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INTERNET ADDICTION AND ACADEMIC PERFORMANCE AMONG NURSING STUDENTS: AN INDIAN OUTLOOK

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ABSTRACT **Introduction:** The addiction to the internet has a negative effect on mental health and academic performance. **Aim:** This study aimed to determine the correlation between internet addiction and academic performance among nursing students in selected nursing colleges from Uttar Pradesh, India. **Materials & methods:** A quantitative research approach with Non-experimental, Correlational, Retrospective study design was used to conduct the study in selected nursing colleges of Uttar Pradesh. Non-probability purposive sampling technique was adapted to select 80 nursing students. A self-structured questionnaire and grade point of average (GPA) scale were used to assess the level of internet addiction and academic performance among subjects. Data were analyzed using SPSS version 25. **Results:** There is a negative correlation between Internet addiction and Academic performance among nursing students (r = -0.25, p=0.02). There was an association found between the levels of internet addiction among nursing students with their place of residence (p=0.002) and time (hours per day) of spending mobile (p=0.001). **Conclusion:** The study is concluded that there was a negative correlation between Internet addiction and Academic performance among nursing students. The high-risk group of students must be identified and psychological counseling should be provided.

KEYWORDS : Internet addiction, Academic performance, Nursing students

Introduction

In the new-fangled generation, the Internet has become an important device for education, entertainment, communication, and information-sharing. Easy access and social networking are two of the several aspects of the Internet nurturing addictive behaviour. [1] Asia's Internet Usage Statistics in 2020 reveals than 58.7% of the world population are using the internet, in Asia 53.6% of the population using the internet, and developing country like India 40.6 % of the population are using the internet. [2]

Internet addiction is one of the burning issues arising out of excessive internet use. Internet addiction has been defined as an individual's uncontrollable use of the Internet that has created psychological, social, and/or work problems in one's life. [3] Kandell defined Internet addiction (IA) as a kind of psychological addiction representing the need to be active on the Internet. [4]

Greenfield's [5] study on Internet addiction showed that the prevalence of Internet addiction is about 6% of the world's general population, whereas Scherer [6] found that 14% of the college population is addicted. A 2016 research study exhibited that those that were determined to possess an internet addiction had significantly more trouble handling their everyday activities which comprised life at home, work/school-related duties, and their ability to mingle in the real-world. Individuals with these sorts of addictions also found significantly higher amounts of depression and anxiety symptoms. [7] Adolescents' addiction to the Internet has risen in many adverse consequences including academic failure, deprived family relationships, impaired social functioning, emotional problems, and psychiatric problems. [8-9]

Chaudhari B et al (2015) found the prevalence of internet addiction among medical students to be 58.87% (mild – 51.42%, moderate –7.45%) and significantly associated with factors such as male gender, staying in private accommodation, lesser age of first internet use, using mobile for internet access, higher expenditure on internet, staying online for a longer time, and using the internet for social networking, online videos, and watching website with sexual content. [10] Fatehi F et al (2016) study revealed that internet-addicted medical students had poor quality of life and academic performance in comparison with non-addicts. [11]

In India, the use of internet is enormous, especially in adolescents and university students. Hence, it is important to analyze the pattern of internet use among nursing students in the Indian setting and its relationship with their academic performance. This aim of the present study determined the relationship between internet addiction and academic performance among nursing students in selected nursing colleges from Uttar Pradesh, India and to find the association of various factors with the level of internet addiction

MATERIALS AND METHODS

A quantitative research approach with Non-experimental, Correlational, Retrospective study design was used to conduct the study in selected nursing colleges of Uttar Pradesh. Non-probability purposive sampling technique was adapted to select 80 nursing students from Hind College of nursing, Barabanki, Uttar Pradesh. A self-structured questionnaire and grade point of average (GPA) scale were used to assess the level of internet addiction and academic performance of the nursing students respectively. Ethical and Administrative permission was taken from authorizes in concerned areas. The consent form was prepared for the study participant regarding their willingness to participate in the research study. Inclusion criteria: Nursing students who are using smartphones for more than one year and available during the study period and willing to participate. Exclusion criteria: Nursing students not having smartphones and using smartphone less than one hour per day.

The research tool for data collection consists of three sections:

Section 1:- Demographic tool
It consists of age, gender, education, monthly family income, place of residence, type of family, parents employed, type of mobile phone, duration of mobile phone use, and duration (hours per day) of spending mobile and majority of internet access area

Section 2:- Self-structured Internet addiction questionnaire
A Likert scale consists of 20 items used for assessing internet addiction among nursing students. Each item is rated on a 5-point scale ranging from 0 to 4. In these items 7, 11 and 16 are in a reverse manner, their scoring pattern is in descending order like 4,3,2,1, 0 and the remaining items, the scoring pattern is like 0, 1, 2, 3, and 4. The total maximum score is 80 and the minimum score is 0. The score was graded as 0-20 no any internet addiction, 21-40 mild, 41-60 moderate and 61-80 severe internet addiction. Content validity of the tool was determined by experts in the field of Psychiatry, Psychology and Nursing. The reliability of the internet addiction questionnaires was tested by using spearman brown split-half method and score was found to be r = 0.76.

Section 3:- Assessing academic performance
Academic performance of the nursing students was measured with the total yearly GPA achieved in a previous year of University examination results. There are a total of four categories such as excellent performance (4.0–3.0), good performance (2.9–2.0), average performance (1.9–1), and poor performance (< 1)

The tool was prepared in English and Hindi to facilitate better comprehension. Prior administration of the tool, the investigator obtained formal permission from the authorities and principal, explained to the participants about the objectives of the study and took formal written consent from the subject. The collected data were tabulated and analyzed with the help of descriptive and inferential statistics. SPSS 25 (Statistical Package for the Social Sciences, India) was used for Statistical analysis and P = 0.05 was considered as the level of significance.

RESULTS

The major findings of the study were as follows:

Table 1: Frequency and percentage distribution of demographic variables of subjects (n=80)

Demographic Data	Frequency (%)
1. Age in years	
19-22	50 (62.5%)
23-26	30 (37.5%)
2. Gender	
Male	24 (30%)
Female	56 (70%)
3. Education (Stream)	
B.Sc Nursing	33 (41.2%)
G.N.M	47 (58.8%)
4. Monthly family income (in Rupees)	
< 10,000	19 (23.8%)
10,001 to 20,000	41 (51.2%)
20,001 to 30,000	14 (17.5%)
> 30,001	6 (7.5%)
5. Place of residence:	
Own home	21 (26.3%)
Hostel	37 (46.3%)
Paying guest	7 (8.8%)
Rented house	15 (18.8%)
6. Type of family:	
Joint family	33 (41.3%)
Nuclear family	38 (47.5%)
Extended	9 (11.3%)
7. Parents Employed	
Both Employed	19 (23.8%)
Single (Either father/ Mother)	56 (70%)
Both unemployed	5 (6.3%)
8. Which type of mobile phone you are using?	
Android phone	68 (85%)
i-phone	7 (8.8%)
Others	5 (6.3%)
9. Duration of mobile phone use (in years)	
1-2 years	14 (17.5%)
2-4 years	47 (58.8%)
> 4 years	19 (23.8%)
10. Hours spent per day (mobile)	
1-3 hours	15 (18.8%)
3-5 hours	40 (50%)
> 5 hours	25 (31.3%)
11. During internet access, in which of following area you spent your majority time?	
Social media	31 (38.8%)
Email	8 (10%)
Online games	15 (18.8%)
YouTube / Videos	11 (13.8%)
Studying	9 (11.3%)
Others	6 (7.5%)

The table 1 displays that frequency and percentage distribution of demographic variables, the majority of the nursing students 62.5 % were in the age group of 19 to 22, 70% were male, 48.8% were GNM students, 51.2 % were having family monthly income between 10001 to 20000 Indian rupees, 46.3 % were hostlers, 47.5% belonged to a nuclear family, 70% were single-parent employed (either father and mother), 85% were using android phones, 58.8% were using a mobile phone by 2-4 years, 50% were using mobile phone 3-5 hours per day and during internet access, 38.8% of were spent their majority of time in social media.

Table 2: Level of Internet addiction among nursing students

Levels of internet addiction	Frequency (%)
Normal	9 (11.3%)
Mild internet addiction	29 (36.3%)
Moderate internet addiction	31 (38.8%)
Severe internet addiction	11 (13.8%)

Table 2 depicts that the level of Internet addiction among nursing students, which shows 11% were no any internet addiction compared to 36.3% mild addicted, 38.8% moderately addicted and 13.8% severely addicted to the internet.

Table 3: Level of Academic performance according to GPA (grade point of average) categories

Academic performance	Frequency (%)
Poor academic performance	9 (11.3%)
Average academic performance	32 (40%)
Good academic performance	29 (36.3%)
Excellent academic performance	10 (12.5%)

Table 3 shows that the nursing students' level of academic performance according to GPA (grade point of average) categories, which revels 11.3 % of had poor academic performance, 40% average academic performance, 36.3% good academic performance and 12.5% excellent academic performance.

Table-4: Correlation between Internet addiction and Academic performance among nursing students

	N	Mean	SD	Correlation (r)	P
Internet Addiction	80	40.3	15.5	-0.25	0.02*
Academic performance	80	2.1	0.8		

*Significant (p<0.05)

The table-4 shows the correlation between Internet addiction and Academic performance among nursing students'. The mean score of Internet addiction and Academic performance among nursing students' were 40.3±15.5 and 2.1±0.8 respectively. The computed Karl Pearson correlation r-value was - 0.25 (week negative correlation), p=0.02 which means there is enough statistical evidence to say that this correlation exists in the population. There is a negative correlation between Internet addiction and Academic performance among nursing students.

Table 5: Association between Internet addiction level with their demographic variables

Demographic Data	Internet addiction				Chi-square
	Normal	Mild	Moderate	Severe	
1. Age in years					x2 = 4.4 df = 3 p = 0.22
19-22	6	21	15	8	
23-26	3	8	16	3	
2. Gender					x2 = 0.6 df = 3 p = 0.9
Male	3	10	8	3	
Female	6	19	23	8	
3. Education (Stream)					x2 = 6.7 df = 3 p = 0.08
B.Sc Nursing	6	11	9	7	
G.N.M	3	18	22	4	
4. Monthly family income (in Rupees)					x2 = 5.1 df = 9 p = 0.83
< 10,000	2	5	9	3	
10,001 to 20,000	4	17	16	4	
20,001 to 30,000	2	6	3	3	
> 30,001	1	1	3	1	
5. Place of residence:					x2 = 26.5 df = 9 p = 0.002**
Own home	1	4	14	2	
Hostel	4	18	13	2	
Paying guest	2	0	1	4	
Rented house	2	7	3	3	
6. Type of family:					x2 = 11 df = 6 p = 0.09
Joint family	2	10	15	6	
Nuclear family	7	15	14	2	
Extended	0	4	2	3	

7. Parents Employed					$x2 = 8.2$
Both Employed	4	6	6	3	df = 6
Single (Either father/ Mother)	4	20	25	7	p = 0.23
Both unemployed	1	3	0	1	
8. Type of mobile phone					$x2 = 11.1$
Android phone	7	23	30	8	df = 6
i-phone	1	5	0	1	p = 0.09
Others	1	1	1	2	
9. Duration of mobile phone use (in years)					$x2 = 6.4$
1-2 years	2	8	2	2	df = 6
2-4 years	4	16	20	7	p = 0.38
> 4 years	3	5	9	2	
10. Hours spent per day (mobile)					$x2 = 40.7$
1-3 hours	6	8	1	0	df = 6
3-5 hours	3	18	17	2	p = 0.001**
> 5 hours	0	3	13	9	
11. During internet access, in which of following area you spent your majority time?					$x2 = 15.7$ df = 15 p = 0.4
Social media	3	15	9	4	
Email	1	2	4	1	
Online games	3	4	6	2	
YouTube / Videos	2	4	5	0	
Studying	0	1	5	3	
Others	0	3	2	1	

**Significant (p<0.01)

Table 5 illustrates that Chi-square value in internet addiction score with the selected demographic value like respondents place of residence ($x2 = 26.5$, p=0.002) and duration (hours per day) of spending mobile ($x2 = 40.7$, p=0.001) was significant and other variables like age (4.4), gender (0.6), education (6.7), monthly family income (5.1), type of family (11), parents employed (8.2), type of mobile phone (11.1), duration of mobile phone use (6.4) and the majority of internet access area (15.7) were not significant(p>0.05). Thus it can be concluded that there is an association between nursing students' internet addiction with their place of residence and duration (hours per day) of spending mobile.

DISCUSSION

The present study found that there was a negative correlation between Internet addiction and Academic performance among nursing students. These results were supported by Javaeed A et al (2020) displayed that the medical student's internet addiction levels, 28.2% falls in severe addiction, 58.9% moderate, 12% mild whereas only 0.9% had no internet addiction and overall there was a mild negative correlation found between internet addiction and academic performance (r= -0.139, p = 0.013). [12] These results were also consistent by the studies of Sengupta A et al (2018) [13] and Kheyri F et al (2019) [14] which revealed that there was a significant negative correlation between Internet addiction and academic performance of students. Another study by Kumar S et al (2018) noticed academic performance and depression status was strongly affected with Internet addiction. [15]

Some other study by Hawi NS et al (2018) elicited that the risk of Internet gaming disorder in adolescence was increased by being younger, having lower academic achievement, having lower sleep duration, and waking up more during the night to continue gaming. [16] Xin M et al (2017) study exposed a negative relationship with teachers (OR: 1.35, 95% CI: 1.20–1.53), a negative relationship between two parents (OR: 1.23, 95% CI: 1.18–1.37), and poor academic performance (OR: 1.22, 95% CI: 1.17–1.35), found the highest relative risks for Internet addiction. [17] In Haroon MZ et al (2018) study, Internet addicts showed significant p= 0.01 below average academic performance in compared to non-addicts. [18]

The present study found that there was an association between internet addiction among adolescence with their place of residence and duration of spending mobile (hours per day). This result was partially supported by the study of Sachitra V (2015) that showed that there were significant differences in internet addiction in terms of gender and place of residence. [19] In contrary, Taha MH et al (2019) study found that Females using the Internet significantly more than males (P = 0.006). [20] Amin S et al (2014) study revealed male university

students were found to be significantly more addicted to the internet than female. [21]

Implications and Recommendation

The nursing administrator can organize the camps and education program for needy population those are suffering from internet addiction type problem. This research can help primary health centre and community health centre worker to ensure the physical, psychological and social well-being of adolescent population.

A similar study can be replicated on a large scale and for a longer period for more reliability and effectiveness. Health care professionals should be alert with the possible harmful effect of internet addiction and internet usage required to be controlled and may affect adversely on the academic achievement of students.

CONCLUSION:

The study is concluded that there was a negative correlation between Internet addiction and Academic performance among nursing students and also found an association between internet addiction with their place of residence and hours spent per day. Appropriate interventional and precautionary measures are needed for correct Internet use to protect students' physical and mental health.

The study is limited to B.Sc. nursing 4th year and GNM 3rd year nursing students of selected nursing colleges in Uttar Pradesh, India.

REFERENCES
1. Kuss,DJ.,&Griffiths, MD. (2011). Online social networking and addiction - A review of the psychological literature. Int J Environ Res Public Health, 8, 3528-52.
2. Asia Internet Usage Stats Facebook and 2020 Population Statistics [Internet]. [cited 2020 Apr 17]. Available from: https://www.internetworldstats.com/stats3.htm
3. Beard, KW. (2005). Internet addiction: a review of current assessment techniques and potential assessment questions. CyberpsycholBehav., 8, 7–14.
4. Kandell. (1998). Internet addiction on campus: The vulnerability of college students. CyberpsycholBehav., 1:11–17.
5. Greenfield, DN. (1999). Psychological characteristics of compulsive Internet use: a preliminary analysis. CyberpsycholBehav., 2(5), 403–412.
6. Scherer, K. (1997). College life online: healthy and unhealthy Internet use. J Coll Student Dev., 38(6), 655–665.
7. 5 Types of Internet Addiction - Get Help Today - Addiction Center [Internet]. [cited 2020 Apr 17]. Available from: https://www.addictioncenter.com/drugs/internet-addiction/
8. Ko, CH., Yen,JY., Chen, CC., Chen, SH., &Yen, CF. (2005). Proposed diagnostic criteria of Internet addiction for adolescents. J NervMent Dis., 193, 728–733.
9. Young, KS. (1996). Psychology of computer use: XL. (1996). Addictive use of the Internet: a case that breaks the stereotype. Psychol Rep., 79(3 Pt 1), 899–902.
10. Chaudhari, B., Menon, P., Saldanha, D., Tewari, A.,& Bhattacharya, L. (2015). Internet addiction and its determinants among medical students. Ind Psychiatry J., 24(2):158-62. doi: 10.4103/0972-6748.181729. PMID: 27212820; PMCID: PMC4866343.
11. Fatehi, F., Monajemi, A., Sadeghi, A., Mojtahedzadeh, R.,& Mirzazadeh, A. (2016). Quality of Life in Medical Students With Internet Addiction. Acta Med Iran., 54(10), 662-666.
12. Javaeed, A., Jeelani, R., Gulab, S., &Ghauri, SK. (2020). Relationship between internet addiction and academic performance of undergraduate medical students of Azad Kashmir. Pak J Med Sci., 36(2):229-233. doi: 10.12669/pjms.36.2.1061. PMID: 32063965; PMCID: PMC6994907.
13. Sengupta, A., Broyles, I., Brako, L. et al. (2018). Internet Addiction: Impact on Academic Performance of Premedical Post-Baccalaureate Students. Med.Sci.Educ. 28, 23–26. https://doi.org/10.1007/s40670-017-0510-5
14. Kheyri, F., Azizifar, A., Valizadeh, R., Veisani, Y., Aibod, S.,&Cheraghi, F.(2019). Investigation the relationship between internet dependence with anxiety and educational performance of high school students. J Educ Health Promot., 8, 213. doi: 10.4103/jehp.jehp_84_19. PMID: 31867377; PMCID: PMC6905285.
15. Kumar, S., Kumar, A., Badiyani, B., Singh, SK., Gupta, A.,& Ismail, MB. (2018). Relationship of internet addiction with depression and academic performance in Indian dental students. Clujul Med., 91(3), 300-306. doi: 10.15386/cjmed-796. Epub 2018 Jul 31. PMID: 30093808; PMCID: PMC6082606.
16. Hawi, NS., Samaha, M., &Griffiths, MD. (2018). Internet gaming disorder in Lebanon: Relationships with age, sleep habits, and academic achievement. J BehavAddict., 7(1), 70-78. doi: 10.1556/2006.7.2018.16. Epub 2018 Feb 28.
17. Xin, M., Xing, J., Pengfei, W., Houru, L., Mengcheng, W.,& Hong, Z. (2017). Online activities, prevalence of Internet addiction and risk factors related to family and school among adolescents in China. Addict Behav Rep., 19;7, 14-18. doi: 10.1016/j.abrep.2017.10.003. PMID: 29450251; PMCID: PMC5805496.
18. Haroon,MZ.,Zeb, Z., Javed, Z., Awan, Z., Aftab, Z.,&Talat, W.(2018). Internet addiction in medical students. J Ayub Med Coll Abbottabad, 30(4 Suppl 1), 659–663.
19. Sachitra, V. (2015). Internet Addiction, Academic Performance And University Students. Journal of Global Research in Education and Social Science, 3(4), 179-186.
20. Taha,MH.,Shehzad, K., Alamro, AS., &Wadi, M. (2019). Internet Use and Addiction Among Medical Students in Qassim University, Saudi Arabia. Sultan QaboosUniv Med J., 19(2):142-147.
21. Amin, S., & Kaur, K. (2014). A Study of Internet Addiction and its Impact on Academic Performance of University Students. International Journal Of Education And Management Studies, 4(2), 130-133.