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Research Article

**PREVELANCE OF NECK PAIN IN AUTO RICKSHAW
DRIVERS IN LAHORE PAKISTAN****Atoofa Rasheed, Tayyaba Nisar, Irha Nasir, Samreen Fatima, Sidra Amanat,
Sidra Shafique
University of Sargodha****Abstract:**

Background: Neck pain represent largest category of work related illness worldwide. Variety of internal and external factors leads to postural stress in vehicle drivers that affects the functioning of musculoskeletal system. Vibration, studied extensively among various risk factors causing neck pain. This public health problem is very much neglected in developing countries. Magnitude of this problem is suspected to be high in some of the occupations like driving.

Objective: The aim of this study was to find prevalence of neck pain among Auto- Rickshaw drivers in Lahore.

Material And Methods: A sample of 200 Auto- Rickshaw Drivers from Lahore by using purposive sampling technique by direct personal investigation method of data collection. The research design was cross- sectional study.

Results: All the participants included in this study were male only as per the inclusion criteria of the study. All the participants were auto rickshaw drivers. Age of the participants ranged from 20 years to 45 years. 2.5% of the participant's report that the pain is the worst imaginable at the moment. 14% report that the pain is very severe at the moment. 50% reported the pain was very mild at the moment. 29% reported about extra pain by lifting heavy weights. 18% reported that if weights are positioned conveniently lifting would be easy for them. 19% were unable to lift weights at all. 41.5% participant reported that they can do most of their usual work but after a limit it causes extra pain. 16% reported they can hardly do their usual work. Moderate to slight headache with neck pain was reported by 36% participants. 17% reported about severe headaches. 29% and 25 % participants reported that they had fair to moderate difficulty in concentrating respectively. A great degree of difficulty concentrating was reported by 6% participants. Sleep greatly disturbed for up to 3-5 hours was reported by 23% participants. Mild to moderate disturbance in sleep was reported by 70% participants. 60% reported that can't drive as much as they want because of mild to moderate neck pain. 13% reported that face great deal of difficulty during and sometimes unable to drive at all. 4.5% reported that they were unable to read at all due to severe pain. 25% reported that they can read easily but after a limit pain ceases them to do so. 16% reported that they can do their recreational activities without any pain. 29% reported that they had neck pain during most of (but not all) their recreational activities. 4% reported that they can't do their recreational activities.

Conclusions: Neck Pain is more prevalent in auto rickshaw drivers. Increasing age, work experience, maximum working hours per week, increased left shoulder to handle distance and greater driver's seat vibrations are increasing the risk of neck pain. Restricted lower cabin space and reduced shoulder to handle distance on right side also increased the risk of neck pain.

Keywords: Auto Rickshaw Drivers, Neck Pain, Musculoskeletal, Magnitude, Postural Stress, Headache.

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INTRODUCTION:

Neck pain defines pain experienced from the base of the skull (occiput) to the upper back, extending horizontally to the outer limits and the superior of the shoulder (shoulder). Neck pain is a common disorder in both males and females. In Europe and North America, about one-third of the adult population has experienced neck pain during a period of one year. Neck pain is expensive in terms of treatment and individual suffering and waste of time due to absence from work. [1] Surveys of the general population of workers suggested that the annual prevalence of neck pain from 27.1 per cent in Norway to 33.7 per cent in the United Kingdom and to 47.8 per cent in Quebec, Canada. The evidence suggests that working with the neck bending for long may increase the risk of neck pain. [2]

Evidence suggests that found a lifetime prevalence of neck pain in Hong Kong 69.3 per cent (2091/3018). The prevalence of year 66.7 per cent (2005/3007). Pain in the neck after becoming driver was 59.7 per cent (1745/2923). [5] The University's academic staff had higher prevalence of neck pain and found to be high-inclination the relevant professional neck pain. Working in one position for a long time known as an important factor in the development of professional neck and shoulder pain, while secondary school teachers in Hong Kong always need to do activities such as frequent and correct reading assignment. Thus, it may be one of the risk factors for professional development-related neck pain. However, limited studies available on them. [3]

Includes risk factors are related with neck pain on auto drivers' age, sex, previous history of sore muscles, bones and more important quantitative demands less social support at work and job insecurity and poor ventilation in the room and low physical ability and poor rickshaw design and operating in the wrong position and a changed lifestyle, and duplication of work and accuracy of work. [6] Known to be relevant to the report more frequent neck pain to the individual factors in gender, age, found smoking as a risk factor among behavioral factors health. [7] Several structures responsible for causing pain in the neck and shoulder area. When irritated or inflamed, such as nerves, muscles, bones, joints, ligaments, discs have a tendency to be injured. Moreover, poor posture, with the consequent overloading of the neck and shoulder muscles cause neck pain [8]. Auto rickshaws are the major means of public transport in Lahore. In Lahore around ten thousand people have settled down as auto rickshaw

drivers. City is highly populated with most of the roads poorly maintained. Most of the auto-rickshaw drivers are accustomed to accommodating passengers in front cabin due to poor traffic surveillance in the city. They allow the passengers to sit to their left side since the construction of these auto-rickshaws does not permit them to accommodate the passengers to their right. There is extensive literature quoting the fact that motor vehicle drivers (light and heavy vehicle drivers) are vulnerable to work related neck pain and various factors like postural stress, exposure to vibrations and so on. Professional drivers have a higher prevalence of occupational disorders than other groups. Since their occupation involves postural stress, specifically twisting, bending which increased risk of diseases of lower back besides exposure to vehicle vibrations, particularly when working in confined areas. The complex multi axis transitional and rotational components of vibration generate a variety of inputs to various body parts. Researchers reported existence of positive relationship between discomfort, injury, risk of neck pain and duration of exposure to whole body vibration. Mechanical energy transmission of vibrations is dependent on body position and muscle contractions. With subjects in sitting position, resonance of vibrations occurs at shoulders and to little extent at head regions with about 5 Hz frequencies. There are clear illustrations by literature in regard to the greater risk of incidence of neck pain at an earlier age in subjects exposed to vibrations, apart from which evident spinal radiographic changes were also noted down.

The rationale of my study is to create awareness among auto drivers about the wrong position that they adapted while driving. Neck pain actually works incidentally, may be one of the possible ways to prevent new episodes of neck pain that improve physical capacity of the muscles of the neck and shoulder. Sitting in one position for a prolonged period of time are also educating them.

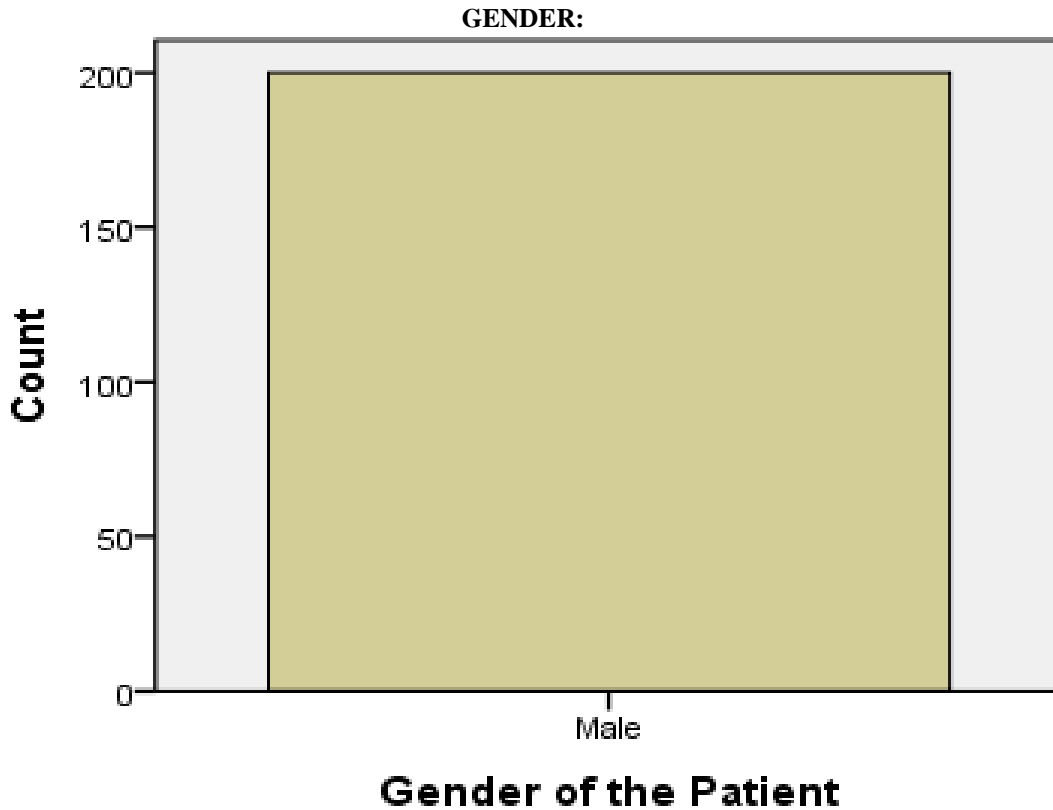
MATERIALS AND METHODS:

A cross sectional study design was used in this research work. It was used because the drivers were interviewed only once to collect the information so the cross sectional study design was used. This study was conducted in University of Sargodha, and then requirement was only the drivers who drive rickshaw. Non probability purposive sampling technique was used to collect the sample. Non probability purposive sampling technique is a method in which the researcher chooses the sample based on who he thinks would be appropriate for the study. The data was collected by selecting sample of 200 Drivers by meeting the inclusion criteria. Only male was

included because mostly males use to drive rickshaw over the duration from November 2017 to January 2018. Neck Disability Index was used for data collection. Prior to the main study, the pilot study of questionnaire was done for comprehensibility, relevance, applicability, clearness and length. SPSS

version 17 was used for statistical analysis. After the data was collected a detailed descriptive statistical analysis was done. Quantitative data was presented in the form of Mean \pm SD. Qualitative data was presented in form of frequency tables, percentages and appropriate graphs.

RESULTS:



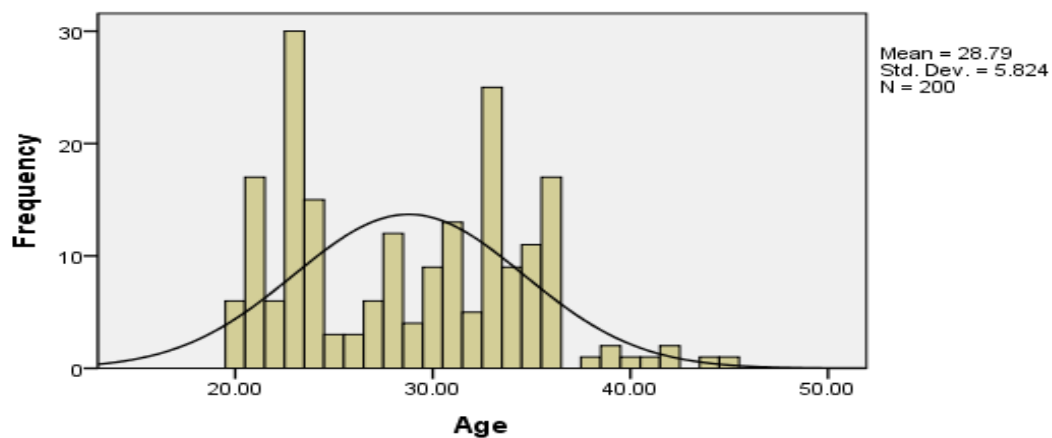
Gender of the Patient

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	200	100.0	100.0	100.0

All the participants included in this study were male only as per the inclusion criteria of the study. All the participants were auto-rickshaw drivers.

AGE

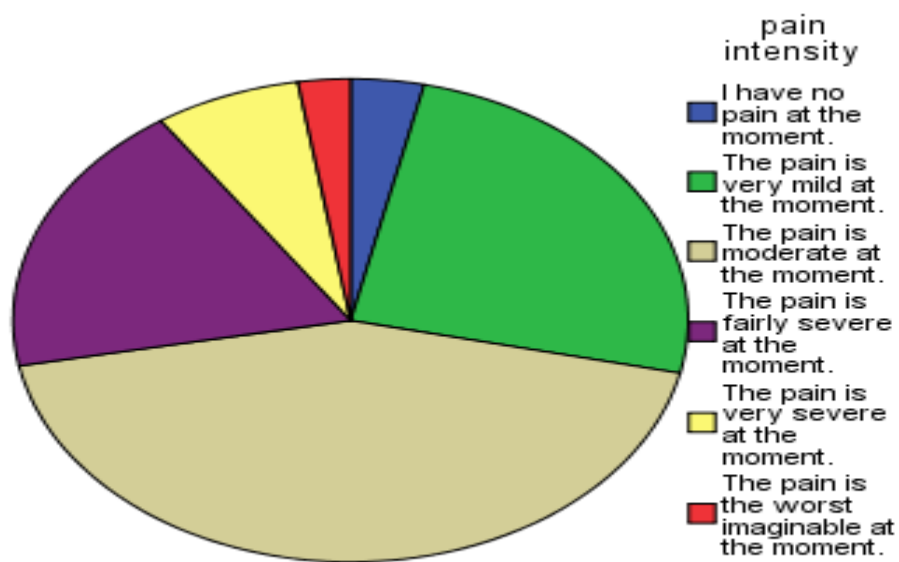
	Frequency	Percent	Valid Percent	Cumulative Percent
20.00	6	3.0	3.0	3.0
21.00	17	8.5	8.5	11.5
22.00	6	3.0	3.0	14.5
23.00	30	15.0	15.0	29.5
24.00	15	7.5	7.5	37.0
25.00	3	1.5	1.5	38.5
26.00	3	1.5	1.5	40.0
27.00	6	3.0	3.0	43.0
28.00	12	6.0	6.0	49.0
29.00	4	2.0	2.0	51.0
30.00	9	4.5	4.5	55.5
31.00	13	6.5	6.5	62.0
Valid 32.00	5	2.5	2.5	64.5
33.00	25	12.5	12.5	77.0
34.00	9	4.5	4.5	81.5
35.00	11	5.5	5.5	87.0
36.00	17	8.5	8.5	95.5
38.00	1	.5	.5	96.0
39.00	2	1.0	1.0	97.0
40.00	1	.5	.5	97.5
41.00	1	.5	.5	98.0
42.00	2	1.0	1.0	99.0
44.00	1	.5	.5	99.5
45.00	1	.5	.5	100.0
Total	200	100.0	100.0	



Age of the participants ranged from 20 years to 45 years.

PAIN INTENSITY

	Frequency	Percent	Valid Percent	Cumulative Percent
I have no pain at the moment.	7	3.5	3.5	3.5
The pain is very mild at the moment.	50	25.0	25.0	28.5
The pain is moderate at the moment.	87	43.5	43.5	72.0
The pain is fairly severe at the moment.	37	18.5	18.5	90.5
The pain is very severe at the moment.	14	7.0	7.0	97.5
The pain is the worst imaginable at the moment.	5	2.5	2.5	100.0
Total	200	100.0	100.0	



2.5% of the participant's report that the pain is the worst imaginable at the moment. 14% report that the pain is very severe at the moment. 50% reported the pain was very mild at the moment

PERSONAL CARE

	Frequency	Percent	Valid Percent	Cumulative Percent
I can look after myself normally without causing extra pain.	26	13.0	13.0	13.0
I can look after myself normally, but it causes extra pain.	25	12.5	12.5	25.5
It is painful to look after myself, and I am slow and careful.	26	13.0	13.0	38.5
I need some help but manage most of my personal care	51	25.5	25.5	64.0
I need help every day in most aspects of self-care.	48	24.0	24.0	88.0
I do not get dressed. I wash with difficulty and stay in bed.	24	12.0	12.0	100.0
Total	200	100.0	100.0	



25% of the participants reported that they need some help but manage most of their personal care. 24% reported they need help every day in most aspects of self-care. 12% reported that they do not get dressed.

LIFTING

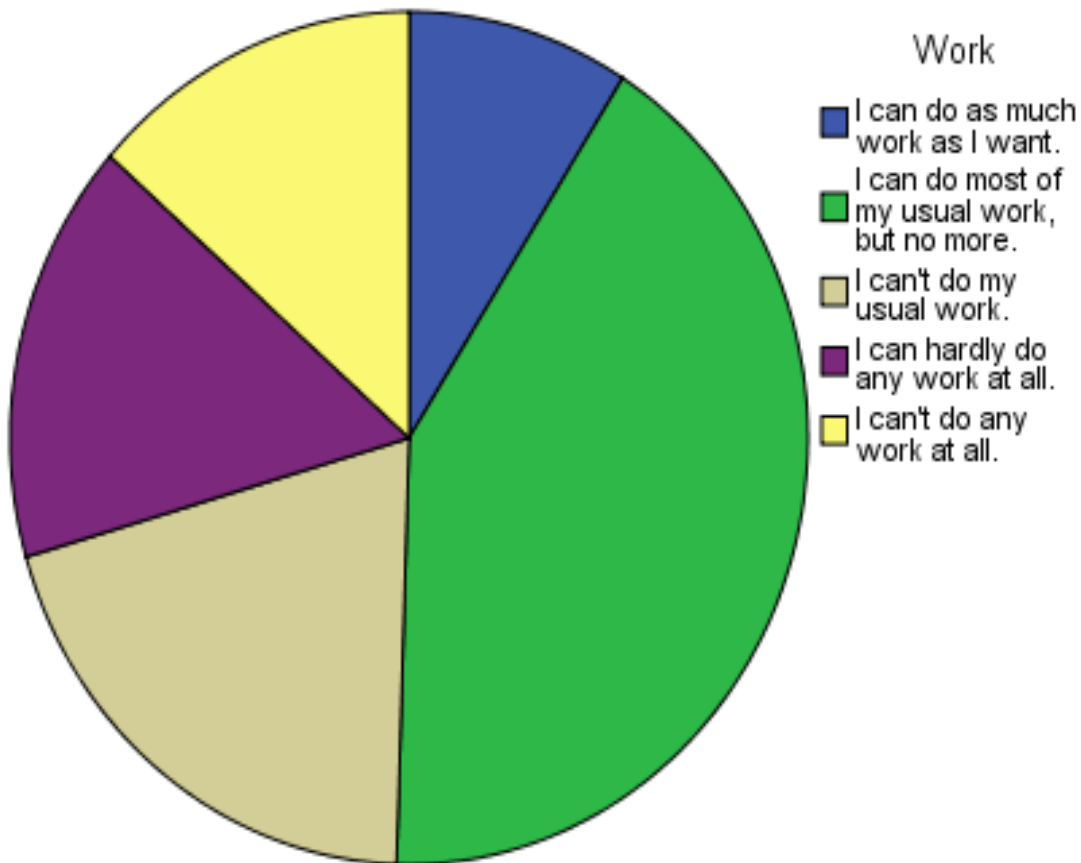
	Frequency	Percent	Valid Percent	Cumulative Percent
I can lift heavy weights without causing extra pain.	6	3.0	3.0	3.0
" I can lift heavy weights, but it gives me extra pain.	58	29.0	29.0	32.0
Pain prevents me from lifting heavy weights off the floor	34	17.0	17.0	49.0
Valid Pain prevents me from lifting heavy weights, but I can manage light weights if they are conveniently positioned.	37	18.5	18.5	67.5
I can lift only very light weights.	27	13.5	13.5	81.0
I cannot lift or carry anything at all.	38	19.0	19.0	100.0
Total	200	100.0	100.0	



29% reported about extra pain by lifting heavy weights. 18% reported that if weights are positioned conveniently lifting would be easy for them. 19% were unable to lift weights at all.

WORK

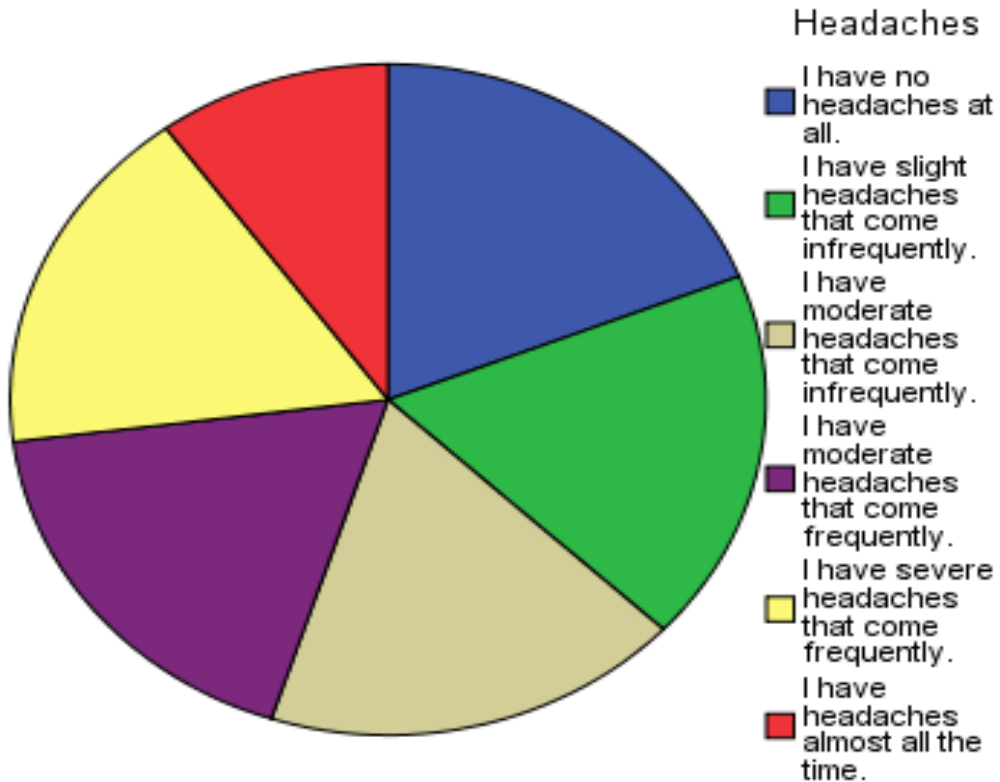
	Frequency	Percent	Valid Percent	Cumulative Percent
I can do as much work as I want.	18	9.0	9.0	9.0
I can do most of my usual work, but no more.	83	41.5	41.5	50.5
Valid I can't do my usual work.	40	20.0	20.0	70.5
I can hardly do any work at all.	32	16.0	16.0	86.5
I can't do any work at all.	27	13.5	13.5	100.0
Total	200	100.0	100.0	



41.5% participant reported that they can do most of their usual work but after a limit it causes extra pain. 16% reported they can hardly do their usual work.

HEADACHES

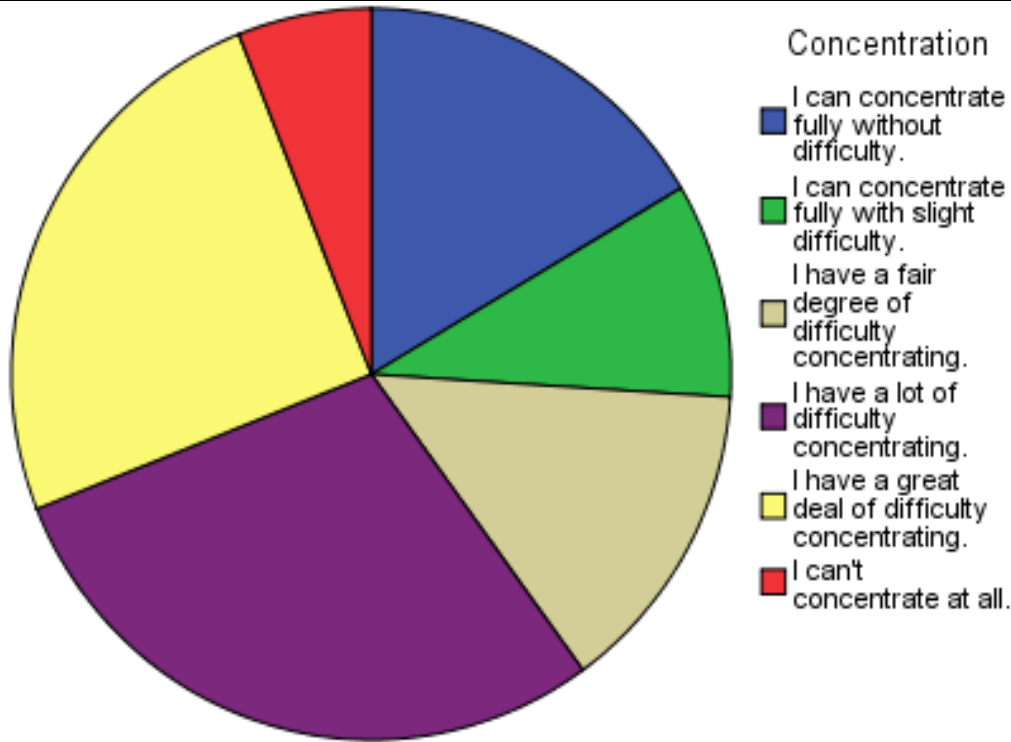
	Frequency	Percent	Valid Percent	Cumulative Percent
I have no headaches at all.	38	19.0	19.0	19.0
I have slight headaches that come infrequently.	36	18.0	18.0	37.0
I have moderate headaches that come infrequently.	36	18.0	18.0	55.0
I have moderate headaches that come frequently.	36	18.0	18.0	73.0
I have severe headaches that come frequently.	34	17.0	17.0	90.0
I have headaches almost all the time.	20	10.0	10.0	100.0
Total	200	100.0	100.0	



Moderate to slight headache with neck pain was reported by 36% participants.17% reported about severe headaches.

CONCENTRATION

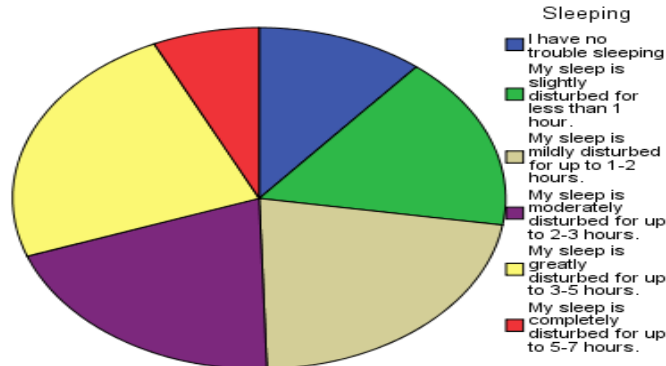
	Frequency	Percent	Valid Percent	Cumulative Percent
I can concentrate fully without difficulty.	33	16.5	16.5	16.5
I can concentrate fully with slight difficulty.	19	9.5	9.5	26.0
I have a fair degree of difficulty concentrating.	28	14.0	14.0	40.0
I have a lot of difficulty concentrating.	58	29.0	29.0	69.0
I have a great deal of difficulty concentrating.	50	25.0	25.0	94.0
I can't concentrate at all.	12	6.0	6.0	100.0
Total	200	100.0	100.0	



29% and 25 % participants reported that they had fair to moderate difficulty in concentrating respectively. A great degree of difficulty concentrating was reported by 6% participants.

SLEEPING

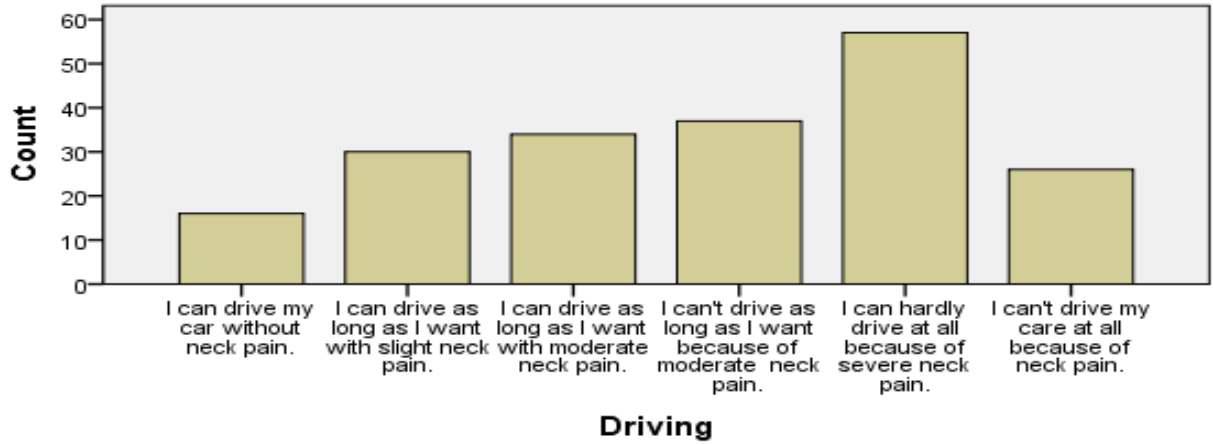
	Frequency	Percent	Valid Percent	Cumulative Percent
I have no trouble sleeping	22	11.0	11.0	11.0
My sleep is slightly disturbed for less than 1 hour.	33	16.5	16.5	27.5
My sleep is mildly disturbed for up to 1-2 hours.	44	22.0	22.0	49.5
My sleep is moderately disturbed for up to 2-3 hours.	40	20.0	20.0	69.5
My sleep is greatly disturbed for up to 3-5 hours.	47	23.5	23.5	93.0
My sleep is completely disturbed for up to 5-7 hours.	14	7.0	7.0	100.0
Total	200	100.0	100.0	



Sleep greatly disturbed for up to 3-5 hours was reported by 23% participants. Mild to moderate disturbance in sleep was reported by 70% participants.

DRIVING

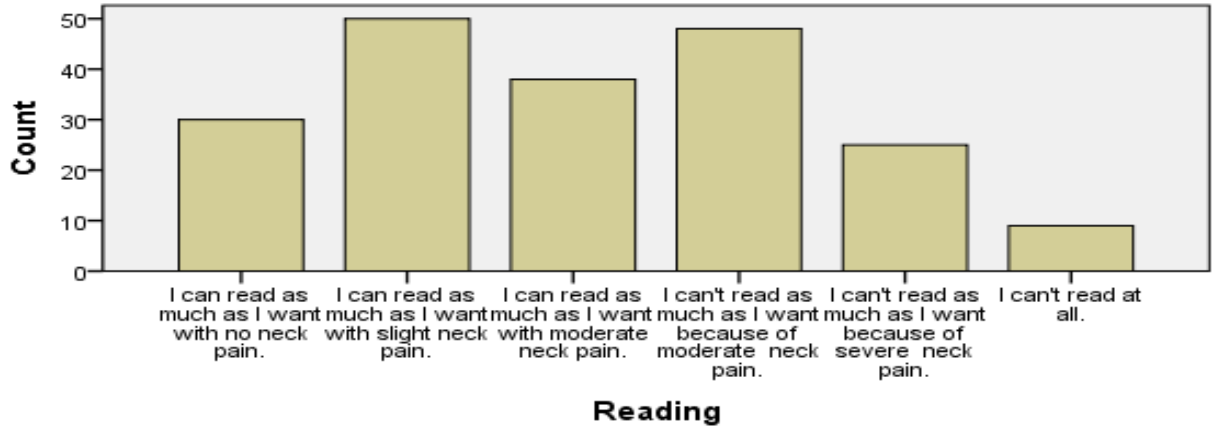
	Frequency	Percent	Valid Percent	Cumulative Percent
I can drive my car without neck pain.	16	8.0	8.0	8.0
I can drive as long as I want with slight neck pain.	30	15.0	15.0	23.0
I can drive as long as I want with moderate neck pain.	34	17.0	17.0	40.0
I can't drive as long as I want because of moderate neck pain.	37	18.5	18.5	58.5
I can hardly drive at all because of severe neck pain.	57	28.5	28.5	87.0
I can't drive my care at all because of neck pain.	26	13.0	13.0	100.0
Total	200	100.0	100.0	



60% reported that can't drive as much as they want because of mild to moderate neck pain. 13% reported that face great deal of difficulty during and sometimes unable to drive at all.

READING

	Frequency	Percent	Valid Percent	Cumulative Percent
I can read as much as I want with no neck pain.	30	15.0	15.0	15.0
I can read as much as I want with slight neck pain.	50	25.0	25.0	40.0
I can read as much as I want with moderate neck pain.	38	19.0	19.0	59.0
I can't read as much as I want because of moderate neck pain.	48	24.0	24.0	83.0
I can't read as much as I want because of severe neck pain.	25	12.5	12.5	95.5
I can't read at all.	9	4.5	4.5	100.0
Total	200	100.0	100.0	

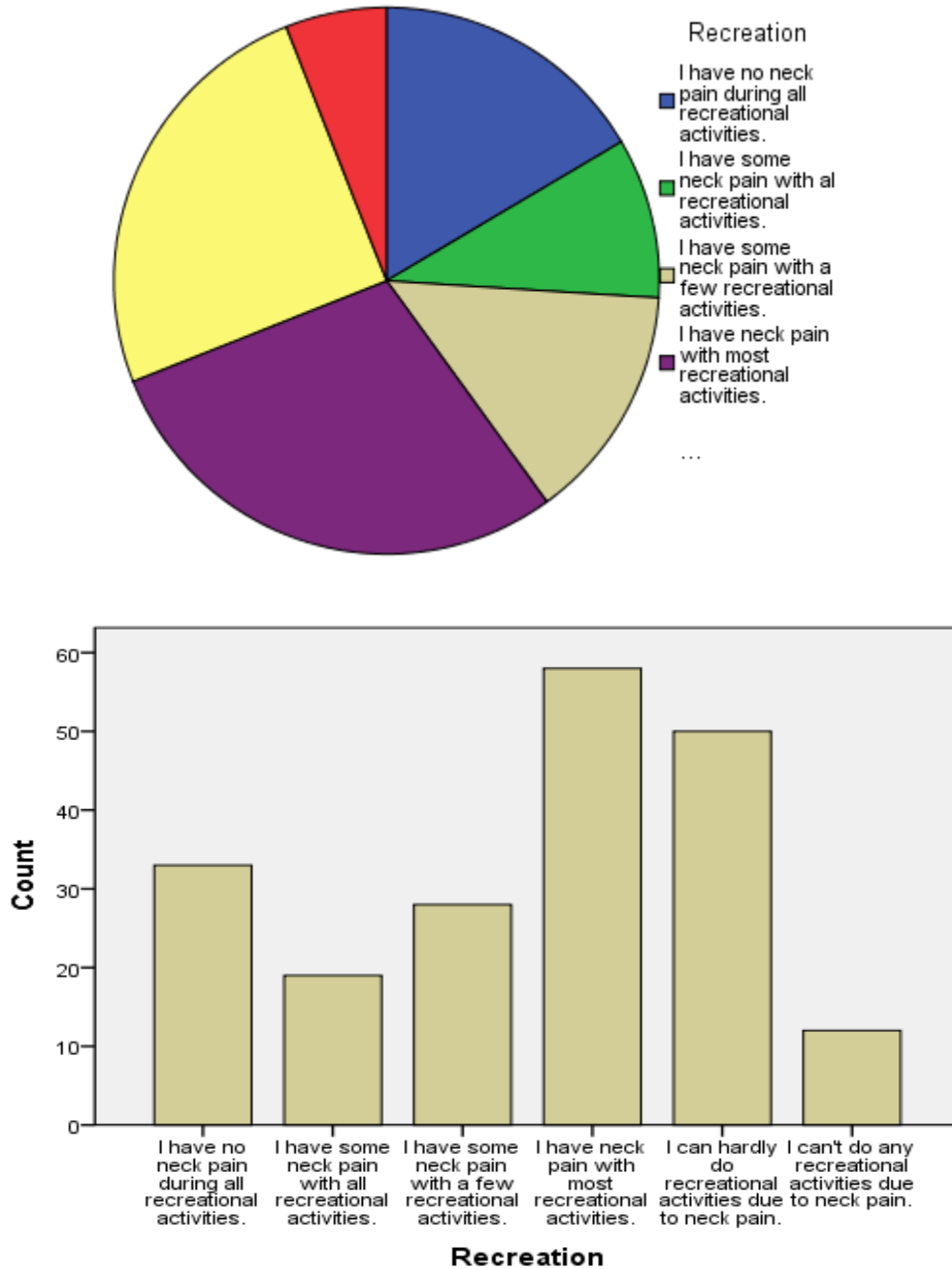


4.5% reported that they were unable to read at all due to severe pain. 25% reported that they can read easily but after a limit pain ceases them to do so

RECREATION:

Recreation

	Frequency	Percent	Valid Percent	Cumulative Percent
I have no neck pain during all recreational activities.	33	16.5	16.5	16.5
I have some neck pain with all recreational activities.	19	9.5	9.5	26.0
I have some neck pain with a few recreational activities.	28	14.0	14.0	40.0
Valid I have neck pain with most recreational activities.	58	29.0	29.0	69.0
I can hardly do recreational activities due to neck pain.	50	25.0	25.0	94.0
I can't do any recreational activities due to neck pain.	12	6.0	6.0	100.0
Total	200	100.0	100.0	



16% reported that they can do their recreational activities without any pain. 29% reported that they had neck pain during most of (but not all) their recreational activities. 4% reported that they can't do their recreational activities.

DISCUSSION:

The study shows that the risk for neck pain are greatly higher in female gender than in male (Mäkelä 1991, 1356-1367; Karlqvist 1998, 3768-3771; Viikari-Juntura 2001, 345-352), it reflects on higher relative musculoskeletal load, for example, women shows greater range of movement when using mouse, the result showed U shaped association that female

workers between 25-43 years old and age between 52-61 have higher incidence than age between 44-51. In male gender, there are trends of increasing neck pain especially in auto rickshaw drivers that is over 40 years old. Studies also show that neck-shoulder pain is a common and increasing problem in adolescent males, suggesting more problems in the young male adult of the future. One study suggests

that vibrant jerks in rickshaw is the main cause for neck pain. Our finding is supported by the study of Aaras and colleagues who found that supporting the forearms in front of the gear box reduced significantly the load on both right and left trapezius. Literature emphasizes the risk of neck pains when the vehicle vibrations are at 20 to 30 Hz particularly of vertical vibrations²³. However, vertical vibrations were recorded but are not used for statistical analysis. Studies suggest that among those whose stress level was higher and who exercised less frequently, the risk for neck pain was especially high. There is consistent evidence that stress is associated with neck pain in cross sectional studies.

Studies suggest that among those who sleep 5 to 7 hours a day or more than this with accurate pillow involve less in cervical pain, the risk for neck pain was especially high who sleep without or inappropriate pillow this was also checked in our current study. There is consistent evidence that stress is associated with neck pain in cross sectional studies. One study suggests that auto rickshaw drivers who suffered from cervical neck pain had severe headaches that come frequently. It also checked in current study 40 % of the drivers faced this. In one study to investigate the links between habitual neck posture pain and driving issues especially auto drivers and they state that can't drive as long as they want because of neck pain. It was also reported in our study that 70 % reported that in neck disability index questionnaire. Chiu et al suggested that working with a poking chin posture during auto driving would induce a considerable load on posterior neck muscle, which in turn led to muscle fatigue. This would further increase loading on non-contractile structures and posterior cervical structures causing neck pain.

CONCLUSION:

Most of the auto rickshaw drivers are experiencing neck pain. The prevalence of neck pain is in association with risk factors. Work experience, maximum working hours per week, less shoulder to handle distance, Driver's seat on right side, working experience and lower cabin space are associated with neck pain. These findings indicate the obvious need of ergonomic considerations while designing the vehicle and providing ergonomic education for terrain vehicle drivers.

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