



Original Research Article

PROBLEMATIC INTERNET USE AND ITS IMPACT ON THE PSYCHOLOGICAL WELLBEING OF UNDERGRADUATE MEDICAL STUDENTS

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Received : 05/05/2026
Received in revised form : 25/06/2026
Accepted : 09/07/2026

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DOI: 10.70034/ijmedph.2026.3.85

Source of Support: ICMR-STs

Conflict of Interest: None declared

Int J Med Pub Health
2026; 16 (3); 521-528

ABSTRACT

Background: Problematic internet use (PIU) represents a growing behavioral challenge for youth, threatening both academic outcomes and psychological well-being. Due to substantial academic demands and routine internet reliance, medical students face heightened vulnerability to this issue. This study aimed to evaluate the prevalence and predictors of PIU among undergraduate medical students, determine the frequency of psychological distress, and analyze the relationship between these two conditions.

Materials and Methods: A descriptive, cross-sectional investigation spanning two months involved 409 undergraduate medical students at a private institution in North Andhra Pradesh. Participants with a minimum of six months of internet experience were selected via probability proportional to size sampling combined with simple random sampling. The Problematic and Risky Internet Use Screening Scale (PRIUSS) measured PIU, while the 12-item General Health Questionnaire (GHQ-12) evaluated mental distress. Data analysis utilized descriptive statistics, chi-square tests, and multivariable binary logistic regression. $P < 0.05$ was considered as statistically significant.

Results: Over half (50.9%) of the surveyed students met the criteria for PIU (PRIUSS score ≥ 25). Bivariate analyses linked PIU with academic year, residential status, age of initial internet exposure, multi-device usage, daily screen time, and monthly internet expenditure. Multivariable regression confirmed that academic year, daily time online, monthly expenses on internet services, and utilizing the internet for casual leisure ("time pass") were independent predictors. Alarming, 91% of the cohort suffered from psychological distress (GHQ-12 score ≥ 12), including 96.6% of those with PIU, revealing a significant statistical correlation between PIU and psychological distress.

Conclusion: PIU and mental health distress are exceptionally widespread among undergraduate medical students in this region, with a robust link between problematic browsing habits and psychological issues. Establishing proactive screening, digital literacy initiatives, and accessible mental health support frameworks within medical schools is essential to address PIU and foster better student well-being.

Keywords: Problematic Internet Use, Medical Training, Psychological Distress, PRIUSS, GHQ-12.

INTRODUCTION

Internet has now become an essential and an invaluable part of human life. It has become an important tool for information, education, skill development, financial gains, emotional support, entertainment and social interaction.^[1] In the past it was restricted to desktop computers in home with landline modem connection and its usage was cost prohibitive. However, as the time went by the cost of mobile handsets and internet services became pocket friendly to the common man. It is then the internet became ubiquitous and made the life of people convenient and comfortable.^[2]

The use of internet among students also increased in recent time for academic reasons. Globally several studies and numerous anecdotal media reports, suggest possible links between overuse of the internet by adolescents and young adults and negative health consequences such as depression, attention deficit hyperactivity disorder, etc. and also with negative academic consequences such as missed classes, lower grades and academic dismissal.^[3]

Recent data from US suggests that 93% of adults and adolescents between 12-29 years of age go online and upto 25% of teens describe themselves as “constantly connected”.^[4] Given these high rates of internet use, Problematic Internet Use (PIU) is a growing concern.^[5,6]

PIU is defined as, “Internet use that is risky, excessive or impulsive in nature leading to adverse life consequences specifically physical, emotional, social or functional impairment.”^[7]

PIU has been found to be associated with poor academic performances, stress and fewer behaviours.^[8] Studies also suggested bidirectional relationship between PIU and depression.^[9-11]

However, there were studies on internet addiction and PIU among medical students in India; there were hardly any such being carried out in Andhra Pradesh. Therefore, the present study was aimed to study PIU and its impact on the psychosocial wellbeing of undergraduate students of a medical college in Andhra Pradesh.

Objectives

- To estimate the prevalence of Problematic Internet Use (PIU) among the undergraduate medical students using internet.
- To assess the predictors of PIU among the medical students.
- To estimate the prevalence of psychological distress among the medical students.
- To determine the association of PIU and psychological distress among undergraduate medical students.

MATERIALS AND METHODS

A descriptive, cross-sectional study was conducted in a private medical college in north Andhra Pradesh

for a period of 2 months, from October 27th to December 26th 2023 among undergraduate medical students. Using prevalence of 41.3 % rounded off to 42% (based on previous study)^[12], absolute precision of 5% and confidence interval of 95%, the sample size using the formula, $n = Z^2 p q / l^2$ was estimated to be 371.71.68 (rounded off to 372). With a 10 % non-response rate, the final sample size derived was 409. Students who had been using the internet for at least 6 months were included and those students who were absent at the time of study and were unwilling to participate in the study were excluded in the study population. Prior to the conduct of the study, permission from the Institutional Ethical Committee (IEC) was taken. Written informed consent was taken from the study subjects after explaining the nature, purpose and conduct of the study. The students were briefed about the purpose of the study and the data collection instrument i.e., the questionnaire. The total number of students enrolled for MBBS course and spread in each of the 4 phases were enumerated. Phase I had 150, Phase II had 166, P III had 152 and Phase IV had 119 students. The total of all the students was 587. From each phase the proportion of sample size was estimated by Probability Proportional to Size Sampling (PPSS) and that proportion of the sample size of students estimated was selected from each phase by Simple Random Sampling (SRS) technique. Thus, in Phase I: 104, Phase II: 116, P III: 106 and in Phase IV: 83 students were selected. The data was collected by a pre-tested and pre-designed questionnaire in English comprising socio-demographic details of study subjects like age, gender, religion, community, type of family, no. of family members, total monthly income, per capita monthly income, year of study and current place of stay of the student, patterns of internet use, Problematic and Risky Internet Use Screening Scale (PRIUSS) for assessing PIU and General Health Questionnaire (GHQ-12) for assessing psychological wellbeing. Modified B.G.Prasad's classification of socio-economic (SES) status^[13] was used to assess the study subject's class of socio-economic status taking into account the All India Consumer Price Index for Industrial Workers (AICPI-IW) for the month of September 2023 which was 137.5.^[14] PRIUSS was developed for use in adolescents, and reflected a data-driven, conceptual framework of the nature of Problematic Internet Use (PIU) as a component of adolescent and young adult health. The PRIUS was an 18-item scale which had 3 subscales: 1. Social impairment (items1-6) which assessed the impact of internet use on both offline and online social interactions; 2. Emotional impairment (items7-11) which assessed degree of emotional attachment to internet use, and 3. Risky / Impulsive internet use (items 12-18) which assessed salient problematic behaviours regarding internet use. Each item was rated on a 5-point Likert type scale (Never, Rarely, Sometimes, Often, Very often) with the respective scoring of 0,1,2,3and 4.^[15] The

cut off value ≥ 25 was those that at risk of PIU.^[16] Screening studies have suggested that 11% of adolescents may be at risk for PIU, as measured by the PRIUSS and using this scoring guideline.^[17] The GHQ -12 consisted of 12 items. Each item was rated on a 4-point Likert type scale (not at all, no more than usual, rather more than usual, much more than usual) with the respective scoring of 0,1,2 and 3. The score ranged from 0 to 36 and a score ≥ 12 was taken as evidence of psychological distress.^[18,19] The data collected was entered into MS Excel spread sheets and was analysed using SPSS version.22(Statistical Package for Social Sciences).^[20] Descriptive statistics like percentages, mean with standard deviation or median with IQR was done depending on the nature of the

distribution. Chi-square test was done to find out the association between problematic pattern of internet users based on PRIUSS score and psychological well-being based on (GHQ-12) scale score. Logistic regression was done to explore the independent role of predictors of PIU in medical students. $P < 0.05$ was considered as statistically significant.

RESULTS

A total of 409 medical students participated in the study with the mean age of the students being 21.06 + 1.693 years and the range being 18-30 years. 57.9 % of them were females and the remaining 42.1% were males.

Table 1: Prevalence of PIU among the medical students using PRIUSS Scale (N =409)

PRIUSS	Frequency	Percentage
≥ 25 (Risk of PIU)	208	50.9
< 25 (Normal)	201	49.1
Total	409	100.0

208 medical students out of a total of 409 with a PRIUSS score ≥ 25 were seen to have the risk of PIU with the prevalence being 50.9%. Mean score of

students with PRIUSS scale score ≥ 25 among male medical students was 34.32 + 5.317 and that of female medical students was 33.44 + 6.776.

Table 2: Association of sociodemographic variables with PIU in the study population

Variable	Category	PIU		Normal		P-value
		Frequency	%	Frequency	%	
Age	< 20	25	43.1	33	56.9	0.2
	≥ 20	183	52.1	168	47.9	
Gender	Male	87	50.6	85	49.4	0.92
	Female	121	51.1	116	48.9	
Religion	Hindu	167	50.3	165	49.7	0.35
	Christian	24	46.2	28	53.8	
	Muslim	14	70.0	6	30.0	
	Others	2	50.0	2	50.0	
	Sikh	1	100.0	0	0.0	
Community	General	114	50.2	113	49.8	0.19
	BC	71	52.2	65	47.8	
	SC	15	41.7	21	58.3	
	ST	8	80.0	2	20.0	
Type of family	Nuclear family	175	51.5	165	48.5	0.84
	Joint Family	29	48.3	31	51.7	
	Three generation family	4	44.4	5	55.6	
Socio-economic status	Lower Class	2	50.0	2	50.0	0.21
	Lower Middle Class	2	25.0	6	75.0	
	Middle Class	5	50.0	5	50.0	
	Upper Middle Class	58	59.8	39	40.2	
	Upper Class	141	48.6	149	51.4	
Pocket money per month in INR	≤ 1000	59	61.5	37	38.5	0.13
	1001-5000	122	47.7	134	52.3	
	5001-10000	20	47.6	22	52.4	
	> 10000	7	46.7	8	53.3	
Year of study	1st year	57	54.8	47	45.2	< 0.001
	2nd year	45	38.8	71	61.2	
	3rd year	49	46.2	57	53.8	
	4th year	57	68.7	26	31.3	
Current place of stay	Home	36	37.5	60	62.5	0.003
	Paying guest	16	72.7	6	27.3	
	Hostel	156	53.6	135	46.4	

Prevalence of PIU was more in the 4th year of medical students (68.7%) compared to the prevalence of PIU in their first year (54.8%), second year (38.8%) and third year (46.2%) of study. The

association of year of study with the PIU was found to be statistically significant. ($p < 0.001$). It was also noted that prevalence of PIU was more in medical students residing as paying guest (72.7%) compared

to the prevalence of PIU in others staying at home (37.5%) and hostel (53.6%). The association of

current place of stay with PIU was also found to be statistically significant. ($p=0.003$).

Table 3: Association of patterns of internet use variables with PIU in the study population

Variable	Category	PIU		Normal		P-value
		Frequency	%	Frequency	%	
Age at first internet use	5--10	30	39.0	47	61.0	0.008
	11--15	117	58.2	84	41.8	
	16--20	61	46.6	70	53.4	
Use of internet since (≥ 6 months)	No	7	50.0	7	50.0	0.95
	Yes	201	50.9	194	49.1	
Smartphone with internet access	No	1	50.0	1	50.0	1
	Yes	207	50.9	200	49.1	
Tablet with internet access	No	79	45.1	96	54.9	0.046
	Yes	129	55.1	105	44.9	
Laptop with internet access	No	84	45.2	102	54.8	0.035
	Yes	124	55.6	99	44.4	
Desktop with internet access	No	131	47.0	148	53.0	0.021
	Yes	77	59.2	53	40.8	
Most common mode of internet use	Smart phone	193	50.4	190	49.6	0.03
	Tablet	8	47.1	9	52.9	
	Laptop	7	100.0	0	0.0	
	Desktop	0	0.0	2	100.0	
Internet use per week	1 Day	0	0.0	2	100.0	0.021
	2 Days	3	100.0	0	0.0	
	3 Days	4	80.0	1	20.0	
	4 Days	5	83.3	1	16.7	
	5 Days	5	62.5	3	37.5	
	6 Days	16	72.7	6	27.3	
	Everyday	175	48.2	188	51.8	
Internet use per day	≤ 5 hrs	86	39.8	130	60.2	<0.001
	> 10 hrs	17	73.9	6	26.1	
	6- 10 hrs	105	61.8	65	38.2	
Preferred time to use internet	Day (6am to 5pm)	49	47.6	54	52.4	0.12
	Evening (5pm to 10 pm)	115	48.9	120	51.1	
	Night (10pm- 6am)	44	62.0	27	38.0	
Money spent on internet per month	INR ≤ 150	25	39.1	39	60.9	<0.001
	INR > 500	53	81.5	12	18.5	
	INR 151-300	71	39.2	110	60.8	
	INR 301-500	59	59.6	40	40.4	
Log-in status	Always	118	54.6	98	45.4	0.11
	On and Off	90	46.6	103	53.4	

The prevalence of PIU was more in the age group of 11-15 years (58.2%) in medical students compared to the prevalence of PIU in age groups of 5-10 years (39%) and 16-20 years (46%). It was observed that the association of age at first internet use with PIU was found to be statistically significant. ($p=0.008$). The prevalence of PIU was more in students having tablet with internet access (55.1%) compared to the prevalence of PIU in those who did not (45.1%). The association of tablet with internet access was found to be statistically significant ($p=0.046$). The prevalence of PIU was more in students having laptop with internet access (55.6%) compared to the prevalence of PIU in those who did not (45.2%). The association of laptop with internet access was found to be statistically significant ($p=0.035$). The prevalence of PIU was more in students having desktop with internet access (59.2%) compared to the prevalence of PIU in those who did not (47.0%). The association of desktop with internet access with PIU was found to be statistically significant ($p=0.021$). The prevalence of PIU was more in students who used laptop as the most common gadget (100%) for internet use compared to the

prevalence PIU in use of other gadgets like smart phone (50.4%), tablet (47.1%) and desktop (0%). The association of most common mode of internet use with PIU was found to be statistically significant. ($p=0.03$). The prevalence of PIU was more in students who used internet for 2 days in a week (100%) compared to prevalence of PIU in those students who used for other number of days in a week. It was also seen that Internet use per week was significantly associated statistically with PIU. ($p=0.021$). The prevalence of PIU was more in students who used internet for more than 10 hours in a day (73.9%) compared to prevalence of PIU in others who used less than or equal to 5 hours (39.8%) and also those who used it for 6-10 hours (61.8%). The association of Internet use per day with PIU was statistically significant. ($p<0.001$). The prevalence of PIU was more in students who spent more than 500 INR per month (81.5%) compared to prevalence of PIU in who spent those spent 151-300 INR(39.2%) per month and 301-500 INR(59.6%) per month. The association of money spent on internet per month with PIU was found to be statistically significant. ($p<0.001$).

Table 4: Association of PIU with reasons of internet use variables in the study population

Variable	Category	PIU		Normal		P-value
		Frequency	%	Frequency	%	
Work or assignment	Yes	204	51.0	196	49.0	0.75
	No	4	44.4	5	55.6	
Email	Yes	190	51.2	181	48.8	0.73
	No	18	47.4	20	52.6	
Browsing	Yes	195	51.2	186	48.8	0.63
	No	13	46.4	15	53.6	
Recreation	Yes	140	52.6	126	47.4	0.33
	No	68	47.6	75	52.4	
Time pass	Yes	180	49.0	187	51.0	0.03
	No	28	66.7	14	33.3	
Shopping	Yes	186	50.7	181	49.3	0.84
	No	22	52.4	20	47.6	
News update	Yes	173	50.6	169	49.4	0.8
	No	35	52.2	32	47.8	
Online books	Yes	181	51.0	174	49.0	0.89
	No	27	50.0	27	50.0	
Social media	Yes	194	50.7	189	49.3	0.75
	No	14	53.8	12	46.2	
Chatting	Yes	193	50.9	186	49.1	0.92
	No	15	50.0	15	50.0	
Research	Yes	159	49.5	162	50.5	0.31
	No	49	55.7	39	44.3	
Games	Yes	165	50.9	159	49.1	0.96
	No	43	50.6	42	49.4	
Emotional support	Yes	144	57.4	107	42.6	<0.001
	No	64	40.5	94	59.5	
Meeting new people	Yes	135	58.2	97	41.8	<0.001
	No	73	41.2	104	58.8	
Movie	Yes	197	51.7	184	48.3	0.24
	No	11	39.3	17	60.7	
Porn	Yes	82	50.6	80	49.4	0.94
	No	126	51.0	121	49.0	
Gambling	Yes	38	48.1	41	51.9	0.59
	No	170	51.5	160	48.5	

It was observed that among the variables of patterns of internet use, the prevalence of PIU was more who did not use internet for time pass (66.7%) compared to the prevalence of PIU in those who did (49.0%). The association of using internet for time pass with PIU was found to be statistically significant. ($p=0.03$). Similarly, the prevalence of PIU was more in students who used internet for emotional support (57.4%) compared to the prevalence of PIU in those

who did not (40.5%). The association of using internet for emotional support with PIU was found to be statistically significant. ($p<0.001$). The prevalence of PIU was more in students who used internet for meeting new people (58.2%) compared to the prevalence of PIU in those who did not (41.2%). The association of using internet for meeting new people with PIU was found to be statistically significant. ($p<0.001$).

Table 5: Association of independent variables with PIU in the study population

Independent variables	P-value	AOR	95% Confidence Interval	
			Lower	Upper
Age (years) at first internet use (Ref: 5-10 years)				
11--15	.139	1.69	0.84	3.41
16--20	.172	0.69	0.40	1.18
Year of the student (Ref: 1 st year)				
2 nd	.104	1.80	0.89	3.67
3 rd	.044	2.16	1.02	4.56
4 th	.004	2.84	1.40	5.78
Current place of stay (Ref: Home))				
Hostel	.153	2.45	0.72	8.38
Paying guest	.744	1.21	0.38	3.90
Number of electronic gadgets owned (Ref: 1 electronic gadget)				
2	.239	1.56	0.74	3.28
3	.227	1.51	0.78	2.93
4	.567	1.26	0.57	2.82
Internet use per day(Ref: ≤ 5 hrs)				
6- 10 hrs	.019	3.71	1.24	11.16
> 10 hrs	.839	1.12	0.37	3.35
Money(INR) spent on internet per month (Ref: ≤ 150)				
151-300	<0.001	5.40	2.12	13.76

301-500	<0.001	7.59	3.44	16.74
>500	<0.001	5.44	2.31	12.78
Reasons for using internet ((Ref: Reason -No)				
Time pass	.002	3.55	1.58	7.97
Emotional support	.082	0.61	0.34	1.07
Meeting new people	.687	0.89	0.49	1.59

AOR – Adjusted Odds Ratio

Binary logistic regression analysis was done to know the association of independent variables with PIU. When compared with first year medical students, the risk of PIU was 2.16 [95% CI: 1.02 - 4.56] times more in 3rd year students and 2.84 [95% CI: 1.02 - 4.56] times more in 4th year students. The association of year of study with PIU was found to be statistically significant. On comparison with internet use per day ≤ 5 hrs, the risk of PIU was 3.71 [95% CI: 1.24, 11.16] for 6-10 hours of internet use per day. The association internet use per day with PIU was found to be statistically significant. When compared with money spent ≤ 150 INR on internet per month the risk of PIU was 5.40 [95% CI: 2.12, 13.76] times more in those who

spent 151-300 on internet per month, the risk of PIU was 7.59 [95% CI: 3.44, 16.74] more in those who spent 301-500 INR on internet per month and the risk of PIU was 5.44 [95% CI: .31, 12.78] more in those who spent >500 INR on internet per month money spent on internet per month by the medical students. The association of money spent on internet per month with PIU was found to be statistically significant. When compared with the reason for not using internet it was seen that the risk of PIU was 3.55 [95% CI: 1.58, 7.97] more in those who said that the reason for using internet was time pass. The association of reasons for using internet with PIU was found to be statistically significant.

Table 6: Prevalence of psychological distress among medical students using GHQ-12 Scale (N =409)

GHQ-12	Frequency	Percentage
≥ 12 (Psychological distress)	372	91.0
<12 (Normal)	37	9.0
Total	409	100.0

It was observed in the study population of 409 medical students, 372 of them were having a GHQ-12 score ≥ 12 and they were identified to be having psychological distress. So the prevalence psychological distress of in the study population was found to be 91.0%. The mean score of students

having GHQ >12 ie. psychological distress was 17.78 ± 2.876 . The mean score of students with GHQ ≥ 12 among male medical students was 18.01 ± 3.050 and that of female medical students was 17.61 ± 2.731 .

Table 7: Association of PIU with psychological distress in the study population

PIU	Psychological distress				Total	P value
	Present		Absent			
	Frequency	%	Frequency	%		
Present	201	96.6%	7	3.4%	208	<0.001
Absent	171	85.1%	30	14.9%	201	
Total	372	91.0%	37	9.0%	409	

Out of 208 medical students who were identified to be having PIU, 201 (96.6%) were seen to have psychological distress. In the rest of the students who did not have PIU the proportion of them having psychological distress was 85.1%. The association of PIU with psychological distress was found to be statistically significant. ($p < 0.001$).

DISCUSSION

This study examined the prevalence and correlates of Problematic Internet Use (PIU) and psychological distress among undergraduate medical students in a private medical college in North Andhra Pradesh. It was seen that the majority (85.8%) of the students were more than or equal to 20 years. The mean age of the study participants was 21.06 ± 1.693 years with a range being 18-30 years. These findings relate to a typical late adolescent/young adult

population. This was consistent with the observation in the study by Mazhari S et al.^[21] where the mean age group of study participants was 21.5 years with a range being 19-38 years. Jelenchick LA^[15] in his study revealed that the mean age group of study participants was 19.7 ± 1.4 years which was contradictory.

The prevalence of PIU among the study subjects was 50.9%. The mean score of students with PRIUSS Scale score ≥ 25 (PIU) was 33.81 ± 6.209 . In males it was 34.32 ± 5.317 and in females 33.44 ± 6.776 . A study by Sayyah M et al.^[22] observed that the prevalence of PIU among the medical students was seen to be 51% which was concurrent with to that of the present study. This was due to the decreased cost of internet and availability of cost friendly plans. Sharma BN et al.^[2] noted that the prevalence of PIU in study subjects was 22.2% which was inconsistent to that of the present study.

Sociodemographic variables like age, gender, religion, community, type of family, SES, pocket money per month with PIU were not significantly associated with PIU except year of study ($P < 0.001$) and current place of stay ($P = 0.003$). Higher year students, particularly those in the third and fourth years, had greater odds of PIU, which may be due to cumulative academic workload, prolonged exposure to online resources, and greater autonomy in device use. Students staying as paying guests or in hostels had more PIU than those living at home, suggesting that residential context and reduced parental supervision may facilitate more uncontrolled internet use. Anand N et al.^[23] in their study reported that the sociodemographic variables like gender, money spent on internet association with PIU was found to be statistically significant which contradicted the present study. However, association of residence environment with PIU was found to be statistically significant. A study by Islam MA et al.^[24] revealed that association of gender, socio-economic status variables with PIU was found to be statistically significant, but the association of living arrangement with PIU was not statistically significant.

The variables concerning patterns of internet use having a statistically significant association with PIU were age at first internet use, tablet with internet access, laptop with internet access, desktop with internet access, most common mode of internet use, internet use per week, internet use per day and money spent on internet per month. Gedam SR et al.^[25] made similar observations in their study that there was a significant association of gadget ownership and preferred time of internet log in with PIU. However the association of log in status with that of PIU was statistically significant which contradicted the finding of the present study. Sharma A et al.^[26] observed that association of age, type of phone, time spent on internet per day with internet addiction was found to be statistically significant which was in line with the present study finding.

The association of reasons of internet use variables like time pass, emotional support, meeting new people in the study population with that of PIU was found to be statistically significant and association with others like work, email, browsing, recreation, time pass, shopping, news update, online books, social media, chatting, research, games, movie, porn and gambling was not statistically significant. These activities may reflect attempts to cope with stress or loneliness, but they may also reinforce excessive online engagement and reduce offline social interaction, thereby increasing vulnerability to PIU. Similar observation was noted by Dhamnetiya D et al.^[12] where the association of variables of internet use like emotional support and games with that of PIU was found to be statistically significant. Mazhari S et al.^[21] noted that the association of internet use variables like using the internet for chatting, downloading, playing games and shopping

with PIU was found to be statistically significant which differed the present study.

Logistic regression in this study highlighted that year of study, internet use per day, and money spent on internet per month were independent predictors of PIU, indicating that both academic trajectory and intensity of use contribute to risk. Using the internet primarily for “time pass” also independently predicted PIU, emphasizing the role of non-academic, leisure driven use in the development of problematic patterns. A study by Islam MA et al.^[24] revealed that time spent on internet use per day was an independent determinant of internet addiction which was consistent with the current study. Dhamnetiya D et al.^[12] however contradicted with their findings like chatting, emotional support and watching online adult content were found to be significant risk factors for PIU.

91% of the medical students were having psychological distress as evident by the GHQ-12 score more than 12. The mean score of students having psychological distress was 17.78 ± 2.876 . Islam MA et al.^[24] noted that the prevalence of psychological distress among the study population was 28.4% which was inconsistent to that of the present study.

96.6% of study subjects with PIU had psychological distress compared to 85.1% in them who did not have PIU. The association of PIU with psychological distress was found to be statistically significant. ($p < 0.001$). While the cross sectional design precludes causal inference, the high co-occurrence of PIU and distress suggests a close interplay where PIU may exacerbate mental health problems or serve as a maladaptive coping mechanism. Sharma BN et al.^[2] reported similar observation that there was a significant statistical association between PIU with psychological distress. Findings noted in studies by Anand N et al.^[23] Islam MA et al.^[24] and Mazhari S et al.^[21] were also found to be congruent.

CONCLUSION

Overall, the findings highlight PIU as a common issue among medical students, intertwined with heavy device use, leisure-oriented internet activities, and substantial psychological distress. This study gave an estimate of the prevalence of PIU among the undergraduate medical students, which was 50.9%, and the prevalence of psychological distress, which was 91 %. PIU was also found to be associated with psychological distress.

Recommendations

A comprehensive approach including early identification, psychological support, digital wellness education, stress reduction strategies and institutional commitment is essential to mitigate problematic internet use and improve the well-being of medical students. Such measures can enhance professional development and overall quality of life.

Limitations

Primarily it was a cross-sectional study and a cause-effect relationship could not be established. Next, there would be recall bias as the subjects self-reported the duration of internet spent on gadgets and on the various activities. Further, as it was a single centre study its results cannot be generalized to the whole state of Andhra Pradesh. More-over, heterogeneity of the scales used in different studies for the assessment of PIU and psychological impact made it difficult for comparison with that of the findings of the present study.

Acknowledgement

The authors acknowledge statistician Mr. N. Hanumanth for his help in the analysis of the data and express gratitude to the medical students for their cooperation in the conduct of the study.

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