INDIAN ASSOCIATION OF EPIDEMIOLOGISTS

Epidemiology International
Volume 10, Issue 4 - 2025, Pg. No. 7-11
Peer Reviewed & Open Access Journal

Cross-sectional Study

Prevalence of Internet Gaming Disorder in The Age Group 12-40 Years in Jaipur, Rajasthan: A Cross-Sectional Study

Ashish Mahajan[1], Nidhi Mahajan[2], Heema[3], Ritu Wadhwani[4], Renu Mittal[5], Subhash Kaushik[6]

[1,2]Research Officer, Homoeopathy, Scientist-2, Department of Clinical Research, Central Research Institute of Homoeopathy, Jaipur, India
[3]Research Officer, Homoeopathy, Scientist-1, Department of Clinical Research, Central Research Institute of Homoeopathy, Jaipur, India
[4]Consultant Psychologist, Central Research Institute of Homoeopathy, Jaipur, India
[5]Research Officer, Homoeopathy, Scientist-4, Central Council for Research in Homoeopathy, New Delhi, India
[6]Director General, Central Council for Research in Homoeopathy, Ministry of Ayush, New Delhi, India
DOI: https://doi.org/10.24321/2455.7048.202511

I N F O

Corresponding Author:
Ashish Mahajan, Department of Clinical Research, Central Research Institute of Homoeopathy, Jaipur, India
E-mail Id:
dr.aashishmahajan@gmail.com
Orcid Id:
https://orcid.org/0009-0002-6646-2251
How to cite this article:
Mahajan A, Mahajan N, Heema, Wadhwani R, Mittal R, Kaushik S. Prevalence of Internet Gaming Disorder in the age group 12-40 years in Jaipur, Rajasthan: a cross-sectional study. Epidem Int. 2025;10(4):7-11.

Date of Submission: 2025-07-23
Date of Acceptance: 2025-08-27

A B S T R A C T

Context: As every individual is in possession of a mobile phone, Internet Gaming Disorder (IGD) is becoming more prevalent due to easy access to fast internet connections, prices of which in India are among the cheapest in the world. TV commercials advertising rewards for playing internet games are a motivational factor encouraging more individuals to engage in internet gaming activity. Data regarding the epidemiology of IGD in India is still insufficient.

Aims: This study aims to determine the prevalence of IGD, the age group most commonly affected, and the effects of IGD on an individual's behavior.

Settings and Design: A cross-sectional observational study was conducted on people in the age group of 12 to 40 who reported to the institute's OPDs, nearby areas, and peripheral OPDs.

Methods and Materials: The data was collected using a screening form and IGD9-SF questionnaire from 624 individuals reporting to OPDs.

Results: A total of 114 were found to be fulfilling the criteria of IGD. Hence, the prevalence of IGD among the surveyed population was found to be 18.27%. There is a negligible difference in prevalence among urban (18.47%) and rural (17.65%) populations. Males were significantly more affected with IGD. Students and those in the age group of 12-25 years were found to be more prone to IGD. The most affected domains as per the IGDS9-SF questionnaire were 'preoccupation with gaming behavior' (2.74±0.98), followed by 'relapse noted by failed attempts to control or cease gaming activity' (2.63±1.15).

Conclusion: The prevalence of IGD is 18.27% among individuals attending Homeopathy OPD, which was associated with gender and the young age group, those who were preoccupied with gaming behavior. This rising prevalence underscored an urgent need for preventive measures.

Keywords: Internet Gaming Disorder, Prevalence, Gaming Behavior

Introduction

Currently internet gaming is among the most popular online leisure activities. Online games, particularly multi-player ones, deliver a sense of achievement and pleasure along with social interaction and an immersive experience to gamers. However, excessive gaming may have negative consequences, as such persons tend to limit real-life situations and experiences. Because of its prominent negative consequences and similarity to other addictive disorders, the loss of control over online gaming was termed *Internet Gaming Disorder* (IGD).[1]

IGD has received nomenclatural recognition as a potential mental health disorder[2] and is included in section III of the *Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition (DSM-5).[1]

It is defined as persistent and recurrent use of the Internet to engage in games, often with other players, leading to clinically significant impairment or distress as indicated by five (or more) of the nine criteria in a 12-month period.[3]

Internet gaming disorder has significant public health importance.[3] The worldwide prevalence of gaming disorder appears to be comparable to obsessive-compulsive disorder (OCD) and some substance-related addictions.[4] In a study conducted on school children in India, an overall prevalence estimate of IGD was 3.50%; prevalence was higher among male students (8.8%) as compared to female students (0.8%).[5] In another study conducted among 142 school students in western Maharashtra, the prevalence of IGD among 13–19-year-old students was 10.6%. It was significantly higher among male students (15.3%) than female students (3.5%).[6]

Presently, the prevalence of IGD among the adolescent group was between 1.3% and 19.9%, and males reported more prevalence than females.[7] With over 900 million internet users currently, India is the second-largest online market in the world, just behind China. Despite the large number of users and a consistent increase in accessibility, internet penetration in the country is still below 50%. [8] News reports of excessive usage of the internet and the effect of internet gaming activity on mental and physical well-being are frequently published. A strong association was found between problematic gaming and decreased psychosocial well-being.[9]

It has been suggested that higher levels of IGD are associated with impulsivity, lower social acceptance, decline in academic performance, more aggressive tendencies and behavior, worsening of relationships over time, and a greater risk of depression.[10]

Associations between IGD and other psychiatric conditions such as depression, anxiety, OCD, social phobia, and attention deficit and hyperactivity disorder (ADHD) have already been suggested in published studies.[11]

As penetration of mobile phones and internet is increasing in rural and far-flung areas, there is, consequently, an exponential increase in gaming activity, not only in the school children and adolescents but also in the young and middle-aged groups. As there is a paucity of knowledge regarding the prevalence of IGD, particularly among the young population in India. So, the present study was conducted to know the prevalence of IGD, the age group most commonly affected, and the effect of IGD on individuals.

Methods

- **Ethical consideration**: Ethical clearance for the study was obtained from the Central Ethical Committee of the Central Council for Research in Homoeopathy, New Delhi, prior to conducting the study.
- **Study design**: A cross-sectional observational study
- **Study setting**: The survey was conducted on the persons reporting to the OPD of the Central Research Institute of Homoeopathy (CRIH), Jaipur, and in the peripheral OPDs run in the rural areas under the public health programme.
- **Study population**: The study was conducted among persons of the age group 12-40 years, including both males and females.
- **Sample size**: A total of 624 persons selected from the OPD of CRIH, Jaipur, after obtaining their informed consent to participate in this study.

Data collection procedure and instruments used:

A short description about the survey study, its purpose, and confidentiality regarding obtained data was given to each participant. Those willing to give their consent and assent (in children below 18 years of age) were given the questionnaire, which contains two parts:

- **Part I**: Preliminary details of the participant: like his/her name, age, gender, contact details, address, date of filling the form, educational qualification, occupation, monthly income, and approximate online gaming usage on weekdays and weekends/holidays (in hours).
- **Part II**: contains English version of IGDS9-SF questionnaire. 12 For those who could not understand the English language, the surveyor team helped them to understand the questionnaire to respond.

As it is a self-administered questionnaire, the participants were given a time of a couple of days for introspection of his/her online gaming habits before filling out the survey form for data to be as accurate as possible and to avoid personal bias.

Diagnosis of IGD3

The criteria mentioned in the DSM-5 were used. Those having Internet gaming activity of at least 30 hours per week and having clinically significant impairment or distress in the last 12 months as indicated by five (or more) items among nine mentioned.

Confidentiality

Participants were ensured that all information collected in this study will be kept strictly confidential, except as may be required by the law of the land. The privacy and confidentiality of the participants were honored, and identifying information pertaining to any person was coded and not disclosed at the time of publication/presentation of study results.

Statistical tools and data analysis

Data was entered and stored in MS Excel and analyzed by using SPSS software V 16.0. Descriptive statistics were represented with frequencies and percentages. A chi-square test was applied.

Results & Discussion

In the present study, the total of 624 participants gave their information. Out of which, 114 were found to be fulfilling the criteria of IGD, and 510 were in the non-IGD group. The prevalence of IGD among the surveyed population was found to be 18.27%.

The prevalence of IGD among 12-18 years is 27 out of 138 (i.e., 19.57%); among 19-25 years of age, it is 57 out of 239 (i.e., 23.85%). In a meta-analysis conducted by Fam JY, an alarming prevalence of IGD was found among adolescents, especially among males. [13]

The males spend more time in gaming than the females. The prevalence of IGD was higher among males (21.68%) than among females (14.03%). This is similar to that found in previous studies. [5, 13, 14]

Possibly one reason for the higher prevalence of IGD in males is because they engage in games that are riskier, involving multiple players. [14] Impulsivity, low self-control, anxiety, emotion dysregulation, and depression are some of the psychological features associated with IGD that show a sex dimorphism.[15]

There is a negligible difference in the prevalence of IGD in urban areas (18.47%) as compared to rural areas (17.65%). This could be attributed to the fact that although there was a gap between the percentage of urban and rural active internet users, it has been narrowing down with the development[16] of infrastructure and easy accessibility of the internet.

In high school students the prevalence of IGD was found to be 18.75%; among 12th-class students it was 21.69%; among graduates it was 21.65%; and among postgraduates was 15.89%. No cases were reported among the illiterate, while prevalence among other participants who had not completed class 10 was 8.54%.

The prevalence of IGD was 17.65% in business class, 15.79% in salaried, and 11.31% among the unemployed. The highest prevalence was found in students, i.e., 24.07%.

Domains as per the IGDS9-SF questionnaire, which are predominantly affected, are presented in Table 2. The most affected domain as per the IGDS9-SF questionnaire was 'preoccupation with gaming behavior' (2.74±0.98), followed by 'relapse noted by failed attempts to control or cease gaming activity' (2.63±1.15) and 'tolerance noted by increased time spent in gaming' (2.62±1.03). Mood modification as noted by the use of online games to escape or mitigate negative emotions was also quite affected (2.60±1.16). The least affected domain was 'losing significant interpersonal relationships, work, and educational or professional opportunities as a result of participating in internet gaming' (1.44, ±0.90). The sample size was adequate. The sample was taken from a representative population consisting of both urban and rural households. The scale used, IGDS9-SF, is a validated assessment tool having good sensitivity, specificity, and accuracy. It is brief and easy to use. The data obtained are self-reported. To avoid recall bias and cognitive distortions, volunteers were given ample time and were asked to introspect thoroughly before answering the questions.

Table I.Demographic attributes of IGD

Attributes		No. of Participants Non-IGD	% Non-IGD	No. of Participants IGD	% IGD	P value
Age (in years)	12-18	111	80.43	27	19.57	<0.01
	19-25	182	76.15	57	23.85	
	26-32	116	82.27	25	17.73	
	>32	101	95.28	5	4.72	
Gender	Female	239	85.97	39	14.03	0.014
	Male	271	78.32	75	21.68	

Residence	Rural	126	82.35	27	17.65	0.819
	Urban	384	81.53	87	18.47	
Education	Class 10th	52	81.25	12	18.75	0.054
	Class 12th	130	78.31	36	21.69	
	Graduate	152	78.35	42	21.65	
	Post Graduate	90	84.11	17	15.89	
	Illiterate	11	100.00	0	0.00	
	Others	75	91.46	07	8.54	
Occupation	Business	28	82.35	6	17.65	0.007
	Salaried	128	84.21	24	15.79	
	Student	205	75.93	65	24.07	
	Unemployed	149	88.69	19	11.31	
Overall prevalence		510	81.73	114	18.27	

Table 2.Affected domains as per IGDS9-SF questionnaire

S. No.	Item	Mean	SD	95% CI	
1.	Do you feel preoccupied with your gaming behaviour?	2.74	.97	2.56	2.92
2.	Do you feel more irritability, anxiety or even sadness when you try to either reduce or stop your gaming activity?	2.57	.97	2.39	2.76
3.	Do you feel the need to spend increasing amount of time engaged gaming in order to achieve satisfaction or pleasure?	2.62	1.03	2.43	2.81
4.	Do you systematically fail when trying to control or cease your gaming activity?	2.63	1.15	2.41	2.84
5.	Have you lost interests in previous hobbies and other entertainment activities as a result of your engagement with the game?	2.57	1.07	2.37	2.77
6.	Have you continued your gaming activity despite knowing it was causing problems between you and other people?	2.31	1.10	2.11	2.52
7.	Have you deceived any of your family members, therapists or others because the amount of your gaming activity?	1.98	1.04	1.78	2.17
8.	Do you play in order to temporarily escape or relieve a negative mood (e.g., helplessness, guilt, anxiety)?	2.60	1.15	2.39	2.81
9.	Have you jeopardised or lost an important relationship, job or an educational or career opportunity because of your gaming activity?	1.44	.90	1.27	1.61

Conclusion

The prevalence of IGD in our study was 18.27%, with 114 among 624 participants found to have IGD. Male gender was significantly associated with IGD. Students and those belonging to the age group of 12-25 years were found to be more prone to IGD. This might be due to easy accessibility to smartphones with internet connectivity. In India, mobile data is among the cheapest globally, leading to its rampant use and misuse.

Active screening is the need of the hour, and school staff may be sensitized for early diagnosis, as many studies reported lower educational and career attainment, including lower school grades, skipped school classes, and truancy. [18] Treatment modalities including behavioral therapy must be provided to prevent the fulminant spread of IGD.

Conflict of Interest: None

Source of Funding: None

References

1. Ko CH. Internet gaming disorder. Current Addiction Reports. 2014 Sep;1(3):177-85.
2. King DL, Delfabbro PH. The cognitive psychology of Internet gaming disorder. Clinical psychology review. 2014 Jun 1;34(4):298-308.
3. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 5th

ed. Arlington, VA: American Psychiatric Association Publishing; 2013.
4. Stevens MW, Dorstyn D, Delfabbro PH, King DL. Global prevalence of gaming disorder: A systematic review and meta-analysis. Australian & New Zealand Journal of Psychiatry. 2021 Jun;55(6):553-68.
5. Undavalli VK, Rani GS, Kumar JR. Prevalence of internet gaming disorder in India: a technological hazard among adolescents. Int J Community Med Public Health. 2020 Feb;7(2):688-93.
6. Singh YM, Prakash J, Chatterjee K, Khadka B, Shah A, Chauhan VS. Prevalence and risk factors associated with Internet gaming disorder: A cross-sectional study. Industrial Psychiatry Journal. 2021 Oct 1;30(Suppl 1):S172-7.
7. Mihara S, Higuchi S. Cross-sectional and longitudinal epidemiological studies of I nternet gaming disorder: A systematic review of the literature. Psychiatry and clinical neurosciences. 2017 Jul;71(7):425-44.
8. Mihara S, Higuchi S. Cross-sectional and longitudinal epidemiological studies of I nternet gaming disorder: A systematic review of the literature. Psychiatry and clinical neurosciences. 2017 Jul;71(7):425-44.
9. Van Rooij AJ, Kuss DJ, Griffiths MD, Shorter GW, Schoenmakers TM, Van de Mheen D. The (co-) occurrence of problematic video gaming, substance use, and psychosocial problems in adolescents. Journal of behavioral addictions. 2014 Sep 1;3(3):157-65.
10. Alfaifi AJ, Mahmoud SS, Elmahdy MH, Gosadi IM. Prevalence and factors associated with Internet gaming disorder among adolescents in Saudi Arabia: A cross-sectional study. Medicine. 2022 Jul 1;101(26):e29789.
11. González-Bueso V, Santamaría JJ, Fernández D, Merino L, Montero E, Ribas J. Association between internet gaming disorder or pathological video-game use and comorbid psychopathology: A comprehensive review. International journal of environmental research and public health. 2018 Apr;15(4):668.
12. Pontes HM, Griffiths MD. Measuring DSM-5 internet gaming disorder: Development and validation of a short psychometric scale. Computers in human behavior. 2015 Apr 1;45:137-43.
13. Fam JY. Prevalence of internet gaming disorder in adolescents: A meta-analysis across three decades. Scandinavian journal of psychology. 2018 Oct;59(5):524-31.
14. Singh YM, Prakash J, Chatterjee K, Khadka B, Shah A, Chauhan VS. Prevalence and risk factors associated with Internet gaming disorder: A cross-sectional study. Industrial Psychiatry Journal. 2021 Oct 1;30(Suppl 1):S172-7.
15. Marraudino M, Bonaldo B, Vitiello B, Bergui GC, Panzica G. Sexual differences in internet gaming disorder (IGD): from psychological features to neuroanatomical networks. Journal of clinical medicine. 2022 Feb 16;11(4):1018.
16. Basuroy T. Number and growth rate of rural active internet users in India from 2017 to 2020. 2022 Dec 22. 2022. Available from: https://www.statista.com/statistics/1258069/india-number-and-growth-rate-of-rural-active-internet-users
17. Jindal A. Research Paper: Study of comparative Mobile Data prices in various economies [Internet]. 2022 November 24. Available from: https://www.linkedin.com/pulse/research-paper-study-comparative-mobile-data-prices-various-jindal/
18. Mihara S, Higuchi S. Cross-sectional and longitudinal epidemiological studies of I nternet gaming disorder: A systematic review of the literature. Psychiatry and clinical neurosciences. 2017 Jul;71(7):425-44.