Chapter 10
Internet Addiction and Online Gaming:
An Emerging Epidemic of the Twenty-First Century?

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ABSTRACT

Internet addiction has gradually turned a medium of gaming and other leisure activities shifting from its original intention to fasten the communication and help in the researches. The excessive usage of internet and nature of its usage has been found to be similar with psycho-addictive substance addiction with similar neurobiological basis. Inclusion of gambling disorder into DSM 5 further strengthens the emerging concept of behavioral addiction. Various worldwide researches also support the upsurge of such problem. The clinical presentation and management options are mostly based on the behavioral principles learned from the substance abuse problems. However, large-scale randomized trails and epidemiological studies are definitely needed to understand this twenty-first century problem.

INTRODUCTION

The Internet itself is a neutral device originally designed to facilitate research among academic and military agencies. However, how some people have come to use this communication medium has created a stir among the mental health community by great discussion of Internet addiction. Addictive use of the Internet is a new and rapidly growing phenomenon.

According to the Pew Research Center (2003), Internet use in the United States alone has grown from just less than half of American adults in 2000 to about 59% of adults at the end of 2002, and studies suggest that nearly 6% of online users suffer from Internet addiction (Greenfield, 1999). Since then, over the last few decades increased presentation of such problems occasionally as a sole complaint has been observed worldwide over various settings. More than the earlier existing controversies, online gaming and over use of internet is more of a real-life problem over the question of its rarity.

ADDICTION NEUROBIOLOGY

The neurobiological model of any disorder generally explains the disorder from genetic aspects, neuroanatomical regions related to the functions, receptor and synaptic systems, signal transduction and proteins related to it. Family and twin studies have persistently showed up to 60% of heritability among first degree relatives. Trait factors like impulsivity risk taking behavior, stress responsivity and even chances of co morbidity seemed to be having higher genetic inheritance. Various genes like OPRM1, OPRK1, DRD2, DRD3, DRD4, tryptophan hydroxylase 1 and 2, MAO A, COMT, GABA receptor alpha1, beta1 and alpha6, CYP 2D6, ADH1B,1C etc. have been identified to be having potential roles in various psychoactive substance abuse. From vulnerability to relapse genes has been observed to have prominent roles in addiction behavior. Ventral tegmental area(VTA), Nucleus Accumbens (NA) and Prefrontal Cortex(PFC) has remained part of the postulated reward pathway and their significance has been proved persistently in functional imaging.

BIO-PSYCHO-SOCIAL MODEL OF ADDICTION

Since George Engel proposed his revolutionary biopsychosocial model of illnesses, the psychological factors and social stressors has remained a matter of discussion and search for other modifiable factors have been proved effective. The role of psychological and social factors has been found to have immense role in addiction and substance abuse specially because of their role in management and chance to modify certain 'set behavior/patterns'.

There are many individual (personal vulnerability) factors that may be involved in the acquisition, development and maintenance of behavioral addictions (e.g. personality traits, biological and genetic predispositions, unconscious motivations, learning and conditioning effects, thoughts, beliefs, and attitudes), although some factors are more personal (e.g. financial motivation and economic pressures in the case of gambling addiction).

Addiction is an incredibly complex behavior and always results from an interaction and interplay between many factors including the person's biological and/or genetic predisposition, their psychological constitution (personality factors, unconscious motivations, attitudes, expectations, beliefs, etc.), their social environment (situational characteristics such as accessibility and availability of the activity, the advertising of the activity) and the nature of the activity itself (i.e. structural characteristics such as the size of the stake or jackpot in gambling). This 'global' view of addiction highlights the interconnected processes and integration between individual differences (i.e. personal vulnerability), situational factors, structural characteristics, and the resulting addictive pattern of behavior. There are many individual (personal vulnerability and traits) factors that may work as predisposing factors, whereas the development and maintenance of behavioral addictions might occur over factors like; unconscious motivations, learning and conditioning effects, personal thoughts, cultural beliefs and attitudes, although some factors are more personal or situational(e.g. financial motivation and economic pressures in the case of gambling addiction).

Psychosocial factors such as low self-esteem, loneliness, depression, high anxiety, and stress all appear to be common among those with behavioral addictions (Griffiths, 2015).

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