#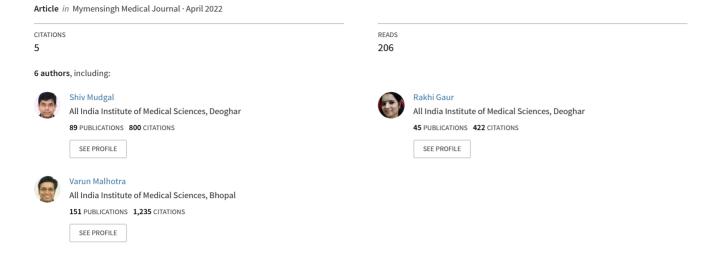 A Study on Psychosomatic Problems Related to the Problematic Internet Use among Adolescents at Selected Schools of Aspur Block, Dungarpur, Rajasthan

Article *in* Mymensingh Medical Journal · April 2022

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A Study on Psychosomatic Problems Related to the Problematic Internet Use among Adolescents at Selected Schools of Aspur Block, Dungarpur, Rajasthan

*Chundawat DS[1], Yadav KC[2], Mudgal SK[3], Yadav Y[4], Gaur R[5], Malhotra V[6]

Adolescents' scholastic and social life has become increasingly reliant on the internet and mobile technology in recent years. Problematic Internet Use (PIU) is a growing problem in Indian adolescents. However, in many cases, this use has become obsessive, causing them to neglect other elements of their lives. Adolescents account for over 35% of internet users in India. The purpose of this study was to evaluate the psychosomatic problems related to internet overuse among school going adolescent students. This cross-sectional survey was conducted among 348 students in selected schools of Aspur block in Dungarpur-district, Rajasthan, India in the month of February 2016. Problematic internet use (PIU) was assessed by Young's twenty question internet addiction test. The Depression, Anxiety, Stress Scale (DASS-42) and self structured questionnaire check list was used to measure psychosomatic problems among adolescents. Approximately 5.17% adolescents showed Problematic internet use (PIU). Adolescents with PIU were associated with age between 14-16 year, males, 10th class of study, using internet since more than 3 years, being at home, mobile as a source of internet use, purpose of internet use with online gaming. Compared with normal internet users, there were significant correlation between Problematic Internet Use and Somatic Complaints $r=0.3660$, $p<0.05$, Depression $r=0.3982$, $p<0.05$. Anxiety $r=0.2512$, $p<0.05$ and Stress $r=0.2886$, $p<0.05$. Problematic internet use (PIU) is an increasing problem among teenagers and it has been linked to psychosomatic issues. Timely Effective measures are needed to prevent the spread of this problem.

Key words: Psychosomatic problems, Problematic internet use, Adolescent, School students

Introduction

Today's era is known as the technological era, and it is a fact that technology makes our life easier. Computer and Internet comes first among these technologies which makes our life easier and has become an important tool for social interaction, information, and entertainment. While providing these facilities, it has some risk factors which can affect our lives in negative ways. The most serious of them is the inappropriate use of the internet as a potential threat to human life. The use of the Internet by adolescents is becoming a major source of concern for several sectors of society, and excessive Internet use has also become a major mental health issue among students. The psychological and behavioural implications of young people's problematic Internet use necessitate prompt and effective intervention making them aware of the potential adverse effects arising from excessive, maladaptive or addictive Internet usage. Problematic Internet usage (PIU), Internet addiction, Internet dependency, and pathological Internet use are all words used to describe this disorder. PIU, according to Beard and Wolf, is described as Internet use that causes psychological, social, school, and/or work challenges in a person's life[1].

1. *Digpal Singh Chundawat, Senior Nursing Officer, All India Institute of Medical Sciences, Bhopal, Madhya Pradesh, India; E-mail: singhchundawat.digpal@gmail.com*
2. *Professor Dr KC Yadav, Principal, BMCHRC College of Nursing, Jaipur, Rajasthan, India*
3. *Professor Dr Shiv Kumar Mudgal, Principal, College of Nursing, Pacific Medical University, Udaipur, Rajasthan, India*
4. *Professor Dr Yogesh Yadav, Registrar, Maharaj Vinayak Global University, Jaipur, Rajasthan, India*
5. *Professor Dr Rakhi Gaur, Professor, College of Nursing, Pacific Medical University, Udaipur, Rajasthan, India*
6. *Dr Varun Malhotra, Associate Professor, All India Institute of Medical Sciences, Bhopal, Madhya Pradesh, India*

for correspondence

The concept of Internet addiction also known as problematic internet use, which was first used by Goldberg in 1995, has recently turned out to be a phenomenon. Various labels for this phenomenon include "net addiction," "online addiction," "IA disorder," "pathologic internet use," and "cyber disorder"[2]. Internet addiction is not yet recognized as a disorder, because it is indeed being considered as an area in need of further research, thus currently under consideration for inclusion in the *DSM-V*[3].

People from all walks of life use the Internet, but teenagers are the most frequent users and consequently the most vulnerable to IA[4]. The majority of their appeal stems from their developmental stage, which means they have less control over their passion for Internet activities and lack discrimination when to avoid it and not use it. Adolescence is a stage of life where people are responsible for a variety of complicated developmental activities[5].

Several studies worldwide and numerous subjective media reports, recommend possible links between overuse of the Internet by adolescents and young adults and negative health consequences such as depression, attention deficit hyperactivity disorder, excessive daytime sleepiness, problematic alcohol use, or injury. Extreme Internet use has also been related with negative academic consequences such as missed classes, inferior grades, and academic discharge[6] .Comparable remarks have been made in the Behavioral Addictions Clinic (BAC) happening around a year back at All India Institute of Medical Sciences, New Delhi. Psychological and environmental factors in the lives of students may leave them excessively helpless to problematic Internet use (PIU). Developmental stressors coupled with increased access to Internet services may contribute to college student's vulnerability to PIU[7].

A study conducted by Vadher et al revealed that frequency of PIUs as 16.7% and Internet addiction as 3.0% among school going adolescents. Participants with PIU are more likely to experience Seasonal Affective Disorder (SAD), poor quality of sleep and poor quality of life. There is positive correlation between severity of PIU and SAD (r=0.411, p<0.0001)[8].

The usage of the internet in India is extremely widespread, particularly among the youth. Even though at first glance the effects of the problematic internet use are generally ignored in adolescents and it is becoming dangerous situation because of dysfunctional and problematic ways of using internet other than the education purposes. It might contribute to some serious problems in the long run. There are various bio-physiological and psychological problems faced among internet addicted as it's other name is digital cocaine[9].

Hence, it was found necessary to study pattern of problematic internet usage in adolescents in Indian setting and its relationship with their mental and physical health. There is need to assess the psychosomatic problems related to internet addiction among adolescents, especially in these times of online teaching in Corona era. These instances provoked the researchers to select the study on assessment of psychosomatic problems related to Problematic internet use among adolescents in a selected school.

Methods
This cross-sectional survey was carried out in selected school students in Aspur block of Dungarpur district, Rajasthan, India in the month of February 2016. Sample size of present study was 348 which were drawn from 10th, 11th and 12th class of selected schools of Aspur block by using purposive sampling method. Inclusion criteria for participants in this study included being 14-19 years of age and those students who gave history of using internet since last 6 month or more. Students who were either not using internet or were using it for less than 6 month and not willing to give valid consent were excluded from study. Total 348 from 352 students returned completely filled questionnaires, 4 participant submitted forms that were incomplete regarding internet use. Thus, a total of 348 participants were finally included in the study. School approval and written informed consent were obtained from all students who participated. Participation in the study was voluntary and purpose of study was explained to subjects and the study was approved by the Ethics Committee of Maharaja Vinayak Global University. A pilot study was conducted on 20 students and subsequent suggestions were made before the final study.

Data Collection and Measures: A self-administered standard questionnaire was used in the study for the purpose of data collection. All questionnaires were distributed to the participants in classroom setting at a predetermined time and

were collected onsite after 30 minute. Teachers left the classroom during 30 minute period to avoid any bias, influence or hesitancy. The questionnaire was administered both in Hindi and English language.

The measures consist of- i) *Demographic Profile*: It included socio-demographic characteristics of the participants which contained questions such as age, gender, class of study, place of residence, using internet since, source of internet use, place of most frequent internet use, money use on internet recharge, time spent on internet per day and main purpose of internet use; ii) *Young's Internet Addiction Test (IAT)*: To measures the problematic internet use, The Young's 20 different item and based on the five point likert scale (Each item is scored from 1 to 5 with 1 representing "Rarely" and 5 representing "Always") the respondents are expected to choose and give the best response that determines the degree to which internet usage affects their daily activities of living. It's scoring ranges from 20 to 100 and based on the scoring the respondents are classified as Mild addiction (20-49 Score), Moderate addiction (50-79 Score) and Severely addicted users (79-100 Score). The overall Cronbach's alpha ( ) computed from study was 0.92; iii) *Lovibond's Depression, anxiety, and stress scale (DASS-42)*: The DASS is a 42 item self-report questionnaire that provides scores on three subscales, depression (14 items), and anxiety (14 items), and stress (14 items). Each item is scored from 0 (did not apply to me at all) to 3 (applied to me very much or most of the time. In completion of DASS, the respondents are required to indicate the presence of symptoms over the past week and iv) *Self Structured Somatic Problem Questionnaires*: This part included 14 questionnaires developed with rating scale "No" (Score 0) or "Yes" (Score 1) with specific physiological problems by researcher and validated by professional experts on physiological problems of problematic internet usage such as headache, eye burning, neck pain, prickling feeling in fingers, poor personal hygiene, tiredness, coldness in hands, difficulty in sleep and do not eat meal on proper time etc.

Results

General characteristics of the participant and the relationship between PIU-Among 348participants there were 65.52% of males and 34.48% of

females aged 14-19 years. If sorted by standard of study, 38.79% were studying in 10th standard, 33.62% in 11th standard and 27.59% of the subjects were studying in 12th standard. Majority of 37.93% of subjects reported that using internet since more than 3 year. More than half 56.90% students were residing in their homes while 43.10% students were residing in hostels. Majority of students 44.83% reported that purpose of internet use is for Online Gaming.

Regarding level of problematic internet use (PIU) - The mean internet addiction score was 51.24±14.98 and Figure 1 shows that approximately 5.17% (Score Range: 80-100) students identified as problematic Internet users (Internet Addicts), 56.03% (Score Range: 50-79) of students showed moderate level of problematic internet use while 38.79% (Score Range: 20-49) experienced mild level.
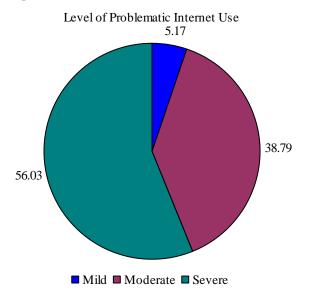

Figure 1: Level of problematic internet use (n=348)

PIU and Psychosomatic symptoms- Table I showed the prevalence of depression, anxiety, stress and psychosomatic symptoms among adolescents with problematic internet use. Study revealed that 15.52% of students experienced mild level of depression followed by 11.21% who experienced moderate level and only 3.45% experienced severe level of depression. About Anxiety, 18.10% of students reported mild level of anxiety whereas 19.83% reported moderate anxiety and only 6.90% and 4.31% reported severe and extremely severe level of anxiety

respectively. 18.10% of subjects reported mild level of stress, 12.93% reported moderate level and only 4.31% reported severe level of stress. Study findings shows that around about 50.86% of

subject experienced mild somatic symptoms while 47.41% experienced moderate symptoms and only 1.72% presented with severe somatic symptoms due to internet usage.

Table I: Prevalence of depression, anxiety, stress and psychosomatic symptoms among adolescents (n=348)

Level	Depression		Anxiety		Stress		Somatic Complaints	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Normal	243	69.83	177	50.86	225	64.66	--	--
Mild	54	15.52	63	18.1	63	18.1	177	50.86
Moderate	39	11.21	69	19.83	45	12.93	165	47.41
Severe	12	3.45	24	6.9	15	4.31	6	1.72
Extremely Severe	--	--	15	4.31	--	--	--	--
	348	100%	348	100%	348	100%	348	100%

Discussion

The present study focuses on psychosomatic problems related problematic internet use (PIU) and reveals that depression anxiety, stress and somatic complaints is related to problematic internet use directly. The related findings help us to better understand the prevalence of PIU and the relationships between PIU and psychosomatic problems among adolescents and enable us to be aware of the effects of internet usage, internet addiction tendency and associated psycho physiological problems.

This study revealed that (score 20-49) 38.79% as cases of mild level of problematic internet use and (score 50-79) 56.03% students experienced moderate, and only (score 79-100) 5.17% students experienced severe level of problematic internet use. Study result found consistent previous study[10] Lam et al. reported that 10.8% were diagnosed as Internet addicted users among high school students. A similar previous study[11] also demonstrated consistent findings that 11.8% students had internet addiction.

Present study identified that majority of males were problematic internet user than female. Consistent findings a study conducted by Jain et al.[12] also reported the same findings. This study also identified a significant association between problematic internet use and place of residence and similar findings were found by Vijay et al.[13] that majority of the students who were staying in the hostel were normal users whereas internet addiction was higher among those staying at home.

This study found (Table II) that participants who use mobile as a source of internet use are (x^2= 22.43*) significantly associated with problematic internet at 0.05 level of significance. Similar to these finding, a study conducted by Rajesh[14] also illustrated that availability of cell phone is significantly associated with internet addiction. About the purpose of internet use, Online Gaming played a significant role in enhancing problematic internet use (PIU).

Table III shows that there were significant correlation between Problematic Internet Use and psychosomatic problems such as Depression r=0.3982, p<0.05. Anxiety r=0.2512, p<0.05 and Stress r=0.2886, p<0.05. A study conducted by Panicker and Sachdev[15] and Ayas et al.[16] also reported a significant relationship between internet addiction and depression whereas contrast to these finding a study by, Reda et al.[17] did not find any significant association between internet addiction and depression. A study by Akin and Iskender[18] also identified a positive correlation between internet addiction and anxiety ($r = 0.63$).

In long term, problematic internet use can cause serious health problems. Present study (Table IV) also revealed that age x^2=48.15*, gender x^2=18.43*, using internet since x^2=54.28*, source of internet use x^2=10.07*, money use on internet recharge x^2=29.78*, purpose of internet use x^2=15.73*, have significant association with somatic complaints and no other demographic variables were found significantly associated with somatic complaints at 0.05 level of significance. So, it is evident from the above data that age, gender and then importantly using internet since

and money use on internet recharge are main variable which leads to somatic complaints. It implies that long term internet use is significantly associated with increasing somatic health problems.

Table II: Association of level of internet addiction with socio- demographic variables (n=348)

S.N.	Demographic Variable		Level of Internet addiction		df	Table value	^{2}
			Mild	Moderate +Severe			
1	*Age in year*						
	a.	14-16	84	96	2	5.99*	12.17*
	b.	16-18	30	84			
	c.	18-19	21	33			
2	*Gender*						
	a.	Male	75	153	1	3.84*	9.68*
	b.	Female	60	60			
3	*Class of Study*						
	a.	10th Class	42	93	2	5.99*	6.16*
	b.	11th Class	54	63			
	c.	12th Class	39	57			
4	*Using Internet Since*						
	a.	6 month to 1 year	21	33	3	7.82	4.03
	b.	1-2 Year	24	42			
	c.	2-3 Year	45	51			
	d.	More than 3 Year	45	87			
5	*Place of Residence*						
	a.	Home	81	117	1	3.84	0.866
	b.	Hostel	54	96			
6	*Source of Internet Use*						
	a.	Mobile	66	135	3	7.82*	22.43*
	b.	Computer	27	54			
	c.	Laptop	27	12			
	d.	Tablet	15	12			
7	*Place of Most frequent Internet Use*						
	a.	At School	30	45	1	3.84	0.58
	b.	At Home/Hostel	105	168			
8	*How much money do you use on Internet Recharge (Rs.)*						
	a.	Less than 200	42	51	2	5.99	4.12
	b.	200-400	63	123			
	c.	More than 400	30	39			
9	*How much time do you spend on internet use per*						
	a.	0-2 Hour	36	48	3	7.82*	20.69*
	b.	2-3 Hour	30	84			
	c.	3-4 Hour	24	48			
	d.	More than 4 Hour	45	33			
10	*What is main purpose of internet use*						
	a.	Web Surfing	30	45	3	7.82	7.68
	b.	Online Gaming	51	105			
	c.	Social Media	51	54			
	d.	Educational Purpose	03	09			

*- Significant at 0.05 level of significance

Table III: Correlation statistics of the variables

Variables	Problematic internet use	Somatic complaints	Depression	Anxiety	Stress
Problematic internet use	1				
Somatic Complaints	0.3660*	1			
Depression	0.3982*	0.4726*	1		
Anxiety	0.2512*	0.3620*	0.5620**	1	
Stress	0.3886*	0.4859*	0.6580**	0.5438**	1

Table IV: Association of level of somatic complaints with socio-demographic variables (n=348)

S.N.	Demographic variable		Level of Somatic complaints			df	Table value	x^2
			Frequency	Mild	Moderate + Severe			
1			*Age in years*					
	a.	14-16	180	60	120	2	5.99*	48.15*
	b.	16-18	114	84	30			
	c.	18-19	54	33	21			
2			*Gender*					
	a.	Male	228	135	93	1	3.84*	18.43*
	b.	Female	120	42	78			
3			*Class of study*					
	a.	10th Class	135	60	75	2	5.99	5.01
	b.	11th Class	117	60	57			
	c.	12th Class	96	57	39			
4			*Using internet since*					
	a.	6 Month to 1 Year	54	36	18	3	7.82*	54.28*
	b.	1-2 Year	66	30	36			
	c.	2-3 Year	96	21	75			
	d.	More than 3 Year	132	90	42			
5			*Place of residence*					
	a.	Home	198	105	93	1	3.84	0.864
	b.	Hostel	150	72	78			
6			*Source of internet use*					
	a.	Mobile	201	96	105	3	7.82*	10.07*
	b.	Computer	81	45	36			
	c.	Laptop	39	27	12			
	d.	Tablet	27	9	18			
7			*Place of most frequent internet use*					
	a.	At School	75	36	39	1	3.84	0.313
	b.	At Home/Hostel	273	141	132			
8			*How much money do you use on internet recharge (Rs.)*					
	a.	Less than 200	93	57	36	2	5.99*	29.78*
	b.	200-400	186	105	81			
	c.	More than 400	69	15	54			
9			*How much time do you spend on internet use per*					
	a.	0-2 Hour	84	42	42	3	7.82	6.24
	b.	2-3 Hour	114	57	57			
	c.	3-4 Hour	72	45	27			
	d.	More than 4 Hour	78	33	45			
10			*What is main purpose of internet use*					
	a.	Web Surfing	75	36	39	3	7.82*	15.73*
	b.	Online Gaming	156	93	63			
	c.	Social Media	105	39	66			
	d.	Educational Purpose	12	9	3			

*- Significant at 0.05 level of significance

Limitations and future plan: i) The study is limited to assess the psychosomatic problems related to problematic internet use among adolescents, ii) No feedback was given iii) The study was limited to adolescents only andincluded 348 samples aged 14-19 years iv) It was a purely questionnaire-based study, iv) Future studies correlating EMG of back muscles, temporalis muscle may be done to assess bad posture and stress in PIU, v) P300 to assess effect of concentration in PIU.

Conclusion
The role of internet in our lives is immortal and its usage is going to increase further. Adolescents high in internet addiction are more vulnerable to depression, anxiety, stresses and somatic complaints. This study reveals that depression, anxiety, stress and somatic complaints are directly related to problematic internet use. The real challenge is to have a control on usage of social sites- the amount of time being spent and the type of activities adolescents are doing online. School &Parents needs to explain to children/adolescents regarding appropriate use of internet, restrict their use by screen time. We need to use the electronic devices but unfortunately the electronic devices are using us. Users look for instant satisfaction in the real world too after getting it in the virtual internet gaming world at a click due to release of neurotransmitters like dopamine. However, when their desire is not fulfilled and obstructed or delayed it leads to anger that is not channelized especially in the blind will of the youth.

Implications
The use of computer and internet information systems by all human being and especially by medical and nursing professionals is of growing concern now days. This study forms the base for more extensive research in future and organizes and implements health programs addressing young people on internet and its impact on health. Since exposure to internet at adolescents is increasing level of problematic internet use, a school based educational programs need to be targeted to reduce addiction among and its impact on physical and mental health of adolescents. More and more studies should be conducted to represent the harmful effects of excessive use of internet using different research design, setting, health care personnel, sampling technique, should be conducted and findings of which must be disseminated widely for further purpose.

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