

# Cognitive Behaviour Therapy for ‘Internet Gaming Disorder’ A Systematic Review

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## Abstract

Internet gaming disorder (IGD) is a new disorder added in the 11th Revision of the International Classification of Diseases (ICD-11) by WHO. The DSM-5 states that Internet Gaming Disorder is most common among adolescents. Over the last epoch, there has been an increase in, problematic use of online videogames. Consequently, providing effective treatment is also disapprovingly crucial. The aim of this review is to assess the efficacy of Cognitive behaviour interventions for Internet gaming disorders. A computer database search PubMed, ScienceDirect, Springer Link, SciELO, Researchgate, SciHub and Google Scholar were conducted to identify all available research evidence on interventions for Internet gaming disorders. All searches have been limited to full text papers published from 2009 to 2019. The findings show that different interventions are applicable in reducing Internet gaming disorder signs and the period paid for gaming. When analysed the findings of previous studies, Cognitive Behaviour Therapy was found to be more prevalent for effective dealing of internet gaming disorders.

**Key Words:** *Internet gaming disorders, Cognitive Behaviour Therapy, Systematic Review*

## Introduction

Currently, the whole World is discussing about the game and gaming. The entertainment business market is more concentrating on games and promoting the dependency toward gaming. Introducing new sequence of games with the release of new movies and television serials are examples for such addiction motivations. Internet Gaming Compulsion is more on gamers who have an unhealthy preoccupation with online video games, regardless of whether they are played on computers, consoles, or mobile devices<sup>3</sup>.

Internet Gaming Disorder is a “Condition for Further Study” in the DSM-5. The DSM-5 states that Internet Gaming Disorder is most common in male adolescents 12 to 20 years of age<sup>2</sup>. ICD-11 categorized it under disorders due to addictive behaviours as Gaming disorder, predominantly online. Internet gaming disorder may lead to school failure, job loss, or marriage failure. Other diagnoses that may be associated with Internet gaming disorder include major depressive disorder, attention deficit hyper activity disorder, and obsessive-compulsive disorder<sup>8</sup>.

The prevalence of Internet gaming disorder is unclear because of the varying questionnaires, criteria and thresholds employed, but it seems to be highest in Asian countries and in male adolescents 12-20 years of age. There is an abundance of reports from Asian countries, especially China and South Korea, but fewer from Europe and North America, from which prevalence estimates are highly variable.<sup>14, 10</sup>

So, in such a life-threatening condition, it is vital to review available, pertinent literature effective for gaming disorders. These findings can lead to the directions toward appropriate interventions for Internet gaming disorders.

## Method

An organized systematic review has been conducted in computer database by the search terms: Psychological/ Treatment/ Intervention for Internet gaming disorders/ internet gaming addiction. The search databases were PubMed, ScienceDirect, Springer Link, SciELO, Researchgate, Sci Hub and Google Scholar and selected full text papers published from 2009 to 2019.

The following results were contained within in each database: ScienceDirect-7, PubMed-5, Springer Link-2, Sci Hub-2, SciELO-3, Research gate-3 and Google Scholar-8. There were a total of 30 studies discussing about the treatments for internet gaming disorders but screening of the studies in PRISMA criteria excluded 20 numbers of studies and selected only 10 studies for the meta-analysis. The initial exclusion was based on the duplication of studies and 7 studies excluded based on the duplication criteria. Then, the number of studies identified was 23 and again screened for full papers, five of the studies omitted. There were total 18 numbers of studies with full papers. Then, according to the eligibility criteria, 8 additional studies were eliminated since they reported lack of treatments, 4 studies were deleted since not mentioned about effectiveness of the treatments, 3 other studies rejected as not mentioned name of the interventions, 3 other study also excluded because of inclusion of psychiatric medication along with psychological treatments. Consequently, there were only 10 studies to proceed with the systematic analysis.

## Results

Thirty studies were evaluated in terms of sample characteristics, aim of the study, treatment, and results. Although the searched for studies from 2009, in the current systematic-analysis, the first study obtained from year 2012. Two studies in 2014, one studies each in 2015 and 2016. Two studies published in 2017, 2 studies in 2018 and one study in 2019.

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Consequently, there were only 10 studies to proceed with the systematic analysis and for the discussion of the psychological interventions.

## Discussions

When analysing the treatment methods in all these 10 studies, Cognitive Behaviour therapy was found to be more popular for treatment of internet gaming disorders.

King et al.<sup>9</sup> conducted a study on 'Clinical Interventions for Technology-Based Problems: Excessive Internet and Video Game Use'. The study presented an overview of the prevalence of technology-based problems and the known cognitive behavioural dimensions of problematic technology use. The paper also gone through issues related to the assessment of technology-based problems, and critically reviewed clinical treatments for technology-based problems and find out that multimodal approach to treatment, including psychoeducation and CBT-based therapies are more effective in management of Internet Gaming Disorders. The paper came to these conclusions through analysing of recent prevalence studies conducted in Western and Eastern countries. All the studies were with more than 1,000 participants and being published in the recent 5 years.

Karapetsas et al.<sup>7</sup> illustrated the underlying factors for game addiction are poor interpersonal relationships, aggressiveness, isolation, introversion, low self-esteem, low self- control, tediousness, and communication problems. The researchers recommended motivational interviewing and social skill training as interventions for internet gaming addiction.

Internet and video game addictions: a cognitive behavioural approach was explored by Lemos et al.<sup>11</sup>. The study described cognitive behaviour therapy as the best psychotherapy for Internet and video game addiction. Diagnosis and Management of Video Game Addiction was a study by Griffiths<sup>5</sup>. The study suggested that, family therapy, couple therapy, social skill training, mental health counselling, interpersonal therapy, motivational interviewing, subliminal therapy and behaviour therapy are effective treatments for gaming disorder.

Zhang et al.<sup>16</sup> recognized that craving behavioural intervention is effective in reducing craving and severity in Internet gaming disorder. Young et al.<sup>15</sup> investigated the available theoretical foundations and practical evidences and the application of the Interaction of Person-Affect-Cognition-Execution (I-PACE) model, for the development of new intervention patterns based on Cognitive-Behavioural Therapy for Internet gaming disorder and concluded that the cognitive restructuring is useful for changing the expectancies of gamers and to manage addiction towards gaming.

Torres-Rodríguez et al.<sup>13</sup> conducted a study on the treatment of internet gaming disorder: a brief overview of the PIPATIC program. The model put together different aspects of interventions which include: psychoeducation, common management techniques, intrapersonal, interpersonal, family intervention, and development of

a new lifestyle. The efficacy of the treatment program reported hopeful, based on the participant observation.

González-Bueso, et.al.<sup>4</sup> evaluated the effectiveness of a cognitive behavioural treatment on reducing symptomatology, and the results indicated the effectiveness of psychoeducation programme.

Nazlıgül et al.<sup>12</sup> carried out a study on internet gaming disorder and its treatment approaches to determine the results of psychoeducation for the parents and cognitive behaviour therapy for gamers. The analysis concluded that psychoeducation and cognitive behaviour therapy are effective interventions.

Costa et al.<sup>1</sup> conducted a systematic review is to create an idea of the interventions used for gaming disorders in clinical practice and taken together, verified that clinical studies primarily use CBT interventions.

**Table 1: Psychological Interventions for Internet Gaming Disorders**

INTERVENTION	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Psychoeducation	*						*	*	*	
Cognitive Behaviour therapy	*		*			*		*		*
Craving behavioural intervention					*					
Family therapy				*			*	*		
Couple therapy				*						
Social skill training		*		*						
Counselling				*						
Motivational interviewing		*		*						
Subliminal therapy				*						
Behaviour therapy				*						

S= study

Cognitive behavioural therapy suggested by 5 studies, Psychoeducation recommended by 4 studies, family therapy proposed by 3 studies, motivational interviewing recommended by 2 studies, social skill training proposed by 2 studies, craving behavioural intervention, couple therapy, counselling, subliminal therapy and behaviour therapy were recommended by one studies each.

Thus, the evidences from the studies suggested that, cognitive behaviour therapy, the psycho-social intervention that aims to improve mental health is found to be more effective treatments for internet gaming disorder.

Although there are a very a smaller number of studies were conducted in this field and still scientific world is not much involved in the problems related to Internet gaming disorders, a small evidence base suggests that cognitive behaviour therapy has good preliminary support in treating gaming addicted adolescents.

### Conclusion

The internet gaming disorder apparently generating disturbances in individual's psychological and social wellbeing. When analysing the previous studies in internet gaming disorder intervention, both individual and family therapies were found to be essential for removal of the addiction and management of associated behaviours.

In the present review, Cognitive behaviour therapy was recommended by most of the researches and shown more efficacy to attain self-discipline and self-control.

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