

INTERNET ADDICTION DISORDER AMONG LATE ADOLESCENCE.

1.DR. C.REKHA, ASSOCIATE PROFESSOR,DEPARTMENT OF PEDIATRICS, ACS MEDICAL COLLEGE

2. DR. LALITHA, SENIOR RESIDENT, DEPARTMENT OF PEDIATRICS, ACS MEDICAL COLLEGE

3. DR. R. PARAMAGURU, JUNIOR RESIDENT, DEPARTMENT OF PEDIATRICS, GOVERNMENT THIRUVALLORE MEDICAL COLLEGE

4. DR. ARASAR SEERALAR .A.T, HEAD OF THE DEPARTMENT OF PEDIATRICS, ACS MEDICAL COLLEGE

5. DR. CHRISTINA PAUL, PROFESSOR, DEPARTMENT OF COMMUNITY MEDICINE, INDIRA MEDICAL COLLEGE.

CORRESPONDING AUTHOR- DR. C. REKHA, ASSOCIATE PROFESSOR , DEPARTMENT OF PEDIATRICS, ACS MEDICAL COLLEGE.

mailid- chandrasekarekha@gmail.com

Abstract

Background

Internet addiction disorder (IAD) is a condition characterized by excessive use of the internet to an extent that has detrimental consequences for a person's daily life. After the onset of Covid pandemic, our lifestyles have changed significantly and the reliance on gadgets for education and work has become the way of life. As teenagers are often in conflict with parental authority and norms of society, the developmental effects can lead to a series of defence mechanisms and an increased risk of emotional crises, mood changes and behavioural alteration, which they attempt to fight through by withdrawal from social contact, aggression and addictive behaviour. Our study is mainly to analyse on the prevalence of IAD among this vulnerable group of late adolescence.

Aim

To estimate the prevalence of internet addiction disorder among late adolescence aged 17 to 19 years.

Methodology

A Cross sectional descriptive study was conducted among students of a private college between the age group 17 to 19 years. After obtaining informed consent, the pre- defined validated standardised questionnaire(young's internet addiction test questionnaire) (11)was sent to the students as google forms and they were explained that the results would be expressed only as a group data. Around 1000 students were involved in the study. Statistical analysis was done with super version two software.

Results:

We received around 1143 responses, out of which only 1006 were identified to be satisfying the inclusion and exclusion criteria. Around 64.8%(n=652) were females and the remaining 354 were males. Among males, around 80% were using internet mainly for official purposes whereas around 78.4% of females used internet for official purposes. Based on the IAT(internet addiction test) scores, around 45.6%(n=459) of the study population had

normal internet usage, 33.5% (n=337) had mild internet addiction, 19% (n=191) had moderate internet addiction and 1.9% (n=19) had severe internet addiction. Hence around 54% had internet addiction. Among 354 boys, 207 (58.4%) of them had a IAT score more than 30, and among 652 girls enrolled in the study, 340 (52.1%) of them had a score more than 30. Even among those who start using internet for official purposes, 55.5% (n=441) of them had internet addiction with a score more than 30. Among those who use internet for unofficial purposes, 50% of them had internet addiction.

Conclusion:

IAD is increasing in the recent pandemic and post pandemic era. Our study found that around 55% of the study population had internet addiction. Among them around 2% had severe internet addiction disorder. Hence it is high time that we have to identify this population and provide proper counselling and seek psychiatric help at the right time to avoid complications.

Key words- internet addiction, internet addiction test, late adolescence.

Introduction

Internet addiction disorder (IAD) is a condition characterized by excessive use of the internet to an extent that has detrimental consequences for a person's daily life. Technology in the form of gadgets and internet has started making rapid inroads into the lives of common man in the past two decades. All classes of society, including children are in many ways compelled to use them for their education and work especially during and after the pandemic era. Unfortunately, a significant number of them have started to use them in a very unhealthy manner to the point of addiction to gadgets.

Dr. Ivan Goldberg, a New York based psychiatrist first coined the term internet addiction in the mid-90s. He devised a list of symptoms for recognizing the same, which has evolved over a period, to the extent the DSM-5 (Diagnosis and statistic manual) has included internet gaming disorder in their criteria in 2013. Data reveals 8.2% to 38% of population worldwide are said to have Internet addiction. After the onset of Covid pandemic, our lifestyles have changed significantly and the reliance on gadgets for education and work has become the way of life. Children have become the most vulnerable of them all since their productive life involving education and career has been taken over by gaming and social media.

Adolescence can be defined as the period between childhood and adulthood, between the ages of 10 and 19 years. Adolescent period has a great impact on the psychological development of an adult [1]. Adolescent period is divided into three stages based on the age : early (10 to 13 years), middle (14 to 16 years), and late (17 to 19 years) [2]. As teenagers are often in conflict with parental authority and norms of society, the developmental effects can lead to a series of defence mechanisms [2] and an increased risk of emotional crises, mood changes and behavioural alteration, which they attempt to fight through by withdrawal from social contact, aggression and addictive behaviour [3,4]. One of the most common and easy addictive behaviour would be towards the internet. They are extremely vulnerable and receptive and can be easily drawn to the Internet for relief from stress. Finally, over time this may result in addiction. They are more attracted towards newer technologies of communication, which provides them a false feeling of being in the community at the socially acceptable levels though it happens truly only with anonymity. Children and adolescents have tendency to use the Internet without adult control, as there is free access to any content irrespective of their age and stage of development [5]. This has become a source of amusement

and may generate new interests [6]. As per DSM 5, Internet addiction has been equated with Internet gaming addictions [7]. Some scientist suggest that these should be identified as separate entity [8,9]. Some studies have proved that college students had Internet addiction due to their depression and anxiety due to various factors[10]. Adolescents are most open group to the various addictive temptations caused by Internet. Our study mainly deals with this group and prevalence of addiction among late adolescence.

Aim

To estimate the prevalence of internet addiction disorder among late adolescence aged 17 to 19 years.

Study justification

Internet addiction disorder(IAD) is at an exponential rise in the recent decade. During this covid pandemic and post pandemic era, students were exposed to a lot of screen time in the form of online classes. As a result of their exposure, most of them tend to spend a lot of time on social media. This study is mainly to identify the prevalence of Internet addiction disorder in this least studied group of late adolescence.

Methodology

Study site and study population- first year medical and paramedical students of ACS medical college, velapanchavadi, Chennai, tamil nadu, India.

Study design- Cross sectional descriptive study

Inclusion criteria- College students between the age group 17 to 19 years

Exclusion criteria – Students on chronic medications and Antipsychiatric medications

Ethics clearance

Ethics clearance has been obtained from the institutional ethics committee. Permission has been taken from Head of the department, institution and Dean. Informed consent was obtained from each student before filling the questionnaire.

Data collection

Students who participated in the study received verbal explanation of the components of the study and expected benefits from the study. After obtaining informed consent, the pre-defined validated standardised questionnaire(young's internet addiction test questionnaire) (11)was sent to the students as google forms and they were explained that the results would be expressed only as a group data without breaching any confidentiality of the subjects.

Sample size – n=1000

Internet Addiction Questionnaire

This questionnaire consists of 20 statements. After reading each statement carefully, based upon the 5-point Likert scale, please select the response (0, 1, 2, 3, 4 or 5) which best describes you. If two choices seem to apply equally well, circle the choice that best represents how you are most of the time during the past month. Be sure to read all the statements carefully before making your choice. The statements refer to offline situations or actions unless otherwise specified.

0 = Not Applicable, 1 = Rarely, 2 = Occasionally, 3 = Frequently ,4 = Often ,5 = Always

1. How often do you find that you stay online longer than you intended?
2. How often do you neglect household chores to spend more time online?
3. How often do you prefer the excitement of the Internet to intimacy with your partner?
4. How often do you form new relationships with fellow online users?
5. How often do others in your life complain to you about the amount of time you spend online?
6. How often do your grades or school work suffer because of the amount of time you spend online?
7. How often do you check your email before something else that you need to do?
8. How often does your job performance or productivity suffer because of the Internet?
9. How often do you become defensive or secretive when anyone asks you what you do online?
10. How often do you block out disturbing thoughts about your life with soothing thoughts of the Internet?
11. How often do you find yourself anticipating when you will go online again?
12. How often do you fear that life without the Internet would be boring, empty, and joyless?
13. How often do you snap, yell, or act annoyed if someone bothers you while you are online?
14. How often do you lose sleep due to being online?
15. How often do you feel preoccupied with the Internet when off-line, or fantasize about being online?
16. How often do you find yourself saying "just a few more minutes" when online?
17. How often do you try to cut down the amount of time you spend online and fail?
18. How often do you try to hide how long you've been online?
19. How often do you choose to spend more time online over going out with others?
20. How often do you feel depressed, moody, or nervous when you are off-line, which goes away once you are back online?

SCORING :

The IAT total score is the sum of the ratings given by the examinee for the 20 item responses. Each item is rated on a 5-point scale ranging from 0 to 5. The maximum score is 100 points. The higher the score is, the higher is the severity of your problem. Total scores that range from 0 to 30 points are considered to reflect a normal level of Internet usage; scores of 31 to 49 indicate the presence of a mild level of Internet addiction; 50 to 79 reflect the presence of a moderate level; and scores of 80 to 100 indicate a severe dependence upon the Internet.

Statistical analysis

It was done with super version two software. Tests of significance were done using Chi-square test with statistical significance level set at $p < 0.05$.

Results

We received around 1143 responses, out of which only 1006 were identified to be satisfying the inclusion and exclusion criteria. Around 64.8% (n=652) were females and the remaining 354 were males, suggesting that more number of females participated in our study.

Variable (Classification of Variable)	Number (Out of 1006)	Percentage	95% C.I
Age			
≥ 17 years - ≤ 18 years	477	47.4	44.3 – 50.6
> 18 years - ≤ 19 years	529	52.6	49.5 – 77.1
Gender			
Female	652	64.8	61.8 – 67.8
Male	354	35.2	32.2 – 38.2

Table 1: Socio-demographic profile of the study participants

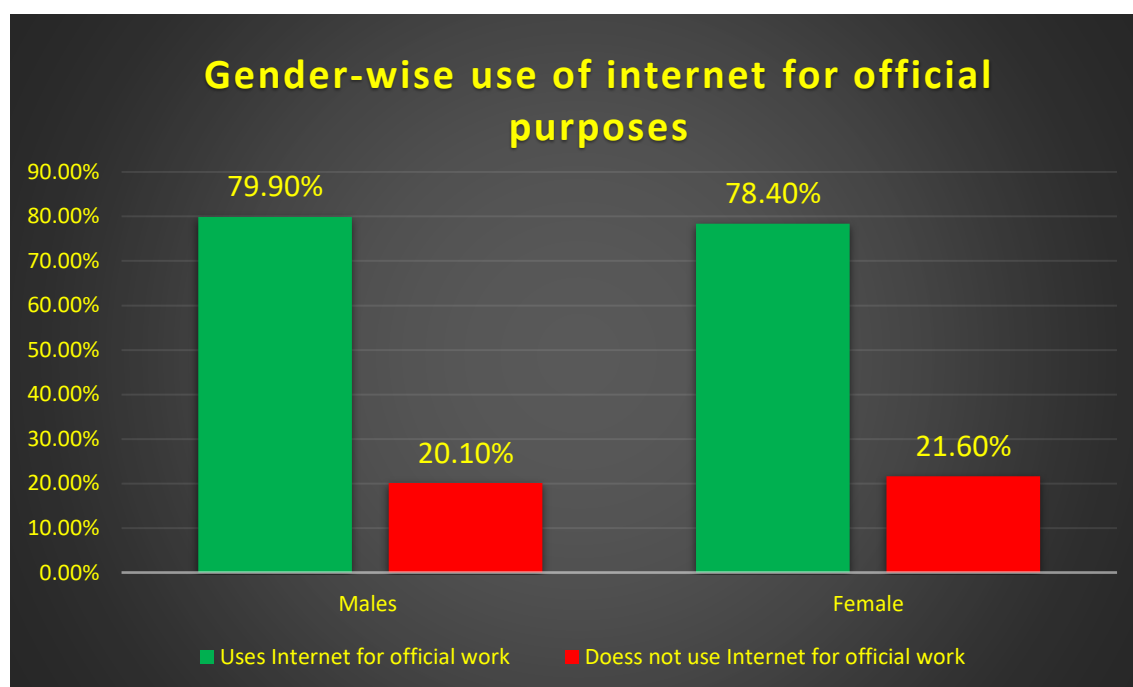


Figure 1: Gender- wise values of use of Internet for official purposes

Among males, around 80% were using internet mainly for official purposes whereas around 78.4% of females used internet for official purposes. In reality, most of the students start using their internet mainly for the purpose of their studies, then as time goes on, they become less interested and they land up in social media

Question	Mean Score (Out of 5)	S.D (Standard Deviation)
1.How often do you find that you stay online longer than you intended?	2.46	1.31
2. How often do you neglect household chores to spend more time online?	1.92	1.38
3. How often do you prefer the excitement of the Internet to intimacy with your partner?	1.14	1.46
4. How often do you form new relationships with fellow online users?	1.09	1.28
5. How often do others in your life complain to you about the amount of time you spend online?	1.95	1.52
6. How often do your grades or schoolwork suffer because of the amount of time you spend online?	1.81	1.46
7. How often do you check your email before something else that you need to do?	1.78	1.41
8. How often does your job performance or productivity suffer because of the Internet?	1.61	1.46
9. How often do you become defensive or secretive when anyone asks you what you do online?	1.46	1.43
10. How often do you block out disturbing thoughts about your life with soothing thoughts of the Internet?	1.89	1.53
11. How often do you find yourself anticipating when you will go online again?	1.72	1.40
12. How often do you fear that life without the Internet would be boring, empty, and joyless?	2.45	1.69
13. How often do you snap, yell, or act annoyed if someone bothers you while you are online?	1.52	1.44
14. How often do you lose sleep due to being online?	1.76	1.56
15. How often do you feel preoccupied with the Internet when off-line, or fantasize about being online?	1.43	1.38
16. How often do you find yourself saying "just a few more minutes" when online?	2.28	1.56
17. How often do you try to cut down the amount of time you spend online and fail?	1.99	1.55
18. How often do you try to hide how long you've been online?	1.59	1.53
19. How often do you choose to spend more time online over going out with others?	1.47	1.46

20. How often do you feel depressed, moody, or nervous when you are off-line, which goes away once you are back online?	1.71	1.60
Total score (Out of 100)	34.98	17.73

Table 2: Responses to the internet addiction test questionnaire

Table 2 shows the responses of our students for our youngs internet addiction test questionnaire with a mean total score of 34.98 with a standard deviation of 17.73. It could be clearly seen from the responses that the total mean score was higher for questions

How often do you find that you stay online longer than you intended?(2.46), How often do you fear that life without the Internet would be boring, empty, and joyless?(2.45) ,How often do you find yourself saying "just a few more minutes" when online?(2.28)

The mean scores were higher even for questions like . How often do others in your life complain to you about the amount of time you spend online?(1.95), 17. How often do you try to cut down the amount of time you spend online and fail?(1.99)

Category based on the IAT Score	Frequency (Out of 1006)	Percentage	95% C.I
Normal Internet usage	459	45.6	42.5 – 48.8
Mild Internet addiction	337	33.5	30.6 – 36.5
Moderate internet addiction	191	19.0	16.6 – 21.6
Severe Internet addiction	19	1.9	1.7 – 2.2

Table 3: Profile of Internet addiction among the study participants

Based on the IAT(internet addiction test) scores, around 45.6%(n=459) of the study population had normal internet usage, 33.5%(n=337) had mild internet addiction, 19% (n=191)had moderate internet addiction and 1.9% (n=19)had severe internet addiction. Hence around 54% had internet addiction.

Variable	Grouping of Variable (Number)	Number of Subjects with IAT Score > 30 (Out of 547)	Number of Subjects with IAT Score ≤ 30 (Out of 459)	Odds ratio (95% C.I of odds ratio)	Chi square value	p-value
Age	> 18 years (529)	297	232	1.29 (1.00 – 1.68)	3.70	0.052
	≤ 18 years (477)	250	227	1.00		
Gender	Male (354)	207	147	1.16 (0.91 – 1.49)	1.41	0.24
	Female (652)	340	312	1.00		
Using internet	Yes (794)	441	353	1.25 (0.92 – 1.69)	2.07	0.15

for official purposes	No (212)	106	106	1.00		
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Table 4: Association between Varying degrees of Internet addiction

Among 354 boys, 207(58.4%) of them had a IAT score more than 30, and among 652 girls enrolled in the study, 340(52.1%) of them had a score more than 30. even among those who start using internet for official purposes, 55.5% (n=441) of them had internet addiction with a score more than 30. Among those who use internet for unofficial purposes, 50% of them had internet addiction.

Discussion

Internet addiction disorder (IAD) is a condition characterized by excessive use of the internet to an extent that has detrimental consequences for a person's daily life. Internet addiction could be of various Types: 1. Internet gaming 2. Internet gambling 3. Internet infidelity 4. Internet pornography/cyber-sexual activities 5. Information overload 6. Internet compulsive buying 7. Social media addiction. There are many Risk Factors for development of internet addiction like Low self-confidence, Poor communication skills and introversion, History of addiction or other mental health disorders ,Low levels of parental education, High frequency of using social networking and gaming sites,Low age at which an individual first used the Internet. IAD has been associated with various Comorbid Conditions like ADHD, Autism, Depression,OCD, Suicidal risk, Aggression, Isolation, SLD / Academic impairment and Other behavioral and substance addiction.

Internet has become an essential part of our daily life, nevertheless the problematic use of internet is associated with various psychological symptoms. Internet-related problematic behaviour is often described as internet addiction, internet addiction disorder, internet pathological use, or internet dependency and the prevalence of internet addiction varies from 1.5% to 25% in different populations worldwide A recent study reported a prevalence of 0.7% among Indian adolescents..Young individuals (18 and 24 years old) were more vulnerable to become internet addicts than old individuals. Internet addiction has been proposed as a new type of addiction and mental health problem, similar to alcoholism and compulsive gambling . Our study is mainly done to identify the prevalence of internet addiction disorder among late adolescence, as they are the most vulnerable population in the pandemic era.

The terms “problematic internet use (PIU)”, “internet addiction”, “compulsive internet use” and “pathological internet use” have been used to refer to patterns of problematic behavior associated with internet use. Internet gaming disorder (IGD) refers to the problematic use of on-line or off-line video games.

In November 2019, UK launched the National Centre for Gaming Disorders and studies from this centre reports in adolescents and young people (13-25 years):

- Involvement of ventral prefrontal cortex and dopamine just like other addictions in adolescents, involved in 24 hour online multiplayer games.
- More incidence of psychological problems like depression, anxiety disorders, associated ADHD and Social anxiety in these group of adolescents.
- Increased incidence of physical problems like dehydration, exhaustion due to lack of food and water intake along with sleep deprivation.
- High levels of suicidal ideation and suicidal behaviour in these cohort of adolescents and young adults.

e. Hence it concludes that this disorder is “New age 21 century epidemic”

Among males, around 80% were using internet mainly for official purposes whereas around 78.4% of females used internet for official purposes. This meant that, most of the students(80%) start using their internet mainly for the purpose of their studies, then as time goes on, they become less interested and they end unnecessarily in social media. One more reason for the same was the popping up of unwanted advertisements when they were doing their academic works. Students tend to get easily distracted and become addicted to an unwanted page. In a study done by Silvana Karacic et al, it showed that A total of 20.0% of female adolescents used the Internet for school/work, which was significantly more than the males (12.0%)(12).

Table 2 shows the responses of our students for our youngs internet addiction test questionnaire with a mean total score of 34.98 with a standard deviation of 17.73. It could be clearly seen from the responses that the total mean score was higher for questions like

How often do you find that you stay online longer than you intended?(2.46), How often do you fear that life without the Internet would be boring, empty, and joyless?(2.45) ,How often do you find yourself saying "just a few more minutes" when online?(2.28) hence suggesting us that they are so much attracted to the content, making them addicted.

The mean scores were higher even for questions like . How often do others in your life complain to you about the amount of time you spend online?(1.95), 17. How often do you try to cut down the amount of time you spend online and fail?(1.99), these results prove that their routine direct or physical social contact has been affected to a great extent.

Based on the IAT(internet addiction test) scores, around 45.6%(n=459) of the study population had normal internet usage, 33.5%(n=337) had mild internet addiction, 19% (n=191)had moderate internet addiction and 1.9% (n=19)had severe internet addiction. Hence around 54% had internet addiction in our study. A Southeast Asian study revealed a pooled prevalence rate of 20.0% and 10.1% for Internet addiction and gaming disorders respectively.

Among 354 boys, 207(58.4%) of them had a IAT score more than 30, and among 652 girls enrolled in the study, 340(52.1%) of them had a score more than 30. An overall prevalence estimate of IGD in an Indian study was 3.50% among the school children and it is higher among male students (8.8%) than female students (0.8%).

Most importantly, even among those who start using internet for official purposes, 55.5% (n=441) of them had internet addiction with a score more than 30. Among those who use internet for unofficial purposes, 50% of them had internet addiction. Problematic internet usage(PIU) has been associated with various behavioural disorders too. PIU is positively associated with depressive disorders in children, says an US study.

Conclusion

Internet addiction disorder is in increasing trend in the recent pandemic and post pandemic era. Our study found that around 55% of the study population had internet addiction. Among them around 2 % had severe internet addiction disorder. As internet addiction disorder is associated with a lot of behavioural disorders, hence it is high time that we have to identify this population and provide proper counselling and seek psychiatric help at the right time to avoid complications.

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