Approach to Internet Addiction Disorder among Adolescent and Young Adults in Primary Health Care

Hani Saad Al-Mugti[1]*, Salem Baty Alshahrani[2], Abdullah Ali Alzawawi[3], Feras Fahad Alzamil[3], Omar Jamal Althuwaini[3], Abdulaziz Abdulaali Alsolami[4], Fawaz Sulayyih Alosaimi[5], Abdullah Mazen Alhunaishel[6], Abdulaziz Essam Alhindi[5], Abdulhakim Jwad Almutawah[7] and Dhay Ibrahim Al-Towairqi[5]

[1]*Consultant of Preventive Medicine and Public Heath, Department of Community and Preventive Medicine, King Abdullah International Medical Research Center, King Saud bin Abdul-Aziz University for Health Sciences, Western Region, Ministry of National Guard Health Affairs, Jeddah, Saudi Arabia*

[2]*General Physician, Flight Surgeon Clinic in Prince Sultan Air Base, Al-Kharj, Saudi Arabia*

[3]*Collage of Medicine, Imam Abdulrahman Bin Faisal University, Dammam, Saudi Arabia*

[4]*Collage of Medicine, King Abdulaziz University, Jeddah, Saudi Arabia*

[5]*Collage of Medicine, Taif University, Taif, Saudi Arabia*

[6]*Collage of Medicine, Imam Muhammad Ibn Saud Islamic University, Riyadh, Saudi Arabia*

[7]*Department of Rehabilitation and Physiotherapy, Prince Saud bin Jalawi Hospital, Al-Ahsa, Saudi Arabia*

*Corresponding Author: Hani Saad Al-Mugti, Consultant of Preventive Medicine and Public Heath, Department of Community and Preventive Medicine, King Abdullah International Medical Research Center, King Saud bin Abdul-Aziz University for Health Sciences, Western Region, Ministry of National Guard Health Affairs, Jeddah, Saudi Arabia.

Abstract

Background: Internet addiction disorder (IAD) or compulsive internet use has drawn scientific interests around the world. The definition of IA is commonly defined as an involuntary condition in which person exhibits extreme concern about the use of the Internet, problems in controlling time on the Internet, frustration when interrupted while online, and diminished social contact in the real world.

Aim: In this review, we will look into the types, diagnosis, management and associated comorbidities of internet addiction among adolescents and young adults.

Conclusion: Adolescents are the most vulnerable age group for internet addiction. Internet addiction can be treated behaviorally or pharmacologically depending on severity of addiction. Prevention programs to define adolescent with risky lifestyles for developing internet addiction and behavior modification should be conducted. Awareness about risks should be raised among this age group and their parents.

Keywords: Internet Addiction; Types of Internet Addiction; Adolescents and Internet Addiction

Introduction

The Internet is the world's largest data network; it is also a virtual world, greater than several land states, with its own codes of ethics [1]. The Internet is used to facilitate the education and understanding of internal communications and commercial activities. Internet accessibility also provides them with ways of accessing the following categories of activities: play (e.g. internet game modes, gambling),

work (accessing online tools, uploading apps, e-mailing, hosting websites), socializing (social media sites, group talks, online dating), media (film libraries, music), supplies (grocery, clothing) as well as several other activities [2]. In the other hand, it can be used by others to engage in pornography, extreme play, long-time talking, and even gambling [3].

Nowadays, the use of the internet and technology is rooted in modern culture and has transformed the way people live more than any other technical means. Over the past 15 years, the number of Internet users has grown by 1000% and, at the same time, research into addictive Internet usage has propagated [4]. Increased usage of the Internet, also known as unregulated use of the Internet, obsessive use of the Internet, net abuse or Internet addiction, creates difficulties both at work and in social life. Recently, Internet addiction disorder (IAD) or compulsive internet use has drawn scientific interests around the world [5]. The definition of IA is commonly defined as an involuntary condition in which person exhibits extreme concern about the use of the Internet, problems in controlling time on the Internet, frustration when interrupted while online, and diminished social contact in the real world [2]. The word "internet addiction" was created by Dr. Ivan Goldberg in 1995 for obsessive compulsive use of the Internet [6].

Adolescents are likely to become the most vulnerable demographic; they are particularly susceptible to the introduction of unhealthy habits and are the most commonly exploited demographic subgroup on the Internet, either for academic purposes or for entertainment. Numerous studies show that teenagers are now the most vulnerable group to Internet addiction when they interact with someone on social networking sites instead of real-life interaction [7]. University studies are found to be at a dangerous risk of overuse of the Internet worldwide. Internet addiction in these students has been found to be linked with multiple psychological conditions such as depression, fatigue, anxiety, poor self-respect, and poor psychogenic quality of life-being [8].

Majority of research is directed at teenagers. A research performed showed that, children under the age of 19 are more vulnerable to addiction, making up 35% of the overall population. 19-30-year-olds are second, accounting for 30%, while those over 30 make up 25% [9].

The increasing number of studies on Internet addiction has demonstrated that Internet Addiction Disorder is a psychosocial disorder, including lack of imagination, signs of isolation and mental problems, and disruption of social relations [7].

Risk factors of internet addiction include sociodemographic characteristics like male gender, adolescence, and high family income. Internet use variables like time spent on the internet, and usage of social and gaming applications. Psychosocial factors like impulsivity, neuroticism, and loneliness [3].

IA contributes to life, family, academic, financial and occupational difficulties that are typical of other addictions. Defects in real-life relationships were affected as a result of overuse of the Internet. IA refers to a number of mental, psychiatric and physical disabilities [6]. Comorbid conditions as depression, anxiety, and psychopathology in general indicate that these causes lead to an increased susceptibility to Internet-related issues [3]. In this review, we will look into the types, diagnosis, management and associated comorbidities of internet addiction among adolescents and young adults.

Prevalence

Adolescent IA varies greatly around the globe. Worldwide IA prevalence rates vary from 1.5 to 8.2%, 1% to 9% in Europe, 2% to 18% in Asia, while the prevalence in the Middle East has been found to be between 1% and 12% [10]. Prevalence in Italy is estimated between 0.8% and 8.8% in China among [11]. Another research in Europe recorded a 4.4% prevalence of Internet addiction among adolescents [12], 1.6% among Korean teenagers and 38% reliable to internet addiction. Another study reported prevalence of Internet addiction in some research as 26% [13].

Regarding Arab countries; a survey of students at the Taif University in Saudi Arabia found that most of them (98.2%) were using the Internet. Internet addiction was reported in 4% of cases, while possible Internet addiction was reported in 45.3% of cases [14]. A research

conducted among teenagers recruited from private and government schools in Cairo, Egypt, showed a total of 0.8% [15]. In El-Minia, Upper Egypt, internet addiction prevalence was 2.6% among adolescents while the prevalence of potential Internet addiction was 18.2% [16].

Types of internet addiction

There have been 5 identified specific types of internet addictions. Given the continuous rise in the number of Internet addiction trials, classification remains a controversial topic as a total of 21 separate evaluation methods have been created to date and are currently being used to classify Internet addiction in both psychiatric and normative communities [2].

Cyber online relationship addiction

It's the addiction to "social networking, chat rooms, texting, and chatting to the extent that fictional, online friends are more relevant than real-life interactions with friends and family. The overall gender share in social media is about 48.75% for males and 51.25% for females. Famous social networking platforms such as Facebook and Twitter also have an unfair gender representation, with females accounting for 60% and males accounting for 40% [17].

After an online social life and a person is drained, a person can be trapped with insufficient social abilities and unreasonable perceptions of in-person experiences. This also leads to a failure to create real-world contacts, in exchange, leaving them more dependent on their cyber ties. Counseling or counselling is ideally needed to treat this addiction to ensure long-term behavioral improvements [18].

Internet sex addiction

Cybersex addiction is one of the most popular ways of addiction to the Internet. Health professionals have seen a rising number of adolescents addicted to Internet pornography or partners having issues due to online relationships. Online porn figures indicate that about 4.2 million pornography websites make up 12% of the overall websites. Sex websites constitute 372 million hits and daily pornographic search engine requests 68 million or 25 % of total search engine requests.

Cybersex addiction can lead to divorce, marital separation, and job loss. Among couples, cybersex addiction and Internet infidelity are leading causes of divorce. Treatment options are available for those with cybersex addictions, typically in the form of intervention followed by ongoing inpatient or outpatient therapy [19].

Internet gaming addiction

Online gaming is very common; studies reported that at least one person plays video games in 2/3 of American households. Recent study estimates that nearly 160 million American adults play internet-based games [19]. As computers became more readily available, games such as Solitaire, Tetris, and Minesweeper became programmed into the devices. Investigators soon discovered that obsessive video game play had become a concern in some environments. Employees in the Workplace would waste an unhealthy amount of time playing these games, which would lead to a major decline in productivity. Not only are these iconic games still currently available, but there are lots of new ones [20].

A study article published in the journal of Psychiatry aimed to analyse the relevance and efficacy of the criterion for Internet gaming addiction, equate it with the literature on gambling addiction and problematic gaming, and estimate its effect on physical, social and mental health. The study showed that many who played games did not report any signs of internet gaming disorder, and the number of people who could be eligible for internet gaming disorder was incredibly small [21].

Internet compulsions

Net compulsions concern immersive internet practices that can be particularly dangerous, such as web gambling, selling securities, online auctions and compulsive online shopping. Compulsion, at least as encountered in obsessive-compulsive disorder, does not require perception of gratification, while addiction does. Although people who have addictions suffer from all sorts of pain, the urge to use the drug or to indulge in activity is focused on the illusion that it will be pleasurable.

In the other side, anyone who feels addiction as part of an obsessive-compulsive disorder does not enjoy the conduct he conducts. It is also a way to cope with the obsessive aspect of the condition, resulting in a sense of relief [21].

Compulsive information seeking

The internet enables users reaching a range of data and expertise. For others, the desire to search information too quickly has turned into an uncontrollable compulsion to compile and arrange data [22]. A recent study conducted at UC Berkeley's Haas School of Business finds that knowledge on the brain's dopamine reward system behaves in just the same way as food or money. Researchers have observed that the brain tended to use the same kind of neural "code" when referring to sums of money and knowledge about win percentage in the game [23].

Compulsive information-seeking will also impair work efficiency and eventually contribute to workplace termination. Based on the nature of the addiction, recovery methods will vary from various treatment modalities - aimed at improving compulsive behavior and establishing coping mechanisms – to narcotics [24].

Diagnosis

Internet addiction is a general concept that includes a variety of behavioural and impulse-control issues affecting the internet, personal computers and mobile technologies. There are currently no legally recognised criteria for the diagnosis of Internet addiction. Even though there is much controversy on the diagnosis concept of IAD, emerging neuroimaging studies have been conducted around the world, particularly in Eastern Asian countries [25]. Various neuroimaging findings have found that physiological and cognitive abnormalities in people with IAD are similar to other forms of addictive conditions, such as alcohol dependency and interpersonal addiction [26].

The neuroimaging results indicated that the IAD shared common neurobiological pathways for drug dependency and behavioral dependency. These non-invasive approaches can play an important role in the study of neurobiological pathways and adequate management of IAD and substance addiction [27].

Treatment of internet addiction

Internet addiction is considered to be a relatively treatable condition. Internet addiction varies from certain other forms of addiction in that some extent of Internet use is typically required for the functioning of community. As a consequence, the target of therapy is typically not total abstinence [28]. There is no particular medication that can be used to cure Internet addiction. First line of treatment is to accept that there is an issue. Based on the seriousness of the individual's addiction and actions, various methods of therapy will be effective [29]. Despite the apparent general lack of treatment trials, treatment recommendations have been stated by physicians working in the IAD field [30].

Many academics discuss pharmacological therapies for IAD, possibly due to the fact that physicians use psychopharmacology to treat IAD despite a shortage of treatment trials to address the effectiveness of pharmacological medications. In specific, selective serotonin reuptake inhibitors (SSRIs) are being used due to comorbid psychological effects of IAD (e.g. depression and anxiety) for which SSRIs have

been shown to be successful [31]. In another research, Han, Hwang, and Renshaw [32] used bupropion (a non-tricyclic antidepressant) and observed a reduction in the desire for Internet video game play, overall game play time, and cue-induced brain function in the dorso-lateral prefrontal cortex after 6 weeks of continuous release of bupropion. According to a report by Shapira., *et al*. [33], mood stabilizers can also relieve signs of IAD. Case studies of patients treated with escitalopram, citalopram (SSRI)-quetiapine (antipsychotic) combination [34] and naltrexone (an opioid receptor antagonist) have been recorded.

Motivational interviewing (MI) is a person-centered and directing tool for improving the inner drive to improve by exploring and overcoming person ambivalence [35]. Reality therapy (RT) is intended to empower people to want to better their lives by committing to changing their behavior. It provides workshops to teach clients that addiction is an option and to give them time management training; it also offers alternative activities to disruptive behavior [36]. Widyanto and Griffith [37] document that many of the therapies used so far have been cognitive-behavioral. The use of cognitive behavioral therapy (CBT) is explained on the grounds of successful outcomes in the management of other behavioral addictions disorders, such as addictive gambling and compulsive shopping [38]. Cao, Su and Gao [39] explored the role of the CBT group on 29 high schoolers with IAD and observed that the intervention class scores of IAD were lower than the test group following therapy. The researchers have documented changes in the psychological feature. Thirty-eight adolescents with IAD were treated with CBT exclusively for dependent adolescents by Li and Dai [40] and showed that CBT had positive effects on teenagers with IAD.

Associated comorbidities with internet addiction

Although much literature focus on the comorbidity of IA and Psychopathology, this is especially helpful in underpinning the definition of IA, and perhaps reinforces the fact that IA is a symptom of underlying health issues owing to its psychopathological etiology [41].

It is generally linked to depression, frustration and anxiety disorders. Attention deficit hyperactivity disorder (ADHD) and especially major depression tend to be the most prevalent comorbid conditions. Conversely, the correlations of fear, social phobia, obsessive-compulsive disorder and violence tend to be somewhat lower. Incidence of other disorders as drug use disorders, suicide attempts, dementia and insomnia) has been studied to a smaller extent [42]. In contrast to comorbidity of medical disorders, heavy use of the Internet and mobile media is usually correlated with other physical and psychosocial issues, such as back pain, social isolation, sleep loss, poor self-esteem [43].

New research on Internet addiction have found that Internet addiction has been directly associated to a reduction in social relationships, depression, isolation and poor self-esteem. Consequently, it could be said that this result is consistent with other research that have found a positive relationship between depression and Internet addiction [43].

Previous findings have found that extreme Internet users have shown greater psychologic effects in four dimensions, like obsessive-compulsive, interpersonal sensitivity and depression, anxiety and global intensity level, than people with mild Internet users. This result was confirmed by other studies [44] in which the relationship between psychiatric symptoms and IA using the SCL-90 scale was tested and it was observed that there was a significant connection between psychiatric symptoms and IA. Adolescents with internet addiction reported the existence of psychologic disorders such as obsessive compulsiveness and depression. A variety of studies have supported anxieties and issues such as behavioral sensitivity [45-47]. In another study, it was found that psychiatric characteristics are related to IA.

Conclusion

Adolescents are the most vulnerable age group for internet addiction. Internet addiction can be treated behaviorally or pharmacologically depending on severity of addiction. Prevention programs to define adolescent with risky lifestyles for developing internet addiction and behavior modification should be conducted. Awareness about risks should be raised among this age group and their parents.

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