Prevalence and correlates of internet addiction among undergraduate health sciences students of Usmanu Danfodiyo University, Sokoto

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Abstract

The internet is an essential aspect of our daily life, and its binge has resulted in internet addiction. Students are vulnerable to internet addiction, since they utilize it for academic and extracurricular objectives. Problematic internet use can predispose individuals to mental illnesses. We aim to determine the prevalence of internet addiction among undergraduate health sciences students at Usmanu Danfodiyo University in Sokoto, Nigeria. This was a cross-sectional study, using a multistage sampling technique. The Young Internet Addiction Test was used to obtain the data, which was analyzed using the Statistical Package for Social Sciences (SPSS) version 23.0 for Windows. The frequencies, percentages, means, and standard deviations were used to summarize the data. A chi-square was used to compare the categorical variables, and a p-value <0.05 was considered significant. A total of 294 students were interviewed, with a mean age and standard deviation of 24±2.9 years, and a male-to-female ratio of 2.3:1. Approximately, 42% of the students had mild internet addiction, and 13% had moderate internet addiction. A significant association was found between the severity of internet addiction and time spent on the internet per day. More than half of the students had mild to moderate internet addiction, which was associated with the time spent on the internet. Internet addiction among health sciences students is common and requires prompt intervention.

Introduction

The internet has now become a necessity, and technology has transformed medical education and practice all around the world.[1] Medical students can keep up with rapidly expanding knowledge and become lifelong learners. The internet has increased communication, information, and social contact opportunities.[2] Unfortunately, these advantages do not come without drawbacks. A meta-analysis found that medical students are five times more likely than the general population to be addicted to the internet.[3]

According to research, the youthful population, particularly college students, are more vulnerable to internet addiction due to psychosocial and environmental factors.[4] Several factors can be attributed to this vulnerability, including increased unstructured time for students to use the internet, unlimited internet access provided by networking companies (data SIM cards, cheap data bundles), a desire to use the latest gadgets and technologies, as well as the latest applications available on the internet, and so on. Therefore, the internet may be a better form of social communication than face-to-face conversations. As a result, many young students nowadays form friendships and personal connections online.[5]

The problem's persistence is linked to a rise in the prevalence of psychological and behavioral illnesses.[6] Prior study has shown the prevalence and risk factors associated with internet addiction.[7] Nonetheless, data on this topic are rare in the Northern part of Nigeria. As a result, the purpose of this research is to ascertain the prevalence of internet addiction among health science students at Usmanu Danfodiyo University in Sokoto, Nigeria. This will aid in raising awareness and proposing solutions to the problem.

Materials and Methods

This study was conducted among undergraduate students at the Usmanu Danfodiyo University's College of Health Sciences (CHS) in Sokoto, Nigeria. The College of Health Sciences comprises faculties of basic medical sciences, basic clinical sciences, clinical sciences, and the school of medical laboratory sciences. It offers both undergraduate and postgraduate programs in various health-related courses. So, selected students from these faculties were involved in the study.

Study design and population

This was a cross-sectional descriptive study comprising of undergraduate students of the College of Health Sciences (CHS), Usmanu Danfodiyo University Sokoto, Nigeria.

Inclusion and exclusion criteria

Students using the internet and who were willing to participate in the study were enrolled, while students who had no access to the internet in the last six months from the time of this study were excluded.

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Sampling technique

A multistage sampling strategy was used to enroll 294 undergraduate students from diverse classes. The multistage sampling technique was used as follows:

Stage 1: the stratified sampling method was used for a proportionate allocation of respondents to each of the classes in the various courses of study. The number of participants was allocated contingent on the population size of each course such as 155 MBBS, 64 BMLS, and 41 BSC Nursing and 36 Radiography participated in the study.

Stage 2: a list of all members of each class arranged based on their admission numbers was obtained, and a calculated sampling interval was used to select a respondent from each class to be included in the study. A systematic sampling technique was used to determine which integer to choose.

Study instruments

For data collection, a semi-structured questionnaire was used. The questionnaire is divided into three parts. The first portion includes demographic information such as age and gender, among other things. The second component contains information about internet use, such as whether it is through a network service provider (SIM card) or the internet (WiFi). The Young Internet Addiction Test (YIAT) was the third portion, which included 20 Likert-scale questions.[8] The five-item Likert scale scored responses for each question on a 5-point scale ranging from 1 (never) to 5 (always). The scores from these 20 items were added together to produce a total score between 20 and 100. Individuals who score 20 to 39 are classified as "an average online user," and 40 to 100 as "experiencing frequent" or "significant problems suffering because of internet use." We identified scores of 40 to 69 as indicating frequent problems and 70 to 100 as significant problems. Based on their total score, these were classed as mild, moderate, or severe internet addiction. The primary researchers recruited and supervised four research assistants for data collection and entry into Microsoft Excel.

Procedures

Data were collected using both structured and semi-structured questionnaires. These were done with the help of research assistants. The questionnaires were administered in both classrooms, common rooms, and hostels, depending on their availability and schedules.

Ethical considerations

Consent was obtained from each of the participants after discussing the objectives of the study and the rights of the respondents to accept or decline. All information sought from the participants was handled with utmost confidentiality.

Data analysis

Data were analyzed using Statistical Package for Social Sciences (SPSS) version 23 for Windows. The categorical variables, such as socio-demography, were reported in the form of frequencies and percentages, while quantitative variables, such as age, were described in the form of a mean and standard deviation. The chi-square test was used to assess the level of association between independent variables (such as gender and age) and dependent variables (such as the severity of internet addiction). The p-values of less than 0.05 were considered statistically significant.

Results

Socio-demographic characteristics of the participants

A total of 296 health science students participated in the study. The majority, 277 (96.3%) of the participants, were young adults between the ages of 20-29 years, with a mean age and standard deviation of 24±2.9 years. The average time spent on the internet per day was approximately 5 hours,

Table 1. Socio-demographic characteristics of the participants.

Variable	Frequency	Percentage (%)
Age group		
<20	11	3.7
20-29	277	93.6
30-39	8	2.7
Mean age (SD) in years	24 (2.9)	
Gender		
Male	207	69.9
Female	89	30.1
Marital status		
Married	29	9.8
Single	267	90.2
Religion		
Islam	247	83.4
Christianity	45	15.2
Other*	4.0	1.4
Tribe		
Hausa	192	64.9
Yoruba	48	16.2
Igbo	12	4.1
Other**	44	14.9
Hometown		
Rural	94	31.8
Urban	202	68.2
Place of stay		
Home	95	32.1
Hostel	164	55.4
Other***	37	12.5
Source of income		
Business	16	5.4
Parents	179	60.5
Allowances	95	32.1
Other***	6.0	2.0
Course of study		
MBBS	155	52.4
BMLS	64	21.6
BSc. Nursing	41	13.9
Radiography	36	12.2
Level of study		
200	83	28
300	60	20.3
400	56	18.9
500	74	25
600	23	7.8
Total	296	100

*Traditional religion. **Zabarma, Nufe, Efik etc. ***Not indicated. ***shuttle between hostel and home.

while the average duration of internet usage over the years was approximately 6 years. The majority, 207 (69.9%) of the participants were males; 267 (90.2%) were single; about 247 (83.4%) were Muslims; and about 192 (64.9%) of the participants were Hausa; nearly a third (188, or 28%) were at the 200-level, and more than half (164, or 55.4%) live in the student's hostel (Table 1).

The patterns of internet use among the participants

More than half 173 (58.4%) of the participants used the internet for social networking, while about 4.1% used it for downloading films and songs. Nearly all, 274 (92.6%), of the participants used their mobile phones, and up to 272 (91.9 %) subscribed to data bundles to access the internet. Two-thirds (67.9%) of the participants used the internet at night, and 68.2% used WhatsApp as a preferred channel of communication. About 235 (79.4%) of the participants spent an average of 1-5 hours per day surfing the internet, while less than 1 percent spent more than 10 hours a day (Table 2).

Distribution of severity scale of internet addiction among participants

Approximately 125 (42%) of the participating students were suffering from mild internet addiction, 38 (13%) were suffering from moderate internet addiction, and 133 (45%) had no internet addiction. There was no case of severe internet addiction (Table 3).

Association between internet addiction and risk factors

Our study found no statistically significant association between the severity of internet addiction and gender, marital status, tribe, location of the home, source of income, course of study, level of study, the purpose of internet use, mode of internet use, and age group of the respondents. An association was, however, found between the severity of internet addiction and the average time spent on the internet (p=0.001) (Table 4).

Discussion

This study assessed the prevalence of internet addiction among undergraduate health sciences students. The majority of the respondents use the internet for social networking; this conforms with a study carried out recently in Delta State, Nigeria, which indicated that the majority of under-

graduate students engage in information searching and usage of social media on the internet.[9] This could be because health science students are exposed to the internet early enough in order to equip them with not only what is available in their textbook but also the knowledge obtainable online; and so, along the line, they become dependent on the use of social media. Most of the participants spent one hour or more on the internet every day; this is similar to one of the pioneer studies on internet usage as far back as 1998, which reported that the average internet use was 38.5 and 4.9 hours a week for problematic and healthy users, respectively.[9]

Despite the availability of internet facilities, the prevalence of internet addiction among our study participants is much lower than what was reported among undergraduate medical students in Pune, India.[10] Our study also revealed that there was no significant difference in the prevalence of internet addiction between male and female under-

graduates. This is, however, contrary to a study from Nsukka, Nigeria, which shows that more males were addicted to the internet than female undergraduates,[11] as well as other studies among medical students in Maharashtra, India,[12] and Iran.[13] The majority of our study participants had mild to moderate internet addiction, which was in contrast with the findings of Almukhtar and Alsaad (2020), who found internet addiction among their study subjects was purely moderate.[14] The observed differences may have to do with a relatively lower sample size in our study and some other environmental factors, such as the availability and accessibility of internet facilities. Another possible reason for the difference is that our study involves not only medical students, but a varied set of students with different requirements for the use of the internet. Our study also found the severity of internet addiction to be significantly associated with the time spent on the internet. It is worthwhile to note that the extra time and

Table 2. Patterns of internet usage among participants.

Variable	Frequency	Percentage (%)
Purpose of internet use		
Social networking	173	58.4
Academic purpose	111	37.5
Downloading films and songs	12	4.1
Mode of internet use		
Mobile phone	274	92.6
Laptop	19	6.4
Desktop	2	0.7
Others*	1	0.3
Source of internet access		
Data bundle	272	91.9
Wifi	20	6.8
Internet café	2	0.7
Other*	2	0.7
Usual log-in status		
Log in and out during the day	253	85.5
Permanently on line	43	14.5
The usual time of the day for internet use		
Morning	21	7.1
Afternoon	26	8.8
Evening	48	16.2
Night	201	67.9
Most preferred communication tool online		
E-mail	10	3.4
Facebook	51	17.2
WhatsApp	202	68.2
Other*	33	11.1

Table 3. Distribution of severity scale of internet addiction among participants.

Score (level of internet addiction)	Frequency (N=296)	Percentage (%)
0-30 (none)	133	44.9
31-49 (mild)	125	42.2
50-79 (moderate)	38	12.8
80-100 (severe)	0	0

resources spent on the internet on a daily basis may have a negative impact on their academic feat, as highlighted by Azizi et al. (2019).[13]

Conclusions

According to the findings of this study, undergraduate health sciences students at Usmanu Danfodiyo University Sokoto, Nigeria, use the internet for personal, academic, and social media communication, with the majority using WhatsApp. Over fifty percent of them had mild to moderate internet addiction, which was found to be associated with the longer time spent on the internet by the students. This study reveals that internet addiction among health science students is a dark reality that requires timely remedial action. Undergraduates in Nigerian institutions have recently been obsessed with the abstract world of the Internet, which could have a profound impact on them. As a result, detecting internet addiction becomes more important in professional institutions such as colleges of health sciences. It must be highlighted that students must be trained on safe and healthy internet usage methods.

Recommendations

The university community, particularly the College of Health Sciences, should establish preventive and interventional programs for the students. The College of Health Sciences should organize regular orientations, workshops, and lectures for students. This is with the hope of guiding the students on time management while on campus. The university administration should also incorporate time management within the university curriculum.

Table 4. Association between internet addiction and risk factors.

Variable	Internet addiction category			p
	None	Mild	Moderate	
Age				
<20	5 (45.5)	116 (41.9)	1 (9.1)	0.963*
20-29	5 (45.5)	39 (13.4)	124 (44.8)	
30-39	4 (50.0)	4 (50.0)	0	
Gender				
Male	87 (42.1)	92 (44.4)	28 (13.5)	0.309#
Female	46 (51.7)	33 (37.1)	10 (11.2)	
Religion				
Islam	114 (46.2)	10 (41.3)	31 (12.6)	
Christianity	17 (37.8)	21 (46.7)	7 (15.6)	
Other*	2 (50.0)	2 (50.0)	0	
Tribe				
Hausa	85 (44.3)	82 (42.7)	25 (13.0)	0.985#
Yoruba	21 (43.8)	21 (43)	6 (12.5)	
Igbo	7 (58.3)	4 (33.3)	1 (8.3)	
Other**	20 (45.5)	18 (40.9)	6 (13.6)	
Hometown				
Rural	46 (48.9)	36 (38.3)	12 (12.8)	0.608#
Urban	87 (43.1)	89 (44.1)	26 (12.9)	
Source of income				
Business	7 (43.8)	7 (43.8)	2 (12.5)	0.266*
Parents	78 (43.6)	75 (41.0)	26 (14.5)	
Allowance	42 (44.2)	43 (45.3)	10 (10.5)	
Other***	6 (100.0)	0	0	
Place of stay				
Hometown	44 (46.3)	38 (40.0)	13 (13.7)	0.640#
Hostel	72 (43.9)	74 (45.1)	18 (11.0)	
Other*#	17 (45.9)	13 (35.1)	7 (18.9)	
Course of study				
MBBS	73 (47.3)	61 (39.4)	21 (13.5)	0.562#
BMLS	31 (48.4)	25 (39.1)	5 (12.2)	
BSC. Nursing	18 (43.9)	18 (43.9)	8 (12.5)	
Radiography	11 (30.6)	21 (58.3)	4 (11.1)	
Level of study				
200	32 (38.6)	38 (45.8)	13 (15.7)	0.271#
300	32 (53.3)	20 (33.32)	8 (13.3)	
400	20 (35.7)	30 (53.6)	6 (10.7)	
500	36 (48.6)	31 (41.9)	7 (9.5)	
600	13 (56.6)	6 (26.1)	4 (17.4)	
Purpose of internet use				
Social networking	74 (42.8)	74 (42.8)	25 (14.5)	0.577#
Academic purpose	55 (49.5)	44 (39.6)	12 (10.8)	
Downloading films and songs	4 (33.3)	7 (58.3)	1 (8.3)	
Mode of internet use				
Mobile Phone	126 (46.0)	113 (41.2)	33 (12.8)	0.286*
Laptop	6 (31.6)	11 (57.9)	2 (10.5)	
Desktop	1 (50.0)	1 (50.0)	0	
Other***	0	0	1 (100.0)	
Amount of time spent per day				
<1 hour	10 (83.3)	2 (16.7)	0	
1-5 hours	112 (47.7)	96 (40.9)	27 (11.5)	0.001*
6-10 hours	18 (43.9)	18 (43.9)	11 (22.9)	
>10 hours	0	1 (100.0)	0	

*Fischer's exact test; #Chi square test; p<0.05 is statistically significant; *(Traditionalists); ** (Zabarma, Nufe, Efik); *** (Not indicated); *#(shuttle between hostel and home).

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