



Prevalence of Text Neck Syndrome among Young Adults using Smart Phone.

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ABSTRACT:

Text neck syndrome is one of the musculoskeletal problems due to prolonged usage of smartphones. The study objectives were to assess the level of smartphone users, the prevalence of text neck syndrome, and the relationship between smartphone usage and text neck syndrome. Association between their socioeconomic factors and usage of smartphones and text neck syndrome. The qualitative non-experimental study was undertaken. A total of 200 non-medical young adults were selected in a particular college with the use of simple random sampling methods. The results show that 58% were moderate users, 38% were highly-level users, and only 4% were significant users of smartphones. In text neck syndrome, most of the young adults 45% had a mild level, 36% had a moderate level, and 19% had a severe level. The study findings depict that there is a significant level of smartphone usage due to that young adults are getting text neck syndromes.

Introduction

In the modern technological world dependence of the mobile phone is increasing rapidly and people spend long hours on mobile phone that lead to various musculoskeletal problems. The term Text neck or Turtleneck posture. The term "Text neck" was coined by Dr. Dean L. Fishman, a US chiropractor in Plantation Florida, and a leading health care provider for technology induced injuries. While 'Text Neck' is certainly a new medical term, the condition is impacting millions and is a growing critical global concern. Of the 6 billion people in the world, over 5 billion have mobile phones. On the Average, person spend 2.7 hours per day communicating and socializing on their phones, and even more time looking down at their mobile devices for web searching and so many other uses. While 75% of the world's population spends hours daily hunched over their handheld devices with their heads flexed forward, they are all in constant danger and at risk of developing Text Neck. The frequent forward flexion causes changes in the cervical spine, curve, supporting ligaments, tendons, and musculature, as well as the bony segments, commonly causing postural change. Among the chief

complaints associated with Text Neck are pain felt in the neck, shoulder, back, arm, fingers, hands, wrists and elbows, as well as headaches and numbness and tingling of the upper extremities. The Text Neck Institute is at the forefront of advanced tech-injury research and treatment. Included in our treatment for Text Neck is Chiropractic Care, Physiotherapy, Physical Therapy, Massage Therapy, Spinal Decompression Therapy, and Exercise Planning. The investigator is interested in assessing the prevalence of text neck syndrome. This study will help us find the awareness of text neck syndrome as neck pain is an already prevalent significant health problem. Currently less research is being done on Text Neck Syndrome so there is lack of literature. This study will help us gain knowledge regarding this condition and its awareness amongst the population.

Method

The present study was a quantitative-descriptive research design. The sample size is 200 young adults using smartphones at a selected college. The ethical clearance was obtained from the ethical committee from the university. A simple random sampling technique and



lottery method were used to collect the data from the young adults. The tool was used in the self-structure questionnaire, which consists of demographic variables, smartphone usage, and text neck syndrome. The content validity of the tool was obtained by getting opinions from experts in the field of medical surgical nursing, orthopedics, and physiotherapy. The validation was suggested with some specific modifications in the data collection tool. All their suggestions and valuable opinions were included in the study. The reliability of the tool was established by the test-retest method, and Karl Pearson's correlation coefficient (r) was computed for finding reliability. Self-Structured Questionnaire on Smartphone Usage: $r = 1$ (perfect correlation) & Assessment of Text Neck Syndrome: $r = 0.98$ (strong correlation) The values indicated a positive correlation, which showed that the tool is highly reliable and can be administered while conducting the main study. The pilot study was done on 10% of the sample size in the main data collection. Formal written permission to conduct the study was obtained from the principal and department heads. A simple random sampling technique and lottery method were used to select the sample. A written informed consent was obtained from each participant. Self-introduction was followed by adequate explanation about the purpose of the study to ensure better cooperation and confidentiality was maintained. The tool was administered. A lecture followed by preventive and management of text neck syndrome-related exercises was demonstrated. The data was analyzed by using descriptive and inferential statistics.

Result and Discussion

Section A

Table I: Description of the Demographic Variables of Young Adults.

Demographic Variables	%
Age	
a) 18 years	21
b) 19 years	47
c) 20 years	20
d) 21 years	12
Gender	

a) Male	50
b) Female	50
Religion	
a) Hindu	73.
b) Christian	5
c) Muslim	19.
	5
	7
Family income (Per month)	
a) Rs.10,00	
0 - Rs.30,000	54
b) Rs.30,00	
0 - Rs.50,000	36.
c) Rs.50,00	5
0 and above	
	9.5
Which course are you studying	
a) B.Sc. Physics	33.
b) B.Sc. Chemistry	0
c) B.Sc. Mathematics	38.
	5
	28.
	5
Year of education	
a) 1 st year	44.
b) 2 nd year	5
c) 3 rd year	19.
	5
	36.
	0
Academic performance (last appeared exam)	
a) Below average	
b) Average	14
c) Above average	58



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Table II: Frequency and Percentage Distribution of Smart Phone Usage of Young Adults.

Smart Phone Usage	%
How many smart phones are you using	
a) 1	85.5
b) 2	
c) More than 2	
	12
	2.5
How many SIM cards you are using	
a) 1	41
b) 2	
c) More than 2	
	55.5
	3.5
Type of Simcard	
a) Prepaid	81
b) Post Paid	17
c) Both	2
Do you use internet in your smart phones	
a) Yes	100
b) No	0
How much mobile data are you using per day	
a) Less than 1.5 Gb per day	50
b) More than 1.5 Gb per day	50
Why do you use internet in your smart phone	
a) Academic related browsing	2.5
b) Entertainment related browsing	
c) Communication	
d) All the above	

	10.5
	9
	78
Do you use social medias	
a) Yes	100
b) No	0
How many text are you typing per day	
a) Less than 20	11.5
b) 21 to 50	
c) 51-100	
d) More than 100	
	13.5
	24.5
	50.5
How many hours do you use smart phone per day	
a) Less than 1 hr	3
b) Less than 2 hrs	19
c) Less than 3 hrs	26.5
d) More than 3 hrs	51.5
Do you use smart phone during night hours	
a) Yes	51.5
b) No	0
c) Sometimes	48.5
If yes / Sometimes, at what time do you use smart phone in the night hours	
a) Early hours in the night	39.5
b) Midnight	
c) Early morning	
d) Not in use	
	51.5
	0
	9

Section- B

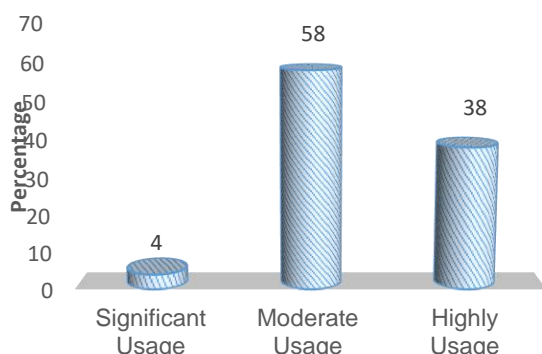


Figure-1 Percentage distribution of level of Smart Phone Usage among young adults

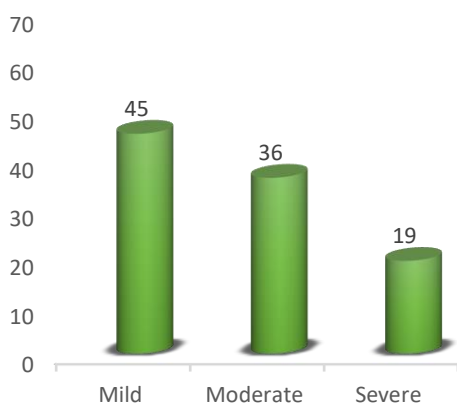


Figure -2 Percentage distribution of level of Text Neck Syndrome among young adults

Section-C

Table III: Correlation Between Smart Phone Usage and Text Neck Syndrome Among Young Adults.

Variables	Mean	S.D	'r' test Value
Smart Phone Usage	14.51	3.21	r = 0.693 p = 0.0001, S***
Text Neck Syndrome	11.85	7.37	

***p<0.001, S – Significant

The mean score of smart phone usage was 14.51±3.21 and the mean score of Text Neck Syndrome was 11.85±7.3. The calculated Karl Pearson’s Correlation value of r = 0.693 shows a positive correlation which was found to be statistically significant at p<0.001 level. This

clearly infers that when the smart phone usage increases Text Neck Syndrome among young adults also increases.

These findings were supported by a study conducted by Priyal P. Shah, Megha S. Sheth (2018). The study examined 100 healthy physiotherapy students of a college in Ahmedabad by random table sampling, in the age group of 20-25 years. Level of significance was kept at 5%. There was a predominance of females over males (females-76, males-24). Mean± SD of SAS, NDI and CHDQ was 102.49±22.15, 30±0.10 and 6.12±8.73 respectively. Spearman correlation coefficient showed a significant moderate positive correlation between both SAS and NDI (r=0.671, pNDI (r=0.671, p<0.001) and between SAS and CHDQ (r=0.465, p<0.001). The study concludes that musculoskeletal problems in neck and hand (predominantly thumb) can be seen in smartphone addicted students which may be short term initially but may later lead to long term disability.

Section-D

The present study demographic variables Course of study and year of education had shown a statistically significant association with level of Text Neck Syndrome ($\chi^2=9.794$, d.f=4, p = 0.044) and ($\chi^2=10.414$, d.f=4, p = 0.034). Number of smart phone using for individual ($\chi^2=15.115$, d.f=4, p = 0.004), association between text neck syndromes with their smart phone usage in number of sim cards using ($\chi^2=23.150$, d.f=4, p = 0.0001), level of mobile day using per day ($\chi^2=16.926$, d.f=2, p = 0.0001) and duration of smart phone using in night hours ($\chi^2=27.716$, d.f=6, p = 0.0001) had shown statistically significant association with level of Text Neck Syndrome at p<0.001 level.

There was similar study was done by Ushapriya M and Ramyarathi Devi M (2018) A descriptive study to assess the level of cell phone overuse among nursing students at SRM college of nursing, kancheepuram district. The analysis reveals that Demographic variables “Age($\chi^2=35.059$, d.f), Course ($\chi^2=37.681$, d.f=9) and Number Of hours spent on internet/day($\chi^2=50.181$, d.f)” are highly significant associated with level of cell phone overuse (since the p values are less than 0.01).

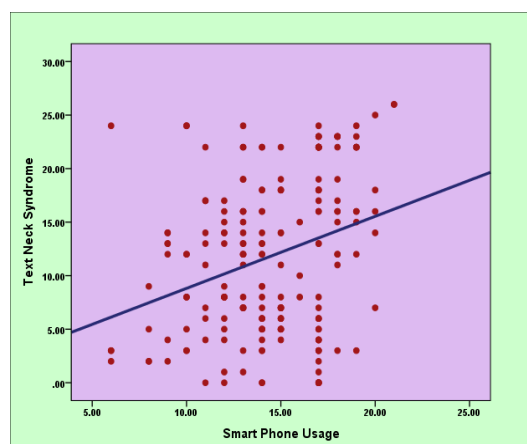


Figure -3 Scatter Dot diagram showing the relationship between the Smart Phone Usage and Text Neck Syndrome among Young Adults

Conclusion

The study findings depict that there is a significant level of smart phone usage due to that young adults are getting text neck syndromes. Hence the study concluded that identified the level of smart phone usage and text neck syndrome. There was positive correlation between smart phone usage and text neck syndromes

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Authors Contribution

All the authors actively participated in the work of the study. All authors read and approved the final manuscript.

Conflicts of Interest

The authors declare no conflicts of interest

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