answer every section and **mark in each section only the one box that applies to you**. We realise you may consider that two or more statements in any one section relate to you, but please just mark the box that most closely describes your problem.

Section 1: Pain Intensity

- I have no pain at the moment
- The pain is very mild at the moment
- The pain is moderate at the moment
- The pain is fairly severe at the moment
- The pain is very severe at the moment

- The pain is the worst imaginable at the moment

Section 2: Personal Care (Washing, Dressing, etc.)

- I can look after myself normally without causing extra pain
- I can look after myself normally but it causes extra pain
- It is painful to look after myself and I am slow and careful
- I need some help but can manage most of my personal care
- I need help every day in most aspects of self care
- I do not get dressed, I wash with difficulty and stay in bed

Section 3: Lifting

- I can lift heavy weights without extra pain
- I can lift heavy weights but it gives extra pain
- Pain prevents me lifting heavy weights off the floor, but I can manage if they are
- conveniently placed, for example on a table
- Pain prevents me from lifting heavy weights but I can manage light to medium
- weights if they are conveniently positioned
- I can only lift very light weights
- I cannot lift or carry anything

Section 4: Reading

- I can read as much as I want to with no pain in my neck
- I can read as much as I want with moderate pain in my neck
- I can’t read as much as I want because of moderate pain in my neck
- I can hardly read at all because of severe pain in my neck
- I cannot read at all

Section 5: Headaches

- I have no headaches at all

- I have slight headaches, which come infrequently
- I have moderate headaches, which come infrequently
- I have moderate headaches, which come frequently
- I have severe headaches, which come frequently
- I have headaches almost all the time

Section 6: Concentration

- I can concentrate fully when I want to with no difficulty
- I can concentrate fully when I want to with slight difficulty
- I have a fair degree of difficulty in concentrating when I want to
- I have a lot of difficulty in concentrating when I want to
- I have a great deal of difficulty in concentrating when I want to
- I cannot concentrate at all

Section 7: Work

- I can do as much work as I want to
- I can only do my usual work, but no more
- I can do most of my usual work, but no more
- I cannot do my usual work
- I can hardly do any work at all
- I can't do any work at all

Section 8: Driving

- I can drive my car without any neck pain
- I can drive my car as long as I want with slight pain in my neck
- I can drive my car as long as I want with moderate pain in my neck
- I can't drive my car as long as I want because of moderate pain in my neck
- I can hardly drive at all because of severe pain in my neck
- I can't drive my car at all

Section 9: Sleeping

- I have no trouble sleeping

- My sleep is slightly disturbed (less than 1 hr sleepless)
- My sleep is mildly disturbed (1-2 hrs sleepless)
- My sleep is moderately disturbed (2-3 hrs sleepless)
- My sleep is greatly disturbed (3-5 hrs sleepless)
- My sleep is completely disturbed (5-7 hrs sleepless)

Section 10: Recreation

- I am able to engage in all my recreation activities with no neck pain at all
- I am able to engage in all my recreation activities, with some pain in my neck
- I am able to engage in most, but not all of my usual recreation activities because of pain in my neck
- I am able to engage in a few of my usual recreation activities because of pain in my neck
- I can hardly do any recreation activities because of pain in my neck
- I can't do any recreation activities at all

Score: /50 Transform to percentage score x 100 = %points

- **Scoring:** For each section the total possible score is 5:
- If the first statement is marked the section score = 0,
- If the last statement is marked it = 5.
- If all ten sections are completed the score is calculated as follows: Example: [16 (total scored)/50 (total possible score)] x 100 = 32%
- If one section is missed or not applicable the score is calculated: [16 (total scored)/45 (total possible score)] x 100 = 35.5%

- Minimum Detectable Change (90% confidence): 5 points or 10 %points

University of Management and Technology, Lahore

Similarity Report

Turnitin Originality Report

Prevalence of Upper Trapezius Tightness Due to Chronic Neck Pain and Poor Posture in University Going Students by Sumbal Habib, Syeda Fizza Batool, Noor Mehmood, Mubashra Wajid and Momina Najeeb

From Info Desk (Learning Resource Center)

- Processed on 06-Sep-2019 12:46 PKT
- ID: 1168093575
- Word Count: 9174

Similarity Index

5%

Similarity by Source

Internet Sources:

2%

Publications:

2%

Student Papers:

3%

Sources:

1

1% match (publications)
Falla, D., "Muscle fiber conduction velocity of the upper trapezius muscle during dynamic contraction of the upper limb in patients with chronic neck pain", Pain, 200507

2

1% match (publications)
Diego Turo, Paul Otto, Jay P. Shah, Juliana Heimur et al. "Ultrasonic Characterization of the Upper Trapezius Muscle in Patients with Chronic Neck Pain", Ultrasonic Imaging, 2013

Checked by

Verified by CLO