

INTERNET ADDICTION IN CHILDREN AND ADOLESCENTS: ETIOLOGY, SIGNS OF RECOGNITION AND IMPLICATIONS IN MENTAL HEALTH NURSING PRACTICE.

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Abstract:

Internet addiction in young age is an emerging topic gaining researchers interested worldwide. Despite the progress that has been made in prevention, diagnosis and treatment in this disorder the field is wide and unexplored when it comes in mental health nursing practice. The effects that internet addiction may have in individuals life's are shown the social, professional as well as in academic level. Moreover the effects that long hours screen exposure may have in physical health, the excessive participation of children and adolescents in online gaming and social networking sites as well as the emergence of a new type of anti-social behaviors expressed by harassment, bullying, cyber crime and online suicides are a new research field in digital age. Considering the globalization and the complexity of internet addiction mental health nurses must establish an effective program for the management of the addiction as well as the daily problems that such condition raises. Within the clinical context of mental health, nurses can have an effective role not only in the assessment, diagnosis and treatment of internet addiction but in the prevention of that phenomenon as well.

Keywords: Internet addiction, problematic internet use, mental health nursing practice, internet addiction treatment, children and adolescences health

Introduction

Internet addiction in young age is an emerging topic gaining researchers interested worldwide. Despite the progress that has been made in prevention, diagnosis and treatment in this disorder the field is wide and unexplored when it comes in mental health nursing practice. Internet is considered to be the biggest revolution of

the last decades. It is a tool for the science, the information and the entertainment. Due to the continuous development of new technologies, Internet users are now able to communicate each other worldwide, making online purchases. Moreover, internet can be an effective education tool, can facilitate working from distance and perform transactions with various

services. Nevertheless, the wide spread, especially in specific population groups, such as young people, has resulted in the creation of a form of disorder, Internet addiction^(1,2).

Although the topic nowadays is widely discussed the possibility of addiction or potential dependence from various recreational internet activities, is discussed since 1987^(1,3). However it took a decade and more specific after 1996 for several experts' psychiatrists and psychologists considered that the excessive computer use can cause addiction and recognized this overuse as a disorder and dependence with similar criteria to those of other dependencies⁽³⁾. Today, most researchers in the field of addictions indicate that the internet dependence disorder is a psychophysiological disorder involving tolerance and isolation symptoms as well as emotional and social disturbances. Internet addiction is an emerging problem in society that is increasing as much as is increasing the computer use⁽⁴⁾.

It is a fact that internet is gaining ground internationally within the field of information, entertainment, communication and technology. Over the last decade has started an international study about the pathological internet use by humans^(1,4).

Along with internet addiction nowadays, a series of other behaviors link to pathological internet use are under investigation to. The effects that long hours screen exposure may have in physical health, the excessive participation of children and adolescents in online gaming and social networking sites as well as the emergence of a new type of anti-social behaviors expressed by harassment, bullying, cyber crime and online suicides are a new research field in digital age^(5,6).

Defining Internet Addiction

Internet addiction is a complex and an emerging issue, thus is difficult to find a single and wide accepted definition. Over

the years various names have been attributed in the attempt to define this excessive internet use and this pathological phenomenon.

Historically, internet addiction disorder (IAD) was first reported by Ivan Goldberg, psychiatrist in New York, in 1996. Goldberg used criteria of DSM-IV from addiction to substances, replacing the term substance to that of the Internet and so internet addiction disorder was born gaining the interested of several researchers at the time. Despite the fact that term addiction is traditionally used to describe the biological addiction from one or more substances, it can serve to describe the "excessive" internet use as well^(7,8). Following Goldberg definition and description of this pathological phenomenon a long list of attributed terms was followed; among them some can find "pathological Internet use", "problematic Internet use", "impulsive internet use", "cyberspace addiction" According to Mitchell (2000), internet addiction is the impulsive overuse of the Internet, deprivation which is followed by irritable or dysthymic behavior⁽⁹⁾. On the other hand Shapira et al (2003) described this addiction as the dependence on the internet is the inability to control the use of the web, leading to pressure feelings, anxiety and dysfunctional behaviors in daily activities⁽¹⁰⁾.

Young defined four basic types of Internet addiction:

1. Cyber sexual Addiction: People suffering from this type of addiction usually deal with the viewing, downloading and trading of pornographic material through the Internet or participate in adult chat room with role fantasy games. Addicted of this category are usually people with low self-esteem, because they believe they are not sufficiently good-looking or have some sexual dysfunction. Finally, studies have shown that men like to watch erotic

Video, while women like to enter in erotic content chat.

2. **Cyber-Affair / Relational Addiction:** This category includes those suffering from addiction in chat rooms, sending instant messages and participate in online social network sites. Online friends quickly become more important to the individual, to the detriment of relations in its real life with family and friends. In many cases this will lead to family discord and family instability.
3. **Net Compulsions:** The addiction to online gaming, online games of chance and on eBay has started very quickly to become a new mental problem in the post-era of internet. Because of direct access to virtual casinos, interactive games and eBay addicts lose huge amounts of money, their jobs and disrupt their interpersonal relationships.
4. **Information Overload:** The wealth of data available on the web has created a new type of compulsive behavior associated with excessive "surfing" on the Internet and database searches. People spend a lot of time in search, data collection and organization of information gathered from the Internet⁽¹¹⁾.

Internet Addiction in Numbers

The effects that internet addiction may have in individuals life's are shown the social, professional as well as in academic level. Although in an international level, studies have shown that the internet addiction varies between 5-10% among Internet users in China and in other Asian countries the rates are higher. China is the country that has the lead in the recognition of internet addiction as well as in incidence of this addiction with over 13.7% of Chinese adolescents (approximately 10 million). Other Asian Countries such as N. Korea and Taiwan are facing this problem at the same extend to⁽¹²⁾.

In Greece the rates are almost as high as they are in China, Taiwan and N. Korea, with 70.8% of adolescents had access to the internet. The most common form of internet use is in online games, which represent the 50.9% of Internet users, as well as information services, which account for 46.8%. The computer addiction refers to boys with the p/c existence at home and everyday use. Their habits are smoking, alcohol and many hours on television a day⁽¹³⁻¹⁵⁾.

Most of the addicted teens play computer "games" at home or internet café. They may quit school, be isolated from their family and friends, be aggressive with their parents, steal money from the family in order to "play", live in a room, and not eat or the opposite, not exercise and not sleep for days and nights. They may not even change clothes, neglect their hygiene and cleanliness as well. These may occur in milder form during early adolescence⁽¹⁶⁾. According to the data from Adolescent Health Unit of Athens Children's Hospital (2007), 8% of the adolescents are using the internet more than 20 hours a week and about three in ten (26%) teenagers surf on a daily basis. The most frequent reason for internet use is online gaming. While 1% are showing signs of addiction. The first reason can lead to addictive behavior is the social networks and follow the online games. According to A.H.U, the first reason was the online games. Moreover, children with addiction behavior engage in games of chance and use sexual material significantly more often than other people. In addition, adolescents with addiction behavior exhibit aggressive tendencies and delinquent behavior, while adolescents with marginal use (a pre-dependence stage, however problematic use) exhibit depressive tendencies and anxiety. In general, teenagers with problematic use seem to acquire a misguided "comfort" to the Internet by removing boundaries and presenting high-risk behaviors⁽¹⁷⁾.

Etiology of Internet Addiction

People addicted to the Internet for different reasons. Addiction as behavior disorder may have its origin in psychodynamic theories, personality theories, sociopolitical and biomedical explanations. In order to determine the dependence caused from the web was suggested a search under the scope of a psychosocial model adding the parameter of the addictive nature of the web itself^(4, 11). According to Shapira et al and Marahan – Martin internet addiction is often associated with a number of other disorder such as social phobia and the addiction to substances as well⁽¹⁸⁻²¹⁾. One of the lead psychological factors for the cause of internet addiction is the ability that the webs has reducing negative emotions and decompress a person from the stressful reality^(11, 20, and 21).

According to Ridings and Gefen (2004), due to the specific characteristics, such as communication and interaction as well as the fact that it can eliminate any distance, internet can be very appealing for the average user. Networking and social media are by far the main reasons for the participation in various websites. Help seeking, friendship, establishment and the maintain relationships can be some reason for internet engagement as well⁽²²⁾. For many individuals who are involving to virtual environments, their experiences consider to be real, leading their consciousness of being to be absorbed in to this digital world. Often their online activities are giving to them such pleasure that make them unable to engage in any real activity^(16, 17, 23, and 24).

Over the years of research on internet addiction some patterns and personality traits had been link to this disorder. It is very often that shy person who in real life situation find it difficult to make friends, in virtual world the can find a way to seek love, hate, they can satisfy their will to feel without the need of face to face interaction. Additionally they enjoy all the benefits of internet socialization plus

the privilege of anonymity that the internet offers^(16, 17, and 23).

Psychodynamic and personality approaches associated internet addiction with individual characteristics and experiences. Depending on childhood and various events affecting individuals, a predisposition is created to develop an addictive behavior. On the other hand, socio-cultural approaches link the addiction depending on race, sex, age, economic status, religion and country. However there is not enough variety of current Internet users to confirm that this statement is indeed true⁽²⁵⁾.

To Greece according to data obtained by Adolescent Health Unit (A.H.U.) the phenomenon is more common in boys, in dysfunctional families and children with depressive or distraction- hyperactivity. Moreover, internet addiction was also link to some environmental factors such as lack of communication and setting of limits from the family^(16, 17).

Signs of Recognition

In general the addicted user is not easy to understand the problem; situation becomes more difficult when the addiction affects children. A person or child, who is addicted to the Internet, usually exhibit some from the following symptoms. Idealization of internet, where the addicted individual, is considering computer or internet as the most important "thing" in his daily life. Mood modification, addicted persons are exhibiting an increased production of dopamine, a neurotransmitter of the brain, which is associated with pleasure. Tolerance, where the person gradually seeks more and more hours of computer to feel pleasure. Conflict, when a child or a person can feel the problem that the extensive internet use is creating but he cannot do something to limit the use of the computer^(10, 11, 25, 26).

Warning signs: Children are constantly engaged in the Internet or activities associated with it, often neglecting his obligations at home or school. They are

becoming more and more absorbed in the computer and often losing sense of time that consumes on it. They exhibit a preference to internet, instead of meeting friends, with a result of social withdrawing. His school performance falls. Children often expressing their concern on internet activities even at the time that they are eating and they are reading. Moreover they can be very nervous, angry or aggressive way when someone disrupts the game or the discussion he had online and they are experiencing anxiety, unease, outburst of anger or violence or depressive behavior when he is not playing online. They often stay up late just to connect to the Internet. Finally, addicted children often say "well, I will just play for one minute." (10, 11, 25, 26)

In general for one to be diagnosed with internet addiction must fulfill at least five from criteria that are listed below, as there are recommended by Beard (2005).

1. Continuous occupation with the Internet, thoughts about previous online activity or anticipate next online session.
2. An increasing need for internet use with an equivalent increase of the time required in order to bring saturation and satisfaction.
3. All efforts to control stop or reduce internet use turn to be insufficient.
4. The attempts to reduce or stop internet use are accompanied with restlessness, moody and depressed emotions.
5. To spend more time online than initially intended.
6. Putting at risk to loss significant relationship, job, educational or career opportunity because of the Internet.
7. Often lies about the involvement and occupation on the web.
8. Finds internet as a way out from feelings of helplessness, guilt, anxiety, depression (27, 28)

Implications in Mental Health Nursing Practice

Considering the globalization and the complexity of internet addiction mental health nurses must establish effective programs for the management of the addiction as well as the daily problems that such condition raises (29, 30). Similar, as to the other dependencies nurses must act in this addiction in the same way, assuming various roles and within a context such as this has been configured and set both from WHO and from International Council of Nurses. According to them, nurses must work in this field taking the crucial roles of Care Provision, Educator, Therapist, Counsel, Health promotion, researcher, Supervisor, specialty Consultant (31). Within the clinical context of mental health, nurses can have an effective role not only in the assessment, diagnosis and treatment of internet addiction but in the prevention of that phenomenon as well.

Prevention Internet Addiction

In the context of prevention several factors are those that could help dealing with the problem by informing young people. More specifically, the family environment which should put the first limits of computing, in terms of time and type of use. Parents must set family rules on computer and Internet use, rules which apply to parents as well. During childhood and adolescence period social and sporting activities are very important. Moreover, children and adolescences must be included to family activities that do not involve the use of computer and internet. The installation and use access control programs to certain websites and time spent on the web and be very useful to. Finally, computer should be placed in a shared room by the family and not in the children's room (16, 17).

School can determent a special role in prevention of internet addiction. Teachers can and must inform students and parents about the dangers that internet has. They can propose preventive measures and

with the assistance of psychologists face those cases requiring urgent assistance. Moreover, should encourage students to make school works via computer and Internet so that the positive aspects of their use can have.

Furthermore, public media campaigns can be an effective mean so parents and children about the phenomenon, providing additional information about units that working with such issues, available treatment centers and counseling telephone lines.

Health services must have the responsibility to inform doctors, trainee and students about excessive internet use. Internet addiction should be included in conferences and workshops in order to health professional such as nurses, pediatricians, and child psychiatrists, psychologists, who will come across with such problems be sensitized^(16, 17, and 30).

Assessment of Internet Addiction

Over the years several instruments have been developed to assess the existence or not and severity of internet addiction. One from the first instruments is Young's Diagnostic Questionnaire, based on the eight criteria of DSM-IV of gambling. Another one is Brenner's IRABI (Internet-Related Addictive Behavior Inventory) a 32 item questionnaire that assess the internet overuse. Schumacher developed the 13 item PIU (Pathological Internet Use Scale). Finally the most reliable Young's Internet Addiction Test, a 20 item liker scale. According to the scoring individuals can be classified into one of three categories, not addicted, moderate internet use and third addicted⁽¹⁾.

Treatment Internet Addiction

Treatment of diagnosed cases in internet addiction can be applied with pharmacological and most likely non pharmacological interventions.

Due to the fact that along with internet addiction another psychiatric disorder can exist there have been some evidence for the use of various pharmacological agents

successfully used in the treatment of this addiction. According to Przepiorka et al 2014, Antidepressant drugs, Antipsychotic drugs, Opioid receptor antagonists, Psychostimulants, and Glutamate antagonists have been successfully administrated and treat internet addiction disorder⁽³³⁾. Moreover, according to the meta-analysis study of Winkler et al in 2013, both psychological and pharmacological interventions proved beneficial in the Internet addicts as regards time spent online, depression and anxiety⁽³⁴⁾. In addition, in rare and severe cases where suicidal ideation, or major depressive disorder and symptoms of cachexia due to many days, continuous involvement with the Internet, such as online games can coexist. In this case there is the possibility of hospitalization in child psychiatry clinic⁽³⁵⁾.

The majority of studies utilized non-pharmacologic interventions for Internet addiction, such as some psychotherapeutic approaches, in order to investigate the causes leading children and adolescents to this attitude, aiming to regain the confidence in him and in life. During the therapy the use is not interrupted but the teenager learns to set limits and start again engaging in other activities. These included cognitive behavior therapy (CBT), motivational interviewing (MI), reality training, or a combination of psychological and/or counseling therapies within a self-devised treatment program⁽³⁶⁾.

Cognitive behavioral therapy (CBT) has been shown to be an effective treatment for many disorders such as compulsive disorders, including pathological gambling to, and has also been effective in treating substance abuse, emotional disorders, and eating disorders as well. CBT has been indicated as psychotherapeutic intervention of choice when it comes to internet addiction with several studies supporting this fact. Moreover, comparison of CBT and other psychological treatments showed that

CBT outperformed other psychological treatments at reducing time spent online and depression^(37, 38). Within the sessions of CBT for internet addiction, patients are taught to monitor their thoughts and identify those that trigger addictive feelings and actions. Moreover they are learning ways to cope with the addiction along with ways to prevent relapse. CBT usually requires 12 weekly sessions, a 12-step program, and behavior modification. This program have been successfully applied by nurses – psychotherapists who had an expert training^(29, 39).

Other Psychological Interventions: Despite the fact that, CBT is by far the most researched psychotherapeutic intervention in internet addiction there are some studies discussed non-CBT treatments can be effective to. Such as, motivational Interviewing (MI), acceptance and commitment therapy (ACT) and reality therapy (RT), multimodal treatments without CBT components, and promotion of exercise routines⁽⁴⁰⁾.

Conclusions

Dr. Young is one of the first psychiatrists with many studies about Internet addiction presenting in the US the first research on Internet addiction in 1996 during the annual meeting of the American Psychological Association, held in Toronto. Since then, studies have documented Internet addiction in a growing number of countries such as Italy, Pakistan, Iran, Germany and the Czech Republic. Today is observed that the scientific community faces seriously the internet addiction as a disease and a threat and new treatment centers are created continuously. Internet addiction has become a serious public health concern but it is difficult to assess how widespread the problem is. The uncontrolled use of the Internet by adolescents hides enough dangers, that's why according to experts, education for adolescents and parents is necessary.

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