

# A Descriptive Study to Assess Prevalence of Smartphone Addiction and Text Neck Syndrome among Undergraduate Students in Selected Colleges at Perinthalmanna with a View to Prepare a Self-Instructional Module

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## ABSTRACT

The study conducted to assess the prevalence of Smartphone Addiction and Text Neck Syndrome among under graduate students in selected college of Perinthalmanna with a view to prepare a self-instruction module. The objectives are to assess the prevalence of Smartphone Addiction and Text Neck Syndrome, to determine the correlation between Smartphone Addiction and Text Neck and to determine the association between prevalence of Smartphone Addiction and Text Neck Syndrome with selected demographic variables. Non-experimental descriptive research design was used for the study . The study was conducted in Al Shifa College of Paramedical science and Al Shifa College of Arts and Science Perinthalmanna among 100 undergraduate students selected using quota sampling. Smartphone Addiction Short Version Scale and Neck Disability Index was used for data collection. The study concluded that 62.88% (22) male and 30.7% (20) of female students were addicted to Smartphone , 25.7 % (9) of male and 49.2% (32) of female students were in high risk and remaining 11.42 % (4) male and 20% (13) females students having no risk of Smartphone Addiction .Neck Disability Index result shows that 47% (47) have mild disability 42% (42) having no disability and remaining 11 % (11) have moderate disability of Text Neck Syndrome. The result of the study shows that there is a perfect positive correlation between Smartphone Addiction and Text Neck Syndrome.

**Keywords:** Smartphone Addiction, Text Neck Syndrome, Undergraduate students

## INTRODUCTION

Smartphones are becoming increasingly indispensable in everyday life and offer a substantial variety of mobile applications for information, communication, education, and entertainment purposes<sup>1</sup>. Smartphone addiction is defined as the lack of control to use the Smartphone despite adverse effects including financial, psychological and physical, social harmful consequences on users. Smartphone addiction is more prevalent in younger adolescents compared with young adults<sup>2</sup>. Text neck syndrome is

one of the severe conditions resulting due to this addiction and long term use. This term is used to describe neck discomfort and injury of upper back muscle which is caused by the frequent flexion of neck at various angles, while staring down at a mobile phone which alters the normal curve of the cervical spine. The text neck syndrome should be considered as pain of the Modern Era, since it is caused by modern-era gadgets such as cell phones, computers, and other smart devices, and it causes acute to chronic pain in the neck and upper back area after continuous use up to three months<sup>2</sup>. A long term untreated text neck may lead to some serious damage such as flattening of the spinal curve, onset of early arthritis, spinal degeneration, disc compression, disc herniation etc<sup>4</sup>.

### **NEEDS AND SIGNIFICANCE OF THE STUDY**

A cross sectional study to assess the prevalence of text neck syndrome and Smartphone addiction was conducted in Ahmedabad among 100 healthy physiotherapy students of age group of 20-25 years, who were selected by random sampling technique. Students were asked to fill a proforma along with Smartphone Addiction Scale (SAS), Neck Disability Index (NDI), and Cornell Hand Discomfort Questionnaire (CHDQ). The study showed that the degree of smartphone influence was significantly correlated with musculoskeletal discomfort in the participants. There is a significant moderate positive correlation between both SAS and NDI and between SAS and CHDQ. The result shows that in a day 13 participants (13%) were using the mobile phone for 1-2 hours, 46 participants (46 %) were using mobile phone 2-3 hours and 41 participants ( 41 % ) were using mobile phone for more than 4 hours<sup>8</sup>.

A cross sectional study was conducted to assess the prevalence of Text Neck Syndrome in Sharif Medical and Dental college, Lahore. A total of 120 MBBS and BDS students were enrolled in the study by Non probability consecutive sampling technique. The participants were asked to complete structured questionnaire including demographic information and duration of mobile phone use, the Nomophobia questionnaire and the Neck Disability Index. The result showed that, among 120 participants 20 (16 %) were having mild disability, 80(67%) having moderate disability, 20 (17%) having severe disability and 50 (42%) of the students reported neck pain during prolonged mobile phone use<sup>21</sup>.

From the above studies it is evident that prevalence of Smart Phone addiction and Text neck Syndrome need to be addressed among undergraduates.

### **Population**

The target population selected for the study is under graduates in selected colleges of Perinthalmanna.

### **Samples**

Samples selected are under graduate students in Al Shifa College of Paramedical Science and Al Shifa College of Arts and Science who meets the inclusion criteria.

### **Sample size**

Estimated sample size for the study is 100 undergraduate students from Al Shifa College of Paramedical Science and Al Shifa College of Arts and Science colleges at Perinthalmanna.

**Sampling technique**

Quota Sampling is adopted in the study.

**Setting of the study**

The setting of the study is Al Shifa College of Paramedical Science and Al Shifa College of Arts and Science Perinthalmanna

**Theoretical frame work**

The conceptual frame work for the present study was developed on the basis of Modified Smartphone Addiction Model. This model assesses the antecedents and consequences of smartphone addiction among undergraduate students.

**Criteria for sample selection****Inclusion criteria**

In this study the inclusion criteria are undergraduate students,

- Using phone for more than 3months
- Willing to participate
- Present at the time of data collection

**Exclusion criteria**

In this study the exclusion criteria includes,

- Undergraduate students who are having musculoskeletal disorder in neck

**Tools or instruments**

Tool 1: Demographic proforma

Tool 2: Smartphone Addiction Scale Short Version

Tool 3 : Neck Disability Index

**Descriptive statistics**

Frequency and percentage distribution were used to study the demographic variables of the undergraduates such as age ,sex, duration of using mobile per day , years of using mobile phone, number of times neck pain experienced last three months, common purpose for which study sample use mobile phone mostly.

**Inferential statistics**

Chi-square test was used to assess the association between Smart Phone Addiction and Text Neck Syndrome with selected demographic variable and correlation coefficient is used to assess correlation between Smart Phone Addiction and Text Neck Syndrome among under graduate students.

**The results are presented in**

**Section A:** Demographic variables of undergraduate students

**Section B:** Smart Phone Addiction among undergraduate students

**Section C:** Text Neck Syndrome among under graduate students.

**Section D:** Association between Smart Phone Addiction and Text Neck Syndrome with selected demographic variable

**Section E:** Correlation between Smart Phone Addiction and Text Neck Syndrome among under graduates

**Section A: Demographic variables of undergraduate students**

- Among 100 samples 42% of the study participants belongs to 21-23 years, 36% belongs to age group of 18-20 years and remaining 22% belongs to 24-26 years.
- Sixty five percentage of the study participants were female and 35% were male
- The years of using mobile phone status reveals that 49% of them are using mobile phone for 2-3 years, 31% using mobile phone for 4-5 years, 16% using mobile phone for 6-7 years and remaining 4% using mobile phone for 0-1 year.
- Forty seven percentages of them are using mobile phone 5-7 hours per day, 46% of them are using mobile phone for 3-4 hours per day, and 7% using mobile phone for 8 -10 hours per day.
- Fifty percentages were using mobile phone mostly for gaming and entertainment, 41% were using mobile phone for communication and remaining 9% were using mobile phone for educational needs.
- Forty nine percentages have not experienced any neck pain, 22% of them have experienced neck pain occasionally, 17% of them have experienced neck pain often and remaining 12% experienced neck pain very often in last three months.

**Section B: Smart Phone Addiction among undergraduate students**

Out of 100 participants 62.88%(22) of male and 30.7% (20) of female students were addicted to Smartphone, 25.7% (9) of male and 49.2% (32) female students were in high risk, and the remaining 11.42% (4) of male and 20%(13) of female students having no risk of Smartphone addiction.

**Section C: Text Neck Syndrome among under graduate students**

Out of 100 participants 47% of students have mild neck disability, 11% have moderate disability and remaining 42% have no neck disability.

**Section D: Association between Smart Phone Addiction and Text Neck Syndrome with selected demographic variable**

There is a significant association between age, gender, years of using mobile phone and pain experienced in last 3 months of undergraduate students with Smartphone Addiction and Text Neck Syndrome.

**Section E: Correlation between Smart Phone Addiction and Text Neck Syndrome among under graduates**

There is a perfect positive correlation between Smartphone Addiction and Text Neck Syndrome i.e; Smartphone Addiction has an impact on Text Neck Syndrome.

**ASSOCIATION BETWEEN DEMOGRAPHIC VARIABLES WITH SMART PHONE ADDICTION AND TEXT NECK SYNDROME**

**Chi Square values shows association between demographic variables with Smart Phone Addiction**

Sl.No	Demographic variables	Chi-square value (Smart Phone Addiction)	Degree of freedom	P value
1	<b>Age (yrs)</b> 18-20 21-23 24-26	12.53	4	*9.4
2	<b>Gender</b> Male Female	9.8	2	*5.9
3	<b>Years of using mobile phone</b> 0-1 yr 2-3 yrs 4-5 yrs 6-7 yrs	23.59	6	*12.59
4	<b>Duration of using mobile phone per day</b> 3-4 hrs 5-7hrs 8-10 hrs 11-13hrs	12.07	6	12.57
5	<b>Common purpose of using mobile phone</b> Communication Gaming Education	1.81	4	9.4
6	<b>Pain experienced in last 3 month</b> Occasional Often Very often Not experienced	15.79	6	*12.592

This table shows that there is a significant association between Smart Phone Addiction with age, gender, years of using mobile phone and pain experienced in last 3 month of undergraduate students.

**Chi Square values shows association between demographic variables with Text Neck Syndrome**

Sl.No	Demographic variables	Chi-square value (Text Neck Syndrome)	Degree of freedom	P value
1	<b>Age (yrs)</b> 18-20 21-23 24-26	40.71	8	15.507
2	<b>Gender</b> Male Female	13.32	4	9.4
3	<b>Years of using mobile phone</b> 0-1 yr 2-3 yrs 4-5 yrs 6-7 yrs	16.77	12	21.026
4	<b>Duration of using mobile phone per day</b> 3-4 hrs 5-7hrs 8-10 hrs 11-13hrs	5.52	12	21.026
5	<b>Common purpose of using mobile phone</b> Communication Gaming Education	9.28	8	15.57
6	<b>Pain experienced in last 3 month</b> Occasional Often Very often Not experienced	28.84	12	21.026

This table shows that there is a significant association between Text Neck Syndrome with age, gender and pain experienced in last 3 month of undergraduate students.

**Correlation between smartphone addiction and text neck syndrome**

Variable under study	Percentage	Correlation Coefficient	Interpretation
<b>Smartphone Addiction</b> Addicted High risk No risk	42 41 17	1	Perfect Positive Correlation
<b>Text neck syndrome</b>			

No disability	42		
Mild	47		
Moderate	11		
Severe	0		
Complete	0		

This table depicts the correlation between Smartphone Addiction and Text Neck Syndrome in which the perfect positive correlation (1) is defined. The positive correlation means that Smartphone Addiction has an impact on Text Neck Syndrome.

**Discussion**

In the present study, the researchers investigated “Prevalence of Smartphone Addiction and Text Neck Syndrome Among Undergraduate Students in Selected Colleges at Perinthalmanna and its relation with demographic variables and correlation of Smartphone Addiction and Text Neck Syndrome. The researchers found that there was a prevalence of Smart Phone Addiction among 42 % of undergraduates and 41% of them are at a risk of developing Smart Phone Addiction. Text Neck Syndrome was prevalent among 58% who had mild to moderate neck disability. A Self Instructional Module on Text Neck Syndrome and its management was given to the participants

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