



Original Article

Investigating the Smartphone Addiction among Undergraduate Nursing Students

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ABSTRACT

In today's digital era, smartphones have become an essential part of our society. However, excessive use of smartphones can have a wide range of consequences and it affects students' physical and mental health. Nursing students should know the appropriate use of smartphones to prevent health complications. **Objective:** To investigate the prevalence of smartphone addiction among nursing students. **Methods:** A descriptive cross-sectional study design was utilized in a total of 98 nursing students of Saifee Burhani School of Nursing in Karachi, Pakistan. A convenience sampling technique was used to collect data and a Smartphone Addiction Scale short version (SAS-SV) questionnaire was utilized to collect data related to smartphone usage patterns and addiction levels among nursing students. **Results:** The study findings revealed that 68 nursing students (69.39%) were addicted to smartphones. Descriptive statistics, ANOVA, and t-independent test were applied by Statistical Package for Social Sciences (SPSS) software version 25.0 for data analysis. **Conclusions:** The present study revealed that smartphone addiction was found higher among nursing students.

INTRODUCTION

A smartphone is a single device with multiple features to make human life easier. Nowadays, the trend to use a smartphone has become popular all over the world it has changed human life drastically in the last few years [1]. Smartphones aren't just about fun and staying connected; they're like a personal toolkit packed with endless possibilities. From browsing the internet to finding our way with GPS, capturing memories with the camera, and using countless handy apps, they've become indispensable companions in our everyday adventures. Moreover, smartphones provide wireless access to work, emails, and social activities [2]. However, excessive use of smartphones is considered a technology addiction and it has raised concerns about its effects on students' health and academic performance [3]. Addiction is an

irrepressible desire for an object even if there is a destructive effect on an individual's health and social life [4]. Smartphone addiction is a common concern worldwide with a high occurrence not only influences developing countries but also the underdeveloped nations [5]. The frequency and duration of time spent on social media sites and messaging applications have been increasing and it has been reported that those people who use a smartphone for more than 20 hours a week have a serious dependency on smartphones [6]. According to 2019 statistics, the incidence of smartphone addiction are more than 5 million globally [7]. A study conducted among medical University students in Saudi Arabia reported strongly negative consequences on the physical and mental health of students due to excessive use of

smartphones [8]. Moreover, investigating an addiction to smartphones, a study conducted in Rawalpindi-Islamabad reported 57.3% of males whereas 42.6% of females were involved in excessive use of smartphones [9]. Healthcare students are exposed to high levels of stress right from the beginning of the course; as they face unique challenges due to rigorous academic demands and strict clinical training. Smartphone addiction might aggravate this problem as well as reduce the quality of sleep and cause neck discomfort [10].

There is limited research available related to smartphone addiction, that specifically targets nursing students in Pakistan. Therefore, understanding the extent of Smartphone addiction among nursing students and its implications is crucial for promoting their well-being and ensuring their academic success. Consequently, this study aimed to investigate smartphone addiction among nursing students and gain insight into these problems in the Pakistani context.

METHODS

This study investigated the prevalence of smartphone addiction in Bachelor of Science in nursing students at Saifee Burhani School of Nursing in Karachi, Pakistan. Data were collected from an organized method after getting approval for data collection from the study setting and the Ethical Review Committee of Ziauddin University (7440723SANUR; September 05, 2023). It was a Descriptive cross-sectional study conducted in one month October 2023 using convenience sampling technique by using the Smartphone Addiction Scale Short Version (SAS-SV) questionnaire [11]. The questionnaire contains 10 items related to the use of smartphones with a Likert scale score of 1 to 6 indicated (1 = strongly disagree to 6 = strongly agree). The overall score of SAS-SV ranges from 10 to 60 and the cut-off point for addiction in males is 31 and 33 for females. The tool's reliability is 0.94 and the validity is 0.71-0.78. This study used a convenience sampling method, The sample size was calculated by online software "OpenEpi" version 3 with a 95% confidence interval by taking a previous study done in 2022 as reference "Addicted to smartphones: Exploring the prevalence of smartphone usage patterns and addiction among undergraduates in South Punjab" mean and the standard deviation is taken from the article [12]. The inclusive criteria were nursing students who were enrolled in the Bachelor of Science in Nursing program and using smartphones for more than 1 year for at least 2 hours per day and the exclusive criteria were the students who did not meet the inclusion criteria and were unwilling to participate. Informed consent was taken by a primary researcher from the study participants before including them in the study for voluntary participation without coercion. Finally, the data were

analyzed by Statistical Package for Social Science (SPSS Version 25.0). Descriptive statistics for frequency tables, mean and standard deviation, and statistical test ANOVA and independent t-test were utilized to find out the relationship among different variables with smartphone addiction.

RESULTS

Table 1 presents that out of a total of 98 participants, 80 participants (61.6%) belonged to the 18-23 years age group, 15 (15.3%) belonged to the 24-28 years age group, and only 3 (3.1%) belonged to the 29-33 years age group. Among all, 51 (52%) were female and 47 (48%) were male. Most of the subjects 89 (90.8%) subjects were single while only 9 (9.2%) were married. Among all participants, 16 (16.3%) were in 1st year, 40 (40.8%) were in 2nd year, 24 (24.5%) were in 3rd year and 18 (18.4%) were in the 4th year. In addition, most of the participants 87 (88.8%) used smartphones for social media while 75 (76.5%) participants used smartphones for assignment purposes, and 48 (49%) utilized smartphones for entertainment and calls.

Table 1: Frequency of Socio-Demographics Factors

Demographics	N (%)	
Age Groups (in Years)	18-23	80 (81.6)
	24-28	15 (15.3)
	29-33	3 (3.1)
Gender	Male	47 (48)
	Female	51 (52)
Marital Status	Married	9 (9.2)
	Single	89 (90.8)
Semester	Year 1 Semester 2	16 (16.3)
	Year 2 Semester 4	40 (40.8)
	Year 3 Semester 6	24 (24.5)
	Year 4 Semester 8	18 (18.4)
Assignment Purpose	Yes	75 (76.5)
	No	23 (23.5)
Entertainment Purpose	Yes	48 (49)
	No	50 (51)
Social Media Purpose	Yes	87 (88.8)
	No	11 (11.2)
Calls Purpose	Yes	50 (51)
	No	48 (49)
Duration of Smartphone Usage	More than 2 Hours	98 (100)

Table 2 presents that for the age group of 18-23 years, scores obtained on the distribution of SAS-SV with socio-demographic variables were 38.04 (SD = 8.83), for 24-28 years 40.07 (SD = 9.69) and 29-33 years 28.67 (SD = 10.69). In respective to the male gender, scores obtained 38.53 (SD = 9.92) and for females 37.63 (SD = 8.31). In respective to marital status, 34.78 (SD = 8.80) were married and 38.39 (SD = 9.09) were single. The semester results showed that 2nd semester score was 32.56 (SD = 8.09), the 4th semester score was 39.10 (SD = 9.96), 6th semester score was 37.79

(SD = 9.96), and the 8th semester score was 41.00 (SD = 8.80). Respectively to the assignment purpose, scores were obtained 41.91 (SD = 7.62), for entertainment 38.27 (SD = 8.41), for social media 38.78 (SD = 8.98), and for calls 38.18 (SD = 9.11). In respect to the duration of smartphone use, the results obtained were 38.06 (SD = 9.08).

Table 2: Distribution of Smart Phone Addiction Scores with Socio-Demographics

Characteristics		Mean ± SD
Age Groups (in Years)	18-23	38.04 ± 8.83
	24-28	40.07 ± 9.69
	29-33	28.67 ± 10.06
Gender	Male	38.53 ± 9.92
	Female	37.63 ± 8.31
Marital Status	Married	34.78 ± 8.80
	Single	38.39 ± 9.09
Semester	Year 1 Semester 2	32.56 ± 8.09
	Year 2 Semester 4	39.10 ± 9.96
	Year 3 Semester 6	37.79 ± 9.96
	Year 4 Semester 8	41.00 ± 8.80
Assignment Purpose	Yes	36.88 ± 9.21
	No	41.91 ± 7.62
Entertainment Purpose	Yes	38.27 ± 8.41
	No	37.86 ± 9.77
Social Media Purpose	Yes	38.78 ± 8.98
	No	32.36 ± 8.14
Calls Purpose	Yes	38.18 ± 9.11
	No	37.94 ± 9.15
Duration of Smartphone Usage	More than 2 Hours	38.06 ± 9.08

Table 3 shows that 68 (69.39%) nursing students were addicted to smartphones and 30 (30.6%) were not addicted to smartphones.

Table 3: Prevalence of Smartphone Addiction

Smartphone Usage	n (%)
Not Addicted to Smartphones	30 (30.61)
Addicted to Smart Phone	68 (69.39)

Table 4 represents that 36 (71%) females and 32 (68%) males were addicted to smartphones.

Table 4: Prevalence of Smartphone Addiction in Males and Females

Gender	N	Not Addicted to Smartphone	Addicted to Smartphone
Male	47	15 (32%)	32 (68%)
Female	51	15 (29%)	36 (71%)
Total	98	30	68

Table 5 shows the result of an association of different variables with smartphone addiction short version scale (SAS-SV) scores. The age group did not show a significant association with SAS-SV Scores (p = 0.140). Gender exhibited no significant relationship (p=0.625) with SAS-SV scores. Marital status also showed no significant

relationship with SASSV scores (p = 0.257). However, the semester showed a significant difference in SASSV scores (p = 0.038). Significant results were also found in the assignment purpose variable and social media purpose variable (p-values: 0.019, 0.027). Additionally, variables entertainment purpose and call purpose showed no significant relationship with SASSV scores.

Table 5: Comparison of Smartphone Addiction Scores with Different Variables

Characteristics	Mean ± SD	N	p-value	
Age Groups (in Years)	18-23	38.04 ± 8.83	80	0.140 ^a
	24-28	40.07 ± 9.69	15	
	29-33	28.67 ± 10.06	3	
Gender	Male	38.53 ± 9.92	47	0.625 ^b
	Female	37.63 ± 8.31	51	
Marital Status	Married	34.78 ± 8.80	9	0.257 ^b
	Single	38.39 ± 9.09	89	
Semester	Year 1 Semester 2	32.56 ± 8.09	16	0.038 ^a
	Year 2 Semester 4	39.10 ± 9.96	40	
	Year 3 Semester 6	37.79 ± 9.96	24	
	Year 4 Semester 8	41.00 ± 8.80	18	
Assignment Purpose	Yes	36.88 ± 9.21	75	0.019 ^b
	No	41.91 ± 7.62	23	
Entertainment Purpose	Yes	38.27 ± 8.41	48	0.824 ^b
	No	37.86 ± 9.77	50	
Social Media Purpose	Yes	38.78 ± 8.98	87	0.027 ^b
	No	32.36 ± 8.14	11	
Calls Purpose	Yes	38.18 ± 9.11	50	0.896 ^b
	No	37.94 ± 9.15	48	

^a ANOVA test has been applied

^b Independent T-test has been applied

DISCUSSION

In the current study, most of the participants were 51 (52%) females as compared to males were 47 (48%). These findings were parallel to the study in which 63.9% were female and 36.1% were male [13]. In contrast, the literature endorses that a large proportion of males was 53.4% as compared to females 35.9% [14]. The possible reasons for this contrast in the Pakistani context were perhaps the male-dominant society, cultural norms, and restrictions on women's mobility in certain areas may have led them to rely more on smartphones for social interaction to stay connected with friends and family which could contribute higher smartphone addiction among females. The majority of participants (90.8%) were single in the current study. These findings were similar to a study in which most participants 97.65% were single [15]. A large proportion (94.9%) of the study participants' age group was 18-23 years. The findings were parallel to the results of the study in which the majority of the participants (69.2%) belonged to the 18-25 years age group. According to the educational status of the participants (16.3%) were in 1st year semester

2, (40.8%) were in 2nd year semester 4, (24.5%) were in 3rd year semester 6 and, (18.4%) were in 4th year semester 8. The findings were parallel to the findings of the study in which most of the participants 43.4% were enrolled in the second year 41.1% were in the third year and 19.1% were in 4th year [15]. The possible reasons for this distinction are that as students' progress through their studies, they may experience a heavier course load, longer study hours, and increased clinical responsibilities, which can lead to prolonged periods spent on smartphones to complete assignments and social media to refresh their minds. The current study revealed that nursing students were using smartphones more than two hours per day. The findings were comparable to the findings of the study in which the majority of participants spent 2 hours and 39 minutes using their smartphones [16]. The present findings revealed that 68 (69.39%) nursing students were addicted to smartphones of which 32 (68%) were male and 36 (71%) were female. Similarly, a study conducted in Sweden reported that 60% of females and 35% of males were addicted to smartphones [17]. In contrast, a study conducted in Jeddah reported that males were more addicted to smartphones than females and the overall addiction was 66 (36.5%) [18]. The possible reason for this difference in Pakistan was perhaps the availability of low-cost internet access to smartphone devices to stay connected with social media and a lack of awareness related to the healthy use of digital devices. Moreover, the current study showed a statistically significant relationship found that smartphone use for assignment (p-value = 0.019), and social media purpose (p-value = 0.027). The study findings were similar to the study that was conducted in Saudi Arabia reported that nursing students were using smartphones more frequently for social media and entertainment purposes (82.2%) rather than educational activities [19]. On the other hand, a study conducted in Taiwan by Lai *et al.*, which highlighted that nursing students have favorable behavioral intentions toward the usage of nursing information smartphones, emphasizing their perceived utility and simplicity of use, which supports the blending of practical skills [20].

CONCLUSIONS

In conclusion, the overall prevalence of smartphone addiction was found high (69.39%) among undergraduate nursing students.

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Authors Contribution

Conceptualization: SAA

Methodology: PM, SB

Formal analysis: SAA, SB

Writing-review and editing: SAA, PM, SB

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

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