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PREVALENCE OF PROBLEMATIC INTERNET USAGE AND ITS ASSOCIATION WITH DEPRESSION AMONG MEDICAL STUDENTS IN A SOUTHERN DISTRICT OF INDIA

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ABSTRACT

Background: Problematic internet use has emerged as a growing concern among medical students due to increasing reliance on digital technologies for academic and social purposes. Excessive internet use may adversely affect mental health, particularly by increasing the risk of depression. **Objectives:** To determine the prevalence of problematic internet usage and to assess its association with depression among medical students in a southern district of India.

Materials and Methods: A cross-sectional study was conducted among 258 undergraduate medical students selected through systematic random sampling. Data were collected using a structured questionnaire that included the Internet Addiction Test (IAT) to assess problematic internet use and the Beck Depression Inventory (BDI) to evaluate depressive symptoms. Descriptive statistics, chi-square test, and multivariable logistic regression analysis were used to identify factors associated with problematic internet use.

Results: The prevalence of Problematic internet use among the participants was **13.6%**, while **15.9%** of students were found to have depression. Poor sleep quality, spending more than four hours online per day, higher mobile data usage, type of social media platform used, and depression showed significant associations with problematic internet use. Multivariable logistic regression analysis revealed that depression, poor sleep quality, and prolonged internet use were significant independent predictors of problematic internet use.

Conclusion: A considerable proportion of medical students exhibit problematic internet usage, which is significantly associated with depression and behavioral factors. Early identification and targeted interventions are necessary to promote healthy internet use and mental well-being among medical students.

Key words: Problematic internet use, Depression, Mental Health, Electronic devices.

INTRODUCTION

From being used in huge immobile computers that occupy an entire room to being used in our wristwatch, the evolution of the internet is incredible and has made itself an inseparable component in our lives. The Internet, which plays an integral part of our modern-day digital life, serves for many purposes from education, entertainment, communication, navigation, banking, E-Commerce, trading and so on. With the Rise in the number of Internet users, India ranks second with over 1 billion Internet users accounting for about 27% of the digital population in the Asian continent.[1,2] Alongside its benefits, excessive and maladaptive patterns of internet use have emerged as a growing public health concern.

Several terms like “Problematic internet users”, “Internet addiction”, “Compulsive internet use” and “Pathological internet use” are used to refer to patterns of troublesome behaviour in relation with usage of the internet.

Internet addiction as defined by Griffith refers to “A kind of technology addiction and a behavioural addiction similar to a gambling habit”. Problematic Internet usage as defined by Dr. David Greenfield is “An addictive behaviour - and may include excessive or poorly controlled preoccupations, urges, or behaviours regarding computer use and internet access that led to impairment or distress”.[3-5] The internet contributes to individual well-being through multiple domains, including mindfulness, productivity, and self-improvement. In particular, web-based applications and video streaming platforms have emerged as important tools in promoting mindfulness and overall well-being.[6] The real issue arrives when the Usage turns into the Problematic use of the Internet, with an estimated Global prevalence of about 2% among the Adult Population, Internet addiction would possess a serious threat to the well-being of individuals.[7] Problematic usage of the internet may lead to several psychopathological manifestations like stress, anxiety, bedtime Procrastination, Depression.[8]

Social media platforms such as WhatsApp, Instagram and Facebook collectively with about millions of users worldwide also have their own likelihood of addiction to them. Social Isolation, Social Withdrawal, Digital depression, Fear of missing out (FOMO) are other Psychosocial Problems due to Internet addiction specific to social media.[9] Depression with a worldwide Prevalence of around 5% among the adult population is characterised by persistent sadness and a diminished interest or pleasure in previously rewarding or enjoyable activities. In severe cases depression may lead to suicidal ideation, with suicide ranking as the fourth leading cause of death among the age group 15-29.[10] Such mental and neurological disorders collectively account for a substantial proportion of disease burden, contributing to approximately 11% of disability-adjusted life years (DALYs) and 27% of years lived with disability (YLDs) in the Southeast Asian population.[11]

In this context, problematic or excessive internet use has increasingly been conceptualized as a behavioral addiction, sharing similarities with substance use disorders such as drug and alcohol dependence. Such patterns of use have been associated with significant functional impairment, including adverse social, academic, and occupational outcomes.[12,13] Given this substantial burden of mental health disorders, there is an urgent need to prioritize mental health, particularly among the student population. The Diagnostic and the statistical manual of mental disorders fifth edition - DSM-5 includes the Criteria for diagnosis of Internet Gaming disorder.

Students are the ones who have easier access to the Internet and are more likely to develop an addiction towards the same. The medical students rely on the Internet for their educational purposes such as searching online learning materials, lecture videos, research journals and articles. With the advent of the New Curriculum Based Medical education, the Internet plays an eminent role in assisting medical students towards self-directed learning (SDL). As there are no restrictions concerning the use of the Internet among students, it could also be a contributing factor to its Problematic use. A study on medical students in the Jammu region shows that the prevalence of Internet addiction is about 78.7% and shows a positive Correlation between Internet addiction and depression.[8] Another Study carried out at the Government Doon medical college shows that the prevalence of Internet Addiction and Depression to be around 73.3% and 3.6% respectively.[9] However, studies on problematic internet use and its association with Depression among medical students in Tamil Nadu are quite limited. Knowing the prevalence of problematic internet use and depression among medical students would help us to know about the needs of using the Internet in a controlled and healthy manner.

Objective

1. To estimate the prevalence of problematic internet usage among the medical students in a southern district of India.
2. To assess the association between problematic internet usage and depression and other factors among the medical students in a southern district of India.

MATERIALS AND METHODS

Study design and setting

A cross-sectional analytical study was conducted among the MBBS students from first year to final year who were enrolled in the medical college in South India during the study period. The study was carried out over a period of 3 months after obtaining approval from the Institutional Ethics Committee. Undergraduate MBBS students from first year to final year who had regular access to the Internet for at least six months prior to the study and who provided written informed consent were included in the study. Students currently receiving treatment for any psychiatric illness or undergoing cognitive behavioural therapy, absent during the period of data collection and the students who submitted incomplete questionnaires were excluded from the study.

The sample size was estimated based on the reported prevalence of problematic internet use among medical students, which ranges between 70% and 80% in prior studies conducted in the Jammu region.[8,9] Taking a conservative prevalence (p) of 70% and applying the formula for single proportion, *n = 4pq/d²*, where q = 1 − p (30%), with a 95% confidence level and an absolute precision (d) of 6%,

the calculated sample size was 233. After accounting for a potential non-response rate of 10%, the final sample size was adjusted to 258 participants. A systematic random sampling was used to select the study participants. The list of all the eligible MBBS students (each year 150 students) from first to fourth year was obtained and arranged alphabetically. Every 2nd student was selected after choosing a random starting point until the required sample size of 258 students was achieved.

Data were collected using a self-administered structured questionnaire, which consisted of the following components: Socio-demographic and personal details including age, gender, academic year, and relevant internet usage characteristics. Young's Internet Addiction Test (IAT), A widely used and validated instrument designed to assess the problematic internet use. Depression among the participants was assessed using the Beck Depression Inventory, a standardized questionnaire commonly used to evaluate the presence and severity of depressive symptoms. The study participants were asked to fill in the questionnaire after obtaining the informed consent and ensuring confidentiality. The collected data through the questionnaires were imported as excel sheet and was analysed in using SPSS Software 25 version. **Outcome variables:** The primary outcome variable of the study was problematic internet usage, assessed using Young's Internet Addiction Test (IAT).

Operational definition: **Problematic internet use** was defined as a score of ≥50 on the Internet Addiction Test, indicating a problematic internet use. **Depression** was defined as a score of ≥20 on the Beck Depression Inventory (BDI), indicating a depression.

The categorical variables such as socio-demographic and personal characteristics, Internet usage patterns, Problematic Internet Use (measured using Young's Internet Addiction Test score) and Depression (assessed using Beck Depression Inventory score) were measured by frequency and percentage. Pearson' correlation was calculated between problematic internet usage scores and depression scores. Chi-Square test was done to assess the association between Problematic Internet Use with depression and other factors (Bivariate Analysis). Multivariate logistic regression was done to the variables who were significant in bivariate analysis for Problematic Internet Use.

RESULTS

A total of 258 MBBS students were included in this study. Table 1. shows the Socio- demographic characteristics and the personal characteristics of the study participants. It showed that the participants were predominantly young adults with a mean age of 20.6 ± 1.8 years, among them the majority were female students 61.2%, while male students constituted 38.8% of the participants. Regarding the year of study, the largest proportion of respondents were first-year MBBS students 43.4%, followed by the fourth-year students 32.2%, Second-year students 13.6%, third-year students 7%, and interns (CRMI) for 3.9%. In terms of place of residence, most of the students were hostellers 79.1%, whereas 20.9% were day scholars. Alcohol consumption in the past two weeks was reported by 6 students 2.3%, Similarly, 5 students 1.9% reported smoking in the past two weeks. Regarding psychosocial factors, about 17.4% of the students reported experiencing family-related stress and 35.7% of the study participants reported poor sleep quality. Overall, the findings indicate a low prevalence of recent alcohol consumption and smoking, while more than one-third of students 35.7% reported poor sleep quality, and a smaller proportion experienced family-related stress.

Table 2 shows the Internet usage pattern among the study participants. About 62% of the participants had been using the internet for more than five years. Mobile phones were the predominant device for accessing the internet, accounting for 51.2%, although some participants used multiple devices. Social networking was the main purpose of internet use, which is 55%, followed by studying 23.6%. A majority 42.2 % spent 2–4 hours or more than 4 hours. About 41.5% is online daily. About 1–2 GB of mobile data per day was used by about 63.6% of the participants. Instagram was the most used platform 42.2%, followed by YouTube 29.8% and WhatsApp 22.1%.

A statistically significant moderate positive correlation was observed between Internet Addiction Test (IAT) and Beck Depression Inventory (BDI) scores ($r = 0.49$, $p < 0.001$), indicating that higher levels of problematic internet use were associated with increased depressive symptoms (Fig. 1).

Table 3. shows the distribution of participants according to levels of problematic internet use and depression. Most of the students were classified as normal with respect to Internet Addiction Test (IAT) scores 86.4%, while **13.6%** were found to have problematic internet usage (≥50 Scores). Similarly, based on the Beck Depression scale (BDI), 84.1% of participants were categorized as normal and **15.9%** were found to have depression (≥20 Scores). These findings indicate that although most participants fall within the normal range, a notable proportion exhibit problematic internet use and depressive symptoms.

Table 4. presents the comparative analysis of problematic internet use with selected socio-demographic and behavioural variables. problematic internet use was slightly higher among males 18.9% compared to females 10.8%. However, significant associations were observed with sleep quality, hours spent online, mobile data usage, social media platform used, and depression status. Students with poor sleep quality had a higher prevalence of problematic internet use(22.8%) compared to those with good sleep quality (8.4%) (p=0.002). Problematic internet use was also significantly higher among students spending more than 4 hours online

daily 25.2% compared to those spending fewer hours (p<0.001). Higher mobile data usage (>2 GB) showed a significant association with problematic internet use (p=0.034). With respect to social media platforms, Instagram users demonstrated a higher proportion of addiction 17.4% (p=0.007). Additionally, depression showed a strong association with problematic internet use, with 41.5%) of students with depression exhibiting problematic internet use compared to (8.3%) among those without depression (p<0.001).

Table 5. presents the multivariable logistic regression analysis of the factors independently associated with problematic internet use among the study participants. Poor sleep quality was significantly associated with higher odds of problematic internet use (AOR = 2.84; 95% CI: 1.38–5.86; p = 0.004). Students who spent more than 4 hours per day on the internet had significantly greater odds of problematic internet use compared to those who spent 0–2 hours (AOR = 5.96; 95% CI: 2.21–16.08; p < 0.001).

Higher mobile data usage (1–2 GB vs <1 GB) was also significantly associated with problematic internet use (AOR = 3.92; 95% CI: 1.32–11.61; p = 0.014). In terms of social media platforms, Facebook users had significantly higher odds of problematic internet use compared to users of other platforms (AOR = 5.18; 95% CI: 1.14–23.45; p = 0.033).

Depression showed the strongest association with problematic internet use, with depressed students having nearly eight times higher odds of problematic internet use compared to those without depression (AOR = 7.84; 95% CI: 3.45–17.82; p < 0.001). Other variables, including moderate hours of internet use (2–4 hours), higher mobile data usage (>2 GB), and Instagram usage, were not found to be statistically significant in the adjusted model.

Table 1: Socio-Demographic and personal Characteristics of the Study Participants (n = 258)

Variable	Category	Frequency	Percentage
Sex	Female	158	61.2%
	Male	100	38.8%
Year of Study	1st Year	112	43.4%
	2nd Year	35	13.6%
	3rd Year	18	7.0%
	4th Year	83	32.2%
	CRRI	10	3.9%
Residence	Hosteller	204	79.1%
	Day Scholar	54	20.9%
Alcohol use (past 2 weeks)	Yes	6	2.3%
	No	252	97.7%
Smoking (past 2 weeks)	Yes	5	1.9%
	No	253	98.1%
Family-related stress	Yes	45	17.4%
	No	213	82.6%
Sleep quality	Poor	92	35.7%
	Good	166	64.3%

Table 2: Internet Usage Patterns among Study Participants (n = 258)

Variable	Category	Frequency	Percentage
Years using internet	>5 years	160	62.0%
	<5 years	98	38.0%
Devices owned	Mobile only	132	51.2%
	Mobile + Laptop	65	25.2%
	Mobile + Tablet	26	10.1%
	Mobile + Laptop + Tablet	11	4.3%
	Mobile + Laptop + Desktop	8	3.1%
	Mobile + Desktop + Tablet	3	1.2%
	Mobile + Laptop + Desktop + Tablet	13	5.0%
Purpose of internet	Social networking	142	55.0%
	Studying	61	23.6%
	Chatting	24	9.3%
	Others	23	8.9%
	Online gaming	7	2.7%
	Gambling	1	0.4%
Hours/day online	2–4 hrs	109	42.2%
	>4 hrs	107	41.5%
	0–2 hrs	42	16.3%
Mobile data/day	1–2 GB	164	63.6%
	<1 GB	63	24.4%
	>2 GB	31	12.0%
Most used platform	Instagram	109	42.2%
	YouTube	77	29.8%
	WhatsApp	57	22.1%
	Others	12	4.7%
	Facebook	3	1.2%

Table 3: Distribution of Study Participants Based on problematic internet use **and Depression**

Variable	Category	Frequency	Percentage
Problematic internet use (IAT Scale)	Normal	223	86.4%
	Addiction	35	13.6%
Depression (BDI Scale)	Normal	217	84.1%
	Depression	41	15.9%

Table 4: Association Between problematic internet use **and Selected Socio-demographic and Behavioural Factors**

Independent Variable	Category	Addiction (n=35) (%)	No Addiction (n=225) (%)	χ^2	p-value
Sex	Female	17 (10.8%)	141 (89.2%)	2.155	0.142
	Male	18 (18.0%)	82 (82.0%)		
Year of Study	1st Year	20 (17.9%)	92 (82.1%)	5.479	0.242
	2nd Year	2 (5.7%)	33 (94.3%)		
	3rd Year	3 (16.7%)	15 (83.3%)		
	4th Year	10 (12.0%)	73 (88.0%)		
	CRRI	0 (0.0%)	10 (100%)		
Residence	Day Scholar	7 (13.0%)	47 (87.0%)	0.000	1.000
	Hosteller	28 (13.7%)	176 (86.3%)		
Alcohol (Past 2 weeks)	No	33 (13.1%)	219 (86.9%)	0.685	0.408
	Yes	2 (33.3%)	4 (66.7%)		
Smoking (Past 2 weeks)	No	33 (13.0%)	220 (87.0%)	1.174	0.279
	Yes	2 (40.0%)	3 (60.0%)		
Family Stress	No	25 (11.7%)	188 (88.3%)	2.646	0.104
	Yes	10 (22.2%)	35 (77.8%)		
Sleep Quality	Good	14 (8.4%)	152 (91.6%)	9.266	**0.002**
	Poor	21 (22.8%)	71 (77.2%)		
Years Using Internet	<5 Years	15 (15.3%)	83 (84.7%)	0.204	0.652
	>5 Years	20 (12.5%)	140 (87.5%)		
Purpose of Internet Use	Social Networking	20 (14.1%)	122 (85.9%)	1.790	0.877
	Studying	7 (11.5%)	54 (88.5%)		
	Chatting	3 (12.5%)	21 (87.5%)		
	Others	3 (13.0%)	20 (87.0%)		
	Online Gaming	2 (28.6%)	5 (71.4%)		
	Gambling	0 (0.0%)	1 (100.0%)		
Hours Spent Online	0–2 hrs	2 (4.8%)	40 (95.2%)	21.240	**<0.001**
	2–4 hrs	6 (5.5%)	103 (94.5%)		
	>4 hrs	27 (25.2%)	80 (74.8%)		
Mobile Data Usage	<1 GB	4 (6.3%)	59 (93.7%)	6.789	**0.034**
	1–2 GB	23 (14.0%)	141 (86.0%)		
	>2 GB	8 (25.8%)	23 (74.2%)		
Social Media Platform	Facebook	0 (0.0%)	3 (100%)	13.955	**0.007**
	Instagram	19 (17.4%)	90 (82.6%)		
	Others	5 (41.7%)	7 (58.3%)		
	WhatsApp	3 (5.3%)	54 (94.7%)		
	YouTube	8 (10.4%)	69 (89.6%)		
Depression (Beck)	Depression	17 (41.5%)	24 (58.5%)	29.588	**<0.001**
	Normal	18 (8.3%)	199 (91.7%)		

Table 5: Multivariable Logistic Regression Analysis of Factors Associated with problematic internet use

Variable	Category	Adjusted Odds Ratio (AOR)	95% CI	p-value
Sleep Quality	Poor vs Good	2.84	1.38 – 5.86	**0.004**
Hours spent on internet	>4 hrs vs 0–2 hrs	5.96	2.21 – 16.08	**<0.001**
	2–4 hrs vs 0–2 hrs	1.21	0.35 – 4.12	0.761
Mobile data usage	>2 GB vs <1 GB	3.92	1.32 – 11.61	**0.014**
	1–2 GB vs <1 GB	1.63	0.48 – 5.54	0.429
Social media platform	Instagram vs Facebook	1.74	0.42 – 7.19	0.443
	Others vs Facebook	5.18	1.14 – 23.45	**0.033**
Depression	Depression vs Normal	7.84	3.45 – 17.82	**<0.001**

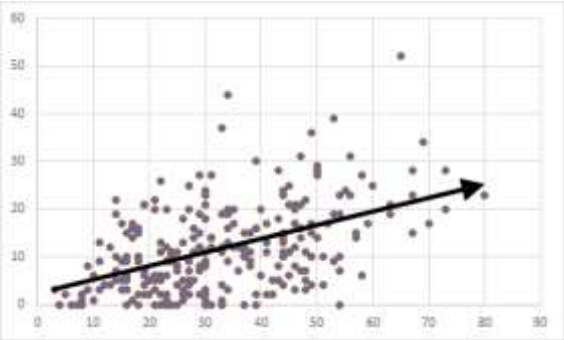

Figure 1: Correlation between IAT & BDI SCORE

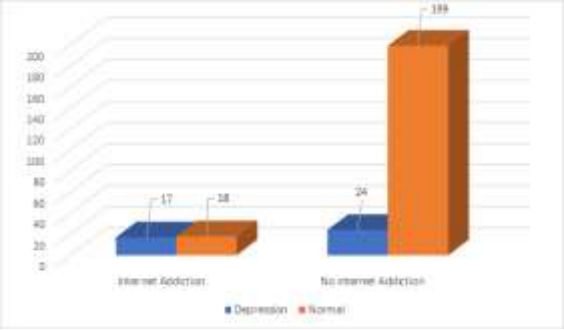

Figure 2: problematic internet use **Vs Depression Comparison**

DISCUSSION

The present study evaluated the prevalence of problematic internet use and its association with depression among medical students in a southern district of India. The findings demonstrate that a measurable proportion of students experience problematic internet use and depressive symptoms, highlighting an emerging behavioral and mental health concern in the medical student population.

In the current study, 13.6% of participants were identified as having problematic internet use, while 15.9% exhibited symptoms of depression. Although the majority of students were within the normal range for both conditions, the presence of these issues among a notable minority is important given the demanding academic environment of medical training. Medical students often experience significant academic pressure, irregular schedules, and frequent use of digital devices for educational purposes, all of which may contribute to increased internet engagement. A study by Kumari et al. (2022) reported a considerably higher prevalence of internet addiction 78.7% among students in professional colleges in the Jammu region.[8] A 2024 study by Rani et al. reported that approximately 31.2% of students demonstrated internet addiction, and the condition was significantly associated with increased screen time, insomnia, stress, anxiety, and depression.[14] These results support the findings of the current study, where longer duration of internet use and depressive symptoms were significant predictors of problematic internet usage. Another recent meta-analysis published in (2024) examining internet addiction among medical students worldwide reported a pooled prevalence of approximately 29%, emphasizing that problematic internet use has become a growing concern in this population. The review also highlighted the strong relationship between internet addiction and depression.

The present study identified several factors that were significantly associated with internet addiction among medical students, including poor sleep quality, longer duration of internet use, higher mobile data usage, social media platform preference, and depression. These findings highlight the multifactorial nature of problematic internet use among young adults.

Excessive internet usage, particularly during late evening hours, may delay sleep onset and reduce sleep duration, thereby affecting sleep quality. Similar findings were reported by Awasthi et al. (2020), who observed a significant association between internet addiction, depressive symptoms, and poor sleep quality among medical students.[9] Students who spent more than four hours per day online had significantly higher odds of internet addiction compared with those spending fewer hours. Increased duration of internet usage is widely recognized as one of the strongest predictors of problematic internet behavior. A study by Kumari et al. (2022) among professional college students similarly reported that longer daily internet usage was significantly associated with internet addiction.[8] A (2023) study by Sharma et al. conducted among college students in India reported that students with longer duration of smartphone use had significantly higher levels of smartphone addiction. This finding supports the results of the present study, where students with higher mobile data consumption were more likely to develop internet addiction, as greater data usage generally reflects prolonged smartphone-based internet engagement.[17] Taken together, the findings of the present study emphasize that problematic internet use among medical students is influenced by a combination of behavioral patterns and psychological factors. Excessive internet use, poor sleep habits, and mental health issues may interact with each other, potentially affecting academic performance and overall wellbeing.

This study has several methodological strengths. First, standardized and widely used instruments such as the Internet Addiction Test (IAT) and the Beck Depression Inventory (BDI) were utilized to assess the problematic internet use and depressive symptoms; mild categories were not considered in both the IAT and the BDI scales, which improves the validity of the measurements. The study also examined multiple behavioural variables related to internet use, including duration of online activity, sleep quality, and mobile data consumption, providing a more comprehensive understanding of the issue among medical students. Students identified with problematic internet usage and depressive symptoms were referred for counselling, ensuring appropriate support and follow-up.

Despite these strengths, certain limitations should be considered when interpreting the findings. The cross-sectional design of the study restricts the ability to establish causal relationships between internet addiction and depression.

CONCLUSION

The study highlights that problematic internet use is present among **13.6%** of medical students, while 15.9% had depression. A significant association was observed between problematic internet usage and depression, with 41.5% of students with depression demonstrating problematic internet usage compared to 8.3% among those without depression. Poor sleep quality and prolonged internet use were also found to be associated with problematic internet usage. Students who spend longer durations online and those experiencing depressive symptoms appear to be particularly vulnerable to developing internet addiction.

These findings underline the importance of promoting healthy digital habits and mental health awareness among medical students. Educational institutions should consider implementing regular screening for problematic internet use and psychological distress, along with counselling services and programs aimed at improving sleep hygiene and responsible internet use.

Future research involving multicenter studies and longitudinal designs would be valuable in understanding the temporal relationship between internet use behaviors and mental health outcomes among medical students.

REFERENCES

1. Internet World Stats. Asia internet usage statistics [Internet]. [cited 2025 Jan 12]. Available from: https://www.internetworldstats.com/stats3.htm#asia
2. International Telecommunication Union. Measuring digital development: facts and figures 2023 [Internet]. Geneva: International Telecommunication Union; 2023 [cited 2026 Mar 12]. Available from: https://www.itu.int
3. Griffiths M. Does Internet and computer" addiction" exist? Some case study evidence. Cyberpsychology & behavior. 2000 Apr 1;3(2):211-8.
4. McLean S. Problematic internet use [Internet]. Melbourne: Department of Education and Training; 2013 [cited 2026 Mar 12]. Available from: https://www.cybersafetysolutions.com.au/downloads/Problematic-Internet-Use.pdf
5. Taha MH, Shehzad K, Alamro AS, Wadi M. Internet use and addiction among medical students in Qassim University, Saudi Arabia. Sultan Qaboos University Medical Journal. 2019 May;19(2):e142.
6. Taylor G, Alpert J, Waddell TF, Bylund CL. Streaming mindfulness: Well-being and mindfulness among subscribers to a video streaming service. Internet interventions. 2021 Sep 1;25:100419.
7. Lozano-Blasco R, Robres AQ, Sánchez AS. Internet addiction in young adults: A meta-analysis and systematic review. Computers in Human Behavior. 2022 Jan 19:107201.
8. Kumari R, Langer B, Gupta R, Gupta RK, Mir MT, Shafi B, Kour T, Raina SK. Prevalence and determinants of Internet addiction among the students of professional colleges in the Jammu region. Journal of Family Medicine and Primary Care. 2022 Jan;11(1):325.
9. Awasthi AA, Taneja N, Maheshwari S, Gupta T. Prevalence of Internet addiction, poor sleep quality, and depressive symptoms among medical students: a cross-sectional study. Osong public health and research perspectives. 2020 Oct;11(5):303.
10. World Health Organization. Depression [Internet]. Geneva: World Health Organization; [cited 2026 Mar 12]. Available from: https://www.who.int/health-topics/depression
11. Reddy MS. Depression: the disorder and the burden. Indian journal of psychological medicine. 2010 Jan;32(1):1-2.
12. Macur M, Király O, Maraz A, Nagygyörgy K, Demetrovics Z. Prevalence of problematic internet use in Slovenia. Slovenian Journal of Public Health. 2016 Sep 1;55(3):202-11.
13. Liebert MA. Internet Addiction: The Emergence of New Clinical Disorder. CyberPsychology & Behavior. 1988;1(3).
14. Rani S, et al. Prevalence of internet addiction and its relationship with mental health among students. Indian J Psychiatry. 2024.
15. Salpynov Z, Kosherova Z, Sarría-Santamera A, Nurkatov Y, Gusmanov A, Semenova Y. The worldwide prevalence of internet addiction among medical students: a systematic review and meta-analysis. International Journal of Environmental Research and Public Health. 2024 Aug 29;21(9):1146.
16. Sharma D, et al. Prevalence of smartphone addiction and its relation with depression among students. Indian J Community Health. 2023.
17. Singh A, Chaudhury S, Chaudhari B, Sandhu AS. Impact of social media addiction among medical students on their social Interaction, Well-Being, and personality: A comparative study. Cureus. 2024 Sep 30;16(9).