Indian Journal of Forensic and Community Medicine 2023;10(2):68–75

Content available at: https://www.ipinnovative.com/open-access-journals

Indian Journal of Forensic and Community Medicine

Journal homepage: https://www.ijfcm.org/

Original Research Article

Internet addiction among students of selected schools of South Delhi

Shiri Khan[1,*], **Yasir Alvi**[1], **Faheem Ahmed**[1], **Farzana Islam**[1]

[1] *Dept. of Community Medicine, Hamdard Institute of Medical Sciences and Research, Hamdard Nagar, New Delhi, India*

ARTICLE INFO

Article history:
Received 06-03-2023
Accepted 20-06-2023
Available online 25-07-2023

Keywords:
Internet addiction test
Adolescent
COVID- 19

ABSTRACT

In the time of lockdown and home confinement, internet use is expected to rise. Recognizing this, we did this study to find the prevalence of internet addiction in school-going adolescents from South Delhi. Employing systematic random sampling, we selected 509 students, who had used/been using the internet in the last 30 days. Data collection was done using a self-administered questionnaire assessing internet addiction utilized Young's Internet Addiction Test (IAT). The study observed prevalence of 51.3%, which was significantly associated with students in high school, parents' education, upper socioeconomic class, and access to an internet at home. Additionally, we observed that students primarily used the internet for nonessential purposes (movies, online shopping, social networking, online games, chatting, cyber-sex/pornography) rather than for academic purposes. The increasing trend of internet use, that too for entertainment, may be attributed to the COVID-19 pandemic and can lead to a significant problem.

1. Introduction

In January 2021, there were 4.66 billion web clients in the entire world, of which 4.32 billion got to the web through cell phones.[1] A world without the Internet is unthinkable. In 2020, Asia was the region with the most significant number of online clients - over 2.5 billion. China, India, and the United States rank most raised with regard to internet users. India has around 560 million online users.[1] There has been an outrageous improvement in the usage of the Internet in India also worldwide in the last decade.[1]

The Internet is another innovation that is a significant piece of regular day-to-day existence all around the world, and it provides effective and quick data.[2] Its utilization is, for the most part, in youngsters.[3] The Internet offers entertainment, shopping, and social sharing applications that make getting information easier, faster, and more convenient.[4] Although this tool is advantageous, psychologists and educators have been made aware of its adverse effects, particularly the abuse that leads to physical and mental problems.[5]

Symptoms of Internet addiction include overactive or poorly controlled preoccupations and distracting behaviors related to PC use or access to the Internet that impede or hinder productivity.[6] The term addiction has, for the most part, been related to substance use. DSM IV codes contain the expression "very strong need or compulsion towards taking a substance" for addiction.[7] The concept of internet addiction was first coined by Goldberg (1996), and by following DSM IV addiction criteria, it was defined as a "very strong desire or urge for using the internet".[5]

The problem of internet access has become widespread, and there are noticeable differences between users who use the Internet regularly and those who are addicted.[8] In daily life, people use the Internet according to their requirements. Most normal side effects of abuse of the Internet is internet addiction with web habit like sleepiness,[9] hostility, depression[10] loneliness[11] and some educational

* *Corresponding author.*
E-mail address: shirikhan21@gmail.com (S. Khan).

https://doi.org/10.18231/j.ijfcm.2023.012

harms like wasting of time,[12] decrease in academic performance,[13] loss of career opportunities,[14] poor dietary ways of behaving,[15] communication issues with family and friends.[16] Internet access has become a widespread problem, and it was noticeable.

Globally, the coronavirus disease 2019 (COVID-19) pandemic has altogether upset typical exercises of everyday life.[17] Since individuals overall remained at home, proceeding to keep physical distance, and restrictions to limit movement in order to prevent the spread of COVID-19. May escalate the utilization of digital entertainment. Practically 90% of understudies are actually cut off from their schools because of the COVID-19 pandemic, and technology has become fundamental for students to access educational materials, to interact with each other.[18] Habit-forming ways of behaving could emerge as expected issues during lockdowns, and consequently, other behavioral addictions emerge, influencing the adolescent population.[19] This age group is more vulnerable to using the Internet and thus effectively develops Internet addiction behavior.[20] Hence, it is critical to know the COVID-19 pandemic impact on internet use of the internet among this age group. We did this study with the objective to determine the prevalence of internet addiction and to measure its association with various factors among the school-going adolescents of South Delhi.

2. Materials and Methods

2.1. Study design and population

This was a school-based cross-sectional study among school-going adolescents of class 8^{th} to 12^{th} belonging to school from South Delhi done during the month of May - August 2022. We included both gender, public and private schools, adolescents with a history of using the internet from past one month or more. Those who were absent on the day of data collection were excluded.

Sampling: Sample size of the study was calculated by using the Schwartz formula, anticipating the prevalence as 35.6% from the neighboring district[21] and taking relative error as 15%. Considering a design effect of 1.5 and 10% non-response, our final sample size was calculated as 509. The list of all the schools of South Delhi was prepared and randomly ten schools were selected and approached for permission. Data collection was done among those schools who gave permission. Number of students to be selected from each school was determined by probability-proportional-to-size. The selection of students from a particular school was done by systematic random sampling in each class who had been using the internet for at least 30 days.

2.2. Study instruments

The study instrument was a questionnaire with two parts: (1) *Socio-demographic profile and pattern of internet use*; and (2) *Young's Internet Addiction Test (IAT)*. The study classified students' families into socioeconomic classes according to the BG Prasad.[22] Young's IAT, was a 20-item 5-point Likert scale, with scores ranging from 0-100. The psychometric property of the IAT was established by a six-factor model consisting of Salience, Excess use, neglecting work, Anticipation, Lack of self-control and neglecting social life. We used 50% cut-off criteria of score for classifying internet addiction as used by the majority of the studies.[21,23] The IAT showed a very good internal consistency in a study conducted in India with Cronbach's alpha = 0.93(23). The reliability for the six subscales was found to be adequate, Cronbach's alpha = 0.54 to 0.93 and validity of all six factors significantly correlated with each other.

2.3. Ethical consideration

The study was approved by the Institution's ethics committee, HIMSR, New Delhi. Appropriate permission and written consent/assent were taken from school authorities/parents of the students. To emphasize the importance of the research, the investigator explained the purpose of the study before enrollment. They were informed that the confidentiality of the survey would be maintained. Health education was given to all the participants. In case of doubt, they were clarified and made to complete the questionnaire. Participants diagnosed with internet addiction after the screening were motivated to visit concern centers/physicians for psychosocial therapy.

2.4. Statistical analysis

Data entry and analysis was done using SPSS software version 26. Descriptive statistics were used to describe the data using frequencies and percentages for categorical variables and mean values with standard deviations for continuous variables. Chi-square or fissure test was used for analyzing categorical variables, while unpaired t test for continuous variable. Association between internet addiction and various factors of the study participants was calculated at a significance level 0.05 and at a confidence interval of 95%.

3. Result

A total of 509 students were enrolled who had used/been using the internet for at least 30 days. The mean age of the students was 15.8±1.4 years. As shown in Table 1, the students were distributed similarly across gender and class. Most of the parents of the students were educated till high school, while about a quarter were graduates. Majority of

the students were belonging to Upper socio-economic class.

Table 1: Distribution of different socio demographic variable

Variables	Frequency (n)	Percentage (%)
Age group*		
11-14	102	20.0%
15-16	234	46.0%
17-19	173	34.0%
Gender		
Male	271	53.2%
Female	238	46.8%
Class group		
8th	98	19.3%
9th	112	22%
10th	106	20.8%
11th	96	18.9%
12th	97	19.1%
Mothers' education		
Illiterate	24	4.7%
Primary	39	7.7%
Middle school	123	24.2%
High school	149	29.3%
Intermediate/ diploma	45	8.8%
Graduate	110	21.6%
Fathers' education		
Illiterate	8	1.6%
Primary	31	6.1%
Middle school	81	15.9%
High school	160	31.4%
Intermediate/ diploma	51	10.0%
Graduate	131	25.7%
Socio-economic status^		
Upper Class	329	64.6%
Upper middle class	97	19.1%
Middle Class	50	9.8%
Lower middle class	32	6.3%
Lower	1	0.2%

*In years
^ Modified Kuppuswamy scale 2021.

As shown in Figure 1, 51.3% were found to be internet addicted, with a mean Internet addiction (IA) score came out to be 48.4+13.2. As shown in Table 2, IA is present more in the 11-14-year-old age group (58.8%) and lowest in 17-19 years of age. IA is present more in males (56.7%) as compared to females (47.5%). Students in the 10th class (59.4%) have the highest IA, whereas students in the 11th class (33.3%) have the least IA. Among these sociodemographic variables, Class groups were seen to be significantly associated with IA (p-value <0.001). Among socioeconomic status, IA is present more in the upper middle class (60.8%), whereas lowest in the lower class. Students were found to be more internet addicted whose mother's education had primary education (66.7%) compared to students whose mothers were illiterate as well as; those students whose fathers had primary education (67.7%) tended to be more internet addicted, while those whose father was illiterate were less addicted (37.5%). Among these variables, socioeconomic status, mother's education, and father's education were seen to be significantly associated with internet addiction (p-value= .036, .015, .018), respectively, IA was present in students having computers at home (55.6%), internet access at home (52.9%), and students having personal devices (56.8%) in comparison to sharing devices (41.7%). However, IA was seen to be significantly associated with computers at home, internet access at home, and personal devices or shared devices (p-value =0.004,0.049,0.001), respectively.

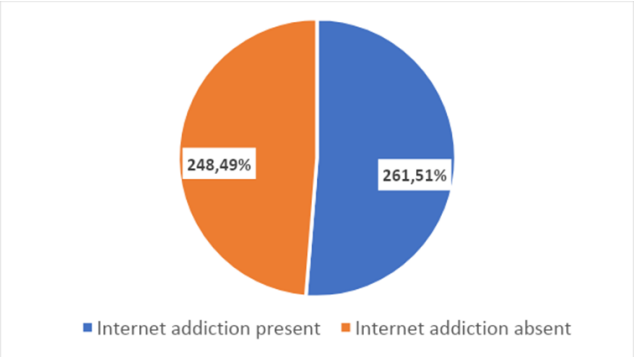

Fig. 1: Internet addiction among study participants

As shown in Table 3, IA was present more in students who were using the internet once a month (70%), whereas lowest in students using the internet every day for education (49.6%). IA was present more in students who were using the internet every day (59.8%), whereas lowest in students using the internet once a month for movies (47.4%). IA was present more in students who were using the internet once a week (63.9%), whereas lowest in students using the internet once a month (48.7%) for shopping. IA was present more in students who were using the internet every day (58.4%), whereas lowest in students using the internet once a month (34%) for downloading media. IA was present more in students who were using the internet more than once a day/week (80.9%), whereas lowest in students using the internet once a month (53.3%) for an online game. IA was present more in students who were using the internet more than once a day/week (55.2%), whereas the lowest in students using the internet once a month (47.1%) for social networking. IA was present more in students who were using the internet more than once a day/week (55.6%), whereas the lowest in students using the internet every day (45.7%) for online news. IA was present more in students who were using the internet once a month (60%), whereas lowest in students using the internet once a week (40.8%) for online songs. IA was present more in students who

Table 2: Association of internet addiction among sociodemographic variables and access

Variables	IA present	IA absent	Total	Test stats
Age group (Years)				
11-14	60(58.8%)	42(41.2%)	102	$\chi 2 = 8.564$ p value = 0.128
15-16	127(54.3%)	107(45.7%)	234	
17-19	74(42.8%)	99(57.2%)	173	
Gender				
Male	148(56.7%)	123(45.3%)	271	$\chi 2 = 3.409$ p value = 0.182
Female	113(47.5%)	125(52.5%)	238	
Class				
8th	60(61.2%)	38(38.8%)	98	$\chi 2 = 17.949$ p value<0.001
9th	66(58.9%)	46 (41.1%)	112	
10th	63(59.4%)	43(40.6%)	106	
11th	32(33.3%)	64(66.7%)	96	
12th	51(52.6%)	46(47.4%)	97	
Socio-economic status				
Upper Class	169(51.4%)	160(48.6%)	329	$\chi 2 = 10.287$ p value = .036
Upper middle class	59 (60.8%)	38(39.2%)	97	
Middle Class	23(46.0%)	27(54.0%)	50	
Lower middle class	10(31.2%)	22(68.8%)	32	
Lower	0(0.0%)	1(100.0%)	1	
Mothers' education				
Illiterate	7(29.2%)	17 (70.8%)	24	$\chi 2 = 15.801$ p value = 0.015
Primary	26(66.7%)	13(33.3%)	39	
Middle school	70(56.9%)	53(43.1%)	123	
High school	71(47.7%)	78(52.3%)	149	
Intermediate diploma	28(62.2%)	17(37.8%)	45	
Graduate	48(43.6%)	62(56.4%	110	
Professional degree	11(57.9%)	8(42.1%)	19	
Fathers' education				
Illiterate	3(37.5%)	5(62.5%)	8	$\chi 2 = 15.366$ p value = 0.018
Primary	21(67.7%)	10(32.3%)	31	
Middle school	46(56.8%)	35(43.2%)	80	
High school	74 (46.2%)	86(53.8%)	160	
Intermediate diploma	33(64.7%)	18(35.3%)	51	
Graduate	56(42.7%)	75(57.3%)	131	
Professional degree	28(59.6%)	19 (40.4%)	47	
Computer at home				
Yes	199(55.6%)	159(44.4%)	248	$\chi 2 = 10.826$ p value = .001
No	62(41.1%)	89(58.9%)	151	
Internet access at home				
Yes	239(52.9%)	213(47.1%)	452	$\chi 2 = 4.131$ p value = 0.049
No	22(38.6%)	35(61.4%)	57	
Internet use on				
Personal Device	183(56.8%)	139(43.2%)	322	$\chi 2 = 10.826$ p value = .001
Shared Device	78(41.7%)	109(58.3%)	187	

Table 3: Association of internet addiction with purpose of using the internet

Variables	How often	IA present	IA absent	Total	Test stats
Education	Everyday	186(49.6%)	189(50.4)	375	$\chi 2 = 4.538$ p value = 0.475
	>Once a day/week	45(52.9%)	40(47.1%)	85	
	Once a week	15(57.7%)	11(42.3%)	26	
	Once a month	7(70.0%)	3(30.0%)	10	
	Never used	8(66.7%)	4(33.3%)	12	
Movies	Everyday	64(59.8%)	43(40.2)	107	$\chi 2=11.41$ p value = 0.022
	>Once a day/week	64(52.9%)	57(47.1%)	121	
	Once a week	62(55.9%)	49(44.1%)	111	
	Once a month	27(47.4%)	30(52.6%)	57	
	Never used	44(38.9%)	69(61.1%)	113	
Shopping	Everyday	25(56.8%)	19(43.2%)	44	$\chi 2= 13.598$ p value = 0.009
	>Once a day/week	39(63.9%)	22(36.1%)	61	
	Once a week	48(62.3%)	29(37.7%)	77	
	Once a month	74(48.7%)	78(51.3%)	152	
	Never used	75(51.3%)	100(57.%)	175	
Downloading media	Everyday	52(58.4%)	37(41.6%)	89	$\chi 2= 10.288$ p value = 0.036
	>Once a day/week	63(57.8%)	46(42.2%)	109	
	Once a week	39(52.0%)	36(48.0%)	75	
	Once a month	17(34.0%)	33(66.0%)	50	
	Never used	90(48.4%)	96(51.6%)	186	
Online game	Everyday	99(55.9%)	78(44.1%)	177	$\chi 2 = 26.808$ p value <0.001
	>Once a day/week	38(80.9%)	9(19.1%)	47	
	Once a week	13(54.2%)	11(45.8%)	24	
	Once a month	8(53.3%)	7(46.7%)	15	
	Never used	103(41.9%)	143(58.%)	246	
Social networking	Everyday	108(55.7%)	86(44.3%)	194	$\chi 2=8.882$ p value= 0.064
	>Once a day/week	53(55.2%)	43(44.8%)	96	
	Once a week	36(55.4%)	29(44.6%)	65	
	Once a month	16(47.1%)	18(52.9%)	34	
	Never used	48(40.0%)	72(60.0%)	120	
Online News	Everyday	63(45.7%)	75(54.3%)	138	$\chi 2 = 3.338$ p value = 0.648
	>Once a day/week	5(55.6.0%)	4(44.4%)	9	
	Once a week	6(54.5%)	5(45.5%)	11	
	Once a month	3(50.0%)	3(50.0%)	6	
	Never used	184(53.3)	161(46.7%)	345	
Online song	Everyday	134(57.3)	100(42.7%)	234	$\chi 2 = 7.948$ p value = 0.094
	>Once a day/week	49(49.0%)	51(51.0%)	100	
	Once a week	20(40.8%)	29(59.2%)	49	
	Once a month	6(60.0%)	4(40.0%)	10	
	Never used	52(44.8%)	64(55.2%)	116	
Chat	Everyday	122(50.6)	119(49.4)	241	$\chi 2 = 11.383$ p value = 0.023
	>Once a day/week	35(68.6%)	16(31.4%)	51	
	Once a week	6(42.9%)	8(57.1%)	14	
	Once a month	6(85.7%)	1(14.3%)	7	
	Never used	92(46.9%)	104(53.1)	196	
Cyber-sex/pornography	Everyday	30(62.5%)	18(37.5%)	48	$\chi 2 = 21.514$ p value <0.001
	>Once a day/week	27(64.3%)	15(35.7%)	42	
	Once a week	32(66.7%)	16(33.3%)	48	
	Once a month	32(65.3%)	17(34.7%)	49	
	Never used	140(43.5)	182(56.5%)	322	

were using the internet more than once a day/week (68.6%), whereas lowest in students using the internet once a week (42.9%) for chatting. IA was present more in students who were using the internet once a week (66.7%), whereas the lowest in students using the internet every day (62.5%) for Cybersex/pornography. However, IA was seen to be significantly associated with internet use by students for movies, online shopping, downloading media, online game, chatting, and Cyber-sex/pornography.

4. Discussion

We did the study to find the prevalence of internet addiction among school-going adolescents in South Delhi and found a prevalence of 51.3%. This is higher than most of the studies done in similar settings. In the Indian setting, it was found to be 0.3% in Jabalpur, 3% in Bhavnagar,[24] 8.7% in Vadodara[25] to 35.6% (Arvind Sharma et al.; 35.6% in Aligarh, UP.[21] Internationally, varied prevalence has been reported from China (0.2%), Nepal (13.3%), and Italy (36.7%).[26–28] The higher prevalence of IA in the present study may be a result of the covid-19, which has provided students with increased access to the Internet and led to addictive behaviors, as highlighted in previous study.[29] Furthermore, a multicentric study document 67.6% of COVID-19 diagnosed patients had internet addiction.[28] The discrepancy in prevalence rates across these studies could be attributed to different criteria for classifying internet addiction, apart from different settings and COVID-19 lockdowns. Although a higher prevalence of IA has been reported in Maharashtra,[30] this study was done among (Medical students) who have limited restrictions and easy internet access as compared to school-going adolescents.

Our study revealed that younger age and males tend to be addicted more to the Internet, although this relationship was not statistically significant. These findings align with previous studies,[31,32] while few studies conducted in Asian and European countries reported significant associations of internet addiction with age and male.[3,23,33–37] Students belonging to lower academic classes (high school) in comparison to a higher academic class (senior secondary) were more addicted. This was similar to a study from Nepal,[38] but inverse to findings from Taiwan.[39] A significant association was seen between the participant's parent's education and internet addiction prevalence, with those whose parents were illiterate significantly less addicted. However, it is contrary to other studies.[37] With regard to socio-economic status, the students from upper and upper-middle socioeconomic classes were addicted to the internet more, which is similar to other studies.[38]

This may be due to better access of Internet and internet-enabled devices to adolescents from the upper socioeconomic class. Additionally, computers at home, internet-enabled personal devices and internet connection at home were also found to be statistically significant, consistent with previous studies.[33] These findings highlight the complex interplay between socio-demographic factors and internet addiction, suggesting the need for tailored interventions and further investigations into the underlying mechanisms that contribute to these associations.

Regarding the purpose of internet usage, the internet was primarily used by students for movies, online shopping, downloading media, online game, chatting, and Cyber-sex/pornography, which was found to be significantly associated with internet addiction. However, students who used the internet regularly for academic purposes were less prone to addiction. These findings of the purpose of using the internet are similar to previous studies.[4,8,39–44] The findings of our study should be interpreted considering some limitations. The finding may not be generalized to all adolescents as it was collected only from selected schools going students that granted permissions. Although we tried to reduce the selection bias by employing systematic random sampling and ensuring the population proportionate to size. Additionally, our assessment of addiction was limited to those who had used the internet in the last month, and may have yielded higher prevalence, since those who have never used were excluded, although this proportion was very small in our study. Young's IAT is a self-reported tool, assessing IA in the past month may be susceptible to social desirability and recall bias. However, Young's IAT has been widely used and reported as valid and accurate. We further collected the data anonymously, which may reduce the social desirability bias.

5. Conclusion

In conclusion, we observed a high prevalence of internet addiction among school going adolescents which was seen to increase in recent years, may be attributed COVID-19 pandemic. While more students are having improved access to the internet at homes, they are primarily using it for nonacademic purposes. To address this issue, targeted intervention including proper awareness regarding the harmful effect of regular use of smart devices and the internet may be introduced in the school curriculum. Given that a significant number of the students were using the internet at home, it is crucial for teachers and parents to collaborate in promoting safe internet practices for the benefit of students. Encouraging students to be involved in recreational activities, including painting, sports, dancing, and outdoor activities, rather than spending time on the internet or smart devices could be beneficial. While our study establishes certain associations, it is essential to conduct large-scale studies to gain a deeper understanding of the underlying risk factors and mechanisms that contribute to internet addiction. This will help in generating evidence-based intervention, and would help in mitigating the potential escalation of this bigger public health problem.

6. Source of Funding

None.

7. Conflict of Interest

None.

References

1. Internet and social media users in the world 2023 . [cited 2023 Jul 19]. Available from: https://www.statista.com/statistics/617136/digital-population-worldwide/.
2. Isman A, Dabaj F. Attitudes of Students Towards Internet. *Turk Online J Distance Educ*. 2004;5(4):1–5.
3. Goel D, Subramanyam A, Kamath R. A study on the prevalence of internet addiction and its association with psychopathology in Indian adolescents. *Indian J Psychiatry*. 2013;55(2):140–3.
4. Young KS. Internet addiction: The emergence of a new clinical disorder. *Cyberpsychol Behav*. 1998;1(3):237–44.
5. Aboujaoude E, Koran LM, Gamel N, Large MD, Serpe RT. Potential Markers for Problematic Internet Use: A Telephone Survey of 2,513 Adults. *CNS Spectr*. 2006;11(10):750–5.
6. Shaw M, Black DW. Internet addiction: definition, assessment, epidemiology and clinical management. *CNS Drugs*. 2008;22(5):353–65.
7. Çardak M, Turk Online J Educ Technol. Psychological well-being and internet addiction among university students. 2013;12(3):134–41.
8. Young KS. Caught in the Net: How to Recognize the Signs of Internet Addiction–and a Winning Strategy for Recovery. United States: John Wiley & Sons, Ltd; 1998.
9. Punamäki RL, Wallenius M, Nygård CH, Saarni L, Rimpelä A. Use of information and communication technology (ICT) and perceived health in adolescence: The role of sleeping habits and waking-time tiredness. *J Adolesc*. 2007;30(4):569–85.
10. Yen JY, Ko CH, Yen CF, Wu HY, Yang MJ. The comorbid psychiatric symptoms of Internet addiction: attention deficit and hyperactivity disorder (ADHD), depression, social phobia, and hostility. *J Adolesc Health*. 2007;41(1):93–8.
11. Morahan-Martin J, Schumacher P. Incidence and correlates of pathological Internet use among college students. *Comput Hum Behav*. 2000;16(1):13–29.
12. Widyanto L, Griffiths M. Internet Addiction: Does It Really Exist? In: Psychology and the Internet . Academic Press; 2007. p. 141–63.
13. Adeyinka T. University of Botswana Undergraduates Uses of the Internet:Implications on Academic Performance. *J Educ Media Lib Sci*. 2007;45(2):161–85.
14. Young KS. Internet Addiction: A New Clinical Phenomenon and Its Consequences. *Am Behav Sci*. 2004;48(4):402–15.
15. Kim Y, Park JY, Kim SB, Jung IK, Lim YS, Kim JH. The effects of Internet addiction on the lifestyle and dietary behavior of Korean adolescents. *Nutr Res Pract*. 2010;4(1):51–7.
16. Gross EF, Juvonen J, Gable SL. Internet use and well-being in adolescence. *J Soc Issues*. 2002;58(1):75–90.
17. King DL, Delfabbro PH, Billieux J, Potenza MN. Problematic online gaming and the COVID-19 pandemic. *J Behav Addict*. 2020;9(2):184–6.
18. Rethinking screen-time in the time of COVID-19 [Internet]. [cited 2023 Jul 19]. Available from: https://www.unicef.org/globalinsight/stories/rethinking-screen-time-time-covid-19.
19. Kar SK, Arafat SMY, Sharma P, Dixit A, Marthoenis M, Kabir R. COVID-19 pandemic and addiction: Current problems and future concerns. *Asian J Psychiatr*. 2020;51:102064. doi:10.1016/j.ajp.2020.102064.
20. Tsitsika A, Critselis E, Kormas G, Filippopoulou A, Tounissidou D, Freskou A, et al. Internet use and misuse: a multivariate regression analysis of the predictive factors of internet use among Greek adolescents. *Eur J Pediatr*. 2009;168(6):655–65.
21. Arthanari S, Khalique N, Ansari MA, Faizi N. Prevalence & determinants of Internet Addiction among Indian adolescents. *Indian J Community Health*. 2017;29(1):89–95.
22. Majhi MM, Bhatnagar N. Updated B.G Prasad's classification for the year 2021: consideration for new base year 2016. *J Family Med Prim Care*. 2021;10(11):4318–9.
23. Yadav P, Banwari G, Parmar C, Maniar R. Internet addiction and its correlates among high school students: a preliminary study from Ahmedabad, India. *Asian J Psychiatr*. 2013;6(6):500–5.
24. Vadher SB, Bharat BN, Vala AU, Ratnani IJ, Vasava KJ, Desai RS, et al. Predictors of problematic Internet use in school going adolescents of Bhavnagar. *Int J Soc Psychiatry*. 2019;65(2):151–7.
25. Prabhakaran MCA, Patel VR, Ganjiwale DJ, Nimbalkar MS. Factors associated with internet addiction among school-going adolescents in Vadodara. *J Family Med Prim Care*. 2016;5(4):765–9.
26. Lam LT, Peng ZW. Effect of pathological use of the internet on adolescent mental health: a prospective study. *Arch Pediatr Adolesc Med*. 2010;164(10):901–6.
27. Milani L, Osualdella D, DiBlasio P, P. Quality of interpersonal relationships and problematic Internet use in adolescence. *Cyberpsychol Behav*. 2009;12(6):681–4.
28. Tahir MJ, Malik NI, Ullah I, Khan HR, Perveen S, Ramalho R, et al. Internet addiction and sleep quality among medical students during the COVID-19 pandemic: A multinational cross-sectional survey. *PLoS One*. 2021;16(11):e0259594. doi:10.1371/journal.pone.0259594.
29. Lin YF, Duan Q, Zhou Y, Yuan T, Li P, Fitzpatrick T, et al. Spread and Impact of COVID-19 in China: A Systematic Review and Synthesis of Predictions From Transmission-Dynamic Models. *Front Med (Lausanne)*. 2020;7:321. doi:10.3389/fmed.2020.00321.
30. Chaudhari B, Menon P, Saldanha D, Tewari A, Bhattacharya L. Internet addiction and its determinants among medical students. *Ind Psychiatry J*. 2015;24(2):158–62.
31. Chou C, Condron L, Belland JC. A Review of the Research on Internet Addiction. *Educ Psychol Rev*. 2005;17(4):363–88.
32. Rathod SD, Nadkarni A, Bhana A, Shidhaye R. Epidemiological features of alcohol use in rural India: a population-based cross-sectional study. *BMJ Open*. 2015;5(12):e009802.
33. Alhantoushi M, Alabdullateef S. Internet addiction among secondary school students in Riyadh city, its prevalence, correlates and relation to depression: A questionnaire survey. *Int J Med Sci Public Health*. 2014;3(1):10–5.
34. Ghamari F, Mohammadbeigi A, Mohammadsalehi N, Hashiani AA. Internet addiction and modeling its risk factors in medical students, Iran. *Indian J Psychol Med*. 2011;33(2):158–62.
35. Salehi M, Khalili MN, Hojjat SK, Salehi M, Danesh A. Prevalence of internet addiction and associated factors among medical students from mashhad, iran in 2013. *Iran Red Crescent Med J*. 2014;16(5):e17256.
36. Tsitsika A, Janikian M, Schoenmakers TM, Tzavela EC, Olafsson K, Wójcik S, et al. Internet addictive behavior in adolescence: a cross-sectional study in seven European countries. *Cyberpsychol Behav Soc Netw*. 2014;17(8):528–35.
37. Wu CST, Wong HT, Yu KF, Fok KW, Yeung SM, Lam CH, et al. Parenting approaches, family functionality, and internet addiction among Hong Kong adolescents. *BMC Pediatr*. 2016;16(1):130. doi:10.1186/s12887-016-0666-y.
38. Karmacharya I, Bhujel K, Yadav DK, Subedi K. Prevalence of Internet Addiction among Higher Secondary Level Students in Kathmandu District. *J Health Allied Sci*. 2019;7(1):40–6.
39. Yang SC, Tung CJ. Comparison of Internet addicts and non-addicts in Taiwanese high school. *Comput Hum Behav*. 2007;23(1):79–96.
40. Floros G, Siomos K. The relationship between optimal parenting, Internet addiction and motives for social networking in adolescence. *Psychiatry Res*. 2013;209(3):529–34.
41. Hamza SB, Abdalla YA, Alkabashi THM, Mustafa AAM, Muhmmed KAA, Husain N. The Effects of Internet Addiction on the Academic Performance of Medical Students at Omdurman Islamic University: An Online Cross-sectional Study. 2023;p. 1–15. doi:10.21203/rs.3.rs-154768/v1.

42. Teke R. A Comparison of Facebook Addiction between Social and Hard Sciences' Students; 2011. Available from: http://i-rep.emu.edu.tr:8080/xmlui/bitstream/handle/11129/50/Teke.pdf?sequence=1.
43. Xu J, Shen LX, Yan CH, Hu H, Yang F, Wang L, et al. Parent-adolescent interaction and risk of adolescent internet addiction: a population-based study in Shanghai. *BMC Psychiatry*. 2014;14:112. doi:10.1186/1471-244X-14-112.
44. Zsido AN, Arato N, Lang A, Labadi B, Stecina D, Bandi SA. The connection and background mechanisms of social fears and problematic social networking site use: A structural equation modeling analysis. *Psychiatry Res*. 2020;292:113323.

Author biography

Shiri Khan, MPH Student https://orcid.org/0009-0007-5956-0319

Yasir Alvi, Assistant Professor https://orcid.org/0000-0002-8601-4440

Faheem Ahmed, Associate Professor

Farzana Islam, Professor

Cite this article: Khan S, Alvi Y, Ahmed F, Islam F. Internet addiction among students of selected schools of South Delhi. *Indian J Forensic Community Med* 2023;10(2):68-75.