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Original Research Article

Effects of video game on socio- behavioral environment

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ABSTRACT

Background: Nowadays the teens playing outdoor games are difficult to be seen and of course, they play all these games not in reality but in a screen using video games. The biggest revolution in electronic world has put our teens more addicted towards video games which not only affect their academic performance but also have impact on their behaviour and health. The objectives of the study were to assess the pattern of video game usage among the study population; to determine the influence of video game in behaviour of the study population.
Methods: The study was conducted as a cross sectional study during January and February 2018, among medical students of tertiary care hospital, Chennai. The data was collected using preformed pretested questionnaire. Data were analyzed using SPSS 21.
Results: Out of 211 study participants, majority 168 (80%) were males. Around, 97 (45.9%) participants, liked to play during night hours and most 114 (54.1%) of them preferred adventure and racing games. The change in behavioral patterns like, skipping sleep 20 (25.3%), using bad words 22 (27.8%), betting 40 (50.6%), risky stunts 38 (48.1%) were observed. Around half of the participants 97 (46%) were giving complaints of various health problems like finger pain, 72 (34.1%) wrist pain, 63 (29.8%) neck pain, and 54 (26%) eye pain due to usage of video games.
Conclusions: The behavioral patterns explored in this study are alarming which suggest that this age group has to be sensitized on the self control to use the video games.

Keywords: Video game usage, Video game addiction, Adolescent video game usage, Video game and behavioral changes

INTRODUCTION

The popular source of entertainment among children and adolescents nowadays are video games.[1] Previous studies have shown that small Subgroups of video gamers seems to be addicted towards video games. Nowadays in the current generation of games, the introduction of an online component has drastically increased the size and scope of the problem.[2] In some studies it is seen that both male and female are playing video games, in fact companies have begun developing games which are specific for female i.e. pink, fashion, and shopping, that unfortunately adhere stereotypes about female.[3] Spending more time on screen playing video games also disrupts the normal sleep pattern leading to decreased sleep, also taking longer time to fall asleep and more interruptions during sleep. Addiction towards video game may also have a short and long term effects on adolescents which can lead to psychological, emotional, and neurological problems. Some studies have also demonstrated that anxiety and depression are more common among addicted video gamers. Aggressive behavior is also seen in those who have poor self control or poor social skills addicted video gamers. Aggressive behavior like cruelty or hostility, can be invoked especially while playing violent types of

video games.[4] Video game usage is said to be pathological when there is strong attachments or addiction towards it. It can affect multiple levels of functioning such as school or work performance or psychological functioning, family life and social functioning.[5] Another study has demonstrated that caregivers are expressing about their concern they have regarding school children who shows manifestations of excessive use of video games like losing academic grades at school, irritability while asked to stop playing, increased in aggressive behavior, decreased in their social activities and complaining of neck and wrist pain.[6] The popularity of high tech devices like (smartphone, computer, tablet) has put our young generation to play online and offline games, which has become a part of their activity. Usually people play video games to escape from reality to virtuality and also fulfilling their unsatisfied needs just for their entertainment, excitement, and to cope up with their emotional situation. Even though some of the studies are saying about the beneficial effects of video games on the physical and psychological health, mostly some researchers, who research on video games usage are focusing on the negative effects of video game on the users or gamers. Video game usage can also lead to some health problems like insomnia, attention deficit or problems, decreased in sleeping time, limited leisure activities, poor academic performances, youth violence or crimes, depressive symptoms, anxiety, interpersonal relationship deterioration family problems or conflicts, low self esteem, decreased satisfaction with daily life. Video game addiction is a serious concern, especially among the youth, as video game is being played worldwide.[7] Nowadays the teens playing outdoor games are difficult to be seen and of course, they play all these games not in reality but in a screen using video games. The biggest revolution in electronic world has put our teens more addicted towards video games which not only affect their academic performance but also have impact on their behavior and health.

Objectives

- To assess the pattern of video game usage among the study population.
- To determine the influence of video game in behavior of the study population.

METHODS

Type of study

Observational study.

Study design

Cross sectional.

Study area

TMCH, Chennai.

Study duration

2 months (January and February 2018)

Study population

Medical undergraduates, aged between 16-19 yrs both males and females in TMCH, Chennai. Having the habit of playing video games daily. Willing to participate in the study.

Inclusion criteria

Medical undergraduates, aged between 16-19 yrs both males and females in TMCH, Chennai. Having the habit of playing video games daily. Willing to participate in the study.

Exclusion criteria

Students not present during the day of study.

Sample size (n)

211 (based on formula 4 pq/d^2, where p=50.2, q=48.8, d=7, n=192) which is minimum required sample size since, only 211 participants are present and all are included.

Sampling technique

Convenient sampling.

Data collection

After obtaining informed written consent the study was conducted. Initially a survey was taken to identify number of participants having the habit of video game usage. Out of 450 MBBS students in the age group of 16-19 years, 211 of them had the habit of playing video game and were willing to participate in the study and hence included. They belonged to 3 different batches, hence contacted in 3 different days and pattern of video game usage related health problems and associated behavioural changes was assessed using a content validated questionnaire. This was analysed later using SPSS 21 software.

RESULTS

Among 211 study participants majority of them were males 168 (80%) (Figure 1). Most of them preferred 114 (54%) Adventurous and racing games, whereas 97 (45. 9%) preferred playing video games during night time (Figure 2). It was also observed that one-third 79 (37.4%) of the participants had change in behavioural pattern (Table 1). Among those who had change in behavioural pattern, it was found that 20 (25.3%) of them had behavioral changes like betting, 22 (27.8%) of them were performing risky stunts, 40 (50.6%) were using bad

words, 38 (48.1%) were skipping their sleeps due to video game usage (Figure 3).

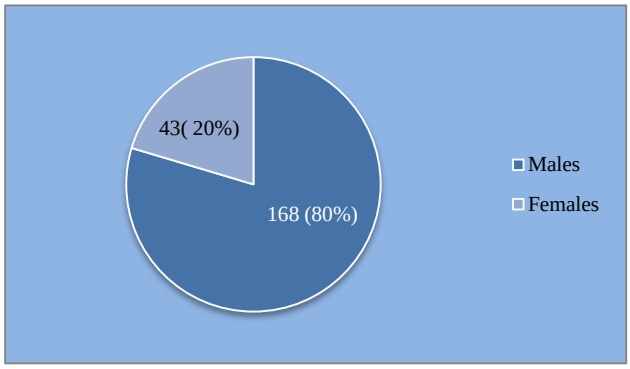

Figure 1: Distribution of study participants based on gender (n=211).

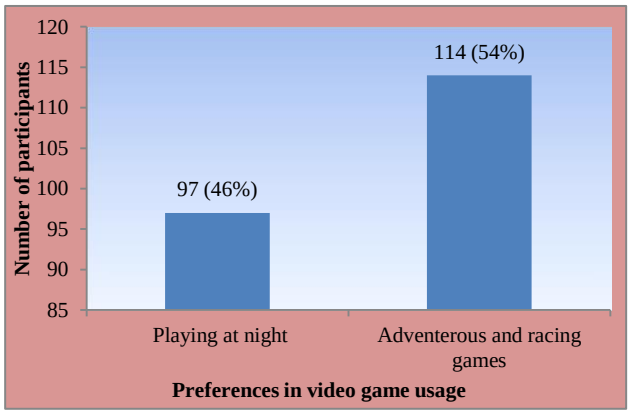

Figure 2: Distribution of study participants based on preferences in video game usage (n=211).

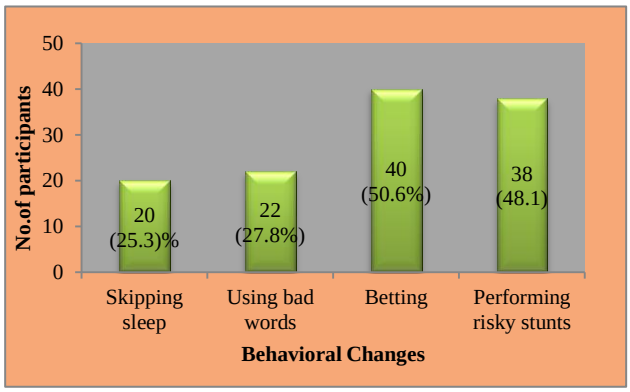

Figure 3: Distribution of study participants based on change in behavioural pattern (n=79).

Participants have complained various health problems, in which 97 (46%) of them were giving complaints of finger pain, 72 (34.1%) wrist pain, 63 (29.8%) neck pain, and 54 (26%) eye pain (Figure 4). Association was determined between the duration of video game usage and behavioural change, it was found that out of 79 participants having behavioural changes, behavioural change was high among those who had the habit of video game usage for 6-8 hours (58.2%) than 4-6 hours (27.8%) and <4 hours (13.9%) respectively (Table 1).

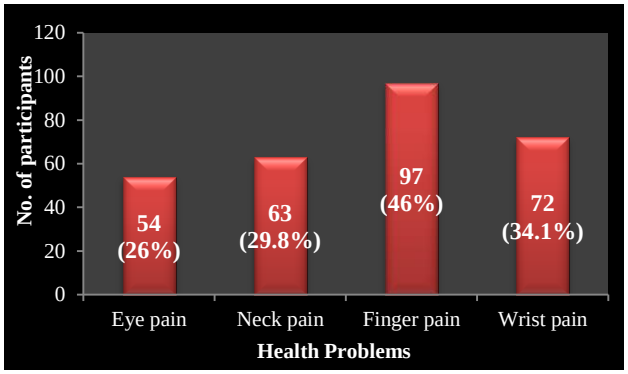

Figure 4: Distribution based on health problems complaint during video game usage (n=211).

Table 1: Association between duration of video game usage and behavioral changes (n=211).

Duration	Behavioral changes present	No behavioral changes
<4 hours	11	85
4-6 hours	22	31
6-8 hours	46	16

χ^2 =61.09, since p value is <0.001 (statistically significant)

DISCUSSION

Excess of video game usage among the adolescent age groups has lead to many mental, social and health problems. It not only affects their personal life but also their family life, surroundings and also their academic performances. Cumming et al in his study had mentioned that 36% of adolescents played video games of which majority were males (80%), remaining were females (20%) respectively.[2] In this study also out of 211 participants majority 168 (80%) were males and 43 (20%) were females who played videogames. Mikki et al in his study found that more men (84.92%) were reported to play more violent video games.[3] Whereas in this out of the 211 participants 114 (54%) nearly half of them were indulged in the habit of playing adventures games. Laura et al in the previous research said that female video game addicts are facing the risk of somatic difficulties, and there is a possibility that female video game addicts are more shy to show off that they play video games, hence they may hide and play during night time hours.[7] Whereas in this study we found that out of 211 study participants 97 (45.9%) like to play during night hours. Uhlmann et al in his study suggested that there is increased in automatic aggressiveness due to playing violent video games.[20] In this study we have found that out of 211 participants 79 (37.4%), of them were showing behavioral changes like 20 (25.3%) of them had behavioral changes like betting, 22 (27.8%) of them were performing risky stunts, 40 (50.6%) were using bad

words, 38 (48.1%) were skipping their sleeps due to video game usage. Sharma et al in his study had found that study participants have reported health problems like disturbed physical health, headache, weight loss and insomnia.[14] Participants have complained various health problems, in which 97 (46%) of them were giving complaints of finger pain, 72 (34.1%) wrist pain, 63 (29.8%) neck pain, and 54 (26%) eye pain. Porter et al found that the study participants were spending excess of time despite of the planned time playing video game, and also increased in the frequency of playing video games. Even though they had knowledge regarding the video game usage and its ill effects, still they wanted to play for a longer time though they does not wanted to play so.[15] In this study in Table 1, it shows that the increased in the duration of hours in playing video game i.e. (between 6-8 hours) has a statistical significant (since $p<0.001$) association with increased in the number of study participants with behavioral changes.

CONCLUSION

Based on the present study findings, it is clear that the habit and pattern of video game usage have a greater influence on behavioural pattern. It has also resulted in lots of health related problems. This age group is considered to be the most vulnerable group for any of the behavioural change and hence it has to be utilised in proper way to bring about a good change which can be achieved by sensitising these group regarding the ill effects of video game usage. Targeted intervention improves the attitude and behaviour of the participants.

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Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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