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Smartphone Addiction Among Nursing Students in Bangladesh

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Abstract

Background: Smartphones are useful and commonly used devices. Students use smartphones for various purposes. The unwarranted use of smartphones can affect the students' academic, clinical, physical, mental, and social aspects.

Methods: This descriptive study aimed to investigate nursing students' smartphone addiction in Bangladesh. The participants were 140 nursing students (aged 19 to 24) asked about various aspects of their smartphone usage via a self-reporting questionnaire. The students' demographic information and responses regarding smartphone use were analyzed through descriptive statistics.

Results: The study found that the nursing students were moderately (M=35.91, SD=10.69) addicted to smartphones. 87.9% reported feeling uneasy without their smartphone. 92.1% reported that their studies were undermined and 87.1% reported that their daily activities were undermined. 84.3% reported eye pain and 86.4% reported headaches due to smartphone use.

Conclusions: The study results are alarming information for students, guardians, and relevant authorities. The results may support the development of strategies for reducing smartphone addiction among the nursing workforce, thereby improving nursing.

Keywords: smartphone addiction; nursing students.

Introduction

Smartphones are very common and useful devices. Students can use smartphones for many different purposes, including searching for information related to their studies. Alternatively, they may use smartphones to play games or connect to social media. Excessive smartphones use that interferes with students' daily activities can be considered smartphone addiction [1] and can adversely affect students' personal development. Given their typical age, students are particularly vulnerable to smartphone addiction. Other factors that may lead to smartphone addiction include increased wealth, the absence of play areas in educational and living spaces, the lack of recreational facilities like park clubs, detachment from social activities, and reduced family and social bonding. Nowadays, students value smartphones for play or recreation as much as for their contact functions. They spend significant time using smartphones, which may affect their educational performance [2-3], sleep quality [4], attention [5], and personal relationships [6]. Smartphone addiction is associated with students' poor mental health [7], social networking addiction, lowered self-esteem and shyness, harmful eating habits, headaches and migraines [8], lower communication skills, and increased social distress [9]. Nursing students may be especially vulnerable to smartphone addiction

because smartphone use is very common in nursing education including clinical practice. In addition, during their studies, most nursing students stay in hostels, far away from their families. They may spend large amounts of time alone and may feel lonely. Moreover, smartphone use is considered extremely fashionable, especially among younger students. Parents may also encourage students to use smartphones for various reasons. All these issues may lead to excessive smartphone use.

Smartphone addiction exists among Bangladeshi students. A study conducted among university students revealed that 28% were addicted to smartphones [10]. A different online survey found that 61.4% of young adults were smartphone addicted [11]. Another study found that students were engaged in problematic smartphone use and problematic social media use [12]. In Iran, about 50% of nursing and midwifery students were moderately addicted to the internet [13]. In India, 57.43% of nursing students had moderate levels of smartphone addiction [14]. In Bangladesh, aside from the studies referenced above, there is limited information or research about nursing students' smartphone addiction. The purpose of this study is to investigate this issue. The results will act as evidence and may contribute to reducing students' smartphone addiction.

Data and Methods

This was a descriptive cross-sectional study conducted in one public nursing college (Dhaka Nursing College, Dhaka). The college has two courses: a three-year Diploma in Midwifery and a four-year Bachelor of Science in Nursing. The Nursing BSc course had the most students, the majority of whom lived in the college hostel. Therefore, the researcher chose students from this course for the study. As part of the course, students need to perform clinical practice in a hospital. This mostly takes place in the third and fourth years of the course. Therefore, the researcher recruited third- and fourth-year students for the study. The population was 400 nursing students. The sample size was estimated using Slovin's Formula [15].

Slovin's Formula: $n = N/ (1+Ne^2)$
Where:

- n = sample size
- N = population size
- e = acceptable margin of error

This determined 114 samples from 400 students

- $n = N/ (1+Ne^2)$
- $n = 400/(1+1000*.05^2)$
- n =114.285
- n =114

The formula determines 114 samples. To mitigate against missing data, 20% of additional samples (24) were added, resulting in 138 samples. Two further samples were added to round up to 140 samples.

Two research instruments were used. The first was a six-item Demographic Data instrument, which investigated age, gender, religion, residence, reasons for using a smartphone, and internet use. The second was the Smartphone Addiction Scale (SAS) for Bangladeshi Students [16], which was used to assess the students' level of smartphone addiction across 20 items: 7 items about feelings (amount of time spent, unease, companionship, pleasure, shortening smartphone use, urge to use smartphones, boredom); 7 items about usage habits (use of smartphones while eating, walking, during class, immediately before sleep, after waking up, in family and social situations, and when time is available); 1 negative item about tolerance (spending time without a smartphone); 4 items about disturbance to daily life and health (study, daily activities, eyes, and head); and 1 item about peoples' reactions to smartphone use. Each item was measured via a 5-point, Likert-style scale (0 = never, 1 = rarely, 2 = sometimes, 3 = often, 4 = always). The one negative item was converted into an equivalent positive score. Total possible scores were between 0 and 80. Higher scores reflected greater smartphone addiction. SAS for Bangladeshi Students is a culturally developed instrument. Its content validity and internal consistency reliability were tested by the instrument's developer. SAS is an English language instrument so back-translation was used to translate the English version to Bengali.

Data collection

Permission for data collection was obtained from the Dhaka Nursing College authorities. A research assistant was recruited for data collection. The research assistant was informed about the study aims, data collection procedures and target participants. Participants were informed about the study aims and their participation was voluntary. Their written consent to participate in the study was obtained. The self-reported questionnaire was distributed among the students by the research assistant and the completeness of the questionnaire

was checked during collection. Data were analyzed using a statistical program (IBM SPSS Statistics 23).

Results

Characteristics	Categories	Frequency (%)
Age (M= 22.25, SD=.85)	19-21 years 22-24 years	19 (14) 121 (86)
Gender	Male Female	5 (3.6) 135 (96.4)
Religion	Islam Hindu Christian	115 (82.1) 21 (15.0) 4 (2.9)
Study year	3rd year 4th year	70 (50.0) 70 (50.0)
Residence	Hostel Other	133 (95.0) 7 (5.0)
Internet connection	Always Not Often Sometimes	80 (57.1) 1 (.7) 59 (42.1)
Purpose of Smartphone Use	Contact Study Recreation Connect with social media	127 (90.7) 116 (82.9) 99 (70.7) 94 (67.1)

Table 1. Demographic characteristics of nursing students (n = 140).

The majority (86%) of students were between 22 and 24 years old. 96.4% were female and 82.1% were Muslim. The majority (95%) lived in a hostel and 57% always had access to an internet connection. They used smartphones to contact others (90.7%), to study (82.9%), for recreation (70.7%), and to connect with social media (67.1%).

Variable	Minimum score	Maximum score	Mean	SD	Level
Smartphone addiction	12	73	37.04	13.06	Moderate

Table 2. Smartphone addiction of nursing students (n=140).

The minimum score for smartphone addiction was 16, the maximum was 69, and the mean was 38.48. (Possible scores were between 0 and 80). This indicates a moderate level of smartphone addiction.

Item	Frequency (%)
I feel uneasy when I'm not using a smartphone.	123 (87.9%)
My studies are undermined by my smartphone use.	129 (92.1%)
My daily activities are undermined by my smartphone use.	122 (87.1%)
My eyes hurt after using a smartphone.	118 (84.3%)
I experience headaches because of my smartphone use.	121(86.4%)

Table 3. Smartphone addiction-related problems of nursing students (n=140).

The consequences of smartphone use reported by the students were feeling uneasy (87.9%), adverse effects on studies (92.1%), adverse effects on daily activities (87.1%), eye pain (84.3%), and headaches (86.4%).

Discussion

Participants reported a moderate level of smartphone addiction. The result is consistent with a 2018 study of nursing and midwifery students in Iran (13). That study used Young's Internet Addiction Test (YIAT), developed by Young in 1988 (17). It is a 20-item scale assessing compulsive conduct related to the Internet, removal symptoms, tolerance, fall in school performance, carelessness towards family and school life, individual relationship difficulties, interactive problems, health trouble, and emotional difficulties (18). Although there is some variation between the addiction measurement scales in the present study and the Iranian study, the results are largely consistent. The variations may be explained by the greater availability and use of the Internet and smartphones in 2018 Iran (than in present-day Bangladesh).

Another study in India also found a moderate level of smartphone addiction among nursing students (14), also largely consistent with the present study's results. Again, some inconsistencies exist between the studies' measurement scales. These may be attributed to differing cultural contexts and age ranges.

Conversely, a 2019 study conducted among university students in Bangladesh found that 28% of students were addicted to smartphones (10). That study used the Smartphone Addiction Proneness Scale (SAPS), developed by Kim et al., (19), to measure smartphone addiction. SAPS consists of 15 questions and investigates four factors: disturbance of adaptive functions, virtual life orientation, withdrawal, and

tolerance. SAPS was developed in 2014 in a Korean context for elementary, middle, and high school students. This may explain the inconsistency with the current study's results.

Another study in China found that 39.7% medical students were addicted to smartphones (7). This study used the Smartphone Addiction Scale-Short Version (SASSV), developed by Kwon et al in 2013 (20), to measure students' smartphone addiction. This scale consists of 10 items. In the scale's development process, the participants were junior high school students with a mean age of 14.5 years. Although there are inconsistencies between the scales used, the Chinese study's result supports the present study's results. The consistency of the two studies' results may be due to the similarity in the ages of the studies' participants.

There are several possible reasons for the moderate level of smartphone addiction found in this study. First, most students were single and living away from their families. Second, their families allowed and supported them to use smartphones. Third, using smartphones to search for, obtain, and read study materials was easier than visiting a library and reading books. Fourth, useful information and reading materials were more likely to be up-to-date online. Finally, students experiencing loneliness were more likely to engage with social media for recreation.

The present study also found that most participants had experienced feelings of unease, reported that their studies and daily activities had been undermined, and had experienced eye pain and headaches. These problems were due to excessive smartphone use and may have negatively affected their learning and academic performance (21). Studies also found that smartphone users experienced tension (22) and unease (23) when without smartphones. These findings are supported by studies in the literature review, which showed that students' excessive smartphone use disrupted their learning (24), caused academic burnout (25), created functional damage or interfered with daily activities (26), and caused suffering from eye pain (27) and headaches (28).

Conclusion

Participants reported a moderate level of smartphone addiction. Reported symptoms of smartphone addiction included feeling uneasy, studies and daily activities being undermined, eye pain, and headaches. These results are alarming information for students, guardians, and relevant authorities, and may support the development of strategies for minimizing the use of smartphones among nursing students in Bangladesh. This may contribute to improved learning outcomes for nursing students in both academic and clinical contexts, helping them to achieve career success, and benefiting the health-care system which employs them.

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Conflicts of Interest

No conflict of interest has been declared by the authors.

Ethical Considerations

Data collection permission was obtained from college authorities. Informed consent was obtained from all individual participants in the study.

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