

View point**Smart generation with smartphone hooked to Internet addiction**

Tanu Gupta

Address for correspondence: Department of Psychiatry, AIIMS, Jodhpur, Rajasthan, India.
Email id: drtanugupta2015@gmail.com

Introduction

From the last decade, there is a rapid increase in usage of Internet. It has come up as a global network that helps people in connecting and communicating with each other around the globe. The advent of smartphone and easy access to Internet has brought so many advantages to our life. On the other hand, it has raised several concerns for parents, professionals and researchers. Children, adolescents and young adults are facing the major brunt of this technology advancement. The article uses the term smart generation as a proposed nomenclature for today's children and adolescents who are exposed to the smart devices (I pad, smartphone, computer, laptop etc.) at an early age and who spend a large amount of their time with them. Now a day, Internet addiction disorder or problematic Internet use has become a concern of each and every household in India. Latest version of the Diagnostic and Statistical Manual of mental disorder (DSM-5) uses the term *Internet gaming disorder* for this problem [1]. The term Internet addiction (IA) has been used in different studies with different connotations, as there is lack of consensus regarding any specific definition of IA. It has been seen that people who are addicted to the Internet have difficulty in fulfilling their personal and professional responsibilities due to their constant involvement with online activities. They do experience negative emotions and withdrawal symptoms when their Internet access is restricted. The concept of IA includes cyber-

sexual addiction, cyber relationship addiction, online gaming addiction, net compulsions, computer addiction, smartphone addiction and information overload. However, till date the validity of these categories are still under investigation and require further research [2].

Prevalence

The prevalence of IA has been on a rise with the invention of smartphone. Smartphone addiction has emerged as a new form of behavioral addiction that has its root in Internet addiction. The prevalence of smartphone addiction was reported as 36.5% among medical students in Jeddah, Saudi Arabia and 30.9% among school students in Korea [3-4]. The prevalence of smartphone addiction among Indian adolescents ranged from 39% to 44% as reported by meta-analysis and systematic review of Indian studies [5]. The meta-analysis of 31 countries estimates the global prevalence of IA as 6% [6] however the rates of prevalence among adolescents were varied from 2.5% to 26.8% in different studies from Asian countries [7-8]. The varied rates of prevalence could be attributed to diverse sample population, various methods of assessment and different study designs.

Cause of concern

In today's world, we are becoming more tech savvy and use of internet and computer has become a necessity as well as a status symbol for our children and adolescent. So now the competitive stress for them is not limited to academic performance but also for becoming smart, modern and technologically intelligent. There is a thin line between a normal use and problematic use of Internet that make it more difficult to differentiate in the beginning for parents. Recent evidence of research have also found the interruption in parent child interaction due to increased parental involvement in technology and termed it as "technoferece" which further raise the frequency of behavioral problems in children [9]. As nowadays parents are also

actively involved with smart devices and spend greater amount of time on them. Although Internet connects individual with the whole world by sitting passively at home but it has replaced the real social connections with people around. Overuse of technology by parents has also been seen as a threat for secure attachment between parents and children and thus further enhances the risk for future psychological and emotional problems in children and adolescents [10]. Moreover the internet addiction disorders has also taken toll on psycho-social development of children and teens as they may not engage in peer interaction, spend more time on screen thus skipping meals and has poor sleep habits. Altogether it impacts their attention span, academic performance and educational achievements in a negative manner.

Contributing Factors

The major contributing and maintaining factors for this problematic internet use in adolescents are easy access, high parental involvement with technology, lack of parental control, rebellious nature of adolescents, peer pressure, inappropriate role models, anxiety, stress, nuclear families and no other means of entertainment. Moreover, Internet addiction is an easy escape for adolescents for social isolation due to heightened self-consciousness and social anxiety. Adolescents are biologically wired for indulging in high-risk behaviors and addictive behaviors. It has also been seen that engagement in Internet activities can be psychologically rewarding for children/adolescents. Their brain's response to Internet may feel similar to other addictive behaviors that cause so called "high" and thus reinforce the continued use.

The presence of psychiatric co-morbidities (externalizing and internalizing disorders) is common with IA and has been seen as major contributing factors in the development of IA. The most common co-morbid conditions are depression, stress, anxiety, insomnia, attention deficit hyperactivity disorder, hostility and aggression [11-14]. Excessive internet use can act as two-

way sword for today's generation by becoming a causal or maintaining factors of various physical and mental health problems. There is a need to develop comprehensive management plan to target IA with these co-morbid conditions through pharmacological and non-pharmacological approaches as per the need of the individual case. Psychotherapeutic interventions for IA also need to incorporate the specific techniques to manage the associated psychiatric issues.

Intervention approach

The increased prevalence of IA has become a public health concern worldwide. It's not only affecting individuals per se rather it has taken a toll on families and society as a whole. It is imperative to intervene at all levels to manage this global epidemic. The focus of IA intervention is not complete abstinence like other forms of addiction. It aims at providing viable skills to people that encourage the limited, responsible and safe use of Internet in their personal and professional domains. Psychotherapeutic interventions for IA involve a detailed behavioral analysis to assess the pattern of Internet use, time spent, triggers, maintaining factors and motivation for change. It is essential to target parental use of technology and parent child relationship in IA intervention to make it more effective for adolescents. Psycho-social intervention of IA includes:

Cognitive behavior therapy (CBT-IA)

CBT for IA is based on the premise that behaviors/emotions are governed by underlying thought process. IA could be a result of maladaptive emotions and negative beliefs/assumptions about the self or others. CBT-IA is specifically designed treatment modality for IA that works in three phases. The first phase utilizes principle of behavior modification to reduce the time spent on internet. Cognitive restructuring is used to target the maladaptive cognitions in second phase and

harm reduction is used in third phase to address the other associated maintaining factors of IA [15]. The process of CBT utilizes the following techniques:

- **Psycho-education:** It involves education about benefits of healthy or moderate use of technology and ill effects of excessive use. Psychoeducation target family as a unit that includes children/adolescent and parents as here the goal is to change the overall family involvement with technology.
- **Self-monitoring:** Monitoring of time spend on Internet can be done using Internet log diary that examine their negative automatic thoughts and record their feelings when offline.
- **Goal setting:** Goals of intervention can be divided into short term goals as well as long term goals. Gradual and progressive change in behavior is more persistent.
- **Acquiring new social skills:** Newer ways of socialization and entertainment for family as a whole to expand their offline activities are emphasized. Engaging in hobbies, physical activities along with real life social interactions can be beneficial to overcome feelings of loneliness, boredom and withdrawal symptoms of IA.
- **Stimulus Control:** Restriction on time spends on internet is imperative to nurture other aspects of life. Reminder cards can be made stating the advantages and disadvantages of limited use of internet. External stoppers such as alarm clock or parental warning can be used as a prompt for adolescents to stop the current use, log off the Internet and engage into their offline work. Adolescents can remain abstinent from the use of few sites/applications that are more time consuming and attractive such as Facebook, Twitter, Instagram, online games etc. for few days till they achieve a sense of control and confidence of their limited use.

- **Nurture real human connection:** Adolescents are growing their connection in the virtual world and losing the real connect with their own self and others. They can be taught about the value of real human relationships and encouraged for the same.

Motivational interviewing (MI): MI is a systematic, directive and client centered approach that evoke the process of change in people having problem of addiction by resolving their ambivalence and enhancing their intrinsic motivation to change. It is well established intervention modality in the area of substance abuse however we do not have many evidence based studies that assess the efficacy of MI in IA. Some of the case reports do mention the use of MI in the management of IA [16].

Family counseling/intervention: Family interventions target relationship and familial issues that might have resulted due to IA. Family interventions help them improve their interpersonal relationships with parents, peers and others and also enhance their social connect with other people around. Family is targeted as a whole where parents are being educated about their role in helping children overcoming such issues and how simple family rules about screen time can help in preventing the IA.

Answering parent's questions about the appropriate age of giving mobile phones and duration of usage also becomes important to target in intervention. Although there is no specific guidelines available about the right age of giving smartphone to children but it becomes an important and individualized decision of each household where parent can assess the understanding and maturity level of the child about the use of smartphone technology. Children's awareness about the responsible use of technology is more important than their age in making a decision about giving them a smartphone. It has become a major responsibility of parents to educate the today's

generation about the healthy use of technology along with other behavioral and moral value education.

Recently, World health organization (2019) published specific guidelines about the duration of screen time (include the time spent on TV, smartphone, computer, laptop, I-pad or any other screen based device) in young children [17]. WHO recommended that young children (below 1 years) should not be exposed to screen at all and children from 2 to 5 years of age should only get one hour of screen time which is similar to the previous guidelines of Canadian Pediatric society [18] and American Academy of Pediatrics (AAP). Recommendation of AAP also suggest that parents needs to establish an individualized family based media plan for children and teens (5 to 18 years) that consider the health, education and entertainment needs of each child and family [19]. Reduced screen time can be replaced with active physical activity routine and quality sleep that further improves their physical and mental wellbeing of children.

Conclusion

Developing brain of the adolescents made them biologically vulnerable for addictive behaviors. Internet has become a resort for their never ending curiosity by providing answers to all their queries at their fingertips and further encourage their virtual connect. Behavioral addictions have come up like lifestyle disorders now a day and soon will become a global epidemic. School and family interventions can be used as primary prevention strategy to curb this epidemic. Adolescents with deficits in social skills can be trained on different skills (relationship skills, communication skills, and assertiveness) to enhance their real life connection with people around. Children learn by example, so parents need to adapt the pattern of responsible use of technology before expecting children to inculcate this in their behavior.

Conflict of interest: None declared

References

1. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders (5th Edition). Arlington, VA, USA;2013.
2. Musetti A, Cattivelli R, Giacobbi M, Zuglian P, Ceccarini M, Capelli F, Pietrabissa G, Castelnuovo G. Challenges in internet addiction disorder: is a diagnosis feasible or not?. *Frontiers in psychology* 2016, 7:842.
3. Alhazmi AA, Alzahrani SH, Baig M, Salawati EM. Prevalence and factors associated with smartphone addiction among medical students at King Abdulaziz University, Jeddah. *Pakistan journal of medical sciences* 2018, 34(4):984.
4. Cha SS, Seo BK. Smartphone use and smartphone addiction in middle school students in Korea: Prevalence, social networking service, and game use. *Health psychology open*. 2018, 5(1):2055102918755046.
5. Davey S, Davey A. Assessment of smartphone addiction in Indian adolescents: a mixed method study by systematic-review and meta-analysis approach. *International journal of preventive medicine*. 2014, 5(12):1500.
6. Cheng C, Li AY. Internet addiction prevalence and quality of (real) life: A meta-analysis of 31 nations across seven world regions. *Cyberpsychology, Behavior, and Social Networking*. 2014, 17(12):755-60.
7. J Kuss D, D Griffiths M, Karila L, Billieux J. Internet addiction: a systematic review of epidemiological research for the last decade. *Current pharmaceutical design*. 2014, 20(25):4026-52.
8. Wang Y, Wu AM, Lau JT. The health belief model and number of peers with internet addiction as inter-related factors of Internet addiction among secondary school students in Hong Kong. *BMC Public Health* 2016, 16(1):272.
9. McDaniel BT, Radesky JS. Technoference: Parent distraction with technology and associations with child behavior problems. *Child development* 2018, 89(1):100-9.
10. Courtney JA, Nowakowski E. Technology and the Threat to Secure Attachments: What Play Therapists Need to Consider. *Play Therapy* 2018, 11-14.
11. Kumar M, Mondal A. A study on Internet addiction and its relation to psychopathology and self-esteem among college students. *Industrial psychiatry journal* 2018, 27(1):61.

12. Goel D, Subramanyam A, Kamath R. A study on the prevalence of internet addiction and its association with psychopathology in Indian adolescents. *Indian Journal of Psychiatry* 2013, 55(2):140.
13. Ko CH, Yen JY, Chen CS, Yeh YC, Yen CF. Predictive values of psychiatric symptoms for internet addiction in adolescents: a 2-year prospective study. *Archives of pediatrics & adolescent medicine* 2009, 163(10):937-43.
14. Carli V, Durkee T, Wasserman D, Hadlaczky G, Despalins R, Kramarz E, et al. The association between pathological internet use and comorbid psychopathology: a systematic review. *Psychopathology* 2013, 46(1):1-3.
15. Young KS. CBT-IA: The first treatment model for internet addiction. *Journal of Cognitive Psychotherapy* 2011, 25(4):304.
16. Sharma MK, Palanichamy TS. Psychosocial interventions for technological addictions. *Indian journal of psychiatry* 2018, 60(Suppl 4):S541.
17. World Health Organization. Guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age. Geneva. 2019.
18. Canadian Pediatric Society. Digital Health Task Force. Screen time and young children: Promoting health and development in a digital world, Position Statement.2017. Available at: <http://www.cps.ca/en/documents/position/screen-time-and-young-children> (accessed on May 25, 2019)
19. American Academy of Pediatrics Council on Communications and Media. Media and young minds. 2016. *Pediatrics*, 138(5), e20162591. doi: 10.1542/peds.2016-2591

Tanu Gupta, Clinical Psychologist, Department of Psychiatry, AIIMS, Jodhpur, Rajasthan, India.