Research Article

Pattern of internet use among college going adolescent students in Nagpur city: A cross sectional study

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ABSTRACT

Background: The internet has playing extensive role in our daily lives. Internet use has both positive and negative aspects. The use of the internet on schools campus and in society has increased dramatically in recent years. College students are, especially vulnerable to developing dependence on internet, more than most other segments of the society. **Objectives:** To assess pattern of internet usage in adolescents studying in colleges of Nagpur city and to assess the preferred use of internet in them. **Materials and Methods:** A cross-sectional study was conducted in 218 college going students studying in Junior college, 11th and 12th standard and Ist, IInd year senior college. The questionnaires used to collect data were a pretested, semi-structured, self-administered questionnaire, which was used to collect socio-demographic variables, pattern, and preferred use of internet. Descriptive statistics were calculated to summarize baseline characteristics and pattern of internet use of the study subjects. **Results:** The mean age of the study subjects was 17.39 ± 1.35 years range was 15-19 years. The pattern of internet use was seen in our study, majority students were using computer for the past 4 years, whereas the majority of students were using internet for the last 4 years. Chatting was most common preferred use reported in our study, followed by shopping 140 (64.22%). **Conclusions:** There is a need to make aware both students and parents about the positive and negative effect of internet use.

KEY WORDS: Adolescents; Pattern of Internet; Preferred Use of Internet; Chatting

INTRODUCTION

The internet is a faster medium used to obtain information, research and communication, but for some of the users, it may become a companion for survival.[1] The internet has been playing an extensive role in our daily lives.[2] Internet use has increased enormously in the last few decades and now it seems that every aspect of people's lives has been affected by the concept of "global village."[3]

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The technological development has brought in high speed mobile broadband internet connectivity, Wi-Fi and smart phone applications those have transformed the pattern of internet use of youth, from just "logging in" for a particular duration of time in front of a desktop computer to an era of being online all the time.[4]

The last decade witnessed an explosion of social-networking sites such as Facebook, Twitter, and WhatsApp messenger which has added a new social dimension to the web.[5] The internet, today connects more than two billion people worldwide. India has about 120 million people online today and offers a striking example of the internet's growth potential.[6] The use of the internet on schools campus and in society has increased dramatically in recent years.[7] With such a large population of internet users, misuse and loss of control in the use of the internet should not be expected rare events.[8]

Internet use has both positive and negative aspects. The positive consequences of internet use include enhanced self-confidence, increased frequency of communication with family and friends, and feelings of empowerment. However, students are also facing some certain psychosocial problems after using internet.[9] In developed countries, various reports suggested that increasing popularity and frequency of internet use has led to the abusive symptoms.[10]

Various socio-cultural factors (such as demographic factors, ease of access, popularity of internet), Biological factors (such as genetic factors, unusual neuro - chemical processes), mental predispositions (such as personal characteristics, negative influences) and internet specific characteristics predispose individuals to use of internet excessively.[11]

College students are especially vulnerable to developing dependence on the internet, more than most other segments of the society. This can be attributed to several factors including the following: Availability of free time; easy to use; unlimited access to the internet; the psychological and developmental characteristics of young adulthood; limited or no parental supervision; an expectation of internet/computer use implicitly if not explicitly, as some courses are internet-dependent, from assignments and projects to communication with peers and mentors; internet offering a route of escape from exam stress.[12]

These adolescents are vulnerable to misuse of internet technology, if they have not been taught how to use it adequately or while if they are using it without supervision.[13] Excessive and problematic internet use is associated with many psychosocial and mental health problems in adolescents.[14] In spite of the widely perceived merits of internet, psychologists and educators have been aware of the negative impacts of its use, especially the overuse and/or misuse and the related physical and psychological problems.[15]

There is on-going debate about "how best to classify the behavior/pattern of internet usage," which is characterized by spending many hours in non-work technology related computer/internet/video game activities.[16] This behavior/pattern might be leading impaired function at work, poor academic performance, sleep deprivation, lack of exercise, headache, and eye strain.[3,4] Excessive internet use is evolving as one of the negative aspects of among adolescents.[9] In India, the number of individuals accessing the internet over mobile devices has expanded from <100 million subscribers in 2010 to nearly 300 million at the end of 2014. While it continue to grow.[17]

Currently, there are 243 million (estimated number) of adolescents in India.[18] The concept that the excess of internet use can be turned in to a disorder is still in its initial stages in India.[16] In India, use of internet is enormous, especially in the adolescent's population. There are very few studies conducted in central India. Hence, it was found essential to assess pattern of internet usage in adolescents studying in colleges of Nagpur city and to assess the preferred use of internet in them.

MATERIALS AND METHODS

This cross sectional study was conducted after obtaining the Institutional Ethics Committee approval. Permission of college principals was obtained before the start of study. For the selection of the study subjects Vimalatai Tidke Convent and College, Khamla and Shivaji Sciences College, Ajni in the Nagpur City during the period January-March 2016. The colleges were chosen randomly.

The study participants were 218 college going students studying in the junior college (11th and 12th standard) and senior college (Ist, IInd year). Investigators approached study subjects in campuses and cafeterias. After explaining the purpose of the study, informed consent was obtained from each of study subjects. Only students who had access to the internet and smart phone for at least a year were included in the study.

Before preparation of questionnaire, literature search was done to detect various variables to be used to study pattern of internet use among adolescents and young adults. Subsequent variables were used to get clear picture of internet use. They were given 20 min to fill the questionnaire.

They were requested to mark their true responses. Confidentiality was assured, and informed consent was taken. To avoid any hesitancy or social desirability bias, for recording responses, anonymity of the participants was assured. The questionnaires used to collect data was a pretested, semi-structured, self-administered questionnaire, which was used to collect socio-demographic variables such as age, gender, number of siblings, occupation and education of mother and father, monthly family income, pattern and preferred use of internet.

The pattern of internet use was assessed by questions pertaining to internet use such as years of computer use, daily computer use, years of internet use, daily internet use, expenditure on internet per month, most commonly used gadget for accessing internet (desktop, laptop, tablet, mobile phone), login status (log in and off occasionally, at end of work log off, permanently online), most common mode of internet access (Wi-Fi, Broadband, Data card, Mobile Internet), most common location of internet access (residence, cybercafé, library, classroom, computer laboratory, hostel), time spent by father, mother, sibling on internet outside work hours, parents know about my internet activities, preferred use of internet. A pilot study was carried out on 30 students; required suggestions were incorporated before the start of the study.

Statistical Analysis

Data were entered and tabulated using Epi Info Version 7.0. Descriptive statistics (percentage, mean, standard deviation) were calculated to summarize baseline characteristics and pattern of internet use of the study subjects.

RESULTS

Socio demographic characteristic of the study population and pattern of internet use are depicted in Tables 1 and 2. The mean age of study subjects was 17.39 years with SD of 1.35 years, range being 15-19 years. Slightly more participation of males study subjects 125 (57.34%) was seen as compared to females 93 (42.66%).

Table 3 shows preferred use of internet by college students. Multiple options were provided, majority of study subjects were using internet for chatting 145 (66.51%) followed by shopping 140 (64.22%).

DISCUSSION

Observing the explosive growth in internet use among the adolescents, it is important to study pattern of internet use in this subset of population. Adolescents are belonging to a particularly vulnerable group on account of the time they spend on the internet. This study is an initial step toward understanding the extent of internet use among adolescent students in India.

Majority of students were in age group of 19-20 years that were similar to study conducted by authors.[7,11,12,19] In this study, male 125 (57.34%) study subjects were outnumbered by females 93 (42.66%), similarly Krishnamurthy et al., Surwase et al.,[7,12] unlike Dhok et al.[20] were having more females study subjects.

The pattern of internet use was seen in our study, majority students were using computer for the past 4 years this also similar to study conducted by Krishnamurthy et al., Surwase et al.[7,12] but lower than study conducted by Dhok et al.[20] The majority of students were using internet for the last 4 years, this was also found in study conducted by other authors.[7,12,20]

Average use of internet per day was up to 4 h. in our study, this finding also similar to study conducted by Krishnamurthy et al., Surwase et al., and Srijampana et al.[7,12,16] Expenditure done internet per month up to 200 rupees, which was of 130 (59.63%) was similar to the study conducted by Krishnamurthy et al., Dhok et al., Surwase et al.[7,12,20]

Mobile phone use has been growing dramatically over the last few decades among Indian students. Results of the

Table 1: Sociodemographic characteristics of study participants (*n*=218)

Characteristics	Number of study subjects (%)
Age (years)	
<16	64 (34.41)
17-18	91 (41.74)
19	63 (28.90)
Gender	
Male	125 (57.34)
Female	93 (42.66)
Year of study	
11th	49 (22.48)
12th	54 (24.77)
First	56 (25.69)
Second	59 (27.06)
Father's education status*	
Professional degree/PhD	3 (1.40)
Graduate or postgraduate	116 (53.95)
Intermediate or post high school diploma	52 (24.19)
High school completion	18 (8.37)
Middle school completion	9 (4.19)
Primary school completion	5 (2.33)
Illiterate	12 (5.58)
Mother's educational status**	
Professional degree/PhD	1 (0.47)
Graduate or postgraduate	83 (39.15)
Intermediate or post high school diploma	52 (24.53)
High school completion	28 (13.21)
Middle school completion	18 (8.49)
Primary school completion	14 (6.60)
Illiterate	16 (7.55)
Father's occupation status*	
Profession	19 (8.84)
Semi profession	12 (5.58)
Clerk, shop owner, farm owner	58 (26.98)
Skilled worker	114 (53.02)
Semi-skilled worker	5 (2.33)
Unskilled worker	6 (2.79)
Unemployed/retired	1 (0.47)
Mother's occupational status**	
Profession	18 (8.45)
Semi profession	3 (1.41)
Clerk, shop owner, farm owner	2 (0.94)
Skilled worker	16 (7.51)
Semi-skilled worker	1 (0.47)
Unskilled worker	5 (2.35)
Homemaker	167 (78.40)

**n*=215, ***n*=212

Table 2: Patterns of internet use (*n*=218)

Characteristics	Number of study subjects (%)
Years of computer use (years)	
1-4	106 (48.62)
5-8	57 (26.15)
>8	55 (25.23)
Daily computer use (h)	
0-2	154 (70.64)
2-4	47 (21.56)
4-6	7 (3.21)
>6	10 (4.59)
Years of internet use (years)	
1-4	142 (65.14)
5-8	52 (23.85)
>8	24 (11.01)
Daily internet use (h)	
0-2	107 (49.08)
2-4	87 (39.91)
4-6	12 (5.51)
>6	12 (5.51)
Expenditure on internet per month (Rs)	
<200	130 (59.63)
200-400	46 (21.10)
400-600	21 (9.63)
>600	21 (9.63)
Most commonly used gadget for accessing internet	
Mobile phone	168 (77.06)
Desktop	21 (9.63)
Laptop	21 (9.63)
Tablet	8 (3.67)
Login status	
Log in and off occasionally	101 (46.33)
At end of work log off	69 (31.65)
Permanently online	48 (22.02)
Most common mode of internet access	
Mobile Internet	153 (70.18)
Wi-Fi	34 (15.60)
Broadband	12 (5.51)
Data card	19 (8.72)
Most common location of internet access	
Residence	144 (66.06)
Classroom	20 (9.17)
Cybercafé	19 (8.72)
Hostel	17 (7.80)
Computer lab	14 (6.42)
Library	4 (1.83)
Parents know about my internet activities	
Never	17 (7.87)
Rarely	17 (7.87)
Sometime	55 (25.46)
Most of the times	39 (18.06)
Always	88 (40.74)
Time spent by father on internet outside work hours* (h)	
0-2	89 (40.83)
2-4	36 (16.51)
4-8	7 (3.21)
>8	1 (0.46)
Not applicable	82 (38.01)
Time spent by mother on internet outside work hours** (h)	
0-2	51 (23.29)
2-4	10 (4.59)
4-8	6 (2.75)
>8	0 (0.00)
Not applicable	151 (69.27)

Contd...

Table 2: (*Continued)*

*Number of fathers in study subjects (*n*=215), **Number of fathers in study subjects (*n*=212)

Table 3: Preferred use of internet

Use of internet for	n=218 (%)
Chatting	145 (66.51)
Shopping	140 (64.22)
General websites	119 (54.59)
Online friendships	119 (54.59)
Games	106 (48.62)
Using internet for coursework	102 (46.79)
E-mail	98 (44.95)
Online relationships	27 (12.39)

present study revealed that a high number of study subjects had an internet access on mobile phone. Most commonly used gadget for accessing internet in our study was mobile phone, this also similar to study conducted by Krishnamurthy et al., Dhok et al., Paul et al., Surwase et al.[4,7,12,20] Time spent by father, mother and siblings on internet outside work hours were similar to Surwase et al., and Krishnamurthy et al.[7,12]

Chatting was the most common preferred use reported in our study. Preferred use of internet on was similar to study conducted by authors.[7,12,20] It was followed by shopping 140 (64.22%), this was similar to study conducted by Dhok et al.[20]

Through both the anonymity and lack of immediate contact secured by the internet, adolescent internet users may interact within frameworks perceived as emotionally safe and create idealized identities, particularly with respect to role-playing games. These novel, albeit fictitious, identities may potentially ease participation in online social networks. Therefore, utilization of the internet for the purposes of game playing and socialization may contribute to the development and further manifestation of various mental health problems.[21] In our study, 106 (48.62%) of study subjects were using internet for playing games online.

College students, probably due to the psychological and developmental characteristics of adolescents and limited or no parental supervision, are more susceptible to getting into online friendships, which eventually most often turns into online relationships.[12]

Limitations

There are several limitations involved in this study which must be addressed to provide direction for future research. First, the analyses reported here should be regarded as exploratory. Secondly, the sample size of dependents is relatively small compared to the estimated 300 million current internet users.[17]

In addition, the well-matched control group was not taken which weakens the comparative results. Therefore, generalizability of results must be interpreted with caution and continued research should include larger sample sizes to draw more accurate conclusions.

Furthermore, this study has inherent biases present in its methodology by utilizing an expedient and convenient self-selected group of Internet users. Therefore, motivational factors among participants responding to this study should be considered. While these limitations, this study provides a workable framework for further exploration of addictive Internet use.

Strength

Major strength of the present study was targeted age group, these participants were can be considered as representative of similar college going students studying majority of big cities.

Recommendations

Beside the present study, investigators of this study recommends that there is a critical need for conducting some more thorough studies on internet and its impact on students with respect of various domains of life in India.

CONCLUSIONS

There is a need to make aware both students and parents about the positive and negative effect of internet use. Parents and guardians need to pay proper attention about what their children are doing on internet.

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