
Internet Addiction: Can Cognitive Behaviour Therapy Help?

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ABSTRACT

The Internet is one of the most impressive and the most useful technological advancements that the human race has known. It grants the user a vast amount of knowledge and skills that can be utilized at any given time and at any given place, making it a very powerful tool in the hands of productive individuals. Internet savvy individuals are able to keep in touch with friends, perform financial transactions, shop and perform multiple tasks, all from the comfort of one's home. The most intriguing aspect of the Internet is that all of the above mentioned tasks can be performed simultaneously. This very fact highlights the amount of control the Internet puts into the hands of individuals who know how to utilize it effectively. The main aim of this review was to understand Internet addiction as a mental health problem and the effectiveness of Cognitive Behaviour Therapy as a treatment strategy to help tackle addiction to the Internet. Based on the findings of the articles reviewed in the current study, it was found that CBT and a form of CBT specifically designed for Internet addiction (CBT-IA) are standard and effective ways of treating Internet addiction.

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Internet Addiction: What it is and why we should be concerned.

Internet addiction refers to a state wherein individuals tend to lose control over their online activities, as a result of which they continue using the internet in spite of negative and problematic outcomes that affect major areas of their lives (Chao & Hsiao, 2000; Young & Abreu, 2011). It can also be viewed as a pathological and compulsive usage of the Internet. It is considered to be a form of impulse control disorder. Despite the many positive uses that the internet provides us with, its negative uses are far more damaging and problematic. The vast availability of the internet is perhaps its most dangerous aspect, as individuals would prefer to spend time online even when surrounded with family members or close friends. They are unable to connect with people in the real world, and hence prefer the company of like minded individuals online. Internet abuse is also found to impact marital relationships and family life to a great extent (Kwiatkowska et al., 2007). Internet addiction has also been proved through various studies to have negatively impacted academic and vocational life (Young, 1998).

Presence of Internet addiction is often accompanied by certain noteworthy neurological changes (Dong et al., 2010; Liu et al., 2010; Park et al., 2010). Individuals with Internet addiction have been found to report abnormal brain activation (Kim et al., 2012). Internet addiction also reduces striatal dopamine transporters (Hou et al., 2012) and associate strongly with dopaminergic brain systems dysfunctions (Yen et al., 2012), indicating that it has a serious impact on the functioning of the brain. A study by Lin et al. found that individuals with Internet addiction had reductions in fractional anisotropy (FA) in white matter pathways throughout the major areas of the brain. This abnormal white matter structure was thought to be linked to various behavioural impairments. These findings are indicative of the fact that Internet addiction is a disorder grave enough to impact even the physiology of the brain.

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Increasing prevalence of internet addiction is now a global phenomenon. It is not uncommon to see individuals engrossed on their mobile phones sending chat messages to friends and family, posting updates about their lives on social networking platforms, sending out important emails and performing vital financial transactions. With more and more people turning to the internet for their varied needs, the number of internet addicts is on the rise as well. India is not an exception to this rule. With the telecom companies offering high speed broadband plans at fairly reasonable rates, the Internet is now becoming more affordable and accessible than ever before. Characteristics of Internet addiction such as ignorance of work, loss of sleep, higher loneliness and increased duration of time spent online have already been observed and found among research studies in India (Nalwa & Anand, 2003). A report by the Internet and Mobile Association of India (2015) has stated that there were close to 87 million Internet users in rural India in the year 2015 and it also predicted that this number would rise about 500 million by the year 2018. This staggering number is indicative of how many people are going to be able to access the internet in the near future, and how many more vulnerable individuals would turn into Internet addicts.

Risk Factors of Internet Addiction

Although an increasing number of individuals are now turning to the internet for their varied needs, it is only a few of them who would actually end up getting addicted to the Internet. Similar to other mental health problems, Internet addiction also has a few risk factors, the presence of which makes an individual more vulnerable to this disorder.

Presence of Internet addiction has been found to have co-morbidity with other forms of mental health issues such as aggression (Lim et al, 2015; Yen et al, 2007), depression (Gamex-Guadix, 2014; Yen et al, 2007), loneliness (Karapetsas, Karapetsas, Zygouris, & Fotis, 2015; Ozdemir, Kuzucu, & Ak, 2014), social anxiety (Weidman et al, 2012; Sepehrain, F., & Lotf, J. J., 2011), and mental disorders like schizophrenia and OCD (Ha et al., 2006). It has also been found to

share a high comorbidity with other forms of addictions like substance use and alcohol addictions (Yen et al, 2009).

When it comes to an individual's gender, various research studies have found contradictory results. Some research studies have found that males are more likely to develop Internet addiction (Okwaraji, Aguwa, Onyebueke & Shiweobi-Eze, 2015), while there are others who have found no difference related to gender in this context (Kim et al, 2006). Males could be more technologically oriented and hence, they probably spend more time in front of gadgets like laptops and cell phones as compared to girls. However, recent merging of gender roles and increase in technical knowledge among both genders has reduced the gender divide when it comes to usage of hi-tech gadgets. This finding could eliminate the possibility of one gender being more prone to Internet addiction than the other. Teenagers have also been found to be particularly more vulnerable to Internet addiction as compared to other age groups. Owing to easy access to the internet at home or school/college, spare time at hand and also peer pressure, adolescents are often found to be using the internet more frequently (Madell & Muncer, 2004; Suss, 2007).

Types of Internet Addiction

Usage of the term 'Internet addiction' or 'Problematic Internet Usage' is often used generically, without considering the content that the Internet is being used to access. The Internet is merely a medium through which addicts would try to satiate their real life addictions. What fuels an online addiction is the false sense of anonymity and security that addicts believe the Internet provides them with. Secondly, the Internet is now an affordable and easily accessible technology, increasing the chances that it will be overused (Griffiths, 2000; 2012). Discussed below are the major types of Internet addiction based on the content being consumed (Young, 1999).

1. Cybersexual addiction: It refers to engaging in online sexual activities such as pornography, adult website surfing and sexting.
2. Cyber-relationship addiction: It refers to excessive usage of social networking and chatting websites to socialize with others.

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3. Net Compulsion: This type of addiction refers to excessive involvement in online shopping, gambling and gaming.
4. Information overload: It refers to engaging in excessive online database searching or web browsing.
5. Computer addiction: Computer addiction refers to an obsession with the offline games like solitaire, minesweeper and free cell.

Diagnostic criteria of Internet addiction

Having mentioned the types of Internet addiction, it is not uncommon for individuals to diagnose themselves as Internet addicts based on the content of their Internet usage. Almost all individuals may have engaged one or more of the above mentioned online content. But that very fact does not make an individual an Internet addict. As any other form of mental disorder, certain symptoms that are characteristic of Internet addiction have been identified and enlisted in order to aid the process of distinguishing normal Internet usage from Internet overuse.

The addition of 'Internet addiction' in the Diagnostic Statistical Manual of Mental Disorders (DSM) has long been debated by mental health professionals. The development of the proposed diagnostic criteria for Internet addiction has been under progress since the past few years. Owing to a lack of sufficient and significant literature on the topic, Internet addiction was unable to find a place in the DSM-IV-TR. The following criteria have been proposed by Dr. Kimberly Young (1999) for identifying Internet addiction.

1. Preoccupation with Internet usage
2. Experience of tolerance.
3. Recurrent failed attempts at reducing/stopping Internet usage
4. Experience of withdrawal symptoms
5. Using the Internet for a longer duration than planned
6. Negative impact on major life areas (home, school/work, friends)
7. Deceiving family, friends and significant individuals in the real world about the time spent online as well as the activities done online.

8. Using the Internet as an escape from real world problems or as a mood alleviation technique.

Shapira et al (2003) suggested broader, systematic categorization in the form of Criteria A, B and C, wherein Criteria A included presence of preoccupation with the Internet or usage of Internet for longer than intended, Criteria B included functional impairments and Criteria C comprised on exclusionary diagnosis. Along similar lines, the 'Diagnostic Criteria for Internet Addiction among Taiwanese Adolescents' (DC-IA-A) was also crafted by Ko et al. (2009). This is the most popular and widely used diagnostic criteria for Internet addiction in Taiwan. Hsu et al (2015) conducted a thorough examination of the DC-IA-A through expert validation from twenty psychiatrists. Through their study, they established that even these criteria needed revision, as few of the items were not applicable in recent times. A major breakthrough in the field of categorization and classification of Internet addiction came in the form of inclusion of the sub-type of Internet addiction, namely Internet Gaming Addiction, in the DSM-V (American Psychiatric Association, 2013).

Having established the fact that Internet Addiction is a serious hazard to mental health, it is also important to consider the possible intervention strategies that could help in its treatment. There are many interventions put forth by clinical practitioners, however this paper focuses only on the efficiency of Cognitive Behaviour Therapy with Internet Addiction.

Cognitive Behaviour Therapy

The effectiveness of Cognitive Behaviour Therapy (CBT) while treating various emotional and behavioural problems can be affirmed by the fact that many therapists have turned to it and also sworn by it since the past 50 years. The popularity of behavior therapy in the 1950s and cognitive therapy in the 1970s, and the insight that their integration could yield much better results led to the formation of Cognitive-Behaviour treatments. The behavioural aspect of CBT works by increasing adaptive behaviours by rewarding them with

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positive reinforcement and minimizing problem behaviours by reducing reinforcement for them. The cognitive aspect focuses on tackling faulty thoughts and information processing patterns which are found to be an integral part of mental health problems. CBT focuses on how individuals think, feel and behave. It involves usage of only those techniques that have been proven effective through scientific research. The integration of cognitive and behaviour combines the strengths of both the approaches to aid the understanding and treatment of various mental health issues (Hazeltt-Stevens & Craske, 2002).

According to Cognitive-Behaviour Theory, people have unique ways of looking at the same situation. People are also very selective of the interpretations about themselves that they develop based on inputs they receive from others. A problem occurs when these cognitions and interpretations are faulty or distorted. Individuals may often not even be aware of these dysfunctional thoughts as they are automatic in nature. CBT focuses on helping the individual to recognize these automatic thoughts and challenge them. It involves a collaborative effort from both the therapist as well as the individual undergoing therapy. The therapy proceeds in a manner so as to help the individual to think in new ways and solve problems by themselves (British Columbia Ministry of Health, 2007).

CBT is planned in such a way so as to target specific problem behaviours that the therapist would identify as part of the presenting problem. The assumption here is that once the target behavior is dealt with, the resulting problem behaviours and cognitions would also consequently change. Another premise of CBT is that maladaptive behaviours that occur due to faulty learning can be corrected through relearning of adaptive behaviours (Hazeltt-Stevens & Craske, 2002). On an average, CBT requires about 3 months of treatment, during which the early stages are focused on targeting specific behaviours and situations in which the disorder is the most unmanageable. Gradually, the focus of therapy shifts to cognitive issues that cause problematic behavior to emerge. A budding and promising approach in CBT is utilization of mindfulness techniques as a vital part of therapy. These techniques employ Buddhist meditation techniques in the therapeutic

process. The aim of therapies based on this technique is to change the context in which faulty and irrational thoughts occur (Hockenbury, Nolan, & Hockenbury, 2015).

Effectiveness of CBT with Mental Health Issues

CBT has been found to be effective with many forms of mental health issues, ranging from day-to-day adjustment disorders, to the more serious neurotic, psychotic and mood disorders. Research studies have found CBT to be fairly effective in treatment of eating disorders (Agras et al, 2000; Pike et al, 2003; Wilson, 2005). When it comes to neurotic disorders, the effectiveness of CBT has been affirmed in the treatment of anxiety (Beck, Emery, & Greenberg, 2005), OCD (Cottraux et al, 2001; Foa et al, 2005; McLean et al, 2001) and Phobias (Krijn, Emmelkamp, Olafsson, & Biemond, 2004; Öst, Svensson, Hellstorm & Lindwall, 2001; Rothbaum, Hodges, Smith, Lee, & Prince, 2000). During the treatment of neurotic disorders, the main focus is on monitoring one's own anxiety, learning relaxation techniques and coping strategies, and using various cognitive strategies to make thoughts and perceptions more accurate and adaptive (British Columbia Ministry of Health, 2007).

CBT has also been proved to be effective in the treatment of depression (Barbe, Bridge, Brimaher, Kolko, & Brent, 2002; Young, Rygh, Weinberger, & Beck, 2008). CBT helps depressed individuals establish and structure their daily activities, and it also helps the person challenge typical negative thoughts associated with depression. CBT aids in shifting focus from physical symptoms and negative mood which are symptomatic of depression (British Columbia Ministry of Health, 2007). CBT has also been found to be effective in the treatment of Bipolar disorder (Scott, 2004; Scott, Garland, & Moorhead, 2001).

In the context of psychotic disorders, research has found that CBT can aid with schizophrenic individuals by reducing delusions and hallucinations as well as other psychotic symptoms by helping them to examine the reality of their dysfunctional thoughts and perceptions (Morrison et al, 2014). CBT has also been found to improve vital

cognitive functions such as attention, problem solving and social skills among schizophrenics (Bowie et al, 2014; Kurtz & Richardson, 2012). It is used with individuals who have been stabilized through the use of anti-psychotic medications. It has also been found to reduce relapse rates of psychotic episodes (British Columbia Ministry of Health, 2007).

CBT has also been found to be effective for substance use disorders (Dutra et al, 2008). In these cases, treatment involves assessment of the individual's motivation to change, collaborative therapeutic agreement, developing coping skills and alternatives to usage of addictive substances, identifying and managing high-risk situations, identifying the emotional and cognitive cues that are associated with substance usage, and making attempts at relapse prevention and maintenance of change even after completion of the therapy. These aspects are usually achieved through aversion therapy, anger management, exposure and response prevention, relaxation therapy and stress management (British Columbia Ministry of Health, 2007).

CBT with Internet Addiction

Having established the effectiveness of CBT with the most commonly occurring mental health disorders, verifying its effectiveness with Internet addiction can also be considered. According to cognitive-behavioural theorists, Internet addicts often possess a maladaptive thought process such as overgeneralization, negative core beliefs, catastrophizing and cognitive distortions that could push the addict towards abuse of the internet as a form of avoidance or escape strategy from real world problems (Young, 2007).

CBT has been found to be a widely accepted and markedly effective intervention technique when it comes to Internet addiction. Most commonly, treatment for Internet addiction revolves around conscious use of the Internet for productive activities instead of leisure activities, development of offline activities, self-management and self-restraint, self-observation, strengthening of interpersonal communication, psycho-education, behavior modification, shaping,

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modeling, reinforcement, problem solving skills, coping-strategies training, support groups and journal keeping (Hockenbury, Nolan, & Hockenbury, 2015; Lemos, Abreu, & Sougey, 2014, Young, 2007). The main goal of therapy is not complete abstinence from the Internet, as that would be impractical given our current Internet dependent lifestyle. The goal of therapy is to manage one's Internet usage in a way that is adaptive and fruitful, which is referred to as Conscious Computing (Greenfield, 2008).

Internet addicts who undergo CBT as a therapeutic intervention have been found to show better recovery as compared to addicts who receive no form of intervention (Du, Jiang & Vance, 2010; Li & Dai, 2009). CBT has been found to help Internet addicts manage their addiction in merely two months of receiving therapy and maintaining the therapeutic goals even after six months of completion of therapy (Young, 2007). CBT also helps addicts manage and control the duration of time that they spend online as well as aiding in the reduction of emotional, behavioural and cognitive symptoms that are typical of Internet addiction (Du, Jiang, & Vance, 2010). In order to enhance the effectiveness of CBT, it is also often paired with other forms of intervention. When compiled with Motivational Interviewing, CBT was found to have very successful results, wherein the addicts who completed treatment successfully were able to limit the time they spent online and also exhibited increased confidence levels (Rooij, Zinn, Schoenmakers, & Mheen, 2012). A combination of CBT with electroacupuncture (passage of a small electrical current between acupuncture needles) has also been found to show very effective results as a treatment strategy for Internet Addiction (Zhu, Jin, & Zhong, 2009). The combination of CBT with bupropion (a drug useful as an antidepressant and for smoking cessation) was found to increase life satisfaction scores on the one hand and reduce Internet addiction scores on the other (Kim, Han, Lee, & Renshaw, 2012). Przepiorka, Blachnio, Miziak & Czuczwar (2014) have recommended a blend of CBT and forms of pharmacotherapy such as Citalopram, Bupropion, Methylphenidate and Memantine as an efficient treatment strategy for Internet Addiction.

Young (2011) developed a specialized form of CBT called the Cognitive-Behavioural Therapy for Internet Addiction (CBT-IA), which was designed specifically for the treatment of Internet addicts. The initial phase of this therapy focuses on the examination of computer behaviour and non computer behaviour, wherein computer behaviour deals with actual online usage aimed at abstinence from problematic online content and controlled usage of productive online activities. Online and offline time management is considered to be the initial goal of CBT-IA. The second phase is essentially of a cognitive nature, aimed at tackling denial and faulty cognitions that rationalize excessive online usage. CBT-IA employs cognitive restructuring as a way to challenge Internet addicts to re-script negative thought patterns and analyze how rational and valid their interpretations of their environment are. Helping addicts gain insight into their problem enables them to challenge their faulty cognitions by themselves. The third phase involves the utilization of Harm Reduction Therapy (HRT) that helps with recovery and relapse prevention. It focuses on co-existing psychiatric, social, familial and occupational issues. Young (2013) conducted a study to examine the practical effectiveness of CBT-IA and found that the Internet addicts that underwent this treatment were better able to stick to their structured Internet usage schedules, were more productive at work and/or school and also showed improvements in their close relationships.

CONCLUSIONS

Increase in the number of individuals who are using the internet and the resulting increase in the number of individuals who end up abusing the Internet cannot be denied. The number of Internet users in India is also on the rise. Hence, it is of vital importance to bring awareness among the masses about the possibility of getting addicted to the Internet, as well as its negative impact on significant life areas. The current study also examined the efficiency of Cognitive Behaviour Therapy as an intervention strategy for Internet Addiction. CBT has been proved to be effective for the treatment of Internet addiction through various research studies. This finding is especially useful for

mental health professionals, especially in India where the number of Internet users and Internet dependents is rising every day. It was also found that CBT is more effective when combined with other forms of treatment. Another significant finding was the establishment of the CBT-IA as an effective way of treating Internet addiction. Future studies should aim to conduct studies wherein the effectiveness of the CBT-IA is tested on Indian population, the results of which would help practitioners and psychologists adapt it according to the Indian scenario.

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