

IGD

Available treatments

DR Afsaneh Karbasi

ETIOLOGY

- a strong neurobiological link to addictive patterns has been demonstrated in IGD.
- addiction related to excessive and uncontrolled internet gaming is **similar in molecular and neuro-circuitry components to substance-related addiction.**

- habituation to internet gaming is accompanied by an **increased level of dopamine in the dorsal striatum, innervating the dopamine reward pathway** and feeding into motivations to want to play even More.
- Over time, *restructuring* occurs in the **anterior cingulate, orbitofrontal cortex, and nucleus accumbens** in such a way that natural rewards, including eating and sex, produce less pleasure for gamers, hence further reducing control over the behavior and contributing to neglect of self-care.

- It is important to note that mental illness comorbidity, such as mood and anxiety disorders, are often present, making it more difficult to assess IGD.
- are lower self-esteem, loneliness, and lower social competence the result of IGD? Or, are these the symptoms of a preexisting mental disorder and, therefore, should be understood as risk factors for IGD?

COMORBIDITY

- Comorbid psychiatric disorders *act as both risk factors and consequences*.
- Because IGD frequently co-occurs with other conditions, children should be screened for behavioral problems and comorbid conditions more generally, including:
 - ✓ depression
 - ✓ social phobia/anxiety disorders
 - ✓ attention-deficit/hyperactivity disorder.

- In terms of the preferred time for games playing, patients with an internalizing profile tended to play at night.
As described in the literature, sleep-wake inversion has
been described as one of the warning signs of
a problematic pattern of use

higher inattention symptoms
would report **elevated IGD
behaviors.**

hyperactivity-impulsivity symptoms
would present with **higher IGD
behaviors.**

complications of IGD:

- ✓ Sleep difficulties or significant change in sleep patterns.
- ✓ Decreased personal hygiene
- ✓ Poor or irregular eating habits & weight gain or weight loss
- ✓ headache, and backaches and finger and neck pain
- ✓ Dry or red eyes
- ✓ Carpal tunnel syndrome
- ✓ Problems with school (lower academic achievement) or job.
- ✓ Loneliness and social isolation
- ✓ depression, anxiety

TREATMENT

- Reviews of the literature indicate *that there are no randomized, wellcontrolled studies* for treatment of IGD.
- there is **no accepted gold-standard treatment at this time** .

TREATMENT OF UNDERLYING DISORDER

CBT

- most clinicians regard IGD as a **subtype of impulse control disorder**, and currently, the most common treatment used for IGD is cognitive behavioral therapy (CBT).
- It teaches gamers with IGD to improve their inhibitory control ability and recognize maladaptive cognitions, while Learning positive coping mechanisms and skills of relapse Prevention.
- Several studies reported **positive outcomes with CBT**, such as decreased signs of withdrawal, decreased preoccupation, and decreased dependence on internet gaming as an escape.

CBT

- video lectures related to the session
- audio story
- homework presentation

CBT

- First Introduction of the program, definition of IGD, types of video games, the prevalence of the disorder and the consequences of online games, review of diagnostic criteria for IGD
- Second Learning to communicate with others, listening skills, bad communication characteristics, secrets of effective communication, teaching mindfulness, friendship and kindness
- Third Identifying negative thoughts, replacing realistic thoughts, the impact of thoughts on emotions, learning coping skills with negative thoughts

CBT

- Fourth Relationship between stress and IGD, definition of stress, types and symptoms of stress, identifying stressors, positive and negative strategies for coping with stress, learning to breathe properly,....
- Fifth Relaxation training, mindfulness training, body scan and breathing
- Sixth Review of past sessions, familiarity with the importance of problem solving, teaching problem solving techniques, motivational videos
- Seventh time management , training to adopt a healthy lifestyle, relapse prevention
- Eighth Summarize the content along with an overview of all past sessions

Cognitive distortions

- Instant Gratification Bias
- Hyper focus
- Time blindness
- Boredom intolerance
- Procrastination/escapism
- Loneliness
- catastrophizing

- CBT combined with medication was the most effective approach, especially in patients with comorbidities.
- Bupropion
- escitalopram
- Naltroxon

Family therapy

- family therapy caused an increase in activity of the caudate nucleus in adolescents with IGD, a well-documented part of the reward pathway.
- It is also important for the parents to find new strategies related to their children's addiction

Eclectic psychotherapy

- CBT, family therapy, solution-focused therapy, and motivational interviewing

and even military-style treatment in camps

- 9-day self-discovery camp:
This camp took place in Japan, in 2014, and included 14 sessions of CBT, 8 sessions of “personal counseling,” 3 sessions of medical lectures, a workshop about gaming and Internet, and nongaming activities, for example, outdoor and indoor leisure time activities

speaking and writing course as intervention for MMORPG addiction in 59 adolescent males

- Post-treatment outcomes showed that there was no significant difference in improvement of speaking and writing ability.
- Time spent online, which was one of the wanted outcomes, seemed to have been reduced.

physical activity

- appears to be effective, because it reduces the time spent online and increases the levels of serotonin

Drugs

- glutamatergic drugs (memantine, metabotropic glutamate receptor agonists)
- mood stabilizers(antiepileptic drugs, lithium)
- alpha-2 adrenergic receptor agonists
- Antiepileptic medication that appears to be effective for IGD is carbamazepine, lamotrigine, and valproate.
- As for craving, valproate showed a significant improvement in IGD symptoms

Comorbidity with ADHD

- In adolescents, a study of patients with ADHD and problematic online game play who were treated with methylphenidate or atomoxetine for 3 months showed that improvement in the severity of internet addiction was positively correlated with a **reduction in impulsivity**

Table 2 Prevention and harm reduction factors

<i>Construct</i>	<i>Definition</i>
Attention switching	The extent to which other meaningful activities are offered to distract an addict's attention from engaging in the problematic behavior
Dissuasion	The extent to which an individual perceives others' efforts to prevent playing online game by means of exhortation, argument, coaxing, browbeating, or coercion
Rationalization/education	The degree to which an individual is trained to understand the issues associated with a problematic program of behavior
Parental monitoring	The extent to which an individual perceives his or her parents or guardians to pay attention to and track his or her whereabouts, activities, and outcomes
Resource restriction	The degree to which a player perceives that he or she is being restricted by the constraining of game playing resources such as money, equipment, regulation, and guidance
Perceived cost	The extent to which a player perceives the financial cost of playing online games to be high

- **Amount of Play Time—How much is too much? What is the appropriate amount of time children should be allowed to spend playing video games?**
- Although this is a highly personal decision, based entirely on your family's individual needs, most experts agree that setting limits on all screen time is important for healthy development.
- Many families **start** with a daily screen time allowance, such as **one hour per day**, and **add** or **subtract time** as a **reward** or **punishment** for good or bad behavior.
- the *American Academy of Pediatrics* recommends limiting a child's use of TV, movies, video and computer games to **no more than one or two hours a day**.
- The National Institute on The Media & Family further suggests offering no more than an hour of video game time daily.

- Gaming devices and computers should be located in common rooms such as the living room.
- The bedroom of the child should be free of electronic media devices, such as PC, TV, video games, tablets, and cell phones.
- Avoid letting the child play video games during the last hour before bedtime.
- Support and encourage the child to engage in physical activity. For instance, you can take the child hiking; enroll the child in a sports club or the like.
- Stimulate your child to spend time on other hobbies and interests other than video games.

- Have rules that prohibit the child from prioritizing video games over homework and family meals.
- Do not let the child play during meals.
- Do something pleasurable together with the child at least one or two times per week, for instance cooking, go to the cinema or visit a water park.
- Assess whether the game content is appropriate for the age of your child. Be aware of the fact that some online games can put your child in contact with others, including adults, who might have a negative influence on your child.

- Gather information about the games the child plays, You might also play together with the child. Explain the difference between fantasy and reality in the games.
- choose games that foster knowledge and skills for the child.
- To promote a beneficial dialogue with child about video games, allow your child to tell you about a favorite game and explain to you why this game, in particular, is his/her favorite.
- Apply limits to regulate how much the child is allowed to play, for instance, **1 hr/day for children**, and **2 hr/day for teenagers**. During weekends or holidays, game time can be increased to 1–3 hr/day.

- Communicate openly with the child **if you think that he/she plays to avoid difficult thoughts or feelings.**
- Create opportunities for the child to spend time with others: invite friends over to play video games, or do other activities together.
- **Praise the child** for doing homework and other duties before playing video games.
- Supervise how much money the child spends on
- equipment, breaking obstacles, leveling up or the like in games.
- You might discuss with other parents and compose common rules for video games.

- **If your child spends a great deal of time home alone,** you might consider carefully whether you need to restrict the child's access to the Internet, e.g., by applying router access restrictions.
- **Have 1 or 2 days per week** without video games.
- **Be conscious of the parents as a role model for the child.**

For instance, they might avoid sending text messages or be online during meals, and do not play video games in the timeframe when the child is prohibited from playing.

- Inform the child clearly about the rules you will put into practice regarding video games. If possible, include the child in a discussion about how the rules should be.
- confiscate video games and/or gaming consoles for a day or a weekend **if the child violates the rules repeatedly.**

The end