



# A Systematic Review And Research Agenda Of Internet Addiction Among Adolescents

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## Abstract:

*Background:* Internet addiction is very serious problem in today's time among children and also among younger adults in India. It has become an important health and social issues in India. This review aimed to evaluate the prevalence of internet addiction among adolescents, factors responsible for internet addiction and its impact

*Method:* I searched following data base like PubMed, Medline, also through google scholar search engine and offline journals. Review included studies related to Prevalence of Internet addiction among adolescents, factors affecting internet addiction and studies related to Negative impact of internet addiction on Adolescents

*Result:* The result revealed that Prevalence of Internet addiction ranged from 0.4% to 50.8% among adolescents which was identified by using Youngs Internet addiction scale. communication, accessing explicit material, and financial gains, accessing sex-oriented materials, and spending excessive time online, motivations for internet use, mental health, social skills, Environmental factors contribute to Internet addiction. Internet addiction had negative impact on physical health, psychological health and Academic performance

*Conclusion:* There is a need to conduct much more studies on internet addiction, need to develop preventive strategies on prevention of Internet addiction and conduct comparative studies among urban and rural adolescents

## Introduction:

The internet is global linking of computers that allows information transfer. The Internet has made life a lot easier by making information more accessible to all and creating connections with different people around the world. However, it has also led a lot of people to spend too much time in front of the computer, so much so that it becomes the centre of their lives. This can lead to an Internet or computer addiction. The term "INTERNET ADDICTION" was proposed by Dr. Ivan Goldberg in 1996 for pathological compulsive internet use. Internet addiction is very serious problem in today's time. Internet or computer addictions manifest in several ways that cover various degrees and areas of Internet usage. They are the following:

- Information overload. Too much online surfing leads to decreased productivity at work and fewer interactions with family members.
- Compulsions. Excessive time spent in online activities such as gaming, trading of stocks, gambling and even auctions often lead to overspending and problems at work.
- Cybersex addiction. Too much surfing of porn sites often affects real-life relationships.
- Cyber-relationship addiction. Excessive use of social networking sites to create relationships rather than spending time with family or friends may destroy real-life relationships.

Whenever Internet addicts feel overwhelmed, stressed, depressed, lonely or anxious, they use the Internet to seek solace and escape. Certain people are predisposed to having a computer or Internet addiction, such as those who suffer from anxiety and depression.

Their lack of emotional support means they turn to the Internet to fill this need. There are also those who have a history of other types of addiction, such as addictions to alcohol, drugs, sex and gambling. Even being stressed and unhappy can contribute greatly to the development of a computer or Internet addiction. People who are overly shy and cannot easily relate to their peers are also at a higher risk of developing a computer or Internet addiction.<sup>35</sup>

An addiction to the Internet is manifested in both physical and emotional symptoms; however, these specifics may vary for each person. These are basically warning signals that an addiction may be developing.

The following symptoms are typical of online addicts:

- Feelings of guilt
- Anxiety
- Depression
- Dishonesty
- Euphoric feelings when in front of the computer
- Unable to keep schedules
- No sense of time
- Isolation
- Defensiveness
- Avoiding doing work
- Agitation

Physical Symptoms of Online Addiction.

The following symptoms are characteristic of someone who uses the computer for a very long period of time:

- Backache
- Headaches
- Weight gain or loss
- Disturbances in sleep
- Carpal tunnel syndrome
- Blurred or strained vision

The short-term effects of an online addiction include unfinished tasks, forgotten responsibilities and weight gain. Long-term effects are seen more in the physical symptoms such as backache, neck pain, carpal tunnel syndrome, and vision problems from staring at the screen. It can also lead to bankruptcy, especially if the time spent online is focused on shopping, gambling and gaming.<sup>35</sup>

## Objectives

The study was conducted to check out following objectives

1. To review and analyze the published research studies on prevalence of internet addiction among adolescents
2. To review and analyze the published research studies on factors influencing internet addiction among adolescents
3. To review and analyze the published research studies on impact of internet addiction on the health of adolescents

## Material and Methods

The study covered researches published in online and offline journals which were related to internet addiction of adolescents in India and abroad

## Related work and discussion

Table 1: summary of Studies related to Prevalence of Internet addiction

Sno	Author/p lace	Design	Sam ple size	Age group	Instruments	findings
1	Arvind Sharma et.al (2014) India	Cross sectional survey design	400	Adolescents	Socio demographic proforma, Youngs Internet addiction scale	50% of students are addicted and it is necessary to develop strategies for prevention of Internet addiction and therapeutic interventions for promoting healthy and safe use of Internet
2	Ikenna Adiele Wole Olatokun (2014) Africa	Survey design	1022	Adolescents	Revised Internet Addiction Test, Hypersexual Behaviour Inventory and Problem Videogame Playing Scale	prevalence of internet addiction was more among male, most of them used internet for communication, getting sex-oriented material and to make money seemed to dominate addicts' mind. offline behavioural addiction was not an IA causal factor but rather a motivating factor.
3	Deeksha Grover, Jaison Joseph (2020). Rohtak	Cross sectional survey design	400	Adolescents	Young Diagnostic Questionnaire, Internet Addiction Test (IAT)	findings of the present study suggest that there is a good level of concordance between IAT and YDQ. When time is a limitation, YDQ (8 items) can be considered for screening Internet addiction in this setting. The prevalence of severe Internet addiction ranged from 4.2% to 4.8% depending on the IAT and

						YDQ measurements, respectively
4	Ghassemzadeh, L., Shahraray, M., & Moradi, A. (2008). Iran	Comparative study	977	Adolescents	the Internet Addiction Test (IAT), UCLA Loneliness Scale, Rosenberg Self-Esteem Scale, and Matson Evaluation of Social Skills	Results suggest that Internet addicts are lonelier and have lower self-esteem and poorer social skills than moderate users, but not necessarily than possible addicts or nonusers.
5	Ergin, A., Uzun, S. U., & Bozkurt, A. I. Denizli Province, Turkey (2014).	cross-sectional study	211	Adolescents and Early adulthood	Family Affluence Scale, Youngs Internet addiction Scale	The rate of risky or addicted use of internet is low among medical faculty students
6	Şaşmaz, T., Öner, S., Kurt, A., Ö. Yapıcı, G., Yazıcı, A. E., Buğdaycı, R., & Şiş, M. (2012) Italy	Cross sectional study	1156	Adolescents	Internet Addiction Scale developed by Griffith Brief Symptom Inventory (BSI) scale	The prevalence of Internet addiction was high among high school children. depression and negative self-perception raised Internet addiction. Duration of computer use, Reading no books in a week, Using computer as an hobby were the risk factors of Internet addiction
7.	Roberto Poli & Emilia Agrimi	Survey study	2533	High school students	Italian version of the Internet Addiction Test (IAT)	Few students had moderate and severe addiction to Internet

8	Shek, D. T. & Yu, L. (2016) HongKong	Longitudinal study	Large samples over 6 Years	High school students	Sociodemographic characteristic, positive youth development, family processes, and Internet addiction behavior.	Male students consistently showed a higher prevalence rate of Internet addiction. prosocial attributes had a positive relationship with youth Internet addiction.
9.	Srijampala V. V. G. R. Endreddy, A. R. Prabhath, K. & Rajana, B. (2014). Guntur.	Cross sectional study	211	Medical students	Young's Internet Addiction scale	The rate of Internet surfing for males is higher than that for females. the prevalence of internet addiction was 0.4%. moderate users and the possible addicts used the internet mostly for social networking (59.7%), downloading media files (18.9%), and online gaming (12.3%) when compared to academic purpose (0.1%), susceptibility for internet addiction was nearly same between males and females
10	Siomos, K. E. Dafouli, E. D. Braimioti s. D. A. Mouzas, O. D., & Angelopoulos, N. V. Thessaly (2008) Greek	Survey Study	2,200	Adolescents	Adolescent Demographic Questionnaire Young's diagnostic questionnaire	The prevalence of Internet addiction among Internet users of Central Greece is 8.2%, and it concerns mainly the male students who play online games and visit Internet cafés.

**Table 2: summary of studies related to Factors affecting Internet addiction**

11	Hassan, T. Alam, M. Wahab, A. & Hawlader, M. D (2020) Bangladesh	Cross Sectional study	454	Adults	Youngs Internet Addictionscale	prevalence of internet addiction was high among younger participants.  living setup, time spent daily on the internet, a detached family relationship, physical activity, and smoking habit were significant determinants for internet addiction
12	Krishnamurthy, Sharmitha Chetlapalli Satish Kumar. (2015). Bengaluru, India	cross-sectional study	554	Young adults	Young's 20-Item Internet Addiction Test (IAT)	Mild to moderate Internet addiction was identified. permanently logged-in status; peer influence; preference for virtual interaction with friends; and using the Internet for chatting, pornography, making new friendships, getting into relationships online, and shopping were potential influential factors for Internet addiction.
13.	Salehi, M., Khalili, M. N. Hojjat, S. K. Salehi, M. & Daneshmandi, A. (2014) Mashhad, Iran	cross sectional study	400	Medical students	Chen Internet Addiction Scales (CIAS)	It was found that 2.1% of the studied population were at risk and 5.2% were addicted users. Factors related to Internet addiction are male sex, stage of education, daily time spent on using internet, most frequent time of internet use, monthly cost of use, and tea consumption.
14	Adiele, Ikenna Olatokun, Wole. (2014)	Survey & study	1022	Adolescents	Revised Internet Addiction Test (RIAT), a questionnaire made up of EPQR-S Lie	In this study 20.3% were at risk of IA (at-risk group) and were thus moderately addicted to internet use. Only 3.3% had developed severe addiction to these of internet, and thus fell into the

	Nigeria				Scale, Hypersexual Behaviour Inventory and Problem Video Game Playing Scale	addicts' group. Adolescents online addiction was mainly influenced by extrinsic reasons for internet use, although there were few whose reasons for going online were mainly intrinsic. Using the internet to communicate on important matters, getting sex-oriented materials, and making money seemed to dominate addicts' minds.
15	Comert, T., Ugras, S. & Yükselöglü. E. H, Turkey	cross-sectional survey	1628	Adolescents	Young's 20-item Internet addiction test and self-developed questionnaire which includes Psychological, family and school factors and Environment as factors	About 6% of the adolescents were categorized as being in these severely addicted group. psychological factors, impulsiveness and aggression. Two environmental factors, namely accessibility to PC cafés. and exposure to Internet game ads were significant predictors of Internet addiction
16	Ergin, A. Uzun, S. U. & Bozkurt, A. I. (2013) Turkey	cross-sectional study	380	Younger Adults	Youngs Internet addiction questionnaire (IAT) Family Affluence Scale	The rate of risky or addicted use of internet is low among medical faculty students. Age, class, socioeconomic factors and smoking does not affect the status of being a risky or addicted user.
17.	Kuss, D. J., van Rooij, A.J., Shorter, G. W., Griffiths, M. D., & van de Mheen, D. (2013)	Survey study	3105	Adolescents	Compulsive Internet Use Scale and the Quick Big Five Scale.	The use of online gaming and social applications (online social networking sites and Twitter) increased the risk for Internet addiction
	Netherlands					



18	Jouridib, Joseph E.Haddad, Chadia Sacre, Akel Marwan Salameh, Pascalebeid et.al (2021) Lebanon, United states.	Survey study	1810	Adolescents	Internet Addiction Test (IAT)	psychiatric disorders, such as depression and substance use (smoking and alcohol), are associated with more problematic internet use among Lebanese adolescents.
19	de Ávila, G. B., Dos Santos, N., Jansen, K., & Barros, F.C. (2020) Southern Brazil	cross-sectional study	4038	Adolescents	Internet Addiction Test (IAT) and Well-Being Index (WHO-5).	prevalence of IA was 50.8% and the rate was higher among individuals who had screened positive for depressive or anxiety disorders than among those who had not. Gaming, work and study related content and accessing sexual content are the factors influencing internet addiction

**Table 3: Summary of Impact of Internet addiction**

20	Goel, D. Subramanyam, A., & Kamath, R. (2013) India	cross-sectional study	987	Adolescents	specially constructed semi- structured proforma and The Internet Addiction Test (IAT; Young, 1998)	Adolescents with excessive use of internet had high scores on anxiety, depression, and anxiety depression. addicts have poor mental, physical, and mental health score
					Dukes health profile	



21	Güzel, N., Kahveci, İ., Solak, N., Cömert, M. & Turan, F. N. (2018). Turkey	Descriptive survey study	327	Young adults	Demographic proforma with physical complaints. Internet Addiction Scale developed by Selim Günüş and Murat Kayri	Internet usage leads to many physical health problems, which may cause serious and permanent damage to physical health. physical complaints such as headache, feeling of stiffness, backache, neck pain and insomnia are seen in internet addicted students
22	Wanajak, Kesaraporn (2011). Chiang Mai, Thailand	Survey study	952	Adolescents	Modified Delphi technique, Structured Interview	School problems, physical and mental health problems, and relationship problems were reported as being negative impacts of Internet use.
23	Shoghli, A., Karamitahna, F., Soleimani, A., Zanjan, (2018) Iran	Cross sectional study	137	Young adults	Youngs Internet addiction questionnaire	36.5%) were at the risk of internet addiction. A significant association was observed between internet addiction and general health.
24	Yeonsoo Kim <sup>1</sup> *, Jinyoung Park <sup>2</sup> *, Sung Byuk Kim <sup>3</sup> , In-Kyung Jung <sup>4</sup> , Yunsook Lim <sup>5</sup> and Jung-Hyun Kim <sup>4</sup> . Seoul, (2010)	Survey study	853	Adolescents	Korean Internet addiction self-scale. Socio demographic proforma. Dietary behaviour questionnaire	Irregular bedtimes and the use of alcohol and tobacco were higher in high-risk Internet users than no risk Internet users. Irregular dietary behavior due to the loss of appetite, a high frequency of skipping meals, and snacking might cause imbalances in nutritional intake. high-risk Internet users have inappropriate dietary behavior and poor diet quality, which could result
	Korea					in stunted growth and development.

25	Syed Shah Alam, Nik Mohd Hazrul Nik Hashim, Maisarah Ahmad, Che Aniza Che Wel, Sallehuddin Mohd Nor, & Nor Asiah Omar (2014). Malaysia	A cross-sectional study	200	Young adults	Internet addiction scale and self-developed questionnaire on impact of Internet addiction	<p>results show that five negative impacts of excessive internet usages such as interpersonal problem, behavioural problem, physical problem, psychological problem, and work problem of young adults.</p> <p>One positive impact is, internet usage can help them to improve their skills for doing their work better</p>
26	Y. Zheng, D. Wei, Li, T. Zhu and H. Ning, (2016)	Survey study	530	Adults	online electronic questionnaire and Paper questionnaires	The most common complaints after prolonged use of Internet were involving dry eyes, decreased vision, and cervical pain, Head ache, decreased sleep quality and skin worse. Longer the time spent on internet use higher the level and frequency of physical complaints
27	Ah. Yusuf Praba Diyan Rachmawati and Diana Rachmawati. (2020)	Correlational study	215	Adolescents	Internet Addiction Test (IAT) by Kimberly S. Griffiths	There was a significant relationship found between adolescent Internet addiction and interaction with parents and school environment. But no relationship with Internet addiction and Interaction with community
28	Lebni, J. Y.,	descriptive	447	Adolescents	Young's	Internet addiction positively

	Toghroli,R.,analytical study Abbas, J. NeJhadda dgar, N., Salahshoor M. R., Mansouri an, M., & Ziapour, A. (2020).			ents	Internet Addiction Test and Goldberg General Health Questionnaire	correlated with depression and mental health. critical reason for using the Internet. faculty, depression, the central place for using the Internet, and somatic symptoms are vulnerability predictors for Internet addiction.  findings specified that students' excessive internet usage leads to anxiety, depression, and adverse mental health, which affect their academic performance.
29	Taha,M.H., cross-sectional study Shehzad,K., Alamro, A.S., & Wadi, M.M. (2019).  Saudi Arabia	209	Adolescents and Younger adults	Internet Addiction Test questionnaire	Internet use has affected negatively on Academic performance, loss of sleep due to late night internet use affecting the attendance for morning activities. Majority expressed depression, moody and nervousness when offline.	
30.	KesarapornSurvey Wanajak A. (2011)  Australia	952	Adolescents	modified Delphi Technique	Internet addictive users spent significantly longer on the Internet  School problems, physical and mental health problems, and relationship problems were reported as being negative impacts of Internet use	

## Discussion:

A comprehensive systematic review of research studies was performed to review the empirical evidence on Internet addiction, factors affecting and impact of Internet addiction among adolescents and young adults a total of 30 studies were reviewed out of which 10 studies are related to Prevalence of Internet addiction, 9 studies are related to factors affecting internet addiction and 11 studies related to impact of Internet addiction.

Prevalance of Internet addiction was high among men Adolescents, addiction was mild to moderate (Arvind Sharma et.al(2014); Ikenna Adiele(2014); Deeksha Grover(2020); Ghassemzadeh L(2008); Ergin, A(2014); Şaşmaz, T(2012); Roberto Poli(2012); Shek, D. T. et.al(2016); Srijampana, V. V(2014); Siomos, K. E

et.al(2008).

Following are the factors responsible for Internet addiction identified in the reviewed research studies Time spent daily on Internet, Peer Influence, detached family, smoking habits, online shopping, seeing prone videos, , Easy accessibility of Internet cafes, Exposure to internet gaming, online networking like twitter, psychiatric disorders, depression, Anxiety, Substance abuse were (Hassan, T(2020); Krishnamurthy(2015); Shar Salehi, M(2014); Adiele, Ikenna & Olatokun, Wole(2014); Comert, I. T(2013); Ergin, A(2013); Kuss, D. J(2013); jourdib, Joseph et.al(2021); de Ávila, G. B(2020)

The negative impact of internet addiction was identified to be Anxiety, depression, Anxiety depression, Poor mental and physical health, physical complaints such as head ache, neck pain, feeling of stiffness, back ache dry eyes, vision problem, decreased sleep quality, irregular bed time, use of tobacco, irregular dietary behavior leading to stunted growth and development, Interpersonal and work problem, poor School/Academic performance and relationship problems (Goel, D(2013); Güzel, N(2018); Wanajak,Kesaraporn(2011); Yeonsoo Kim(2010); Syed Shah Alam(2010); Y. Zheng, D(2016); Ah. Yusuf (2020); Lebni, J. Y (2020); Taha, M.H(2019); Kesarapor N(2011).

### Research gap Identified:

1. The need for developing strategies for the prevention of internet addiction and therapeutic interventions for promoting healthy and safe use of the internet among adolescents in India
2. The investigation of the concordance between different screening measures for internet addiction and the determination of the prevalence of severe internet addiction among adolescents
3. The determination of the prevalence of internet addiction and its association with depression and negative self-perception among high school children
4. The determination of the prevalence of internet addiction and its association with depression and negative self-perception among high school children
5. The investigation of the relationship between sociodemographic characteristics, positive youth development, family processes, and internet addiction behavior among high school students
6. The exploration of the relationship between excessive internet use and mental health problems among Indian adolescents, including anxiety, depression, and poor mental and physical health scores
7. The assessment of negative impacts of internet use on school performance, physical and mental health, and relationships among adolescents
8. The investigation of the relationship between sociodemographic characteristics, positive youth development, family processes, and internet addiction behaviour among high school students
9. The investigation of the association between psychiatric disorders (depression and substance use) and problematic internet use among Lebanese adolescents
10. A comparative study on Prevalence of Internet addiction among urban and rural Highschool students
11. A comparative study on Factors affecting Internet addiction among urban and rural high school students
12. A comparative study on Impact of Internet addiction among urban and rural Highschool students

### Conclusion:

Based on the reviewed articles, it is evident that internet addiction is a prevalent issue among adolescents and young adults across different countries. Male adolescents tend to have a higher risk of internet addiction, and motivations such as communication, accessing explicit material, and financial gains, accessing sex-oriented materials, and spending excessive time online, motivations for internet use, mental health, social skills, Environmental factors contribute to Internet addiction. Internet addiction is associated with negative consequences such as lower self-esteem, poorer social skills, loneliness, and adverse mental health outcomes. studies also highlighted the negative impact of Internet addiction on physical health, academic performance, and relationships

Efforts should be made to develop preventive strategies, therapeutic interventions, and screening tools to identify and address internet addiction. Promoting healthy and safe internet use, as well as improving socio-demographic factors, positive youth development, and family processes, can help mitigate the risks associated with internet addiction. Reviews also suggest to conduct comparative studies in urban and rural adolescents

and adults.

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