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Research Article

Association of Internet Addiction with Psychological Di stress in Adolescents: A Cross-Sectional Study

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ABSTRACT

Background: Internet use has become a routine part of adolescent life for education, communication, entertainment, and social interaction. Although appropriate use offers many benefits, excessive and uncontrolled use may lead to internet addiction and may negatively affect emotional well-being. Anxiety, stress, depressive symptoms, sleep disturbances, poor academic performance, and reduced social functioning are increasingly observed in this age group. Adolescents are especially vulnerable because of ongoing emotional, behavioral, and cognitive development.

Aim: To assess the prevalence of internet addiction and determine its association with psychological distress among adolescents.

Methodology: A cross-sectional observational study was conducted over a period of six months in selected schools and colleges from urban and semi-urban areas. Adolescents aged 13–19 years were included in the study. Sample size was calculated using previously reported prevalence estimates of internet addiction, and after considering possible non-response, 300 participants were enrolled. Data were collected using a structured socio-demographic questionnaire, Young's Internet Addiction Test (IAT), and the Kessler Psychological Distress Scale (K10). Statistical analysis included chi-square test and correlation methods. A p-value of <0.05 was considered statistically significant.

Results: Among 300 participants, 162 (54.0%) were males and 138 (46.0%) were females. Normal internet use was observed in 102 (34.0%) participants, while mild addiction was present in 118 (39.3%), moderate addiction in 62 (20.7%), and severe addiction in 18 (6.0%). Psychological distress was identified in 132 (44.0%) adolescents. Distress was significantly higher among adolescents with internet addiction compared with normal users (52.5% vs 27.5%, p<0.001). Daily screen time of more than four hours was significantly associated with higher addiction levels (p=0.002), while sleep duration of less than seven hours was significantly associated with psychological distress (p<0.001).

Conclusion: Internet addiction is common among adolescents and is strongly associated with psychological distress. Longer screen time and poor sleep habits further increase vulnerability. Early screening, school-based mental health programs, parental guidance, and promotion of healthy digital habits are essential preventive measures.

Keywords*: Internet addiction, Adolescents, Psychological distress, Screen time, Mental health, Behavioural addiction, Students.*

INTRODUCTION

Internet access has become deeply integrated into the daily lives of adolescents. Online platforms are now widely used for learning, communication, recreation, and social networking. When used in a balanced manner, digital technology can improve knowledge, connectivity, and educational opportunities. However, excessive and poorly regulated internet use may contribute to behavioral dependence and emotional difficulties in vulnerable users [1].

Internet addiction refers to persistent difficulty in controlling online activity despite negative effects on sleep, academic performance, social relationships, and routine responsibilities. Adolescence is a particularly sensitive stage because emotional maturity, decision-making ability, and self-control are still developing. Peer influence, curiosity, and easy smartphone availability may further increase susceptibility in this age group [2].

Psychological distress is a broad term that includes symptoms such as stress, anxiety, sadness, irritability, emotional strain, and reduced coping capacity. Recent evidence indicates that adolescents with higher internet use are more likely to report mental health concerns, poor sleep quality, reduced physical activity, loneliness, and impaired scholastic functioning [3,4]. Review data have also highlighted the association between excessive internet use and adverse psychosocial outcomes in young people [5].

Soriano-Molina et al. observed that adolescents with higher internet addiction scores had greater levels of anxiety and depressive symptoms with lower resilience [6]. Dhiman et al. reported a notable prevalence of internet addiction among Indian adolescents, especially among those with prolonged daily usage and lower self-esteem [7].

As digital exposure continues to rise rapidly, understanding its influence on adolescent mental health has become increasingly important. The present study was therefore conducted to estimate the prevalence of internet addiction and examine its association with psychological distress among adolescents.

AIM AND OBJECTIVES

Aim

To study internet addiction and psychological distress among adolescents.

Objectives

1. To estimate the prevalence of internet addiction among adolescents.
2. To assess the level of psychological distress among adolescents.
3. To determine the association between internet addiction and psychological distress.
4. To identify socio-demographic and behavioral factors associated with internet addiction.

Methodology

This cross-sectional observational study was carried out over six months in selected schools and colleges located in urban and semi-urban areas. The study population consisted of adolescents aged 13–19 years who were enrolled in educational institutions during the study period.

Sample Size

The required sample size was calculated using previously reported prevalence of internet addiction among adolescents (approximately 25%) from Dhiman et al. [7], with a 95% confidence level and acceptable margin of error. After adjusting for incomplete responses and non-participation, 300 adolescents were included.

Sampling Technique

A multistage random sampling method was adopted. Educational institutions were selected in the first stage, followed by random selection of eligible students from attendance records.

Inclusion Criteria

- Adolescents aged 13–19 years
- Present during data collection
- Willing to participate

Exclusion Criteria

- Known severe psychiatric illness under treatment
- Incomplete questionnaire forms

Study Tools

1. Socio-demographic Questionnaire

A pretested structured form was used to record age, sex, residence, family background, socioeconomic status, daily screen time, sleep duration, and physical activity.

2. Young's Internet Addiction Test (IAT)

Young's IAT is a validated 20-item scale used to assess the degree of internet dependence. Responses are scored on a Likert scale, and total scores classify participants into normal, mild, moderate, or severe addiction categories.

3. Kessler Psychological Distress Scale (K10)

The K10 is a standardized instrument containing 10 questions that measure symptoms of anxiety and emotional distress experienced in recent weeks. Higher scores indicate greater distress.

Data Collection Procedure

After obtaining approval from the Institutional Ethics Committee and permission from participating institutions, students were informed about the purpose of the study. Participation was voluntary and confidentiality was assured. Consent or assent was obtained according to age requirements. Questionnaires were completed anonymously in supervised classroom sessions and collected immediately after completion. All responses were checked, coded, and entered for analysis.

Statistical Analysis

Data were analyzed using SPSS version 26. Results were expressed as frequencies and percentages. Chi-square test was used to assess associations between categorical variables. Pearson correlation was used to examine the relationship between IAT and K10 scores. A p-value <0.05 was considered statistically significant.

RESULTS

A total of 300 adolescents participated in the study. The largest age group was 13–15 years with 128 (42.7%) participants, followed by 16–17 years with 96 (32.0%) and 18–19 years with 76 (25.3%) participants. Males 162 (54.0%) were slightly more numerous than females 138 (46.0%). Based on residence, 188 (62.7%) participants were from urban areas, while 112 (37.3%) belonged to semi-urban areas. Regarding daily screen exposure, 114 (38.0%) adolescents reported internet use for more than four hours per day, whereas 186 (62.0%) reported screen time of four hours or less.

Table 1. Demographic Characteristics of Participants (n=300)

Variable	Frequency (%)
Age Group	
13–15 years	128 (42.7)
16–17 years	96 (32.0)
18–19 years	76 (25.3)
Gender	
Male	162 (54.0)
Female	138 (46.0)
Residence	
Urban	188 (62.7)
Semi-urban	112 (37.3)
Daily Screen Time	
≤4 hours	186 (62.0)
>4 hours	114 (38.0)

Different levels of internet addiction were observed among participants. Normal internet use was seen in 102 (34.0%) adolescents, while 118 (39.3%) had mild addiction, 62 (20.7%) had moderate addiction, and 18 (6.0%) had severe addiction. Overall, 198 (66.0%) adolescents showed some degree of internet addiction.

Table 2. Prevalence of Internet Addiction (n=300)

IAT Category	Frequency (%)
Normal Use	102 (34.0)
Mild Addiction	118 (39.3)
Moderate Addiction	62 (20.7)
Severe Addiction	18 (6.0)

Psychological distress was present in 132 (44.0%) of the 300 adolescents, while 168 (56.0%) had no significant distress. A significant association was found between internet addiction and psychological distress, with distress seen in 28 (27.5%) normal users compared with 104 (52.5%) adolescents with internet addiction (p <0.001).

Table 3. Association Between Internet Addiction and Psychological Distress

Internet Addiction Status	Distress Present n (%)	Distress Absent n (%)	p-value
Normal Use	28 (27.5)	74 (72.5)	**<0.001**
Addiction Present	104 (52.5)	94 (47.5)	

Higher screen time was associated with greater addiction severity. Moderate to severe addiction was seen in 34 (18.3%) participants with screen time ≤4 hours/day and 46 (40.4%) with screen time >4 hours/day (p = <0.001).

Table 4. Screen Time and Internet Addiction Severity

Daily Screen Time	Moderate/Severe n (%)	Normal/Mild n (%)	p-value
≤4 hours	34 (18.3)	152 (81.7)	**<0.001**
>4 hours	46 (40.4)	68 (59.6)	

Shorter sleep duration was significantly related to psychological distress. Distress was present in 52 (31.7%) adolescents sleeping ≥7 hours/day and 80 (58.8%) among those sleeping <7 hours/day (p <0.001).

Table 5. Sleep Duration and Psychological Distress

Sleep Duration	Distress Present n (%)	Distress Absent n (%)	p-value
≥7 hours	52 (31.7)	112 (68.3)	**<0.001**
<7 hours	80 (58.8)	56 (41.2)	

DISCUSSION

Our study found that 66.0% of participants had some degree of internet addiction, while 26.7% had moderate to severe addiction, indicating that excessive internet engagement is common among adolescents. In comparison, Dhiman et al. [7] reported internet addiction in approximately 24% of Indian adolescents, whereas Dharmaraj et al. [1] observed prevalence rates of nearly 30% among school-going adolescents. The higher prevalence observed in our study may be related to increasing smartphone access and wider digital exposure among adolescents.Psychological distress was identified in 44.0% of the study population. Distress was significantly more common among adolescents with internet addiction than among those with normal internet use. Soriano-Molina et al. [6] similarly reported higher anxiety and depressive symptoms among adolescents with greater internet dependence.Daily screen time above four hours was associated with higher addiction severity in our study. Comparable findings were reported by Agrawal et al. [3], who noted that prolonged internet exposure was linked with addictive patterns and emotional strain in school-going adolescents.Sleep duration was another important factor. Participants sleeping less than seven hours had substantially higher distress than those with adequate sleep. Mishra et al. [5] concluded that excessive internet use is frequently associated with sleep loss, daytime fatigue, poor concentration, and reduced psychosocial well-being.Male adolescents were slightly more affected than females in the present study. Similar gender differences were reported by Dharmaraj et al. [1], where boys showed higher internet addiction scores, particularly related to gaming and recreational use.These findings suggest that internet addiction should be viewed not only as a behavioral concern but also as a relevant adolescent mental health issue requiring timely prevention and support strategies.

CONCLUSION

Internet addiction is common among adolescents and is significantly associated with psychological distress. Longer screen time and shorter sleep duration further increase vulnerability. Routine screening, parental supervision, counseling support, and school-based awareness programs may help promote healthier digital behavior and better mental well-being.

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