

Golebiowska Maria, Golebiowska Beata. Newest findings on gaming addiction treatment. Journal of Education, Health and Sport. 2018;8(8):112-122. eISSN 2391-8306. DOI <http://dx.doi.org/10.5281/zenodo.1298732>
<http://ojs.ukw.edu.pl/index.php/johs/article/view/5608>

The journal has had 7 points in Ministry of Science and Higher Education parametric evaluation, Part B item 1223 (26/01/2017).
1223 Journal of Education, Health and Sport eISSN 2391-8306 7

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The authors declare that there is no conflict of interests regarding the publication of this paper.

Received: 01.06.2018. Revised: 08.06.2018. Accepted: 27.06.2018.

Newest findings on gaming addiction treatment

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No sources of support were received in preparations of this research and manuscript.

Key words: Computer games, Addictive behaviour, Addiction medicine

Abstract

Newest findings on gaming addiction treatment.

Background:

With introduction of new technologies, mainly computers and internet, the lives of societies are being transferred more often to virtual reality. What happens to be one of the greatest achievements of human kind, being able to archive all of accomplishments of the civilizations, connect people around the world and make the living truly globalized, to some may be a curse and an addictive trap. Gaming addiction and internet addiction are one of the new behavioural addictions, collecting more and more victims every year, and gathering more attention of psychiatrists, neurobiologists and public health professionals.

Materials and methods:

The aim of this study is to review the latest treatment options for gaming addiction.

For this purpose, 32 papers from PubMed Medline of period 2007-2017 have been reviewed.

Results:

Treatment of gaming addiction is still a new topic within modern psychiatry. The latest options of treatment can be differentiated between psychosocial and pharmacotherapy treatment. Psychosocial treatment consists of cognitive behavioral and psycho-educational therapy, aiming to control the harmful stressors and to obtain skills necessary for self-control. For pharmacotherapy the choice depends on the coexisting comorbidities, however the data on the neurobiology of the gaming addiction, as well as diagnostics procedures are still not consistent enough to provide reliable guidelines.

Conclusions:

Study reveals the growing importance of increased research in field of treatment of gaming addictions, as more guidelines are being provided nowadays as well as number of patients affected will be increasing in the nearest future.

Newest findings on gaming addiction treatment.

Introduction

Computers seem to be one of the most astonishing achievements of human civilization. Primarily used as the calculation device, the “first computers” were created in Ancient Greece for astronomical estimations with the Antikythera mechanism. [1] For the first analytic engine computing unit we had to wait until the beginning of 20th century and the engineering concepts of Charles and Henry Babbage. [2] The first portable computers we know nowadays, were introduced by IBM in 1973 and gained official recognition in 1983 as the “revolutionary concept” in electronics industry, and the true revolution of globalization started with the introduction of internet in 1990s, slowly gaining more attention in everyday lives. [3]

However with the introduction of modern technology, more and more people transfer their lives to the virtual reality, as well as get into a trap of addictive behaviors. Computer gaming addiction, offline and online gaming addictions, seems to gather more attention of the public, psychiatrists and public health officers, while collecting more victims year by year. Statistics show the prevalence gaming addiction of 0,5 to 8,5% worldwide; however in some populations, mostly in Asia, the relevance is quite higher. [4] For example in South Korea, more than 50% of adolescents are addicted to gaming, and 24% of them are in need of hospitalization due to that issue (in comparison, in German population gaming addiction ranges between 1,5 to 3,0%). [4;5] In Hong Kong, more than 35% children more than 50% adolescents and young adults are gaming from 20 to 50 hours per week. [6]

Gaming addiction is still a new and unknown concept in today’s medicine. We know about first cases of such behavioral addiction from 1998, however it has been present in nomenclature only for 4 years with its inclusion to the DSM V. [7] According to this classification, we can diagnose an addicted person who uses games persistently, often with other players, resulting in clinically significant impairment or distress as indicated by five (or more) of the 8 typical addictive conditions, such as eg. withdrawal symptoms, tolerance or unsuccessful attempts to control the participation in the games. There has been a fruitful discussion held on the inclusion of this diagnose as part of the ICD-11, however lots of precautions and controversy has been revolving around the topic, in order not to pathologize

the regular usage of games or internet. [8] As it is hard to set the diagnostic criteria, its also hard to find a good measurement tools.

Aim of the study

The aim of the study is to review the latest treatment options for gaming addiction. For this purpose, among 156 papers from PubMed Medline database 32 papers from period 2007-2017 in terms of treatment of gaming addiction have been included in the analysis and reviewed.

Results

First of all, within the possible choices of treatment we should be looking for the realistic goals to achieve in every single patient, whether there should be the stage of the digital dieting, when patients try to reduce the time spent in the virtual reality and electronic devices, digital nutrition- finding the balance between the on-computer and off-computer activities, or, in some cases - maybe there is a need for the digital abstinence of such individual. [9]

Psychosocial forms of treatment

Cognitive behavioral therapy (CBT) has been proven by many centers to be the effective form of treatment in fighting the gaming addiction. [10] It targets several aspects of patients living: inhibition of desires to play, strengthening the capacities to inhibit participation in gaming and to place the emphasis on broader perspective of such behaviour rather than using it as mean of short-term solutions. [11]

The three stages of CBT include the self-recognition of the patient of where the problem lies and how much time the patient spends on the gaming activities, secondly - to identify what triggers the pathological activity and thirdly - to resolve the current issues, both underlying disorders as well as comorbidities induced as the result of the addiction. [12]

The study by Thorens et al. (2014) confirmed, that the treatment of 4 weeks of CBT (6 sessions total) improved in 86% of the patients with coexisting internet addiction and gaming

addiction according to Clinical Global Impression Scale results. [13] Study of Wolfling et al. (2012) proved the 67% of treatment response among 33 patients with short-term treatment of internet and computer game addiction, consisting of CBT. [14] In New York study by Young KS (2013), among 128 patients with Internet-addicted patients and coexisting gaming addiction who underwent the CBT for weekly sessions in 12 weeks, 95% of them managed symptoms at the end of the trial and 78% sustained recovery within half a year after treatment. [15]

The variations of CBT include a self-discovery camp - a week of “digital devices rehab” with no games and internet allowed, which consisted of 14 sessions of CBT held by psychologists, as well as medical lectures, 8 sessions of personal counseling, including forms of outdoor activities such as cooking, trekking etc. The program reported a significant reduction of gaming behavior after 3 months of therapy. [16]

With the introduction of new technologies, new treatment options, including virtual reality, arise. The 2016 study by Park et al. on virtual reality treatment (VRT) program, included 24 adults assigned to CBT or VRT options. The virtual reality treatment included 8 sessions of 30 minutes 3 step process - relaxation, simulation of high risk situation and sound assisted cognitive reconstruction. The results in both groups were of a similar effectiveness. [17]

Psycho-educational therapy seems to be not considered as a prior way of treatment in adults, but mostly pediatric centers advise the therapy including family counseling and educational aspects. [18;19] Also, in patients with increased scores in particular tests, but without clearly defined diagnosis, a brief intervention in form of psychoeducation seems to be effective. In group of 15 adolescent patients in study performed in 2012 on introducing 3-week family therapy in performing together family assignments in system of 1 hour/day within 4 days/week, the changes of brain activity in MRI suggested family therapy as important factor in treatment of pediatric cases of gaming addiction. [13]

Pharmacotherapy

One of the means of fighting with severe behavioral addictions is also pharmacotherapy. There has been reported the efficacy of opioid antagonists and serotonin reuptake inhibitors noted as a primary pharmacological mean to fight the addictive behaviors in other addiction

patterns, with the opioid antagonists having more consistent efficacy in reduction of craving and addiction severity. [20] Most of the studies of gaming addictions focus on the efficiency of bupropion in 6 week trials (starting from 2011 and studies by Han et al.), as well as comparison of bupropion to other known drugs, such as methylphenidate or escitalopram.[21;22] In 2016 study of 119 patients with gaming disorder, both bupropion and escitalopram were effective in management of the symptoms, with bupropion considered more effective improvement in Young Internet Addiction Scale, ADHD rating scale and Clinical Global Impression -Severity Scale. [22] King and Delfabbro also noticed no difference between bupropion and methylphenidate in terms of efficiency. [23]

An important aspect of the pharmacotherapeutical options is the occurrence of comorbidities, which may influence the choice of possible treatment. [24-27] Among the mental disorders we differ several comorbidities, such as mood disorders (up to 50%), anxiety disorders (12- %), schizophrenia (15%-) and ADHD - 10%. [4] Some studies claim that substance abuse is not correlated to this type of behavioral addiction. [28]

Study by Park et al. from 2016 revealed effectiveness in treating coexisting ADHD and gaming disorder in 80 patients group with atomoxetine or methylphenidate for 12 weeks within reduction in Young Internet Addiction Scale.[29] Also, in patients with both major depressive disorder and internet gaming addiction symptoms within 12 week trial, both bupropion and escitalopram treatment worked in improvement on reducing impulsivity resulting in excessive game playing, however in favor of bupropion as a greater mean of support to those patients. [26]

Discussion

The most problematic aspect of treatment of the gaming disorder is the lack of the direct diagnostic criteria, which makes the diagnosis subjective and recognizable in the later stages of the addiction, but also increases the risk of pathologization of healthy users of the newest technology. [30;31] Also, the misconception and treating as equal the gaming addiction and internet addiction exist, however internet addiction can lead to other behavioral addictions such as gambling, shopaholism and sexual violence associated with other comorbidities and different ways of treatment. Apart from that, the measurement of the severity of gaming addiction is accomplished with several non specific scales, such as Young Internet Addiction

Test, Beck Anxiety or Depression Inventory, or very general like previously mentioned CGI, which makes most of the results unequally comparable. [32] Current studies are lacking in long-term follow-up in order to fully examine the relapse and remission processes. [23]

Furthermore, the prophylaxis of such behaviors is still undeveloped - the primary preventive measures are being introduced in countries where the problem is the most urgent, however there is a need of identifying the target groups of the prevention. [33;34] Methods of secondary prophylaxis in longer term treatment options, depending on the underlying causes and different gaming models, also need to be further examined. [35]

Despite that obstacles, more psychiatric centers decide to support the fight with gaming addiction, and the scale of the problem is reflected also in the need for specialist treatment centers and recovery program starting in South Korea, Germany, UK and United States. [36]

Conclusion

Behavioral addictions are one of the new possible ways of escaping the reality for populations unable to cope with the race for success and perfection in modern world. Computers and internet, which happened to be one of the greatest achievements of human kind, being able to archive all of accomplishments of the civilizations, to connect people around the world and to make the living truly globalized, to some may be a curse and an addictive trap. Therefore, more research has to be made in order to fully understand the underlying mechanisms in order properly identify the victims of these addiction patterns. Modern psychiatry is still in the very early stages of developing a proper therapeutic path for patients dealing with both offline and online gaming disorder patients.

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