

## Mini Review

# Internet Addiction Disorder—Case File of Internet Addiction Disorder and Psychosis

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## Introduction

I was on vacation in Sunnyvale, CA, USA spending my time with my son's family. Third week of February 2019 I get a frantic call from my nephew in Pune India, intimating that his sister (my sister's daughter) is behaving badly and become irritant and sometimes aggressive. I tried to prescribe some antidepressants, (suspecting internet overuse depression based on history) as it was late in the evening in India, he could not get the drug prescribed based on my WhatsApp prescription. He was advised to take her to a psychiatrist next day.

A 40-year-old female housewife was brought to the clinic by her husband and brother in a Psychiatrists clinic in Pune, India with a one-week history of changed behaviour, sleeplessness, aggressive behaviour and unusual beliefs. She started believing that her movements and actions were controlled by an external force through her laptop and phone resulting in her overusing them initially even during night when her husband and children slept and stopping their use two days ago.

She also felt that she and her children and husband were being followed by an unknown group of people through electronic devices and therefore was reluctant to leave the house herself of and even restricting her family members to so.

She a Diploma holder in Computer Science, not working for more than 10 years following marriage and child births had been leading a happy family care takers life. Over the last 6 months, she started using internet excessively with the intention of finding information on mythological stories, recent happenings worldwide, child lifting and accidents, etc to engage herself in her leisure time. Besides taking care of household chores she avoided all other activities and spent hours on her mobile. She slept only for 4-6 hours on some days because she somehow wanted to complete her wish of knowing every mythological story and childcare and abuse stories. Her interactions with family and friends also became much less. She became agitated and irritable when her husband tried to control his internet use. She came from a middle-class closely-knit family with an Indian background. Both parents were caring and showed reasonable parenting practices.

There was no significant history of medical or psychiatric illness

or substance use, but a definite overuse of internet since last 6 months. There was a family history of psychiatric illness. Her mother too had episode of depression, but not attributable to internet use. She was a developmentally normal adolescent with average academic performance. She was a quiet person with few close friends who was 'loved' by her teachers, husband and children.

Mental state examination revealed perplexed mood, persecutory delusions, delusions of reference and delusions of control involving technological devices. She showed partial insight. Blood investigations and neuroimaging studies did not reveal any abnormality.

She was put on 1) anticonvulsant - Divalproex (Dilpra OD 500 mg) once a day in the night, 2. Parkin Plus {Trifluoperazine (5 mg) + Trihexyphenidyl (2 mg) once a day in the night, antipsychotic-Risperidone (Rospitil 0.5 mg) once a day in the night, and adjuvant therapy drug Fortinerv (Alpha lipoic acid 200 MG+Benfotiamine 200 MG+Chromium picolinate 200 MCG+Folic acid 1.5 MG+Inositol 100 MG+Mecobalamin 1500 MCG+Pyridoxine 3 MG) once a day in the morning was completely symptom-free by 3 weeks.

The prognosis was slow as her aggressive behaviour was controlled within 24 hours, but she was sleepy most of next 24 hours and felt drowsy when awake too. 2) Her fear and anxiety continued for a week. 3) She was totally off internet. After second consultation in 3 days she was asked to continue the drugs for another week and come for follow-up. By three weeks she was completely symptom-free but mild anxiety and fear continued. In the second week her aunt (who had brought her up in childhood) and her doctor uncle kept counselling over phone. Continued therapy and counselling over phone helped her to reach an almost normal status in 12 weeks' time. Today she is almost normal, but the worry of repeat occurrence keeps her haunting.

## What is Internet Addiction Disorder?

Excessive internet use, especially among adolescents and its health implications, have been a much-discussed topic recently. Problematic internet use or Internet Addiction Disorder (IAD) is still not an official diagnosis in psychiatric classification systems.

Dr. Kimberly Young had first proposed diagnostic criteria for Internet Addiction Disorder (IAD) modifying criteria for impulse control disorder in DSM IV [1]. Young (1998) described a seven criteria model for Internet Addiction Disorder diagnosis like other addictions [2].

A preoccupation with the Internet, the need to use the Internet for increasing amounts of time, Unsuccessful efforts to stop using the Internet, mood change when attempting to stop or cut down Internet usage, Staying online longer than intended, Jeopardizing of significant relationships or opportunities due to excessive Internet usage. Lying about Internet use, using the Internet as an escape from

problems or seeking to relieve bad mood states. However, he has not specified any duration criteria.

More recently Tao et al. (2010) stated the following criteria for Internet Addiction Disorder [3].

**(a) Symptom criteria (both must be present):** (1) Preoccupation and (2) Withdrawal symptoms;

**(b) One or more of these criteria:** (1) Tolerance, (2) Continued use despite problems, (3) Loss of other interests, (4) Use of the Internet to escape or relieve dysphoric mood;

**(c) Clinically significant impairment criterion:** Functional impairments (reduced social, academic, working ability), including loss of a significant relationship, job, educational or career opportunities.

**(d) Course criterion:** Duration of Internet addiction must have lasted for an excess of three months, with at least six hours of Internet usage (non-business/non-academic) per day.

Both sets of criteria describe feelings of a lack of control over internet use resulting in psychological, social, or professional dysfunction and mental preoccupation. The common consensus is that problematic internet use has features like other behavioural addictions including substance addiction. After much debate internet gaming disorder has been included in DSM V as an entity which needs further investigation and research. But DSM V does not include other types of excessive internet use other than gaming.

## Types of Internet Addiction Disorder

Young has described five different kinds of IAD [2] 1. Cyber sexual addiction (addiction to cyber porn or adult chat rooms), 2. Cyber relationship addiction (Cyber affairs or using online relationships to replace real-life friends and family), 3. Net compulsions (Obsessive online gambling or shopping) 4. Information overloads (compulsive database searches) 5. Computer addiction (obsessive game playing).

The patient described in the case report showed features like inability to control use, preoccupation, and loss of interest in social, and recreational activities justifying a diagnosis of IAD (type 4 above) prior to the onset of psychotic symptoms.

## Internet Addiction and Psychiatric Comorbidities

Different types of psychiatric comorbidities in association with IAD have been identified including ADHD, Anxiety, Bipolar disorder and depression.

The first documented case of psychotic symptoms during withdrawal period of the internet is reported by Mendhekar and Chittaranjan in 2012 [4,5]. They described a case of a 15-year-old boy who had developed frank psychotic symptoms 36 hours after stopping internet use. Paik et al. have described a psychotic episode in a 25-year-old male within one day after discontinuing an internet game [6,7].

Genetic vulnerability in the form of family history was present in our patient.

Nitzan et al. identified shared factors like loneliness or vulnerability due to loss or separation from a loved one, relative inexperience with technology, and no prior history of psychosis or substance abuse. Our patient had the first and third factors out of the factors highlighted.

This condition appears to show an overlap of symptoms with internet addiction and emerging psychosis. From a neurobiological perspective, internet addiction is associated with changes in white matter integrity [8-11].

It may be concluded that IAD in adolescence and young adults is not associated with morphological changes in white matter at the macroscopic level, but rather impaired white matter microstructural integrity, which might be attributed to demyelination.

## Conclusion

Considering the expanding knowledge of technology leading to societal changes in every part of the world, the internet has become a necessity in people's lives nowadays. With emerging evidence linking excessive internet use and psychiatric symptoms, further research is needed.

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