



PREVALENCE OF INTERNET ADDICTION AND EFFECTS OF SOCIAL MEDIA USAGE AMONG A PRIVATE MEDICAL COLLEGE STUDENTS, PONDICHERRY

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ABSTRACT

Background: There will be 550 million internet users in India by 2018. College student group uses internet more frequently than the general population. They are more prone to internet addiction which results in various physical health and behavioral problems. Hence this study aims to find the prevalence of internet addiction and the effects of social media usage among medical students in a private medical college, Pondicherry.

Methodology: A self-administered pretested semi-structured questionnaire was used. Informed written consent was obtained. Young's Internet Addiction test was used to assess the internet addiction. Data was entered in Microsoft Office Excel and analyzed using SPSS version 20. Kruskal-wallis test was used to compare the groups.

Results: Among 200 study participants, 93.5% were using smartphone to access internet. Three fourth of them revealed that their main purpose is to access social media. More than half of the study participants were (53.5%) average internet users and 33 (16.5%) were possible internet addicts. Thirteen percent of students had less than 5 hours of sleep and also high internet users. There is weak negative correlation (correlation co-efficient $r = -0.15$) exist between hours of sleep and time spent in social media. More than half of the students felt that they tend to avoid outdoor games followed by their studies were affected & reduced sleep (35.5%)

Conclusion: There is an emerging burden of non-communicable diseases like hypertension, diabetes, cardiovascular diseases and mental disorders among young people mainly due to reduced sleep hours, lack of outdoor games & stress. Appropriate health education and motivation is needed to improve routine physical activity among medical college students to stay physically and mentally healthy.

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INTRODUCTION

The first workable prototype of the internet came in 1960s with the creation of ARPANET (Advanced Research Projects Agency Network). of Defense. ARPANET adopted Transmission Control Protocol (TCP) in 1983 and from there modern internet was developed.^{1,2}

After introduction of the WORLD WIDE WEB (www) in the year 1990 by scientist Tim Berners- lee, the internet became more popularized.^{1,2} From then, in the past 30 years, there has been a dramatic change in all fields. It has widely enabled the flow of information across oceans. It has brought people together by enabling various forms of personal electronic communications like emails, instant messaging services like Whatsapp, video calling facility and social networking. It has made people think that it is very difficult to imagine a world without instant and continuous access to the internet.³

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According to the study by Internet and Mobile Association Of India (IMAI), initially there were 5 million internet users in 2000, from then an explosive growth occurred and there were 42 million users by 2008. India has the third largest internet population in the world after China and United States. As per 2014 study, there were 190 million users and it is expected to rise to 550 million users by 2018.³

The term internet addiction was proposed by Dr. Ivan Goldberg in 1995 for pathological compulsive internet usage.⁴ According to study by Griffith, it is a subset of behavioral addiction and it meets 6 core components of addiction – salience, mood modification, tolerance, withdrawal, conflict and relapse.⁵

The internet can be used to seek information, for interpersonal communication, and for business transactions. On the other hand, it can also be used by some to indulge in pornography, excessive gaming, chatting for long hours, and even gambling. Such negative effects of internet make people to get addicted to it and may also cause some health related

problems. There have been growing concerns worldwide for what has been labeled as “internet addiction. Almost all age groups now use internet and high internet usage is seen among adolescents and college goers, thus making them the most vulnerable group for internet addiction. Internet addiction is now considered a global problem, a study by few internet and American life project on college students’ use of internet revealed that college student group uses internet heavily than the general population.⁶

Since the college students are the population who are highly exposed to internet usage & social media, the Internet addiction results in various physical health and behavioral problems. Hence we conducted this study in a private medical college, Pondicherry to study the prevalence of internet addiction and effects of social media usage and to create awareness among the students to counteract internet addiction and problems associated with internet addiction like sleep deprivation and other health disorders.

METHODOLOGY

A facility based cross – sectional study was conducted in Aarupadai Veedu Medical College, Pondicherry between August-September 2016. All students except first year MBBS students were included in the study. Two hundred students were included using simple random sampling method. A pretested semi-structured questionnaire was used to collect socio-demographic details, usage of internet and social media, purpose of using internet, hours of sleep and sleep deprivation. Young’s Internet Addiction Test was used to test the internet addiction.

Study was conducted in class rooms after getting permission from concern head of the department. Informed written consent from the students were obtained. A self-administered questionnaire was explained and distributed among the students. Students were given a time limit of 30 minutes to complete the questionnaire. Data was entered in Microsoft Office Excel sheet.

Internet Addiction Test

Internet addiction in an individual can be tested using a questionnaire developed by Dr. Young – Young’s Internet Addiction Test. Initially, DR. YOUNG developed 8 questions for internet addiction diagnostic questionnaire based on DSM-IV, later she included 12 new items in addition to 8 items to formulate an Internet Addiction Test.¹³ Now Young’s IAT is the only available test and whose psychometric properties have been tested by Widyanto and Mc Murrans.¹⁴ Based upon the answers given by the subjects for Young’s IAT, scoring will be done. Higher the score, there will be greater the level of addiction.

RESULTS

Socio-demographic details

Of 200 students interviewed, 108(54%) students were males and 92(46%) students were females. The mean age of the students participated was 20.7±1.4. Among the study participants 120 (60%) students were hostellers and 80(40%) students were day scholars.

Among 200 medical students interviewed, 184 (92%) students were using internet regularly; more than three fourth of them using internet on daily basis.(Fig 2) Eight percent of the

students were using the internet rarely. Among 200 study participants, 191 (93.5%) were access internet through their own smart phone.(Fig1)

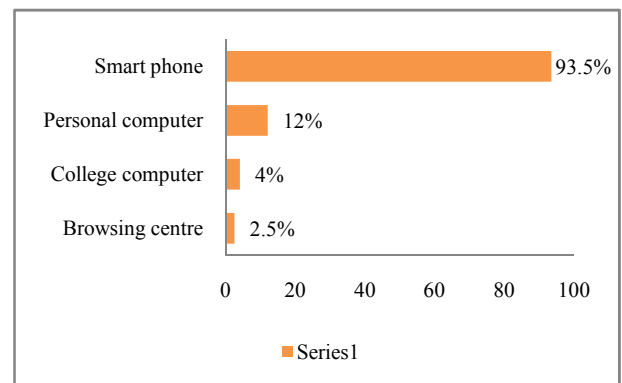


Fig 1 Various access to internet among college going students in private medical college, Pondicherry (n=200)*

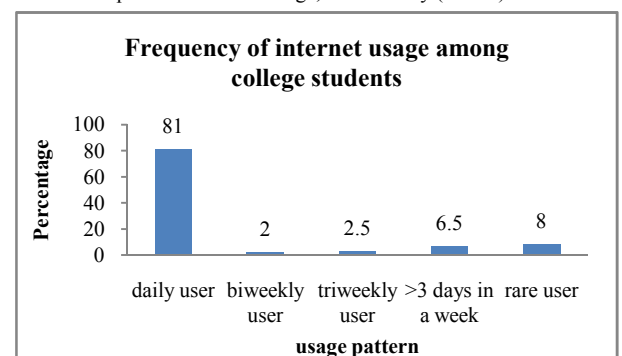
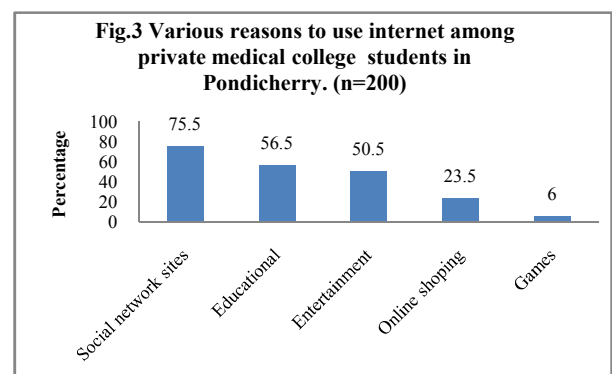


Fig 2 Regularity of internet usage among college going students in Pondicherry (n=200).

Majority (75.5%) of the medical students, the purpose of using internet was to access social media (WhatsApp Facebook, twitter etc...). Access to internet for educational purpose is around 57% followed by entertainment (50.5%), online shopping (23.5%) and games (6%).(Fig 3)



Majority (88.5%) of the students are using social media for two years. Remaining 23 (11.5%) students are using social networks more than two years. Majority (47.5%) of the students spend 2-4 hours in social network daily. Five hours and more daily social media usage was 27.5%. (Table.1) Nearly half of the students reported that social media usage was the first and last thing in a particular day.

Table 1 Gender differences in hours spent in social media among private medical college students (n=200)

Sl.no	Hours spent in social media	Male	Female	Total
1.	Less than 2 hours	25 (23%)	25 (26.3%)	50 (25%)
2.	Two – four hours	53 (49%)	42 (46%)	95 (47.5%)
3.	≥ 5 hours	30 (27.7%)	25 (27.4%)	55 (27.5%)
	Total	108 (100%)	92 (100%)	200 (100%)

Chi-square test $\chi^2=0.45$; $p=0.7$

It is observed that the median hour of sleep is 7 hours (3-10). Majority (59%) were used to sleep up to 6-7 hours. Thirteen percent of students had less than 5 hours of sleep and the amount of internet usage is comparatively high among these students.(Fig 4) There is significant ($p=0.03$) but weak negative correlation (spearman) between hours of sleep and time spent in social media (correlation co-efficient $r= -0.15$)

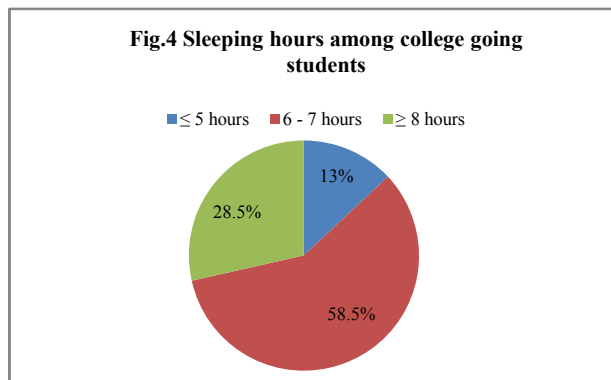
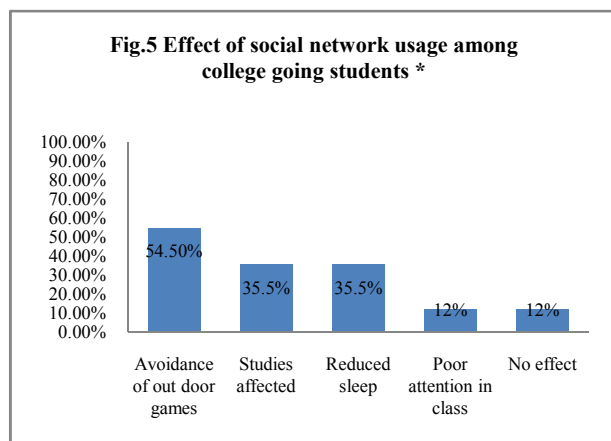


Table 2 Sleeping hours and usage of social media among college students in private medical college (n=200)

Daily routine Sleeping hours	N (%)	Mean rank (hours spent in social media)
≤ 5 hours	26 (13)	129.9
6-7 hours	117 (58.5)	96.4
≥ 8 hours	57 (28.5)	95.4

Kruskal-wallis test – $\chi^2=7.9$; $p=0.01$

There is significant difference ($p=0.01$) between the groups having different sleeping time and usage of social media.



*Multiple responses

In daily activities more than half of the students felt that they tend to avoid outdoor games because of using social media followed by their studies were affected (35.5%), reduced sleep (35.5%), poor attention in class (12%). Majority of

males (38%) reported reduced sleep than females (32.6%). Disturbed sleep was reported by 20% of students

Internet Addiction Test

From Young’s IAT, 60 (30%)students using internet were less than average users , 107 (53.5%) students were average internet users & 33 (16.5%) students were possible addicts and there were no students with total internet addiction in our study. Results also show that around 26 (13%) students among the average internet users are at the verge of becoming possible addicts since their internet addiction score is near to the borderline of possible addiction.

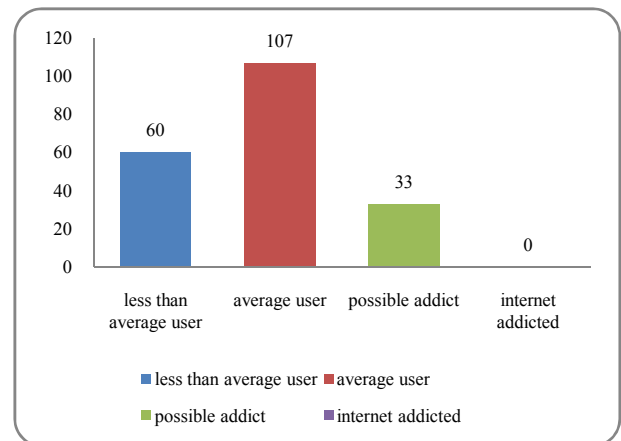


Fig 6 Internet addiction among private medical college students

There is significant difference between various internet addiction groups and hours of sleep (Kruskal-wallis test; $\chi^2=10.2$; $p=0.006$).

Table 3 Gender and stay differences in internet addiction level among private medical college students (n=200)

Addiction level	Gender		Stay		Total
	Female (%)	Male (%)	Hosteller (%)	Day scholar (%)	
Less than average	39(42.3)	21(19.4)	32(26.6)	28(35%)	60(30%)
Average	43(46.7)	64(59.2)	66(55)	41(51.2%)	107(53.5)
Possible addict	10(10.8)	23(21.2)	22(18.3)	11(13.7)	33(16.5)
Total	92(100)	108(100)	120(100)	80(100)	200(100)
Chi-square	$X^2=13.4$; $p=0.001$		$X^2= 1.8$; $p=0.3$		

Table.3 shows that possible internet addiction is more among males 23 (21.3%) compared to females 10(11%). There is significant difference between addiction level and gender ($p=0.001$). Similarly possible internet addiction is more common among hostel students 22 (18.3%) compared to day scholars 11 (13.8%). There is no significant difference ($p=0.3$) between the internet addiction level and stay of the medical students.

The median monthly expense for internet usage among college students was Rs.250 (25-3000). On average (median) Boys spent more amount of Rs.300 (25-3000) per month than girls Rs.200 (50-2400). There is significant difference (Mann-whitney U test; $p=0.001$) between gender and average monthly spending for internet. The average (median) monthly expenditure of 33 possible addicts for internet is Rs.500 (100-2400).

DISCUSSION

Though many number of studies reported about prevalence of internet addiction in various settings, this study evaluated in

addition about the usage of social media and its effects. In this study 93.5% of the students use smartphone to access to internet. This finding is contrast to the study done in Bengaluru which reported that 53% of college students use mobile phone to access internet.¹⁵ Three fourth of the students were use internet mainly to access social media. This finding is in contrast to the study done among medical college students in Surat which reported 98% of the students use internet mainly to access social media.¹⁶The median time spent in social media is 3 hours/day which is similar to the study done in Surat.¹⁶

In the present study, three fourth of the students were spent more than 2 hours in social media every day. This is in contrast to the study done in Mysore, Karnataka which reported only 32.3% of the students spent more than one hour every day in what's app.¹⁷

Regarding the effects of social media usage, majority (54.5%) reported that they tend to avoid outdoor games. This is higher when compared to the studies from Surat and Mysore which reported 37.4 and 33.3% respectively.^{16,17}

The present study reported that 35.5% of students experienced that their studies have been affected and reduced sleep due to usage of social media. This is comparable to the study from Surat reported that 39.4% of students experienced insomnia but in contrast 44.2% reported that their studies were affected.¹⁶ Another study done in Mysore which reported 52.2% studies affected and 27.4% had insomnia which is in contrast to the present study finding.¹⁷

Nearly half of the students reported that social media usage was the first and last thing in a particular day. It is comparable to the study from Mysore which reported 54% of them use social media soon after wake up but in contrast 80% of the students use social media before sleep.¹⁷

The present study reported that possible internet addiction among the students was 16.5% with significant male preponderance. This study finding is comparable to study from Guntur, Andhra Pradesh, India which reported 11.8% possible addicts but in contrast to the present study, another study from Mumbai which reported 24.8% were possible internet addicts.^{18,19}

None of the participants in the present study were internet addicts whereas the study from Guntur and Mumbai reported 0.4% and 0.7% respectively.^{18,19} More than 80% of average users and possible addicts use internet for social networking followed by education and entertainment preferably in evening and night time (>60%) which is similar to the study done in Mumbai.¹⁹

Our study shows that most of the high internet users of social media sleep less than 7 hours and are sleep deprived compared to low internet users similar to a study done at California. Deprivation of sleep to less than six to seven hours per day can lead to serious impairment of cognitive and psychomotor function (reduces concentration, memory and thinking strategies), daytime dysfunction, increased incidence of sleep related accidents (Teter, 2006; Banks, 2007; Brown, 2002), and diminished academic performance, often resulting in poor grades (Teter, 2006; Smith, 2005; Tsai, 2004).

CONCLUSION

In the present world, internet has become an integral part of life. Almost everyone uses smart phone to access internet as it is very easy to connect, now this has become a main reason for regular internet usage. Access to social media networks is high among medical college students. Possible addicts have decreased sleeping hours, low academic performance compared to an average and less than average internet users. With the advent of social networking sites like what's app, facebook and availability of high speed internet, students lack outdoor games which have to be an integral part of life to keep the mind and body healthy. There is emerging burden of non-communicable diseases like hypertension, diabetes, cardiovascular diseases and mental disorders among young people. Appropriate health education and motivation is needed to improve routine physical activity among medical college students to stay physically and mentally healthy.

Summary

A cross-sectional study was conducted to find out the prevalence of internet addiction and usage of social media among medical college students in a private medical college in Pondicherry. Two hundred subjects were included for the study. Informed written consent was obtained from all study participants. All the subjects were given a self-administered proforma and Young's Internet Addiction Test questionnaire. Among 200 study participants, 93.5% were using their own smartphone to access internet. Three fourth of the study participants were access internet mainly for the purpose of using social media. More than half of the study participants were (53.5%) average internet users and 33 (16.5%) were possible internet addicts. There were no internet addicts in the present study. Nearly half of the study participants spend 2-4 hours daily in social media. Thirteen percent of students had less than 5 hours of sleep and also high internet users. There is weak negative correlation (correlation co-efficient $r = -0.15$) exist between hours of sleep and time spent in social media. In daily activities more than half of the students felt that they tend to avoid outdoor games because of using social media followed by their studies were affected & reduced sleep (35.5%).

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