



VIEWPOINT

Getting plugged in: An overview of Internet addiction

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Abstract: Internet addiction is not formally recognised as a clinical disorder by the WHO despite increasing evidence that excessive internet use can interfere with daily life and work. There is increasing pressure from Psychologists for Internet addiction to be recognised. This article explores the prevalence, symptoms and management of Internet addiction and the consequences of ignoring the ever growing concerns from public figures and institutions.

Key words: compulsive disorder; ICD-10; internet addiction; online video games.

The internet is so big, powerful and pointless that for some it is a complete substitute for life.

Andrew Brown, Journalist and Author

One of the earliest modern computers was built at Pennsylvania University during the Second World War. It was called Electronic Numerator Integrator Analyzer Computer; it took up an entire room and was hailed by the press as 'the Giant Brain'. Following the birth of the Internet in 1969, and the advent of the personal computer in the early 70s, computer technology has continued to evolve at a staggering rate. Fast-forward to 2009 and the global number of Internet users has now surpassed 1.5 billion.¹ China holds the record for the highest number of Internet users with 19% of the population going online regularly.² The Internet has become an integral part of daily life for many people, and it is now as common for a child in the developed world to use a computer as it is for them to play with their favourite toys.³

The Concept of Internet Addiction

The term Internet addiction (IA) was first used in 1995 by psychiatrist Dr Ivan Goldberg, who coined the term 'Internet Addiction Disorder' along with a list of symptoms. In the same year, Dr Kimberly Young conducted a study of 500 heavy users of the Internet or 'internet addicts', and compared their behaviour to the Diagnostic and Statistical Manual of Mental Disorders (DSM IV) criteria for pathological gambling.⁴ Subjects reported significant impacts on 'academic achievement, social life, relationships, occupation and finances'. Young likened these to the effects of pathological gambling and alcoholism. Although her study raised the profile of IA among health-care professionals, it was later criticised for its method of recruiting subjects.

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Definitions of IA

Young defined IA as 'use of the internet for more than 38 hours per week', but it has also been defined as 'a maladaptive pattern of internet use leading to clinically significant impairment or distress'.⁵

DSM IV and the International Statistical Classification of Diseases (ICD-10) define addiction in terms of substance dependence or pathological gambling. In order for IA to be classed as dependence, it must meet at least three of the following criteria:

- Tolerance
- Salience
- Withdrawal symptoms
- Difficulty controlling use
- Continued use despite negative consequences
- Neglecting other activities
- Desire to cut down

Young has developed eight criteria to diagnose IA based on the DSM IV criteria for pathological gambling.⁶ These include:

- Preoccupation with use of the computer, think about previous online activity/anticipation of next online session
- Craving more and more time at the computer
- Making efforts to cut back on computer use or stop, and failing repeatedly
- Feelings of emptiness, depression and irritation when not at the computer or when attempting to cut down
- Staying online longer than originally intended
- Jeopardising or risks losing significant relationships, job, career or education because of the Internet
- Hiding the extent of computer/Internet use to family and friends
- Use of the Internet as a way of escaping from problems or of relieving a dysphoric mood (e.g. feelings of helplessness, guilt, anxiety, depression)

IA is an umbrella term encompassing various subtypes including:

- Net compulsions (online shopping and online gambling addiction)

- Online game playing addiction
- Online research addiction
- Cybersexual addictions
- Cyber-relational addiction (chat rooms, social networking, personal messaging and email addiction).

Several self-report questionnaires have been developed to help diagnose IA.⁷ These diagnostic tools have not been validated, and there is no official consensus on what length of time spent at the computer constitutes pathological use.

IA: A Clinical Disorder?

There has been much debate in recent years about whether IA exists as a clinical disorder. It is recognised by the American Psychological Association, but psychiatrists have remained sceptical. A recent article by American psychiatrist Jerald Block discussed the increasing incidence of IA and highlighted the high rate of co-morbidity with other psychiatric conditions.⁸ He proposed its inclusion in DSM V as a 'compulsive-impulsive spectrum disorder'. David Greenfield's book, *Virtual Addiction: Help for Netheads, Cyberfreaks and Those Who Love Them*, proposes that IA should be classified as an addiction because sufferers can show symptoms of tolerance and withdrawal, which are also present in substance dependency.⁹ However, some psychologists argue that IA is a symptom of depression rather than a clinical disorder in itself. Lenihan, a forensic psychiatrist in Edinburgh, questions whether the Internet acts as a medium for the underlying condition and if we should be treating 'online gamblers primarily as gamblers rather than classifying them as internet addicts'.¹⁰

Block also highlighted that the South Korean government has declared IA a 'serious public health problem'.¹¹ In November 2008, psychologists in China called for IA to be officially recognised as a clinical disorder and for it to be registered with the World Health Organization.¹¹ Despite mounting evidence, psychiatrists have argued that we need further valid research into IA before including it in DSM V.

There are currently no published epidemiological studies of IA, and therefore, no official statistics exist on global prevalence. Assessing the true extent of the problem is difficult because most people access the Internet at home. Over the last decade, with the release of massively multiplayer online games, such as Everquest and World of Warcraft (WoW), online video game (OVG) addiction has continued to gain media prominence. An estimated 11.5 million people subscribe to WoW.¹² In 2008, Deborah Tate, of the Federal Communications Commission, cited WoW as one of the 'top reasons for college drop outs in the US'.¹³ Following the global popularity of Facebook, the New York Times has reported that FarmVille, a Facebook application, has become the most popular online game in the world with sixty-one million users enlisted.^{13b} China has the largest number of OVG players in the world and is the current leader in video game addiction research.

Consequences of IA

Teenagers tend to use the Internet as a medium for socialising, but pathological Internet use can result in individuals spending ever-increasing amounts of time in online activities, leading to social withdrawal, self-neglect, poor diet and family problems.¹⁴ The consequences of IA are insidious, becoming apparent after

months of problematic Internet use and eventually engulfing all aspects of the individual's life. Teenagers with IA have reportedly become physically aggressive when parents try to remove them from the computer. Adults with IA have described marital problems and even marital breakdown. Late night use of the Internet can cause sleep deprivation and fatigue, which can adversely affect work performance and can result in reversed sleep pattern and job loss. IA is also commonly associated with depression, anger problems and anxiety disorders.

In the long term, IA can cause serious health problems. Repetitive strain injury and back ache are common complaints. There have been at least 10 reports from Korea and China of users collapsing and dying following several days of uninterrupted online video game playing.¹⁵ A sedentary life-style can increase risk of deep vein thrombosis and pulmonary embolus, eventually leading to obesity and its associated complications.

Treatment of IA

In 1995, Dr Kimberly Young founded the first private IA clinic. Based in the USA, 'The Centre for Online Addiction Recovery' offered a psychological treatment programme and telephone counselling services.¹⁶ In 1996, psychologist Dr Maressa Orzack founded the Computer Addiction Service at the McLean Psychiatric Hospital in Massachusetts offering cognitive behavioural treatment (CBT) as the mainstay of treatment. Since then, more clinics have been established in the USA, Amsterdam, China and Korea. Internet treatment clinics in China have since gained notoriety for their 'boot-camp style' treatment approach.

There is currently no standardised treatment for IA. Clinics in China implement regimented timetables, strict discipline, medication, addiction counselling and electric shock treatment. Treatment clinics in the USA use the 12-step programme along with CBT, family therapy, group therapy, social skills training and addiction counselling. During treatment programmes, patients abstain from using computers; however, because they are so readily accessible, relapse rates are thought to be high. Clinics in the USA also provide educational resources. These include: educational outreach programmes for schools, hospitals and universities; on-site workshops; accredited online home study courses; and an e-booklet guide to assessment and treatment of IA.

Because IA is not recognised by the DSM IV or ICD-10, there is no formal training for psychiatrists in its assessment and treatment. Murali, a consultant in addictions psychiatry, suggests a thorough psychiatric assessment and mental state examination, and collateral histories from relatives.¹⁶ Support groups, CBT and family therapy, as well as Young's behavioural strategies should be included in the treatment plan.¹⁷ Young's behavioural strategies include:

- Practising the opposite – identifying the patient's pattern of Internet use and doing neutral activities during that time
- External stoppers – use of external prompts, for example, an alarm clock to remind them when it is time to log off
- Setting clear goals
- Reminder cards – negative consequence of Internet use are written down on a reminder card and carried at all times
- Personal inventory – make a list of hobbies
- Abstinence

Murali also highlights the importance of enquiring about the patient's motivation to address their addiction. At present, there is a need for research into the effectiveness of these treatment programmes and the long-term results of treating IA.

Conclusion

Because IA is a relatively new concept in psychiatry, there are few studies into its prevalence and treatment. Epidemiological surveys and clinical studies are urgently needed to establish the efficacy and effectiveness of different interventions. Psychiatric associations are coming under increasing pressure to recognise it as a treatable clinical disorder and include it in the DSM V.

The health department of the South Korean government has now recognised IA as a serious public health problem. Arguably, it is time for the World Health Organization and health departments around the world to develop effective health policies to increase public awareness of IA and produce standardised treatment protocols. Validation of diagnostic instruments and the establishment of a set of standard criteria for IA will aid swift and accurate diagnosis.

Until these steps are taken, child psychiatrists will continue to receive referrals for children and adolescents with IA, and remain powerless to implement effective interventions. If we fail to acknowledge IA as both a clinical disorder and a public health issue, then it will continue its silent, endemic spread, affecting millions of children and adults, and eventually affecting societies and economies.

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