Efficacy of intervention for gaming addiction among adolescents

Sweta Kumari[1], Dr Dhiksha[2]

[1,2]School of Social Sciences and humanities, Off Hennur, Bengaluru Main Road,
Chagalatti, Bangalore 562149, Karnataka, India.

Abstract

The inclusion of Internet Gaming Disorder in the appendix of the updated version of the Diagnostic and Statistical Manual for Mental Disorders (DSM-5) encourages further research. According to the American Psychiatric Associations the criteria for diagnosis of gaming addiction is based on pathological gambling or the substance dependence. Research suggests that individuals with gaming addiction experience similar symptoms like a substance addict. Online games are more appealing to children and adolescents than the other age groups. The cause of gaming disorder is not yet fully identified. Most research indicates that the aspects that may be involved are the game's built-in reward system may be the cause of the gaming disorder. Covid 19 has had a major impact on adolescents and children mental health alongside with developmental stress due to lockdown. Studies reports there was an increase in gaming and internet use with Impact on psychosocial wellbeing among Adolescents. Very few studies are focusing on prevention of gaming addiction, therefore it is an urgent need to introduce preventive intervention and treatment for gaming addiction. The relationship with excessive playing of video games and psychological factors are motives to play and individual differences in self-control. Specific achievement, desire to gain power, progress rapidly, accumulating wealth, symbols and status are the major motives. Another psychological factor is uncontrolled drive to look for achievement or to kill boredom, anxiety, and dysphoria. Other potential psychological factor is individuals' self-esteem which is boosted in game in the form of rewards. Adolescents who are addicted to gaming are found to be irritable, feels nervous, feels exhausted, and mostly in bad mood. Some of the positive effects if gaming is in moderation are reduction in fatigue and stress, it also helps in increase self-confidence, and improves visual attention skills. The program goal is to reduce the symptoms among adolescents for gaming addiction and improve mental health wellbeing.

Keywords: Addiction, Adolescents, Gaming, and Intervention

1.Introduction

The inclusion of Internet Gaming Disorder in the appendix of the updated version of the Diagnostic and Statistical Manual for Mental Disorders (DSM-5) encourages further research. The diagnostic criteria of Internet Gaming Disorder place the behavior within the category of "non-substance addictions" and suggests that Internet addiction could, like Pathological Gambling, be one of the candidates in this category. Various diagnostic criteria for Internet addiction are of five subtypes– 1. Cybersexual addiction: People are engaged in viewing, trading, and downloading online pornography 2. Cyber-relational addiction: People become excessively involved in online relationships, which are perceived to be more important than real life ones giving rise to marital discord and family instability (chatrooms, social networks) 3. Net compulsions: Gambling, shopping, trading online 4. Information overload: Excessive web surfing, information, and database search 5. Computer addiction: People are overly engaged with pre-programmed games (Petry, Internet Gaming Disorder in the DSM-5, 2015).

Covid 19 has had a major impact on adolescents and children mental health alongside with developmental stress due to lockdown. Studies reports there was an increase in gaming and internet use with Impact on psychosocial wellbeing among Adolescents. Individuals who were more involved with gaming and social media reported to be high on depression, loneliness, aversion, poor sleep, and pandemic related

anxiety (Fernandes, Biswas, Mansukhani, Vallejo, & Essau, 2020).

Very few studies are focusing on prevention of gaming addiction, therefore it is an urgent need to introduce preventive intervention and treatment for gaming addiction. These interventions should target peer groups, parents, teachers, and others who ever is a part of individuals environment (Vondráčková, 2016).

1.1 Gaming Addiction

Excessive playing of online games has been associated with addictive behaviour. past research has been criticised due to sampling issues; therefore, this study aims to overcome these criticisms. In this study Germany is using already established instrument for problematic game use. A total of 4382 students aged between 14 to older adults were taken for study. Game use was measured with gaming addiction short scale which covers seven criteria. According to this research only seven respondents met all the criteria, high GAS scores are associated with aggressive, low sociability, lower satisfaction, and problematic social lives (Ruth Festl, 2013).

The relationship with excessive playing of video games and psychological factors are motives to play and individual differences in self-control. Specific achievement, desire to gain power, progress rapidly, accumulating wealth, symbols and status are the major motives. Another important motive is escapism- need to escape from real life problems. Another psychological factor is uncontrolled drive to look for achievement or to kill boredom, anxiety, and dysphoria. Other potential psychological factor is individuals' self-esteem which is boosted in game in the form of rewards (Billieux, 2015).

1.2 Diagnosing Gaming Addiction

The meeting was organized within the framework of collaboration between the World Health Organization (WHO) headquarters' Department of Mental Health and Substance Abuse (Management of Substance Abuse unit). The scope for the meeting was health and social consequences due to excessive usage of smart phones, computers, or electronic devices for gaming. Meeting was concluded with governments to look for effective preventive policies and response

strategies aimed at reducing the health risks and consequences associated with excessive use of electronics (WHO, 2022).

The fifth revision of Diagnostic and Statistical Manual (DSM) of Mental Disorder includes potential new diagnosis- Internet Gaming Disorder. Chapter in DSM 5 section 3 describes the criteria which recommends the methods to assess Internet Gaming Disorder. DSM 5 lists nine criteria for Gaming Addiction which are drawn for substance use disorder and gambling addiction (Petry, Internet Gaming Disorder in the DSM-5, 2015).

Eleventh Revision of International Classification of Diseases (ICD 11), which was released in November 2016 now include gaming disorder grouped with substance and gambling disorder. National Institutes of Health are highlight the importance of capturing the neurobiological phases of the addictive cycle in clinical diagnosis (Saunders, july 2017).

1.3 Gaming Addiction and Intervention

Gaming addiction is associated with adolescents' family environment and the parent-adolescent relationship. At present most of the interventions are based on cognitive behaviour therapy. The present article adapted multidimensional family therapy for internet gaming addiction. This paper aims at by addressing the question why and how parents should be involved, family involvement and parenting styles with adolescents for gaming addiction (Bonnaire, 2022).

Future work on gaming addiction needs to focus on clinical investigations of treatments and longitudinal studies of the disorder. Lower socioeconomic status including less maternal education and single parent children are high risk for gaming addiction. Parental monitoring of adolescents and parent child relationships are important in improving gaming addiction. Researchers have identified three treatment possibilities for gaming addiction are cognitive behavioural therapy, pharmacological, and group or family therapy (Bickham, 2021).

Intervention was designed as most of the parents were coming up with the complaints,

that how children are becoming addictive and not mingling with other children. Social skills got effected for all age groups.

2. Need and Significance of the study

In India, there is little hard research of gaming addiction rates and the positive and negative impacts of gaming use by adolescents, however very little research has been conducted on this societal problem within the Indian context. Similarly, there is very few research with Intervention module of addictive use of gaming and very few studies are conducted in the metro cities of India. The present study is sought to bridge these gaps by conducting research on Impact of intervention for gaming Addiction on Adolescents.

In the light of this study researcher wants to make people aware especially who are involved in taking care of adolescents such as parents, teachers, and counsellors. Most of the parents were born in the generation without internet technology, their knowledge and skills about this technology may not be as good as their children who are born in this generation. Learning how to use internet and its applications for adolescents is just like learning how to read and write. Adolescents are more and more likely to expose to internet at an earlier age. Parents are eager to give the latest technology as soon as possible, to their children to nurture them with the

best and latest learning modality, hoping they can be winners from the beginning of life. Especially in these pandemic covid 19 children are free to use gadgets without any hesitation. When informal interviewing and during the sessions adolescents mentioned that they use gadgets to kill boredom and as they don't understand anything in online classes, they use to play games. Some adolescents also mentioned how proud and confident the feel when they are exceling in game, they also like the reward system in games and appreciation tokens given by fellow players. This study will give them baseline information with scientific results about the addicted behaviour of adolescents towards the growing gaming addiction. Through this study, they may start to aware of this problem so they can try to control the addicted adolescents in early age. This study can provide information on the symptoms of the gaming addiction, impact of

intervention on gaming addiction, for preventive and precautionary measures. These interventions will be useful and can be implemented in schools for prevention of gaming addiction or any gadget addiction in their life skill modules.

3. Methodology

The study will mainly be based on data collected from adolescents who are addicted to gaming in Telangana region. The collected data will be processed, analysed, and discussed in the form of table. This will furthermore contribute to providing measures to improve the reliability across studies and to develop effective and efficient treatment and preventive approaches. Hence, more research in young adults, regarding gaming addiction would be enlightening.

3.1 Aim

To determine the efficacy of intervention for gaming addiction among adolescents.

3.2 Objectives

The objective of the study entitled "Efficacy of intervention for gaming addiction among adolescents" is to study the efficacy of intervention pre and post intervention.

3.3 Hypothesis

There will be a significant difference among adolescent's pre and post intervention condition in gaming addiction.

3.4 Sample and research design

In this study Experimental and Descriptive research design were used with two group comparison design with Pre and Post assessment. A sample consisting of 100 adolescents was chosen for the present study. The age range of the present sample was 10 to 13 years. The sample was drawn from different parts of Telangana, India. Gaming disorder scale- short form (IGDS9-SF) (Pontes et al., 2015) was first initially administered on the present sample so as to determine gaming addiction. Each group thus consisted of 50 subjects who were categorized into two groups i.e., children with addiction and children with

no addiction on the basis of their frequency scores on gaming disorder scale.

3.5 Procedure and data collection

This study was conducted in three phases. In the first phase of the study consent from parents, demographic details of the adolescent, and Gaming addiction scale was given to adolescents. It was conducted in order to assess the gaming addiction among adolescent boys. Second phase of this study employed Intervention Program for addicted adolescent students with Intervention Modules. Last and third phase of this study was ascertaining the impact of developed Intervention programme on addicted adolescents and gaming addiction test was again applied for all addicted students. Confidentiality of the responses was ensured, and they were also informed that the data will be used only for research purpose. Twenty minutes were given to the adolescents to complete the questionnaires.

3.6 Description of tools used

To fulfil the objectives of the study the researcher had to use the following tools for data collection.

3.6.1 General information and consent

The first part of general questionnaire pertaining to respondent's general profile in terms of name, age, gender, types of family. Consent form was signed by parents and adolescents.

3.6.2 Internet Gaming disorder scale-short form (IGDS9) (Pontes &Griffiths, 2015)

Addiction to gaming is described in the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*, which is used by mental health professionals to diagnose mental disorders. Based on the criteria for IGD in the DSM-5, the IGDS9-SF was developed to assess the severity of the nine IGD criteria for both online and/or offline detrimental effects of gaming activities occurring over the previous 12-month period. It is suitable for children and adults and is claimed to be efficient for largescale surveys (Wu et al. 2017). The **IGDS9-SF** has also been shown to be reliable

according to several indicators of reliability. The items on the Gaming Addiction Scale are rated on a 5-point Likert scale: 1 (never), 2 (rarely), 3 (sometimes), 4 (often) and 5 (very often). As suggested by the authors of the scale, an item was considered endorsed when a respondent scored 5 or higher. Scoring information: In order to differentiate addicted adolescents from non-addicted adolescents, researchers should check if participants have endorsed at least five criteria out of the nine by considering answers as '5: Very Often', which translates as endorsement of the criterion.

3.7 Intervention

3.7.1 Intervention Module developed for Gaming Addiction

The activities were selected for this stage of study which included 7 sessions and all sessions were carried out in groups. All the intervention sessions were conducted in a private set up. For every activity given, members will be provided with handouts and worksheets to complete. The Intervention Module has a structured session.

3.7.2 Structure of the session

Each structure will be divided into three parts, the division will be as follows:

First part

- Introduction of session format
- Review of life events since last sessions
- Elicit current concerns/problems
- Review of previous session
- Review of out of session assignments
- Agree the agenda for the session

Second part/main part of the session

In this part of session researcher will introduce next stages to deal with addiction where main topic will be covered.

Third part

This part includes elicitation of members views, allocation of out-of-session assignment and summary of the session.

3.8 Statistical Analysis

Statistical analysis was carried out using the statistical package of social sciences (SPSS) IMB SPSS version 21. Level of significance was set to P < 0.05. since the sample size was small and, data were on category variable; nonparametric statistical techniques were used to interpret the data. Pre- and post- assessment scores was compared for the group. Wilcoxon signed rank Test was used to compare between the pre- post- assessment scores of the sample. The data collected on different aspects, as per plan were tabulated and analysed statistically.

4. Results and Discussion

This chapter contains the results and discussion of the study. First section presents the analysis about the results of this study which was done with the aid of Statistical Package for Social Science (SPSS 21). The analysed data is represented in the form of table. Second section presents the discussion of the result

Wilcoxon Signed Ranks Test

		N	Mean Rank	Sum of Ranks
posttotal - pretotal	Negative Ranks	40[a]	20.50	820.00
	Positive Ranks	0[b]	.00	.00
	Ties	0[c]		
	Total	40		

a. posttotal < pretotal
b. posttotal > pretotal
c. posttotal = pretotal

Test statistics table

	Pre test-post test
Z	-5.517[b]
Asymp. Sig. (2-tailed)	0.000

a. Wilcoxon Signed Ranks Test
b. Based on positive ranks.

Table 1- *Wilcoxon rank sum test showing mean rank and sum of ranks for pre intervention and post intervention.*

Wilcoxon rank sum test is used to compare two related samples, matched samples, or to conduct a paired difference test of repeated measurements on a single sample to assess whether their population mean ranks differ. Table shows that N is the number of children is 40 in post and pre intervention and mean value is 20.50 and sum of ranks is 820.0. Test statistic table shows the asympiotic level of post intervention and pre intervention data which significantly differs as the value is 0.00. In light of the findings, accepting the hypothesis which states that, "There will be a significant difference among adolescent's post intervention module for gaming addiction." In

a study on effectiveness of school and family-based interventions to prevent gaming addiction among grades 4th and 5th in Bangkok, the findings revealed that there were significance difference in knowledge, attitude, self- regulation, and gaming addictive behaviours immediately and three months post intervention. (Nipaporn Apisitwasana, 2018)

5. CONCLUSION

Online games are more appealing to children and adolescents than the other age groups. It was found that there was a significant difference between adolescents and gaming addiction. Players assume the heroic characters and take control of that character's actions. Some of the educational games can help in development of children and teens when they

play in controlled way. The program goal is to reduce the symptoms among adolescents for gaming addiction and improve mental health wellbeing. It was found a significant difference in post intervention among adolescents. Future work on gaming addiction needs to focus on clinical investigations of treatments and longitudinal studies of the disorder. Various diagnostic criteria for Internet addiction have been proposed. Very few studies are focusing on prevention of gaming addiction, therefore this research focuses on preventive intervention and treatment for gaming addiction.

6. LIMITATIONS

- The study could have included more variables in demographic details.
- The present study can be extended to a large, representative population.
- Similar study can be done among adults.

- The study is limited to adolescents in the urban area only. One may plan future investigations to explore dynamics of gaming Addiction in rural areas and for other age groups.

7. IMPLICATIONS

- Adolescents should be engaged in more extra-curricular activities.
- Parents should monitor the children on usage of gadgets.
- Parents can teach children on right usage of internet and its importance.
- Counselling to be continued for adolescents.
- Schools should take the intervention for gaming as a part of curriculum and train school counsellors.
- Government should put a ban on games which are addictive and effects mental health of adolescents.

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