Psychiatry

PREVALENCE OF INTERNET ADDICTION AND ITS ASSOCIATION WITH MENTAL HEALTH IN UNDERGRADUATE MEDICAL STUDENTS: AN OBSERVATIONAL QUALITATIVE AND QUANTITATIVE STUDY

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ABSTRACT **Aims:** To estimate the prevalence of Internet addiction among undergraduate medical students and to look for its association with stress, anxiety and depression. **Materials and Methods:** A total of 500 consenting undergraduate medical students registered with Medical College associated with a Tertiary care hospital, Ahmedabad in the year 2020-21 participated in the study who were evaluated for Internet Addiction and Depression, Anxiety, Stress using Young's Internet Addiction Test (IAT) and Depression, Anxiety, and Stress Scale – 21 Items (DASS 21) respectively. Focused Group Discussion was conducted with the students using FGD guide to describe the participant's Internet usage characteristics and its associated factors in detail. **Results:** The prevalence of Internet Addiction was 71.4%, of which 0.4% had severe Internet Addiction. The most common activities online were social media and communication (89.2%), followed by academic related activities (79.8%). Internet Addiction was found to have significantly positive correlation with depression ($r=0.528$, $p<0.01$), anxiety ($r=0.438$, $p<0.01$) and stress levels ($r=0.601$, $p<0.01$). Majority of the students with Internet Addiction were female, studying in 1st year MBBS, had family income >30,375 on Kuppuswamy scale and were unmarried. The presence of personal psychological life stressor was also significantly related to the presence of Internet Addiction ($\chi2 =5.806$, $p=0.016$).

KEYWORDS :

INTRODUCTION

Internet, one of the greatest discoveries by the humans, has made the world a smaller space by allowing everyone to be in contact overseas. It has become an integral and irreplaceable part of our daily lives. The beginning of the 21st century has witnessed an explosive growth of internet usage worldwide, particularly in developing countries like India. It has become an indispensable modern-day tool for shopping, study, research, communication, and staying in touch with friends as well as family members by means of numerous applications ranging from Wikipedia to Facebook. It is among the most important socialisation factors and leisure activities in the lives of adolescents. With the rapid strides made in wireless Internet technologies such as Wi-Fi, 3G, 4G and advent of cheap internet enabled smartphones, tablets, computer devices, the Internet has become readily accessible to individuals of all age groups and all socio-economic classes. Despite the multiple benefits, the motive behind the usage of Internet is critically important. A loss of control over Internet use might lead to negative impacts on daily life function, family relationships, and emotional stability. Excessive internet use, which is also called uncontrolled use of the internet, pathological internet use, net addiction or internet addiction, causes problems in work and social life. The notion of "Internet Addiction Disorder" was initially given by Ivan Goldberg(1) in 1995 as a satirical hoax, which soon became popular.

"Internet Addiction is an Impulse Control Disorder, which does not involve the use of intoxicating drugs and is very similar to Pathological Gambling". Some define it to be "Maladaptive coping mechanism for stress and psychological distress, resulting in adverse effects on psychosocial functioning". According to some researchers, people who spend more than 38 hours a week online are considered to have Internet Addiction.

A subcategory of Internet Addiction Disorder, Internet Gaming Disorder is included in DSM 5. By adapting the DSM-IV criteria for Pathological gambling Dr. Kimberly Young(2) (1998) proposed integrated sets of criteria, *Diagnostic Questionnaire (YDQ)*, to detect Internet Addiction. A person who fulfils any five of the eight adapted criteria during a 6-month period would be regarded as being addicted to the Internet.

1. Preoccupation with the use of the Internet;
2. A need for increased time spent online to achieve the same amount of satisfaction;
3. Repeated efforts to curtail Internet use;
4. Irritability, depression, or mood lability when Internet use is limited;
5. Staying online longer than anticipated;
6. Jeopardised a job, relationship or other important opportunity to use the Internet;
7. Concealing the true amount of time spent online;
8. Use the internet as means of escaping reality and regulating mood.

Dr. Kimberly Young (1999) further asserted that Internet Addiction is a broad term which can be decomposed into several subtypes of behaviour and impulse control problems, namely:

Net Compulsions: Obsessive online gambling, shopping or trading.

Computer Addiction: Obsessive computer use for playing games and does not necessarily involve using the Internet.

Information Addicts: Compulsive web surfing or database searches.

Cybersexual Addiction: Compulsive use of adult websites for cybersex and other pornography materials.

Cyber-Relationship Addiction: Over involvement in online relationships at the stake of real-life relationships.

Internet is an essential part of life especially for the medical students due to their needs for education, research, social networking and information sharing, medical students fall into the vulnerable group due to their age, need for internet use and stressful medical training.

Moreover, in some large classes, many professors place their required course material solely on internet and the only one-on-one contact with students is through email. This seldom leaves an option for the students to abstain from all online use. Being addicted to the internet seems to lead to a vicious negative cycle, in which individuals receive short term gratification every time they go online, making them want to go online more to seek this gratification. However, because surfing does not seem to have any long-term rewards usable in real life, it does not seem to increase long term gratification and therefore may lead to depressive and socially anxious feelings. There are many debates in the literature about whether the primary disease being Depression or Internet Addiction. Thus, in my study I would like to explore the association between Internet Addiction and Depression, Anxiety and Stress.

MATERIALS AND METHODOLOGY
Study Design and Participants:
A cross sectional study was carried out with the consenting Undergraduate Medical students registered in Medical College associated with Tertiary Care Hospital, Ahmedabad in the year 2020-21 in all consecutive years of their study, after approval from the Institutional Review board. A total of 500 Undergraduate students participated in the study.

Data collection:
Undergraduate medical students registered with medical college and tertiary care hospital were approached for the study in a classroom setting. An awareness lecture for Internet Use and its addiction was conducted in a classroom setting separately for the students in each year of study, followed by which the students were asked to fill the online Google forms in view of Covid pandemic, which contained:
1. Consent Form followed by
2. Socio-Demographic Data
3. *Young's Internet Addiction Test (IAT):* Developed by Dr. Kimberly Young for diagnosing problematic Internet use. It is a self-administered scale comprising of 20 questions, evaluating attributes and demeanours related to obsessive use of the Internet.
4. *Depression, Anxiety and Stress Scale-21 (DASS-21):* Set of three self-report scales designed to measure the emotional states of Depression, Anxiety and Stress.

All the participants were notified of their scores through email and options for seeking help if they feel the need, was provided. A Focused Group Discussion (FGD) was conducted with the students who had volunteered to participate in the discussion. Focused Group Discussion was conducted with the students by a facilitator using an FGD Question Guide taken from a reference article [12] (attached, Annexure-IV). The Focused Group Discussion consisted a series of 11 open ended questions selected from the FGD guide which were most relevant to the aims of our study. The Focused Group Discussion lasted for 1 hour 33 minutes and 34 seconds during which audio recording was done.

Descriptive data was collected during focus group discussions to describe participant's Internet Usage Characteristics and its associated factors, in detail. The data was transcribed and analysed qualitatively by three individual investigators by content analysis method to generate themes related to the causes, consequences and associated factors related to excessive internet usage.

At the end of the discussion, details for consultation were provided to the participants if they felt the need.

Data Analysis:
The data was analysed using Descriptive Statistics, and tests of significance for association of Internet Addiction with Depression, Anxiety and Stress.

The data from Focused Group Discussion was transcribed and analysed qualitatively using content analysis method.

RESULTS:
The study involved 500 consenting Undergraduate Medical students, studying in medical college associated with a tertiary care hospital, Ahmedabad.

A. The demographic and clinical features of the participants are as follows:
The mean age of the participating students was 19.63 + 1.253. Majority of the participants were female (62%), were students from the first year of MBBS (45.8%), had family income >30,375 on Kuppuswamy scale (65.2%), were unmarried (97.6%), had no past H/O psychiatric illness (93.8%), did not take any kind of psychiatric treatment (96.2%), and had no significant personal life stressors (74%).

B. Type of activities online:
Of total 500 participating students, majority of the students used the Internet for social media and communication followed by academic purposes, as shown below in Fig:1.

Fig:1; Type of activities online
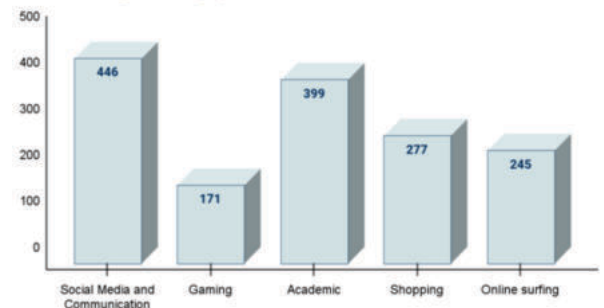
C. Severity level of Internet Addiction according to Young's IAT (Internet Addiction Test):

Table:1; Severity Level Of Internet Addiction According To Young's Iat	
Normal Internet Use	143 (28.6%)
Mild Internet Addiction	305 (61%)
Moderate Internet Addiction	50 (10%)
Severe Internet Addiction	02 (0.4%)

Majority of the participating students had Mild Internet Addiction (61%) as shown in Table:2. Only 2 of the 500 participating students had Severe level of Internet Addiction (0.4%).

D. Severity of Depression, Anxiety and Stress level according to DASS-21 scale.

Table:2; Depression, Anxiety And Stress Severity Level According To Dass-21 Scale			
Category	Depression	Anxiety	Stress
Normal	426 (85.2%)	409 (81.8%)	485 (97%)
Mild	43 (8.6%)	34 (6.8%)	10 (02%)
Moderate	27 (5.4%)	45 (09%)	05 (01%)
Severe	04 (0.8%)	08 (1.6%)	00
Extremely Severe	00	04 (0.8%)	00

As shown in Table:2; majority of the students had no Depression, Anxiety and Stress, 85.2%, 81.8% and 97% respectively. Severe depression was reported to be present in 4 students (0.8%). Severe to extremely severe anxiety was observed in 1.6% and 0.8% of the students respectively. None of the students reported to have severe stress level.

Table:3; Sociodemographic And Clinical Factors Associated With Internet Addiction						
Parameter		Total (n=500)	Internet Addiction Present (n=357)	Internet Addiction Absent (n=143)	Test of Association	P Value
Age	Mean + SD		19.65 + 1.28	19.59 + 1.18	T Test: 0.4841 SE: 0.124	0.6285 Not Significant
Sex	Male	189	142 (39.78%)	47 (32.87%)	NA	NA
	Female	310	214 (59.94%)	96 (67.13%)		
	Others	01	01 (0.28%)	00		
Year of Study	1st Year	229	155 (43.42%)	74 (51.75%)	$\chi^2 = 3.315$	0.346 Not Significant
	2nd Year	78	56 (15.69%)	22 (15.38%)		
	3rd Year Part 1	162	122 (34.17%)	40 (27.97%)		
	3rd Year Part 2	31	24 (6.72%)	07 (4.90%)		

Family income	>30375	326	239 (66.95%)	87 (60.84%)	$\chi2 = 1.420$	0.233
	<=30375	174	118 (33.05%)	56 (39.16%)		Not Significant
Marital Status	Married	12	10 (2.80%)	02 (1.40%)	$\chi2 = 0.363$	0.547
	Unmarried	488	347 (97.20%)	141 (98.60%)		Not Significant
Past H/O Psychiatric illness	Present	31	31 (8.68%)	00	NA	NA
	Absent	469	326 (91.32%)	143 (100%)		
Rx taken for Psychiatric illness	Yes	19	19 (5.32%)	00	NA	NA
	No	481	338 (94.68%)	143 (100%)		
Personal life stressor	Present	130	104 (29.13%)	26 (18.18%)	$\chi2 = 5.806$	0.016
	Absent	370	253 (70.87%)	117 (81.82%)		Significant at p<0.05

E. Socio-Demographic and Clinical factors associated with Internet Addiction:

As shown in Table:3, majority of the students with Internet Addiction had a mean age of 19.65 + 1.28. One of the 500 students who reported to have gender other than male and female had Internet Addiction. Among male and female, majority of the students who had Internet Addiction were female (59.94%). Students studying in 1st Year MBBS had more Internet Addiction (43.42%) compared to other year students with no significant difference among the undergraduate students of different years of study ($\square^2 = 3.315$, p=0.346). Also, majority of the students with Internet Addiction had family income of >30,375 (66.95%), were unmarried (97.20%). All the students who had past H/O psychiatric illness and those who had taken treatment for psychiatric illness were found to have Internet Addiction. Presence of personal life stressors significantly contributed to the presence of psychiatric illness (29.13%; $\chi^2 = 5.806$, p=0.016).

F. Correlation between Internet Addiction and Depression, Anxiety and Stress:

The Fig:2,3,4 below; shows the Pearson correlation between Internet Addiction and Depression, Anxiety and Stress. Moderately positive correlation of Internet Addiction was found with Depression (r=0.528, p<0.01) and Stress (r=0.601, p<0.01). While Anxiety was found to have low positive correlation with Internet Addiction (r=0.438, p<0.01).

Fig:2; Correlation of Internet Addiction severity with Depression severity
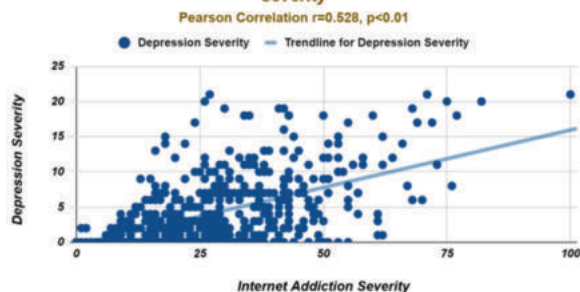Pearson Correlation r=0.528, p<0.01

Fig:3; Correlation of Internet Addiction severity with Anxiety severity
Pearson Correlation r=0.438, p<0.0.1
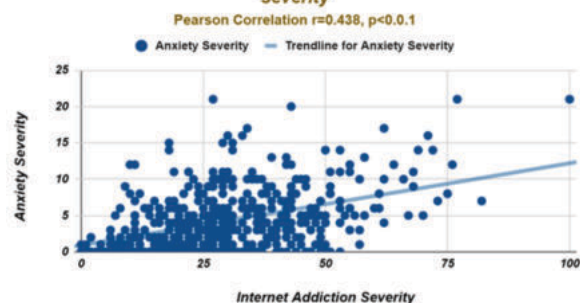
Fig:4; Correlation of Internet Addiction severity with Stress severity
Pearson Correlation r=0.601, p<0.0.1
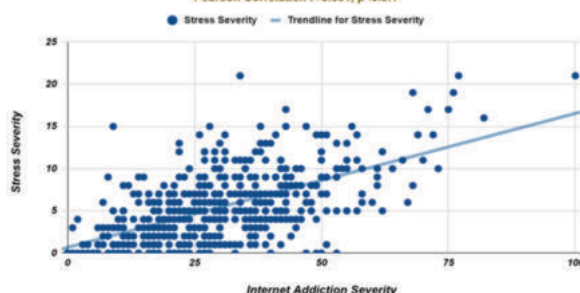
- The most commonly reported symptoms for Internet Addiction according to the students were staying online longer than intended, finding oneself say "Just a few minutes more" when online, and inability to cut down the amount of time spent on the Internet.
- The most common symptom presentation for depression was difficulty in initiating things, feelings of worthlessness, and unable to experience joy and enthusiasm about anything.
- Getting worried about the situations in which one might panic and consider being a fool of oneself, feeling close to panic, feeling scared without any good reason, being aware of one's heart action in the absence of any physical exertion for e.g., sense of increased heart rate and feeling of having missed a heartbeat were the common symptom presentation for anxiety.
- Among the symptoms for stress, most commonly reported symptoms were tending to over-react to situations, feeling of lot of nervous energy being used, finding oneself getting agitated.

G. Qualitative analysis about the causes, consequences and associated factors related to Internet usage.

The qualitative analysis was done using content analysis method after conducting a Focused Group Discussion (FGD) with a group of 8 volunteering students.

The following themes were generated from the questions asked during FGD:

1. What are the common things that you do online? What are the things that you enjoy the most on the Internet?
A. Main purpose of using the Internet was online lectures.
- To rejuvenate and refresh oneself while studying, describing it as a means of "Instant Gratification"
- Reading study materials which are not needed at that point of time.
B. Social media and online communication.
- As described by one of the students, the Internet suggests videos based on their search history, which seems very interesting to them but of no use; "Social media companies are hiring people called **Addiction scientists**...so that they can make all their stuff as addictive as possible."
C. Using OTT platform to binge watch movies and series on Netflix, prime, and various other channels, mainly because of the level of suspense and climax created by them as said by one of the students; "You have to watch the next episode!!!"
D. Playing online games.
- The thrill and winning in online games were more addictive to the students who play games online rather than the game itself.
E. Online shopping.
F. One of the students developed interest in the stock market because of watching related videos on the Internet.

2. Which are some of the emotional or interpersonal or situational factors that prompt you to go to the Internet instead of doing something else?
A. Whenever someone scolds.
B. Feelings of sadness and anxiety.
- To temporarily distract oneself from negative feelings.
C. Whenever exams are approaching.
- As a means to get out from the feelings of frustration and boredom generated by constant studies.

3. Have you ever felt the need to control or cut back or reduce the time of Internet use? And have you made efforts, did you succeed and how did you do it?
A. Shutting the phone off and trying to get involved in other activities.
B. Muting the notifications while studying to avoid getting distracted.
C. Setting a screen time for the applications so that they automatically shut down once the time limit for the day is over and then further access won't be possible.

D.   Uninstalling the applications which are addictive.
•   Because of no control over the limit to use the applications; "It's like a child, if we tell a child not to pick it up, he will go and pick it up".
E.   Switching to other subjects while getting tired of one subject or reading a novel in between to freshen up.
F.   Reading hard copies of books rather than e-books; "You can create your own world and imagine things."

4. For some reason if you are not able to access the Internet, how would you have felt emotionally and how would you cope with it?
A.   It was admissible for the first few hours but as time passes, the urge to access the phone increases and they start feeling restless.
B.   If busier in offline activities, then the need to access the phone and the Internet decreases.
C.   No discomfort when at home and phone is not available, except when exams are near or any other important day, some restlessness would be there if they would miss on an important message or an important lecture.
D.   Need to be contactable by the family members when out.

5. Has Internet use ever affected your energy level or your sleep pattern or your physical health or your social relationships?
A.   Physical consequences:
•   Headache.
•   Dry and watery eyes.
•   Weight gain.
B.   Psychological consequences: (Experienced by all the participants)
•   Sleep disturbances, in the form of not getting proper duration of sleep as well as poor sleep quality and not being able to wake up fresh in the morning.
•   Loss of concentration and focus from studies.
•   Feeling of laziness.
•   Easy irritability and anger issues.
•   Self-doubt and feelings of guilt by constant use of the phone.

6. Does Internet use or any online activities have any kind of influence on mood or any feelings?
A.   Feeling joyous and happy while reading comics and listening to music.
B.   Feeling motivated by listening and watching motivational videos and speeches.
C.   Temporary relief of feelings of sadness or anxiety.
•   Feeling anxious because of exams also increases the use of mobile phones and internet;
•   Helped one of the students in achieving better concentration.
D.   Helps in diverting one's mind in an adverse situation.
E.   Helped one of the students in developing new hobbies.
F.   But associated with these feelings of joy and motivation, there is also an associated feeling of guilt for spending much time on the Internet; "When social media applications are controlling what you should be watching, that's the problem!!"

7. Does Internet use influence your social life?
A.   Lack of communication.
B.   Increased misunderstandings while chatting online using text messaging applications; "It is a communication disaster!!"
C.   Feelings of nervousness while having real life communications especially with seniors.
D.   Decreasing real life emotional connection.

8. Does Internet use affect your academic work and achievements?
A.   Affects achieving daily or weekly targets.
•   Academic performances in exams were not affected significantly because of the Internet use.
B.   It also helps in academics by better understanding of the topics by watching related videos online and better memorizing.

9. Has your relationship with your family members suffered as a result of internet overuse?
A.   Not much affected from the student's side.
B.   For all the students, family was the first priority rather than spending time on the Internet.

10. What do people around you say about your Internet use. Do people around you such as parents, room-mates, class-mates complain about your internet use? And if yes..., what do they say and how do you feel about their complaints?

A.   Comments from family members about the usage of Internet and mobile phones mainly because of difference of opinion between the generations.
B.   No comments or complaints reported from the friends.

11. Do you have anything else to add about the causes or consequences of Internet overuse in yourself or even in other people you know of and that will help us understand about internet overuse... anything that you have still not talked about?
A.   The social media pop-ups and YouTube suggestions are major factors leading to Internet misuse rather than the Internet itself.
B.   It also suppresses one's special talents.
C.   It makes one indecisive to a certain extent because of differences of opinion one gets because of the Internet and also affects the confidence level in either way.
D.   Increases the negative emotions such as loneliness and anxiety especially due to Covid lockdown.
E.   As said by one of the students; "It's a necessary evil", affecting you in both positive as well as negative aspects.

DISCUSSION
Medical students experience more psychological stress compared to students of other fields. This may be due to various factors, but the amount of stress experienced due to Internet addiction is still debatable. In our study, consisting of 500 Undergraduate medical students, 71.4% of the students were found to have some degree of Internet Addiction ranging from mild to severe levels. This was in accordance to a study by Anku Saikia et al.(3), who found the prevalence of Internet Addiction to be 80.7% among the adolescents in higher secondary colleges/ schools in the urban areas of Kamrup district of Assam. Another Indian study by Piyush Upadhyay et al.(4), conducted among the college students in Lucknow, 74.5% students were found to be potential addicts. However, a study done among the professional course students in Central India by Arvind Sharma et al.(5), found the Internet Addiction prevalence to be 42.7%. This difference in prevalence rate could be due to lack of standard diagnostic criteria for Internet Addiction as the disease is not yet included in Diagnostic and Statistical Manual of Mental Disorders -5 (DSM-5). Majority of the studies on Internet Addiction has been conducted using various screening tools which considers four major dimensions of addiction potential to Internet which includes excessive use, withdrawal symptoms, tolerance and negative repercussions. Young's Internet Addiction Test(6) is one such screening tool used in our study.

Majority of the students used Internet for the purpose of social media and communication (89.2%) followed by academic purposes (79.8%). Easy accessibility of social media sites on the mobile phones has led to use of these sites as a part of one's daily routine and thus accounting for major risk factor for Internet Addiction. Other online activities included online shopping (55.4%), web surfing (49%), and indulging in online games (34.2%).

The mean age of the students reporting Internet Addiction was $19.65 + 1.28$. No statistically significant difference was observed between the different age group students. In our study, we found that females had higher prevalence of Internet Addiction (59.94%) compared to males (39.78%) but there was no statistically significant difference between the two. Similar findings were found in a study by Anku Saikia et al.(3) showing higher prevalence of Internet Addiction in females (84%) compared to their male counterparts (71.4%). This was in contrast with other studies conducted by Deepak Goel et al.(7), Arvind Sharma et al.(5), Bhushan Chaudhari et al.(8), which showed that males had higher prevalence of Internet Addiction compared to females. The higher prevalence in females of Internet Addiction in our study might probably be due to a greater number of female participants in our study. Apart from gender, higher prevalence of Internet Addiction was observed in students of 1st Year MBBS students (43.42%), those with family income >30,375 (66.95%), who were unmarried (97.20%), but with no statistically significant difference. Presence of personal psychological life stressor was significantly related to the presence of Internet Addiction (29.13%; χ^2 = 5.806, p=0.016). Commonly reported stressors by the students were related to academics. As entering MBBS itself brings a transition in academic life and associated set of challenges. This finding was similar to findings in the study of Internet Addiction among Medical college students from South India by Nitin Anand et al.(9), which showed that among the students who had Internet Addiction, 15.41% had approached a mental

health professional in the recent past for psychological distress. In our study also, all the students who had past history of psychiatric illness and those who had taken treatment for psychiatric illness in the past were found to have Internet Addiction.

In our study, we found depression to be present in 14.8% of the students. Of them, 0.8% reported to have severe depression. Anxiety was present in 18.2% students, with 2.4% students experiencing severe to extremely severe levels of anxiety. 3% students experienced stress ranging from mild to moderate severity. None of the students were having severe levels of stress.

In our study, we found depression, anxiety and stress to be significantly correlated with Internet Addiction (r=0.528, p<0.01; r=0.438, p<0.01; r=0.601, p<0.01 respectively). This was similar to findings in a study conducted by Ahmet Akin and Murat Iskender[10] in 300 university students of Turkey, which showed depression (β=0.67), anxiety (β=0.63) and stress (β=0.63) to be positively correlated with Internet Addiction. Another study by Chih-Hung Ko et al.[11], on 216 college students of Taiwan, suggested that the students with Internet Addiction were more likely to develop major psychiatric disorders like MDD, Dysthymic disorder, Social Phobia and adult ADHD compared to unaffected students. Internet Addiction leads to significant decrease in social interactions, feeling of loneliness, lowered self-esteem, decreased life satisfaction, sensation seeking, generating significant amount of stress and eventually precipitating major psychiatric disorders like Major Depressive Disorder, Anxiety.

After estimating the prevalence of Internet Addiction and determining its significance with depression, anxiety and stress, we conducted a Focused Group Discussion with 8 volunteering students to further analyse in detail about the activities that are enjoyed the most on the Internet, the emotional triggers behind the Internet use, the negative as well as positive physical and mental health consequences of Internet use, the effect on social relationships and the different ways to control Internet use. Our findings showed that the students used the Internet for various purpose, which most commonly included using Internet for academic purposes, for accessing social media and online communication sites, using OTT platforms, online shopping. Few students also used the Internet for online gaming (12.5%). "**Addiction Scientists**" as described by one of the participants, plays a major role for the youth to indulge in Internet Addiction, as the Internet fulfils their demands before they even ask for it by tracking their search activity. This increases the urge of the students to watch new and irrelevant things out of curiosity, ultimately spending hours on the Internet. Instant gratification is the biggest factor for increasing Internet Addiction.

Our findings showed that negative emotions like anger, sadness, boredom, frustration, stress of exams and feelings of burnout were more strongly associated with Internet use rather than positive emotions. Spending time on the Internet allows oneself to buy time to think rationally in a stressful situation and thus dampen the negative reactions. But unfortunately, using Internet as means of coping strategy for negative emotions may also perpetuate these states in the long term, leading to vicious cycle.

The physical health problems reported in our study were having experienced dryness of eyes, headache, weight gain, because of increased screen time and sedentary life. The mental health problems noted were sleep disturbances especially inability to fall asleep until late in the night and unsatisfactory sleep. Easy irritability and anger outbursts, lethargy, lowered self-esteem and lack of confidence were other commonly reported problems in our study because of increased Internet use. Although, the negative consequences due to Internet overuse was significant, the positive aspects of Internet use like getting help in academics, boost in motivation, developing new hobbies etc. cannot be ignored.

We found that the social life was also affected to some extent because of Internet overuse. The easy accessibility to online messaging applications indulges more people in online communication and make them feel more comfortable while they become increasingly hesitant to have face to face conversation especially when they need to talk with their seniors or other superior authority. This comes along with increased misunderstandings thus making these applications a Communication Disaster. Setting screen time for the applications, muting off the notifications, uninstalling the addictive applications,

engaging in different activities were few ways studied in our findings to cut down the Internet use. The findings of our study were related to a study conducted by Wen Li et al.[12], who while describing the characteristics of Internet Addiction in university students showed that negative emotions like depressive mood, sadness, anger, boredom were common trigger factors for Internet Addiction compared to positive emotions. Also, their study showed that the Internet was used mainly for social media and academic purposes. The consequences of Internet use reported were similar to the findings in our study.

Strengths
- Our study had a large sample size of 500 Undergraduate medical students across different years of study.
- The data collection was done by meeting in person in a group setting. We made the students fill the form in front of us so that they could approach us for any doubts regarding the questions in the form.
- An awareness lecture was conducted in a classroom setting before data collection so that the students can understand the basics of Internet Addiction. Some students contacted us later in the OPD for the stress they were facing.
- We conducted a Focused Group Discussion to understand in detail the pattern of Internet use among medical students.

Limitations
- It was a single centered study.
- Data was collected using a self-reporting questionnaire for Internet Addiction, so accurate diagnosis of Internet Addiction may need further individual diagnostic work up.
- This study was conducted only on Undergraduate medical students, so the results cannot be generalised in other population.
- No specific criteria or scale was used to signify personal life stressors in our study.
- We could conduct only one Focused Group Discussion, so the results cannot be generalised to all the medical students.
- Being a cross-sectional study, the causal relationship between Internet Addiction and associated factors cannot be established. An observational, longitudinal study would be more beneficial.
- We had conducted our study after the emergence of COVID, which had resulted in an overall increase in Internet use and virtual contact for everyone in general. This aspect might have influenced the findings of our study in some manner.

CONCLUSION
- We conclude from our study that; the prevalence of Internet Addiction was quite high in Undergraduate medical students (71.4%).
- The presence of personal psychological life stressor was significantly related to the presence of Internet Addiction. Also, all the students who had past history of psychiatric illness and had taken treatment for psychiatric illness were found to have Internet Addiction.
- The presence of Depression, Anxiety and Stress were found to be significantly correlated with Internet Addiction.
- The common triggers for Internet use were the negative emotions rather than positive emotions.
- Internet use does affect the physical and mental health of the individual.

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