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COMPULSIVE PLAYING OF ONLINE VIDEO GAMES BY URBAN ADULTS

Ashish Ramjeet Yadav[1], Srabani Bhattacharya[2]* and Sundaram Kartikeyan[3]

[1]Medical Student, Rajiv Gandhi Medical College, Kalwa, Thane-400 605, Maharashtra, India.
[2]Professor and Head, Physiology Department, Rajiv Gandhi Medical College, Kalwa, Thane-400 605, Maharashtra, India.
[3]Professor and Head, Community Medicine Department, Rajiv Gandhi Medical College, Kalwa, Thane-400 605, Maharashtra, India.

***Corresponding Author: Srabani Bhattacharya**

Professor and Head, Physiology Department, Rajiv Gandhi Medical College, Kalwa, Thane-400 605, Maharashtra, India.

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ABSTRACT

This cross-sectional descriptive study was conducted on 133 urban adult respondents: 51 females (38.34%) and 82 males (61.66%), to determine the effects of compulsive playing of video games. A pre-tested and pre-validated online questionnaire was administered to male and female urban adults, who self-reported that they compulsively played online video games on a daily basis for at least one year preceding the study. The mean daily duration of playing online video games for females and males was 3.88 +/- 1.29 hours per day and 3.52 +/- 1.38 hours per day, respectively, without significant gender difference (Z=1.523; p= 0.127). On an average, female respondents played online video games since 4.08 +/- 2.71 years, while their male counterparts did so since 3.40 +/- 2.26 years, without significant gender difference (Z=1.497; p=0.134). A significant male preponderance was observed in the proportion of males who felt energetic after playing online games (Z=2.901; p=0.003) and indulged in gaming when under stress (Z=2.110; p=0.034). A significantly higher proportion of females preferred online gaming over social interactions (Z=2.167; p=0.030); had tried to quit the habit of gaming (Z=2.801; p=0.005) and reported eye strain (Z=2.869; p=0.004) after gaming.

KEYWORDS: Compulsive playing, Internet gaming disorder, Video games.

INTRODUCTION

Video game addiction is an excessive and compulsive use of computer or video games that results in social and/or emotional problems; despite these problems, the gamer is unable to control this excessive use.[1] There is a wide variation across studies in the reported prevalence rates for video game addiction.[2]

The risk factors include young age,[3] male gender,[2] single marital status,[4] living alone,[5] unemployed status,[6] and living in developing countries.[5,7] Though one study,[8] reported that video gaming addiction was independent of educational background, another study,[5] found higher prevalence among less educated groups. Most of the studies on video game addiction have been conducted on younger age groups,[9] and few studies have been conducted across various age groups in the general population.[4] Thus, more research is required to determine the socio-demographic determinants of video game addiction.

When compared with non-daily gamers, daily gamers tend to own multiple devices that are used for gaming viz. laptop or desktop computers, dedicated gaming consoles attached to a television, smart phones and dedicated handheld gaming devices. As compared to a "feature phone" that only offers basic telephony, the modern "smart phone" is portable, affordable, endowed with operating systems similar to that of a laptop or desk top computer; has a wide range of software capabilities that provides integrated services from communication, web browsing over mobile broadband, multimedia functions computing, a wide variety of downloadable applications ("apps"), voice communication, messaging, and wireless communication capability.[10,11]

Excessive use of mobile phones has been found to be linked to loneliness, depression and low self-esteem;[12] headache, stress and sleep disturbances; [13] a condition called "phantom ringing" or "ringxiety", where individuals hear the phone ringing when it is not;[14] interference with the users' daily routine,[15] tolerance, withdrawal, cravings, loss of control;[16] unrestrained behaviours, such as, constantly checking their phones;[17] anxiety,[18,19] and altered cranio-cervical posture with temporo-mandibular disorders.[20]

The bulk of psychological research emphasizes the negative impact of gaming mainly due to the massive media attention drawn by mass violence, which is linked

to youth who play violent video games.[21] Gaming can provide cognitive benefits (attention, reasoning, spatial awareness and problem-solving), motivation (resilence), emotional advantages (mood management) and promote pro-social behaviour.[22] Online gaming has facilitated efforts to enforce social distancing during the COVID-19 pandemic, with higher use of multi-player modes in comparison with single-user modes.[23] Gamers use several methods for playing with other people, such as, dual controllers, Bluetooth links, or Internet connections.

The objective of the present study was to determine the effects of compulsive playing of video games by urban adults.

MATERIALS AND METHODS

This cross-sectional descriptive study was conducted using snow ball sampling. A pre-tested and pre-validated questionnaire was administered, via Google forms to male and female urban adults, who self-reported that they compulsively played online video games on a daily basis for at least one year preceding the study. Informed consent was taken on the Google forms. The data were adapted to Microsoft Excel spreadsheet (Microsoft Corporation, Redmond, WA, USA) and analyzed using SPSS statistical software Windows Version 25.0 (IBM Corporation, Armonk, NY, USA). For discrete data, the percentage of responses and the standard error of difference between two sample proportions were calculated. For continuous data, the standard error of difference between two means was calculated. 95% Confidence interval (CI) was stated as: [Mean-(1.96)*Standard Error)] – [Mean+(1.96)* Standard Error)]. The statistical significance was determined at $p<0.05$.

RESULTS AND DISCUSSION

In all, there were 133 respondents – 51 females (38.34%) and 82 males (61.66%).

Daily duration of playing online video games: The mean daily duration of playing online video games for females and males was 3.88 +/- 1.29 hours per day (95% CI: 3.60–4.16 hours per day) and 3.52 +/- 1.38 hours per day (95% CI: 3.23–3.82 hours per day), respectively. The gender difference was not significant (Z=1.523; p= 0.127). The first quartile, median and maximum duration of playing online video games was higher for females, but the minimum duration and third quartile were identical for both genders (Fig 1).

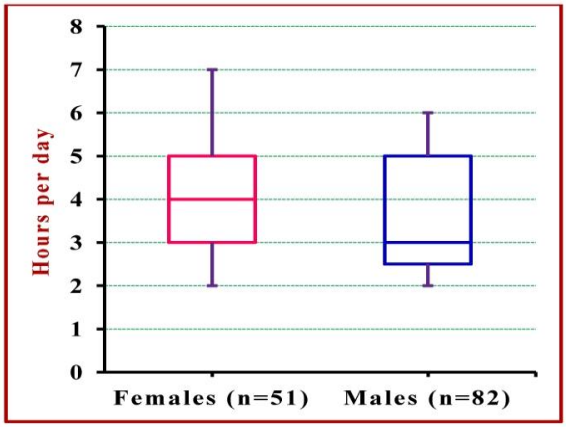

Fig. 1: Daily duration of playing online video games.

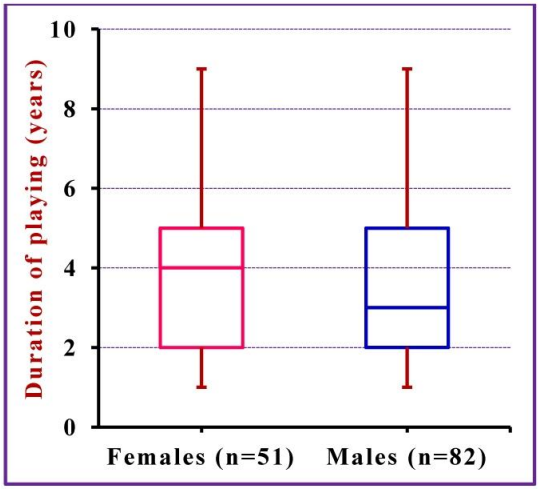

Fig. 2: Duration of playing online video games in years.

Gaming patterns: On an average, female respondents played online video games since 4.08 +/- 2.71 years (95% CI: 3.49–4.67 years), while their male counterparts did so since 3.40 +/- 2.26 years (95% CI: 2.91–3.89 years), without significant gender difference (Z=1.497; p=0.134). The minimum, first quartile, third quartile and maximum duration of playing online video games (in years) was identical for both genders, but the median duration was higher for females (Fig 2). The pattern of playing online games is outlined in Table 1. A significantly higher proportion of males stated that they felt energetic after playing online games (Z=2.901; p=0.003) and playing when under stress (Z=2.110; p=0.034). 60.78% females revealed that they preferred online gaming over social interactions, as compared to 41.46% males, with significant gender difference (Z=2.167; p=0.030). A significantly higher proportion of females divulged that they had tried quit gaming (Z=2.801; p=0.005). Several studies[24-26] have identified female gender as a risk factor, while some studies[27,28] found that males were at higher risk. On the other hand, some researchers[29-31] have stated that gender is not a determinant.

Table 1: Pattern of playing online games.

Parameter	Females (n=51)	Males (n=82)	Z value	'p' value
Feel energetic after gaming	12 (23.53%)	40 (48.78%)	2.901	0.003 *
Playing when under stress	16 (31.37%)	41 (50.00%)	2.110	0.034 *
Playing even when work is pending	19 (37.25%)	21 (25.61%)	1.423	0.155
Prefer gaming over social interactions	31 (60.78%)	34 (41.46%)	2.167	0.030 *
Continue playing even after losing continuously	21 (41.18%)	31 (37.80%)	0.387	0.696
Spending money on gaming	04 (07.84%)	07 (08.54%)	0.141	0.886
Tried quitting	32 (62.75%)	31 (37.80%)	2.801	0.005 *

Z = Standard error of difference between two proportions

Table 2: Symptoms.

Parameter	Females (n=51)	Males (n=82)	Z value	'p' value
Eye strain	36 (70.59%)	37 (45.12%)	2.869	0.004 *
Headache	11 (21.57%)	16 (19.51%)	0.286	0.771
Mood swings	22 (43.14%)	31 (37.80%)	0.610	0.541
Aggressive behaviour	15 (29.41%)	22 (26.83%)	0.323	0.748

Z = Standard error of difference between two proportions

Symptoms: Eye strain, headache, mood swings and aggressive behaviour were experienced by the respondents (Table 2). As compared to their male counterparts, a significantly higher proportion of females reported eye strain (Z=2.869; p=0.004), while there were no significant gender differences in the other reported symptoms. 13 (25.49%) females and 24 (29.27%) males reported that their online gaming habit affected their professional life adversely. The gender difference was not significant (Z=0.472; p=0.638). 16 (31.37%) females and 36 (43.90%) males slept after mid-night due to their gaming habits, without significant gender differences (Z=1.439; p=0.149). Similarly, there were no significant gender differences in sleeping patterns, such as sleeping for less than 6 hours per day (Z=0.948; p=0.342), sleeping during daytime (Z=0.094; p=0.928) and compromising on sleep for purpose of gaming (Z=0.096; p=0.920). The violence portrayed in video games has been linked to sleep disturbances,[8] fatigue, anxiety,[4] sensation-seeking, loneliness, introversion, neuroticism, impulsivity,[32] suicidal ideation,[4] hostility towards others, desensitization to violence, reduced empathy, aggressive thoughts and attitudes,[33] deterioration of professional performance, financial escapades and familial disharmony.[34]

Limitations: This cross-sectional study was based on self-reported data and did not differentiate between various types of video games.

CONCLUSION

The findings of the present study may facilitate identification of individuals who are at risk of getting addicted to gaming. Since excessive gaming is linked with negative health and psycho-social profiles, there is a need for formulating multi-pronged interventions at individual, family and community levels, using user-friendly techniques. To prevent compulsive gaming, individuals need to be taught to develop hobbies, explore new activities and think of new accomplishments outside game scores.

REFERENCES

1. Lemmens JS, Valkenburg PM, Peter J. Development and validation of a game addiction scale for adolescents. Media Psychol, 2009; 12(1): 77-95.
2. Ferguson CJ, Coulson M, Barnett J. A meta-analysis of pathological gaming prevalence and comorbidity with mental health, academic and social problems. J Psy Res., 2011; 45: 1573-1578.
3. Brunborg GS, Mentzoni RA, Melkevik OR, Torsheim T, Samdal O, Hetland J, et al. Gaming addiction, gaming engagement, and psychological health complaints among Norwegian adolescents. Media Psychol, 2013; 16(1): 115-128.
4. Wenzel HG, Bakken IJ, Johansson A, Götestam KG, Øren A. Excessive computer game playing among Norwegian adults: self-reported consequences of playing and association with mental health problems. Psychol Rep., 2009; 105(3 Pt 2): 1237-1247.
5. Wittek CT, Finserås TR, Pallesen S, Mentzoni RA, Hanss D, Griffiths MD, et al. Prevalence and predictors of video game addiction: A study based on a national representative sample of gamers. Int J Ment Health Addict., 2016; 14(5): 672-686.
6. Elliot L, Golub A, Ream G, Dunlap E. Video game genre as a predictor of problem use. Cyberpsychol Behav Soc Netw, 2012; 15(3): 155-161.
7. King DL, Defabbro PH, Griffiths MD. Clinical interventions for technology-based problems: Excessive internet and video game use. J Cogn Psychother, 2012; 26(1): 43-56.
8. Rehbein F, Kleimann M, Mössle T. Prevalence and risk factors of video game dependency in adolescence: Results of a German nationwide survey. Cyberpsychol Behav Soc Netw, 2010; 13(3): 269-277.

9. Williams D, Consalvo M, Caplan S, Yee N. Looking for gender: gender roles and behaviors among online gamers. J Commun, 2009; 59(4): 700-725.
10. Davey S, Davey A. Assessment of smartphone addiction in Indian Adolescents: A mixed method study by systematic-review and meta-analysis approach. Int J Prev Med, 2014; 5(12): 1500-1511.
11. Sarwar M, Soomro TR. Impact of smartphones on society. Eur J Sci Res., 2013; 98(2): 216-226.
12. Park N, Lee H. Social implications of smartphone use: Korean college students' smartphone use and psychological well-being. Cyberpsychol Behav Soc Netw, 2012; 15(9): 491-497.
13. Thomée S, Härenstam A, Hagberg M. Mobile phone use and stress, sleep disturbances, and symptoms of depression among young adults - A prospective cohort study. BMC Public Health, 2011; 11: 66.
14. Avvannavar SM, NandaKumar BS, Shrihari S, Are RB. Mobile phones: an anthropological review of its Evolutionary impact. J Int Soc Res., 2008; 1(5): 82-103.
15. Demirci K, Orhan H, Demirdas A, Akpinar A, Sert H. Validity and reliability of the Turkish version of the Smartphone addiction scale in a younger population. Bull Clin Psychopharmacol, 2014; 24(3): 226-234.
16. Kwon M, Kim DJ, Cho H, Yang S. The smartphone addiction scale: Development and validation of a short version for adolescents. PLoS ONE, 2013; 8(12): e83558.
17. Van Deursen AJAM, Bolle CL, Hegner SM, Kommers PAM. Modeling habitual and addictive smartphone behavior: The role of smartphone usage types, emotional intelligence, social stress, self-regulation, age, and gender. Comput Human Behav, 2015; 45: 411-420.
18. Elhai JD, Dvorak RD, Levine JC, Hall BJ. Problematic smartphone use: A conceptual overview and systematic review of relations with anxiety and depression psychopathology. J Affect Disord, 2017; 207: 251-259.
19. Panova T, Lleras A. Avoidance or boredom: Negative mental health outcomes associated with use of information and communication technologies depend on users' motivations. Comput Human Behav, 2016; 58: 249-258.
20. Kee IK, Byun JS, Jung JK, Choi JK. The presence of altered craniocervical posture and mobility in smartphone-addicted teenagers with temporomandibular disorders. J Phys Ther Sci., 2016; 28(2): 339-346.
21. Ferguson CJ. The good, the bad and the ugly: A meta-analytic review of positive and negative effects of violent video games. Psychiatr Q., 2007; 78(4): 309-316.
22. Granic I, Lobel A, Engels RC. The benefits of playing video games. Am Psychol, 2014; 69(1): 66-78.
23. Amin KP, Griffiths MD, Dsouza DD. Online gaming during the COVID-19 pandemic in India: Strategies for work-life balance. Int J Ment Health Addict, 2020; 10: 1-7.
24. Lee H, Kim JW, Choi TY. Risk factors for smartphone addiction in Korean adolescents: Smartphone use patterns. J Korean Med Sci., 2017; 32(10): 1674-1679.
25. Randler C, Wolfgang L, Matt K, Demirhan E, Horzum MB, Beşoluk Ş. Smartphone addiction proneness in relation to sleep and morningness–eveningness in German adolescents. J Behav Addict, 2016; 5(3): 465-473.
26. Lee H, Seo MJ, Choi TY. The effect of home-based daily journal writing in Korean adolescents with smartphone addiction. J Korean Med Sci., 2016; 31(5): 764-769.
27. Kwak JY, Kim JY, Yoon YW. Effect of parental neglect on smartphone addiction in adolescents in South Korea. Child Abuse Negl, 2018; 77: 75-84.
28. Soni R, Upadhyay R, Jain M. Prevalence of smart phone addiction, sleep quality and associated behaviour problems in adolescents. Int J Res Med Sci., 2017; 5(2): 515-519.
29. Lee EJ, Ogbolu Y. Does parental control work with Smartphone addiction? A cross-sectional study of children in South Korea. J Addict Nurs., 2018; 29(2): 128-138.
30. Liu CH, Lin SH, Pan YC, Lin YH. Smartphone gaming and frequent use pattern associated with smartphone addiction. Medicine (Baltimore), 2016; 95(28): e4068.
31. Lopez-Fernández O, Losada-López JL, Honrubia-Serrano ML. Predictors of problematic Internet and mobile phone usage in adolescents. Aloma, 2015; 33(2): 49-58.
32. Archer T, Wentz K. Internet-video Gaming: Symptoms, Epidemiology, Neurophysiology and Interventional Aspects. J Child Adolesc Behav, 2017; 5: 345.
33. Krantz A, Shukla V, Knox M, Schrouder K. Violent video games exposed: A blow by blow account of senseless violence in games. J Psychol, 2017; 151(1): 76-87.
34. Schmitt ZL, Livingston MG. Video game addiction and college performance among males: Results from a 1 year longitudinal study. Cyberpsychol Behav Soc Netw, 2015; 18(1): 25-29.