

Original Research Article

Effectiveness of narrative health message on attitude towards gaming disorder among adolescents at selected school of Patna

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ABSTRACT

Background: Games are generally seen to be beneficial activities but recently it gave rise concern towards people who play digital/video games for prolong hours as it interferes with personal, professional and academics, which is defined as symptoms of internet gaming disorder, that has been recently added in ICD-11 and DSM-5 for further study. Knowledge regarding IGD will help to prevent further prevalence of IGD and manage its harmful physical and mental issue. This study aimed to assess the prevalence of Internet gaming disorder among adolescent students at selected school of Patna, to evaluate the effectiveness of narrative health message on attitude towards gaming disorder among adolescents at selected school of Patna and to determine the association between demographical variables and pre-test attitude score.

Methods: A quantitative research approach and pre-experiment (one group pre-test post-test) research design was used. About 76 participants were selected for the study using convenient sampling technique from class 8, 9 and 10 from selected school of Patna. Data was analysed by using descriptive and inferential statistics.

Results: In pre-test 88.2% participants had positive attitude and 11.8% had negative attitude regarding internet gaming disorder. After implementation of narrative health message there were 92.1% participants had positive attitude and 7.9% had negative attitude. The mean post-test attitude score of 76.91 ± 11.717 was higher than the mean pre-test attitude score of 71.62 ± 9.874 . The calculated 't' value 4.421 was significant at p value 0.001.

Conclusions: The study concludes that narrative health message regarding internet gaming disorder was effective.

Keywords: Adolescents, Attitude, Video games

INTRODUCTION

Human history and games are insuperable intertwined. It is an undeniable fact that through ages, fun and games are been used as an essential part of being alive. It has been seen that each country had their own games which were used for their entertainment purpose like Liubo in China, Mancala in Native America, Pachisi and Chaupar in India etc.¹ Day by day along with modernization of human civilization, gaming behaviour also changed and the biggest credit for this goes to advanced technology which intended to ease human life. It all started with invention of computer followed with the invention of computer followed with development of Internet, world wide web,

first prototype of handheld mobile phone, and mobile network which kept on modifying and deliver the best possible results like handy smartphones.² All these advancements made people attracted towards gadgets and spend them to more and more time in their phones which became a problematic issue when online/video games came into existence. Researchers and clinicians found that increase in gaming activity interferes with their family life, work, education, sleep, hobbies and social relationships.³ For such people, gaming is no longer a beneficial activity, but one that causes harm. These players could not play freely or for enjoyment as they get addicted and cannot stop or control their gaming behaviour which could be termed as problematic addiction to gaming.³

Initially with the release of first commercial video games in 1970's three cases of "space invader obsession" was reported by Ross Finnestone and Levin 1980s where Nilles describe it as computer catatonia. By 2000s, approximately 60 studies were published on gaming addiction between 2000-2010 including majority of MMORPG addiction.⁴ As per International Classification of Disease (ICD) 11th revision in mid-2018 as internet gaming disorder is defined as a pattern of gaming behaviour (digital gaming/video gaming) characterized by impaired control over gaming, increasing priority given to gaming over other activities and continuation or escalation of gaming despite the occurrence of negative consequence.⁵

They also stated that behaviour patterns must be severe enough to result in significant impairment in personal, family, social, educational, occupational and other important areas of functioning and must have been evident for the last 12 months. Addiction to gaming in the American Psychiatric Association's diagnostic and statistical manual of mental disorder (DSM-5) also enlisted internet gaming disorder in section III as an emerging disorder needing further study. IGD 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" (DSM-5 2013).⁶

Many studies have been conducted internationally and nation wise to know the rising prevalence of IGD and it became utmost priority of creating awareness among adolescent groups regarding IGD for in order to prevent further complications. In such situation, providing Narrative health message on gaming disorder will help to create awareness among adolescents group and also knowledge about its contributing factors to mental and physical health problems along with emotional issues among people of different age and cultural background.

METHODS

A pre-experimental (one group pre-test post-test design) study was conducted to evaluate the effectiveness of narrative health message on attitude towards gaming disorder among adolescents at selected school of Patna from December 2021 to February 2022. About 76 adolescent students from class 8, 9 and 10 were selected using convenient sampling technique for this study.

Data was collected after taking approval from institutional research committee and written permission consent from the principal and student of selected school of Patna. Content validity and reliability was assured before implementing tool. Study was conducted in 3 phases. Phase I: data was collected using structured questionnaire on socio-demographic information containing 18 questionnaire, standard tool internet gaming disorder scale short form (IGD S9 SF) for the prevalence of internet gaming disorder and structured

attitude questionnaire containing 20-items on 5-point Likert scale. (5= strongly agree, 4= agree, 3= uncertain, 2= disagree, 1= strongly disagree for positive statement and 5= strongly disagree, 4= disagree, 3= uncertain, 2= agree, 1= strongly agree for negative statement). The score was categorized as >60 as negative attitude and ≥ 60 positive attitude towards gaming disorder.

In phase II narrative health message was given as an intervention on the same day, developed on the basis of case vignette including information about internet gaming disorder, signs and symptoms and treatment modalities.

Phase III including re-evaluation of adolescent students was done on the basis of structured attitude questionnaire. All phase after a week of gap.

Data was checked for completeness and analysed using Statistical Package of Social Science (SPSS) software version 20. Descriptive statistics such as frequency, percentage and standard deviation was used to assess the socio demographic information and other variable and chi-square test was used at a significant level of 5% to examine the association between socio-demographic information and pre-test attitude mean score.

RESULTS

A total of 76 school adolescent students were included in the study based on the inclusion and exclusion criteria. The findings of the study showed that 92% of students do not have internet gaming disorder and 8% who had internet gaming disorder as depicted in Figure 1.

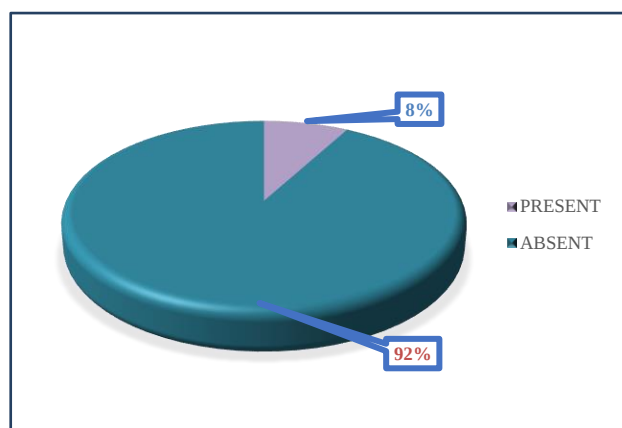


Figure 1: Prevalence of internet gaming disorder among adolescent students at selected school of Patna.

Also, to evaluate the effectiveness of narrative health message on attitude towards gaming disorder among adolescent student's 't' test has been used showing mean post-test attitude mean score as depicted in Table 1.

Association between socio-demographic and pre-test attitude mean score depicted in Table 2.

Table 1: Effectiveness of narrative health message on attitude towards gaming disorder among adolescents at selected school of Patna.

Attitude score	Mean	Mean difference	SD	df	Paired 't' value	P value
Pre-test attitude score	71.62	5.289	9.874	75	4.421	0.001
Post-test attitude score	76.91		11.717			

Table 2: Association between selected socio-demographic variables and pre-test attitude score.

Socio demographic variables	Pre-test attitude score		χ^2	df	P value (by paired t-test value)
	Positive	Negative			
Age (years)			3.903	1	0.068
10-14	3.3 (21.4)	24.7 (78.6%)			
15-19	5.7 (6.2%)	42.3 (93.8%)			
Gender			0.414	1	0.711
Male	6.2 (13.5)	45.8 (86.5%)			
Female	2.8 (8.3%)	21.2 (91.7%)			
Third gender	0	0			
Class			10.098	2	0.003*
8	3.0 (28.0%)	2.0 (72.0%)			
9	3.1 (0.0%)	22.9 (100%)			
10	3.0 (8.0%)	22.0 (92.0%)			
Religion			0.567	2	1.000
Hindu	8.5 (12.5%)	63.5 (87.5%)			
Muslim	0.2 (0.0%)	1.8 (100%)			
Sikh	0	0			
Christian	0	0			
Other	0.2 (0.0%)	1.8 (100%)			
Area of residence			0.136	1	1.000
Rural	0.1 (0.01%)	0.9 (100%)			
Urban	8.9 (12.0%)	66.1 (88.0%)			
Socio-economic status			0.276	1	1.000
>50,000	0	0			
50,000-1,00,000/month	8.8 (12.2%)	65.2 (87.8%)			
>1,00,000/ month	0.2 (0.0%)	1.8 (100%)			
Type of family			0.843	2	0.545
Nuclear	5.8 (14.3%)	43.2 (85.7%)			
Joint	3.1 (7.7%)	22.9 (92.3%)			
Extended	0.1 (0.0%)	0.9 (100%)			
Mother's educational status			1.394	3	0.812
Illiterate	0	0			
Primary education	1.7 (7.1%)	12.3 (92.9%)			
Secondary education	1.1 (11.1%)	7.9 (88.9%)			
Higher secondary education	3.4 (17.2%)	25.6 (82.8%)			
Higher education	2.8 (8.3%)	21.2 (91.7%)			
Father's educational status			3.511	3	0.460
Illiterate	0	0			
Primary education	0.4 (0.0%)	2.6 (100%)			
Secondary education	0.8 (0.0%)	6.2 (100.0%)			
Higher secondary education	3.3 (7.1%)	24.7 (92.9%)			
Higher education	4.5 (18.4%)	33.5 (81.6%)			
Mother's occupational status			1.914	3	1.000
Unemployed	7.6 (14.1%)	56.4 (85.9%)			
Government	0.6 (0.0%)	4.4 (100%)			
Semi-government	0.2 (0.0%)	1.8 (100%)			
Private	0.6 (0.0%)	4.4 (100%)			

Continued.

Socio demographic variables	Pre-test attitude score		χ^2	df	P value (by paired t-test value)
	Positive	Negative			
Father's occupational status					
Unemployed	0	0	1.140	2	0.456
Government	3.8 (15.6%)	28.2 (84.4%)			
Semi-government	0.7 (16.7%)	5.3 (83.3%)			
Private	4.5 (7.9%)	33.5 (92.1%)			
Smart phone availability					
No	0.7 (33.3%)	5.3 (66.7%)	2.882	1	0.146
Yes	8.3 (10.0%)	61.7 (90.0%)			
Smart phone with internet availability					
1	0.6 (20.0%)	4.4 (80.0%)	3.068	3	0.355
2	2.7 (13.0%)	20.3 (87.0%)			
3	2.7 (17.4%)	20.3 (82.6%)			
>3	3.0 (4.0%)	22.0 (96.0%)			
Internet wi-fi/broadband connection in home					
No	2.3 (15.8%)	16.8 (84.2%)	0.378	1	0.683
Yes	6.8 (10.5%)	50.3 (89.5%)			
Have you ever played digital/video games					
No	0.4 (33.3%)	2.6 (66.7%)	1.382	1	0.319
Yes	8.6 (11.0%)	64.4 (89.0%)			
Hours of playing digital/video games					
<1 hours	0.9 (0.0%)	7.1 (100%)	2.435	3	0.638
1-2 hours	5.9 (12.0%)	44.1 (88%)			
3-4 hours	1.8 (20.0%)	13.2 (80%)			
5-6 hours	0.4 (0.0%)	2.6 (100%)			
>6 hours	0	0			
Hour of sleep					
>5 hours	0.1 (0.0%)	0.9 (100%)	1.498		0.537
5-6 hours	1.8 (13.3%)	13.2 (86.7%)			
7-8 hours	5.3 (8.9%)	39.7 (91.1%)			
>8 hours	1.8 (20.0%)	13.2 (80.0%)			
Have you ever heard about internet gaming disorder					
No	6.0 (15.7%)	45.0 (84.3%)	2.195	1	0.257
Yes	3.0 (4.0%)	22.0 (96.0%)			

DISCUSSION

Internet gaming disorder, a condition where individual is preoccupied with online video games up to a level where it results in physical impairment, social dysfunction and academic failure. A number of global evidence shows that prevalence of this condition is raising day by day along with recent advance technology and have higher penetration into routine life.

In the present study, reveals that out of 76 participants, there were only 8% (n=6) participants who lie in the Internet gaming short form scale (IGD S9 SF), DSM-5 gaming disorder criteria. Present study result showed higher percentage of IGD in comparison to other studies due to small sample size. This prevalence rate differs from study to study conducted both nationally and internationally on internet gaming disorder.

A systematic review and meta-analytic study, aim to know worldwide- pooled prevalence of gaming disorder including 53 studies and a sample of 226,247 across 17 countries showed prevalence of 3.05% of internet gaming disorder worldwide.⁷ Similarly, meta-analytic study conducted across 3 decades including 16 studies prior to March shows 4.6% prevalence of IGD.⁸

Other cross-sectional study conducted among 5497 sample, Thailand shows 5.4% positivity for IGD and a qualitative study conducted among 153 samples in Germany shows 5.7% prevalence of IGD.^{9,10}

If we talk about nation wise, it was 3.50% among school children.¹¹

There are various reasons behind the rise in the prevalence of Internet gaming disorder. One of the main reasons could be the easy availability of games and gaming gadgets in the market which are easy to handle

and also fashionable which create more fascinating attraction towards them. Another reason is the integration of games with the social media which enables the player to share their gaming activities with others and allow game developer to track their gaming activities. It also serves as a platform for these gaming advertisements and message.^{2,3}

It has also seen that problematic gaming addiction behaviour begins much before parents can be conscious and concerned about their child. Children use smart phones for their academic purpose and class which goes unnoticed by the parents but this leads to problem when they use smart phones for long hours for social media use, gaming and other activities.⁵

It has been seen those children and adolescent, specially at high risk of problematic use of interactive media, from video games to a smartphone, they are the early enthusiastic adopters of technology but immature than adults, as their executive brain function such as impulse control, self-regulation and future thinking still develop because of which they became addict. Early signs of problematic gaming usually go unnoticed until it becomes an impairment or could lead to a physical problem, social dysfunction or academic failure. Such addiction to gaming is described in the American Psychiatric Association's diagnostic and statistical manual of mental disorder.⁵

As depicted in definition itself, it has been found that this kind of addiction behavior shows adverse effect along with psychological deprivation, when such people are not allowed to play which has been shown by various studies.

A study conducted among 16410 subjects shows that teens who play online/ video games for 5 or more hours shows higher risk for sadness, suicidal ideation and suicide planning.¹² This result was also supported by study conducted in Patna which reveals that most of the student who play for long hours complains for various psychological and physical discomfort like numbness in wrist and thumb, sleeplessness etc.^{13,14,22}

It has also found that young adolescents who play online/ video games at problematic level are at more risk of substance use.¹⁵

Also, a number of psychiatric illnesses are associated with IGD like ODD, dissociative disorder, ADHD and Depressive disorder.^{16,17}

Another main reason of high prevalence on gaming disorder is pandemic of COVID-19, a situation where all social activities are restricted and everyone is depended on their phones and gadgets for their work either it an office work, business or studies. People also depend on their smart phones to release their anxiety and boredom of lockdown. A survey study conducted among 1046 high school student participants shows high prevalence rate of

IGD during COVID.¹⁸ There was greater risk of IGD among youth people and those who were infected with COVID.¹⁹

Also, the result of present study reveals that there was a significant difference between mean pre-test and mean post-test attitude score of adolescents exposed to narrative health message. This result is supported by a study to investigate the effectiveness of narrative and behavioural involvement on adolescent attitude towards gaming disorder involving 115 adolescents. The result indicate that narrative health message was more influential with mean value of 4.89 ± 1.00 and p value of 0.035.²⁰

Molemi et al conducted a cross sectional qualitative study, aim to examine effectiveness of narrative storytelling in order create cancer awareness among voluntarily participated 50 students at Johannesburg University. Data was collected through self- administered reflective questionnaires. According to result of study, narrative story telling was found to be effective and encourages most of participants for frequent self-examination and visiting health facilities to receive regular professional tests.²¹

CONCLUSION

The study was conducted to assess the effectiveness of narrative health messages on attitude towards gaming disorder among adolescents at selected schools of Patna. The following conclusion was drawn from the result of the study: most of the students had more negative attitude towards gaming disorder before implementing the narrative health message and the study results show that after the administration of the narrative health message, there were significant positive changes in adolescents' attitudes towards gaming disorder. Hence, study was found to be effective. Also, studies help create awareness and provide knowledge regarding gaming disorders, which helped them in their present and future gaming behaviour.

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