



A STUDY ON ASSESSMENT OF FACTORS ASSOCIATED WITH INTERNET ADDICTION, PREVALENCE AND KNOWLEDGE OF INTERNET ADDICTION IN PHARMACY STUDENTS

B. Mothishwaran^{*1}, S. Aishwarya² and P. Indusha³

¹⁻³Department of Pharmacy Practice, SRM College of Pharmacy, SRM IST, Tamil Nadu, India.

*Corresponding Author: B. Mothishwaran

Department of Pharmacy Practice, SRM College of Pharmacy, SRM IST, Tamil Nadu, India.

Email ID: mothishwaran26@gmail.com

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ABSTRACT

Introduction: The number of internet service provider is also increasing and people can access the internet through computers, mobile, laptop, tablets, smart televisions and other types of emerging gadgets. It has increased the accessibility and uses of internet in all age group tremendously since past decade. **Aim:** The study is aimed to assess the prevalence and knowledge of internet addiction in pharmacy students. **Methods:** A cross-sectional survey was carried out in pharmacy students during the period of six months. A sample size of 264 students was participated in the study. A self designed questionnaire was distributed through social media platform to assess the student's knowledge on internet addiction. The collected data was analyzed and expressed in percentages. **Results:** In our study 17-25 participants were more 229 (86.74%) as compared to other ages. In our study male participants female participants were more 138 (52.27%) more as compared to males. In our study education qualification of the include post graduates participants were more 151 (57.19%) as compared to other education details. In our study smart phone use participants were more 263 (99.62%) as compared to non mobile users. In our study participants were worried about non internet addiction were more 102 (38%) as compared to other participants. **Conclusion:** The prevalence of internet addiction has more adverse in the metropolitan cities of India which are part of the lifestyle which is being imported from developed countries like USA, Australia etc. Establishment of internet de-addiction centers and continuous awareness programmes could lower the future attack of neurological disorders in the society.

KEYWORDS: Internet addiction, internet service, de-addiction centers, neurological disorders.

INTRODUCTION

The Internet is a worldwide system of interconnected computer networks which has gone through various fast technological improvements since its inception in early 1960s, and today it provides a variety of services. The number of internet service provider is also increasing and people can access the internet through computers, mobile, laptop, tablets, smart televisions and other types of emerging gadgets. It has increased the accessibility and uses of internet in all age group tremendously since past decade.^[1-3] There has been a remarkable increase in internet uses from only less than 1% in 1995 to approximately 48% of total world population today¹. Despite being the second largest base of internet users in India, the overall internet penetration in India is only around 35% at present in 2018. The number of Internet users in India stood at 481 million in December 2017 and is expected to reach 500 million by June 2018, 730 million by 2020 (Internet and 2 829 million in year 2021.

Addiction is a "compulsive need and use of a habit-forming substance characterized by tolerance and by

well-defined physiological symptoms upon withdrawal" (Webster Dictionary). Similarly, internet addiction is uncontrollable and damaging use of the internet that interferes with daily life. Person is unable to control one's use of the internet despite negative consequences and which persists over a significant period.^[7] The internet addiction is a complex phenomenon and most researchers have used different terms to describe the same phenomenon of excessive internet use. Internet addiction disorder is used interchangeably with problematic/ pathologic internet use, internet addictive disorder, internet abuse/ overuse/ harmful use/ dependency, problematic computer use, compulsive internet use etc.^[4] But till now internet addiction as a mental disorder is not included in the current version of Diagnostic and Statistical Manual of Mental Disorders (DSM-V in 2013) and it is noted that the only internet related gaming disorder (one type of IAD) which is included in DSM-V also needs more extensive research in order to be considered as a full disorder.^[5] Today the problematic use of internet or internet addiction (IA) is been recognized as a global concern but its prevalence

varies widely across countries as reported by various epidemiological studies across the world. In previous years use of internet has increased many folds in India, there are the threats that many individuals especially adolescents, will be affected by internet addiction.

Classification of internet addiction

Young KS has classified Internet Addiction phenomenon under following five subtypes based on the particular application that acts as a trigger for excessive Internet use.

Cyber-sexual addiction: Addicted individuals are engaged in viewing, downloading and trading online pornography.

Cyber-relational addiction: These people are overly involved in online relationship (chat-rooms, social networks) and consider them more important than real relationships instead of marital discord and family instability.^[6]

Net compulsions: these people are involved with online gambling, shopping and trading activities. Information overload: under this excessive web surfing for information and database search falls.

Computer addiction: Individuals are overly engaged in pre-programmed games installed in computer.

Causes of Internet Addiction

There is no single cause that can explain the addiction to the new technologies; this disorder is associated with a combination of factors.

Neuro-anatomical factors Research studies suggest that people with an Internet addiction have alterations in the brain similar to those individuals with an addiction to drugs and with the old compulsive gambling habit. In particular, it has been observed that there are changes in the area of the brain associated with attention, planning, and prioritizing (pre-frontal area). These changes explain why people with addictions put the use of the Internet or consumption of drugs before basic everyday things, like eating or sleeping.^[7-9]

Biological factors: Research studies suggest that people with addiction problems have an imbalance in the chemical substances that the brain uses to communicate (neurotransmitters). In particular, it has been observed that the levels of the dopamine and serotonin transmitters are lower than that of the general population.

Individual factors: People that are shy and have problems relating have more risk of having an addiction to the new technologies, since the use of the Internet and social networks allows one to communicate without having to interact face to face.^[10-13]

Factors associated with the Internet

The type of reward that the Internet offer, immediate and unpredictable, makes it easier to be addicted to this activity. Example, on connecting to their face book profile, an individual can discover that one of their friends has been on holiday or that the person that they like has just ended the relationship that they had. Each start of session offers unpredictable and potentially positive information that makes the person look forward to return to consult it.

Risk factors of Internet Addiction

The addiction to the Internet more often affects

- Males
- Adolescents
- People with difficulties to relate socially.
- People with drug addiction problems
- People with psychiatric disorders like anxiety, depression, or attention-deficit hyperactivity disorder.

There has been an explosive growth in the use of internet not only in India but also worldwide in the last decade. There were about 42 million active internet users in urban India in 2008 as compared to 5 million in 2000. The internet is used by some to facilitate research, to seek information, for interpersonal communication, and for business transactions. On the other hand, it can be used by some to indulge in pornography, excessive gaming, chatting for long hours, and even gambling. There have been growing concerns worldwide for what has been labeled as “internet addiction.” The term “internet addiction” was proposed by Dr. Ivan Goldberg in 1995 for pathological compulsive internet use. Griffith considered it a subset of behavior addiction and any behavior that meets the 6 “core components” of addiction, i.e., salience, mood modification, tolerance, withdrawal, conflict, and relapse.^[14] The prevalence found by Greenfield was about 6% among the general population, while Scherer found it to be 14% among the college-based population. Surveys conducted online revealed that 4-10% of the users meet the criteria for internet addiction. General population surveys show a prevalence of 0.3-0.7%. The addicted averaged 38.5 h/week on a computer, whereas the non-addicted averaged 4.9 h/week.

Pharmacological Treatment

Pharmacological interventions tested by some researcher are found effective may be due to the co-morbid psychiatric symptoms of IAD (e.g. depression and anxiety). Escitalopram (a SSRI), citalopram (SSRI)-quetiapine (antipsychotic) combination naltrexone (an opioid receptor antagonist), Methylphenidate (a psycho stimulant drug), mood stabilizers and bupropion (a non-tricyclic antidepressant) are reported to decrease problematic internet use.^[15]

Need of Study

In India, use of internet resources is more especially in the young population. Hence, there is a need to study incidence of internet usage in among pharmacy students in Indian setting and to identify their response towards mental and physical health.

AIM

The study is aimed to assess the prevalence and knowledge of internet addiction in pharmacy students.

OBJECTIVE

- To assess the incidence of internet addiction in pharmacy students.
- To assess the factors associated internet addiction in pharmacy students.
- To identify the participants knowledge on internet addiction in pharmacy students.

METHODS

A cross-sectional survey was carried out in pharmacy students during the period of January 2021 to June 2021. A sample size of 264 students was participated in the study. A self designed questionnaire was distributed through social media platform to assess the student's knowledge on internet addiction. Participants who are willing to participate in the study were included. Patients who are not willing to participate in the study were excluded. The participant's data was collected using a self designed questionnaire form. The collected data was analyzed and expressed in percentages.

Inclusion criteria

- More than 18 years of age.
- Who are willing to participate in the study.

Exclusion criteria

- Not interested to enroll in the study.

RESULTS

Age

In our study 17-25 participants were 229 (86.74%), 26-30 participants were 19 (7.19%), 31-35 participants were 9 (3.40%), and 36-45 participants were 8 (3.03%).

Age	Sample size (N=264)	Percentage (%)
17-25	229	86.74
26-30	19	7.19
31-35	9	3.40
36-45	8	3.03

Gender

In our study male participants were 126 (47.72%), female participants were 138 (52.27%).

Gender	Sample size (N=264)	Percentage (%)
Male	126	47.72
Female	138	52.27

Education qualification

In our study education qualification of the include post graduates participants were 151 (57.19%), Under graduates patients were 110 (41.66%), Research scholars were 2 (0.75%).

Education qualification	Sample size (N=264)	Percentage (%)
Post Graduates	151	57.19
Under graduates	110	41.66
Research scholars	3	1.13

Do you have a smart phone?

In our study smart phone use participants were 263 (99.62%) and not use participants were 1 (0.378%).

Response	Sample size (N=264)	Percentage (%)
Yes	263	99.62
No	1	0.378

1) How much time approximately you spend on instagram?

In our study instagram use participants were 102 (38%) spent 2-4 hours, 4-6 hours 33 (12.5%), 6-8 hours participants were 10 (3.78%), Above 8 hours 9 (3.40%), Less than 1 hour 83 (31.43%), None of the above participants were 27 (10.22%).

Response	Sample size (N=264)	Percentage (%)
2-4 hours	102	38.63
4-6 hours	33	12.5
6- 8 hours	10	3.78
Above 8 hours	9	3.40
Less than 1 hour	83	31.43
None of the above	27	10.22
Others	0	0

2) How much time you spend daily on online gaming?

In our study online gaming practice 2-4 hours participants were 40 (15.15%), 4-6 hours 26 (9.84%), 8 hours participants were 5(1.89%), less than 1 hour 48 (31.43%), None of the above participants were 125 (47%).

Response	Sample size (N=264)	Percentage (%)
2 - 4 hours	40	15.15
4-6 hours	26	9.84
8 hours more	5	1.89
less than 1 hour	48	18.18
I don't play games	125	47.34

3) Have you use mobile because of loneliness?

In our study loneliness participants were 54 (20.45%), Very often 39 (14.77 %), Sometimes 61 (23.10%), rarely participants were 43 (16.28%).

Response	Sample size (N=264)	Percentage (%)
Often	54	20.45
Very often	39	14.77
Sometimes	61	23.10
Rarely	43	16.28 %

4) Do you think that you are addicted to mobile?

In our study addicted to mobile participants oftenly participants were 45 (17.04), Very often 13 (4.92), Sometimes 101 (38.25%), Rarely participants were 63 (23.86%).

Response	Sample size (N=264)	Percentage (%)
Often	45	17.04
Very often	13	4.92
Sometimes	101	38.25
Rarely	63	23.86

5) Do you think without internet you can spend one day?

In our study internet participants were 95 (35.98%) and internet was not interested participants were 102 (38.63%) and few participants have interest they were 67 (25.37%).

Response	Sample size (N=264)	Percentage (%)
Yes	95	35.98
No	102	38.63
Maybe	67	25.37

6) Have you ever tried hard and failed to control your mobile addiction?

In our study failed to control your mobile addiction participants were often 20 (75%), very often participants were 10 (3.78%), sometimes 67 (25.37%) and rarely participants were 167 (63%).

Response	Sample size (N=264)	Percentage (%)
Often	20	75.75
Very often	10	3.78
Sometimes	67	25.37
Rarely	167	63.25

7) Have you ever abandon your important activity because of excessive mobile usage?

In our study to use mobile phone participants were often 41 (15%), very often participants were 31 (11.74%), sometimes 87 (32.95 %) and rarely participants were 105 (39.77%).

Response	Sample size (N=264)	Percentage (%)
Often	41	15.53

Very often	31	11.74
Sometimes	87	32.95
Rarely	105	39.77

8) Do you ever miss your meal because of excess mobile usage?

In our study skip of meal because of excess mobile usage participants were often 21 (7%), very often participants were 23 (8.71%), sometimes 59 (22.34 %) and rarely participants were 154 (58.33%).

Response	Sample size (N=264)	Percentage (%)
Often	21	7.95
Very often	23	8.71
Sometimes	59	22.34
Rarely	154	58.33

9) Do you felt stressed for not being used your mobile phone?

In our study mobile phone stress participants were often 31 (11%), very often participants were 23 (8.71%), sometimes 68 (25 %) and rarely participants were 142 (53.78%).

Response	Sample size (N=264)	Percentage (%)
Often	31	11.74
Very often	23	8.71
Sometimes	68	25.75
Rarely	142	53.78

10) Have you ever used your phone longer than you need?

In our study mobile longer than need participants were often 66 (25%), very often participants were 56 (21.21%), sometimes 77 (29%) and rarely participants were 65 (24.62%).

Response	Sample size (N=264)	Percentage (%)
Often	66	25
Very often	56	21.21
Sometimes	77	29.16
Rarely	65	24.62

11) Have you ever experienced irritation in eyes and numbness in fingers and headache or other complications due to long time mobile usage?

In our study long time mobile usage caused worst experience participants were often 41 (15%), very often participants were 37 (14 %), sometimes 112 (42 %) and rarely participants were 74 (28%).

Response	Sample size (N=264)	Percentage (%)
Often	41	15.53
Very often	37	14.01
Sometimes	112	42.42
Rarely	74	28.03

12) After wakeup, how much time it will take you to see mobile?

In our study within 10 minutes mobile phone seen participants were 64 (24.24%), within 30 minutes participants were 38 (14.39%), within 1 hour participants were 40 (15.15%), Immediately after wakeup participants were 76 (28.78%), not interested participants were 46 (17.42%).

Response	Sample size (N=264)	Percentage (%)
within 10 minutes	64	24.24
within 30 minutes	38	14.39
within 1 hour	40	15.15
Immediately after wakeup	76	28.78
None of the above	46	17.42

13) Have you ever worried that you spend more time in mobile?

In our study spend more time in mobile spent participants were Often 55 (20.83 %), very often participants were 52 (19.69%), Sometimes 77 (29.16%), rarely participants were 80 (30.30%).

Response	Sample size (N=264)	Percentage (%)
Often	55	20.83
Very often	52	19.69
Sometimes	77	29.16
Rarely	80	30.30

14) Your favourite mobile application

In our study mobile application use participants were Whatsapp 47 (17%), Instagram 81 (30.68%), youtube 65 (24%), facebook 9(3%), Pubg or any online game were 20 (7%).

Response	Sample size (N=264)	Percentage (%)
Whatsapp	47	17.80
Instagram	81	30.68
youtube	65	24.62
facebook	9	3.40
Pubg or any online game	20	7.57
all the above	42	15.90

15) Do you ever ignore people around you because of mobile usage?

In our study mobile usage participants were often 34 (12%), very often participants were 31 (11%), sometimes participants were 75 (28%), and rarely participants were 31 (46%).

Response	Sample size (N=264)	Percentage (%)
Often	34	12.87
Very often	31	11.74
Sometimes	75	28.40
Rarely	31	46.86

16) Are you addicted for online game/ adultery website

In our study addicted for online game/ adultery website participants were 35 (13%) and not interested participants were 229 (86%).

Response	Sample size (N=264)	Percentage (%)
Yes	35	13.25
No	229	86.74

17. Are you worried about your addiction

In our study participants were worried about internet addiction were 102 (38%) and non addicted participants were 162 (61.36%).

Response	Sample size (N=264)	Percentage (%)
Yes	102	38.63
No	162	61.36

DISCUSSION

In our study 17-25 participants were more 229 (86.74%) as compared to other ages. In our study male participants female participants were more 138 (52.27%) more as compared to males. In our study education qualification of the include post graduates participants were more 151 (57.19%) as compared to other education details. In our study smart phone use participants were more 263 (99.62%) as compared to non mobile users. In our study instagram use participants spent 2-4 hours were more 102 (38%) as compared to other timings. F In our study online gaming not players were more 125 (47%) as compared to other age groups. In our study loneliness participants were more 54 (20.45%) as compared to other participants. In our study addicted to mobile participants sometimes were more 101 (38.25%) as compared to other participants. In our study internet was not interested participants were more 102 (38.63%) as compared to other participants. In our study failed to control your mobile addiction participants were rare 167 (63%) as compared other participants.^[16-22] In our study to use mobile phone participants were rare 105 (39.77%) as compared to other participants. In our study skip of meal because of excess mobile usage participants were often 21 (7%), very often participants were 23 (8.71%), sometimes 59 (22.34 %) and rarely participants were 154 (58.33%).

In our study participants 142 (53.78%) were felt stressed for not being used your mobile phone. In our study mobile longer than need participants were often 66 (25%) used phone longer than they required. In our study sometimes participants 112 (42 %) have worst experience on long time mobile usage caused many complications.^[23-27] In our study immediately after wakeup participants were 76 (28.78%) would see the mobile phone. In our study rarely participants 80 (30.30%) were worried for spend more time in mobile. In our study Instagram 81 (30.68%) mobile application users are more as compared to other mobile application users. In our study mobile usage participants were

sometimes participants were more 75 (28%) as compared to other participants. In our study non addiction for online game/adultery website not interested participants were more 229 (86%) as compared to other participants. In our study participants were worried about non internet addiction were more 102 (38%) as compared to other participants.

CONCLUSION

Now a days internet has become an integral part of our life. The more internet addiction causes high anxiety, depression, and anxiety depression score. Current digital technologies young people have been more exposed to the internet and use of online tools for social interaction is a major cause for internet addiction.^[28-31] The prevalence of internet addiction has more adverse in the metropolitan cities of India which are part of the lifestyle which is being imported from developed countries like USA, Australia etc. Internet addiction is an lifestyle problem and prevention of internet addiction need more support from health care providers, and, establishment of internet de-addiction centers and continuous awareness programmes could lower the future attack of neurological disorders in the society.

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