Original Article

Smartphone Addiction Among University Students : A Cross-Sectional Study

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ABSTRACT

Objective: To evaluate smartphones addiction among university students and to identify relevant variables associated with smartphones addiction in university students.

Study Design: Descriptive cross-sectional study

Place and Duration of Study: This study was conducted on the students of five (05) allied institutes/colleges of SMBB Medical University Larkana during the period of November 2022 to January 2023.

Materials and Methods: A total of 275 students were chosen from SMBB Medical University's five affiliated institutes or colleges in Larkana. All the students filled out an online questionnaire through Google Forms, which consisted of a sociodemographic profile, smartphones-related questions, and a smartphones addiction scale (short version), which was applied to evaluate the prevalence of smartphones addiction among students.

Results: Out of 275 university students, smartphones addiction was present in 132 (48%) of the students; females, 76 (57.6%), seemed addicted more in contrast to males, 56 (42.4%). According to the study, students spend 4-6 hours per day on their smartphoness, with the majority of their time spent on socially interesting media and the least on research or academic purposes. Data was analysed by SPSS version 17.

Conclusion: The prevalence of smartphones usage among university students was observed to be relatively high. The skills and cognitive abilities students need for academic success are negatively affected by excessive phones use. There is a need to create awareness of the problem and plan effective intervention strategies.

Key Words: Smart Phones, Addiction, Chandka, College, Cross-Sectional Study.

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INTRODUCTION

Smartphoness are becoming an increasingly important component of most people's everyday lives, particularly among students throughout the world.[1] According to studies, cellphones have become indispensable in people's lives as a result of their versatility.[2] Overuse of smartphones is linked to a number of detrimental social and health effects, including academic and professional performance.[3]

The market for mobile apps is expanding due to the rising number of smartphone owners. Around 6.378 billion people in the world, or more than 80% of the population, use smartphones.

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To put it another way, thanks to smartphoness, we have a world of diversion at our fingertips. It's time to admit that our devices have a harmful influence on our lives and that we need to change.[5] Prior research found that the prevalence of smartphones addiction ranged from 8% to 48%, with students having the highest rate. [6,7] The most frightening aspect of smartphones addiction is that it may negatively impact our physical and emotional health, as well as our relationships and productivity.[4] Users have become so reliant on their smartphoness that they feel insufficient and worthless without them, and their attention is diverted from other, more important tasks.[5,6]

It is fact that, along with many demerits, there are many merits to enhancing communication with colleagues and teachers and sharing information, which is among the key advantages or factors of the smartphones.[7] Even if, the smartphones is utilised properly, there are several benefits, such as enhanced productivity, information availability, and mobility. However, smartphones usage or addiction can result in severe health implications such as neck discomfort, accidents, melancholy, and sleep problems.[8]

MATERIALS AND METHODS

A descriptive cross-sectional study was carried out among five (05) affiliated institutes/colleges, i.e.,

Chandka Medical College (CMC) for medical students, Bibi Asifa Dental College (BADC) for BDS students, the Institute of Pharmacy (IP) for pharmacy students, Benazir College of Nursing (BCN) for nursing students, and the Institutes of Physiotherapy and Rehabilitation Science (IPRS) for physiotherapy students of SMBB Medical University Larkana. All students completed questionnaires regarding demographics and smartphones addiction scales online through Google Forms.

Sample technique: In this study, multistage sampling was applied. Primarily, stratified random sampling was applied by dividing all students according to their institutes/colleges, and then a convinced sampling method (firstly, select those who completed the questionnaire on google form) was applied to select students from each institute/college.

Sample size: The sample size of 272 students was calculated by assuming a prevalence rate of 23%[9] so according to the formula:

$$\eta = \frac{Z^2 \times (p) \times (1-p)}{C^2}$$

$$= 3.8416 \times (0.23) \times (1- 023) \div 0.0025$$

$$=272$$

As a result, 272 students were stratified across 05 institutes or colleges, each with 55 students, for a total sample size of 275 students.

Selection Criteria

Inclusion Criteria:

- Subjects ranged in age from 16 to 21 years.
- Both genders (male and female)
- All students were included who have smart-phones.
- Batches of subjects.. first-year to final students of CMC, BADC, IP, BCON, and IPRS

Exclusion Criteria:

- Any chronic disease, for example, DM, HTN, cardiac or hepatic disease, etc.
- Any psychological illness.

Data Collection Procedure: The observational cross-sectional research study was conducted among the students of allied institutes/colleges during the period of Nov: 2022 to Jan; 2023 at SMBB Medical University Larkana. A total of 275 students from all institutes/colleges (CMC, BADC, IP, BCON, and IPRS) of SMBBMU (55 students from each institute/college) filled out self-addressed questionnaires via Google Forms online. Confidentiality was assured, and the ethical protocol was applied by the ERC panel of SMBB Medical University in Larkana.

In our study, the questionnaire is comprised of 3 portions: the first portion consists of socio-demographic profile questions such as age, gender, batch, and residence; the second portion consists of some smartphones addiction-related questions, such as: Do you have a mobile phones? daily smartphones usage time; main smartphones usage other than calling and texting; and so on.9

While the third component of the questionnaire consists of, the Smartphones addiction scale (short version)[10] the South Korean validated scale in the English version, which consists of 10 items of self-administered tool calculating everyday life disturbance, positive anticipation, online world-oriented dating, and tolerance. Each item is rated on a 6-point scale ranging from 1 (strongly disagree) to 6 (strongly agree). It distinguishes between male and female ranges. Scores > 31 are considered addictive to males, whereas scores > 33 are considered addictive to females (Kwon et al., 2013).[10]

RESULTS

Table No.1: Distribution of demographic & other characteristics among University students

Variables	n(275)	n(%)
Age		
17 years	20	7.3
18 years	36	13.1
19 years	44	16.0
20 years	73	26.5
21 years	102	37.1
Gender		
Male	100	36.4
Female	175	63.6
Residence		
Rural	140	50.9
Urban	135	49.1
Daily smartphones usage time		
< hour	12	4.4
1-3 hours	64	23.3
4-6 hours	138	50.2
7-9 hours	40	14.5
9 hours and above	21	7.6
Main use of smart phones other than calling and text message		
Social networking	143	52.0
Research	34	12.4
News	39	14.2
Games	59	21.5
Do you check your phones at night when you get up from sleep		
yes	112	40.7
No	163	59.3
Do you feel distressed when you forget your phones elsewhere		
yes	133	48.4
No	142	51.6

A current study was carried out to observe the prevalence of smartphones addiction among the students of SMBB Medical University and its allied institutes/colleges (CMC, BADC, IP, BCN, and IPRS).

A total of 275 students filled out questionnaires online through Google Forms (55 students from each of the allied institutes / colleges). The mean age of students was 19.73 ± 0.07 years, ranging from 17 to 21 years, while the number of male participants was 100 (36.4%) and female participation was 175 (63.6%). Other related frequencies are listed in the table. 1

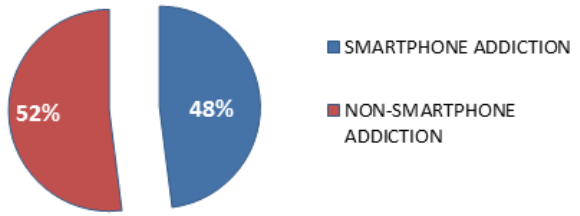

Figure No.1: Prevalence of Smartphones Addiction among University Student

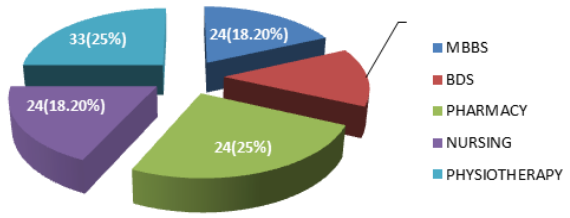

Figure No.2: Institutional / College - Wise Smartphones Addiction among University Students

The smartphones addiction-SV scale was applied as a valid and reliable tool for the evaluation of smartphones addiction.[10] In the current study, the prevalence of smartphones addiction was observed at 132 (48%) among university students, and according to colleges/institutes, more addiction seemed in Physiotherapy and Pharmacy 33(25.0%), thereafter seemed 24(18.2%) in both MBBS, Nursing colleges. (p-0.014). Figure 1 and 2.

Outcome according to gender-wise males, 56(42.4%) seemed more addicted than females 76(57.6%) and showed a significant gender difference with a probability value of 0.03. Table.02 Participants in our study found a statistically significant link between daily smartphones usage and smartphones addiction. Out of 132 addicted students, 55(41.7%) reported using a smartphones for more than 4-6 hours per day, 33(25.0%)reported using a smartphones for 1-3 hours per day, 23(17.4%) reported using a smartphones for 7-9 hours per day, and 17(12.9%) and 4(3.0%) reported in >9 hours and < 1 hour per day respectively (p-0.003). Table 2.

In our study, the use of smartphones addiction other than voice calling and text messaging was social networking work such as Facebook, Twitter, Whatsapp, Instagram, and so on, at 61 (46.2%), which appeared to be more prevalent than games at 39 (F.5%), news at 21 (15.9%), and academic research at 11(8.3%), respectively. Table 2.

In the study, 68 students (51.5%) checked their phones when they woke up from sleep, showing a consistently significant association (p = 0.001). As well, subjects reported that 70(53.0%) would feel distressed at work when they forgot their smartphones somewhere else (p-0.086). Table 2.

Table No.2: Different variables association with smartphones addiction among university students

Variables		Smartphones addiction (n=275)		P*
		Positive (n=132) (%)	Negative n=143)(%)	
Age	17 years	5(3.8%)	15(10.5%)	0.039
	18 years	13(9.8%)	23(16.1%)	
	19 years	21(15.9%)	23(16.1%)	
	20 years	43(32.6%)	30(21.0%)	
	21 years	50(37.9%)	52(36.4%)	
Gender	Male	56(42.4%)	44(30.8%)	0.030
	Female	76(57.6%)	99(69.2%)	
Residence	Rural	62(47.0%)	78(54.5%)	0.128
	Urban	70(53.0%)	65(45.5%)	
Daily smart phones usage time	< 1 hour	4(3.0%)	8(5.6%)	0.003
	1-3 hours	33(25.0%)	31(21.7%)	
	4-6 hours	55(41.7%)	83(58.0%)	
	7-9 hours	23(17.4%)	17(11.9%)	
	> 9 hours	17(12.9%)	4(2.8%)	
College-wise Smartphones addiction	MBBS	24(18.2%)	31(21.7%)	0.015
	BDS	18(13.6%)	37(25.9%)	
	Pharmacy	33(25.0%)	22(15.4%)	
	Nursing	24(18.2%)	31(21.7%)	
	Physiotherapy	33(25.0%)	22(15.4%)	
Main use of smart	Social network	61(46.2%)	82(57.3%)	0.004

phones other than calling and text message	Research/Acc work	11(8.3%)	23(16.1%)	
	News	21(15.9)	18(12.6%)	
	Games	39(29.5%)	20(14.0%)	
Do you check your phones at night when you get up from sleep	Yes	68(51.5%)	44(30.8%)	0.001
	No	64(48.5%)	99(69.2%)	
Do you feel distressed when you forget your phones elsewhere	Yes	70(53.0%)	63(44.1%)	0.086
	No	62(47.0%)	80(55.9%)	

DISCUSSION

According to the findings of the current study, the mean age of the study population was 19.73 ± 0.077 years, ranging from 17 to 21 years, with female students participating at a higher rate of 175 (63.6%) than male students participation 100 (36.4%).

In the current study, according to the smartphones addiction scaling tool, 48% of students observed addiction, which seemed high. A similar prevalence of addiction seemed in a Pakistan study among Physiotherapy students, showing 44.5%, and in another Saudi Arabian study, among university students, seemed 48%.[11,12] In another study currently conducted in Pakistan, among 400 students, 48% were identified as having smartphones addiction.[13] Recently, a meta-analysis study was conducted among Asian countries, showing 41.93% smartphones addiction among 5497 medical students.[14] Whereas, in western countries, the prevalence of smartphones addiction seemed low, such as in the United Kingdom (10%), Spain (12.5%), and France (21.5%).[15] The difference in our results, when compared to other recent research documents, is that the cultural factors may play a role in the varying prevalence of technological addiction. Western countries are less prone to and vulnerable to high levels of technological addiction.[16,17]

Regarding the gender association with smartphones addiction, female subjects were observed to be more addicted to smartphoness as compared to males. The study's findings revealed a significant association between gender and smartphones addiction, similar to the findings of a Turkish study (Dimirci K et al.) and another Korean study. (Kim SE, et al).[18,19]

However, in the majority of studies, female smartphones addiction seemed more prevalent, while in contrast, a few other studies, such as a Pakistani study and a Chinese study showed more smartphones addiction in males as compared to females.[20,19] According to survey App Annie, people use their smartphones for 4.8 hours on average every day.[21]

In the current study, university students showed a significant association between the daily use of smartphoness and smartphones addiction ($p = 0.004$). Slightly less than 50% of the addicted students used their smartphoness for 4-6 hours per day, while next to 1-3 hours/per day almost one-third of students. The findings of these studies are supported by Norbaidurah I et al. and Hatice et al.[23], who discovered that 45.0% and 40.1% of students spend 4 to 6 hours per day, respectively, and 32% and 34.1% use 1-3 hours per day, and such a high timing generates negative outcomes in their future lives.[22,23] More teenagers reported using their smartphoness for five or more hours per day From 11% in 2013 to 16% in 2015 to 20% in 2017.[24]

In the current study, apart from phones calls/messaging, slightly less than half of the university students used smartphoness for social networking sites such as Facebook, Instagram, Whatsapp, and Twitter, thereafter games and news, respectively, while the least number of students seemed to be engaged in academic or research work, similar to an Indian study (Amati R, et al).[25] Another study found a moderate correlation between smartphones addiction and the number of working hours lost to smartphones usage, as well as a self-reported decline in productivity owing to smartphones use while at work.[26]

In current studies, there is a significant association between smartphones users checking their phoness when waking up from sleep and smartphones addiction. Another Deloitte survey showed higher percentage (61%) of individuals check their phoness within 5 minutes of waking up as compare to our study showed higher percentage.

Many people report feeling anxious when they forget their phones. This may be due to a fear of isolation, a lack of communication, or the sensation of not being part of a social network. The characteristic that you felt distress when you forgot your smartphones elsewhere, showed some similarity to another studies.[27]

CONCLUSION

In the study's conclusion, a high prevalence was observed among University students such as addiction produce, poor academics, uncontrolled habits, anxiety, and aggressive behaviors that harm our health and relationship.

Author's Contribution:

Concept & Design of Study: Vijia Kumar Gemnani

Drafting:	Anoop Kumar Juseja, Daulat Ram Nagdev
Data Analysis:	Kaleemullah Abro, Suhail Aman Jokhio, Fasil Saif Jamro
Revisiting Critically:	Vijia Kumar Gemnani, Anoop Kumar Juseja
Final Approval of version:	Vijia Kumar Gemnani

Conflict of Interest: The study has no conflict of interest to declare by any author.

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