

RESEARCH ARTICLE

**Investigation of relationship
between computer games and
sleep habits in 10-12 years old
Elementary School Boys in Ahvaz**

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ABSTRACT

Sleeping disorders are one of the most dangerous disorders and its treatment is also expensive. Considering children and adolescents' conditions nowadays and improvements in technology, attention to sleep hygiene is vital. In this study, we aimed to measure computer games' influences on sleeping habits of boys in elementary schools in Ahwaz. This cross-sectional study was conducted on 150 male students of elementary school age. Demographic and Children's Sleep Habits Questionnaire was given to students' parents to get completed. Data analyses was done using SPSS software and we used mean and standard deviation to report descriptive data and also used regression analyses to report analytical results. Sleeping habits in children were related with mother's age and also the time in the day that they played computer games. (P value= 0.02 and p value= 0.019 respectively) Sleeping disorder was also studied and it was related with students' races (p value= 0.001). According to our study, it seems that there is a relationship between sleep habits and the age of a student's mother. And there is also a relationship found between sleeping habits and the time of the day that the students play computer games. Sleeping disorders were only related with students' races.

INTRODUCTION

Sleep is one of the most important functions of human being and a person spends almost one third of his life in sleep. Sleep is a process which mind needs it to be able to function correctly since not sleeping for a long time causes damages to the physical condition and finally causes death (1, 2).

Sleep is setup with a few mechanisms in the body and when this system is troubled then there will be disorder in the sleep condition. Society still doesn't take disorder in sleep seriously and most of the medical practitioners also do not take this matter seriously. Disorder in sleeping is not only dangerous, but also its treatment is very expensive. Researches showed that many dangers had taken place in the industrial spaces due to lack of sleeping since not having enough sleep caused many accidents and even brought about the death of people and the person who has caused the accident and even his/her family and colleagues suffered a lot and even it effected the society as well (3-6).

Non-sleeping condition of the children during their childhood is one of the main complains of the parents and the reason for their referring to the doctors (7). Sleeping disorder is different from 1 to 43 percent in international studies (8). Almost 25% of

children under 5 years face sleeping disorder. In the school going children this condition is reported up to 55% (9).

Disorder in sleep is one of the most predominant causes in study condition and causes academic failure among children in their learning and functioning and damages their behavior and emotions. Evidence also show that shortage of sleeping at early ages can cause dangerous behavior among them such as tendency towards drugs and suicide. Studies also show that if children sleep less than 5 hours a day, it causes damages and disorders in their cognitive, academic and abstract thinking among school children (10).

Some of the bad consequences of sleep among children involve behaviors, difficulties, disorder in their learning and functioning in school, damages to their mood and emotions. Studies also show that less sleeping at the young age can cause danger for the children and pull them towards bad dangerous behavior such as use of drug and even suicide. Recent studies also show that use of electronic items more than necessary can cause overweight and overweight itself can cause disorder in sleep (11).

Compare to last decade use of electronic instruments have been increased among children and therefore their sleeping habit changed and it became less. Epidemiological studies conducted recently show that there have been some changes in the children sleeping condition such as late sleeping, short sleep, and decrease in their sleeping time during the day. Extra use of electronic instruments at the time of childhood and youth can be one of the factors in causing disorder in sleep (12).

In the year 2000 the use of software games decreased and internet games prevailed and children found tendency towards internet games and use of instruments which were portable and light weight and these instruments even moved in to children's bed rooms. Australian statistics department announced that the number of houses who found access to the computers during the years 1998 to 2008 have been doubled and at the same time accessing to internet and internet games increased 5 times (13).

A practical study from children showed that those who spend one hour on computer games before sleep compare to those who spend 2 or 3 hours playing games on their computers before sleep have more and better quality of sleep (14).

In another study conducted regarding the differences of watching violent and non-violent games at least 2 hours before sleep have been analyzed and then a questionnaire for analyzing of sleep qualities have been presented to them and found out that the traits of sleep in both were similar and both groups went to sleep later than the control group and they also woke up later (15).

Even though another similar study conducted showed different result between computer violation games and non-violation games, and non-violent games can cause useful effects on sleep at night (16).

In a study conducted by Ahmadi et al. for analysis of computer effects on the physical and mental health on Esfahan students studying in guidance schools showed that there is a significant differences between students addicted to playing computer game and those who are not addicted to playing computer games and also there is a positive correlation between addiction to playing computer game and physical and mental health effects on students in different dimensions (the amount of anxiety, disorder in sleep and depression) (17).

Base on the changes in the generation and present condition of children and youth and with advancement in the technology and

changes in the society thinking, considering mention health and sleep in this generation of the society is very important, and base on the Subject a study is conducted in the city of Ahvaz and according to this study the present study is planned to find out the effects of video games on the sleeping habits among the boys students studying in primary school in this city. Results of this study can be very much applicable and used in the families and schools and training and teaching organizations (government or private).

METHODS AND MATERIALS

This is a cross sectional study, we investigated all the students of boys' primary school in the city of Ahvaz. Overall 150 boys' students who were chosen randomly in multi stages were enrolled in this study.

A standardized questionnaire "children's sleep habits questionnaire (CSHQ) was used to collect socio-demographic data and cases information was recorded in questionnaire. In case of incompleteness of any file, we contacted the students and their parents by phone. Another questionnaire is about the information of computer games which consists of 15 questions such as gender, age, nationality and ethnic, resident, and study

grade, parents education qualification, parents jobs, the time in a day and days in a week which is spend on playing, type of computer games and type of electronic devices and place the instrument is located at home and the questions were having multi answer which were answered by the parents.

After data collection, statistical analysis was performed by descriptive statistics and included the average, standard deviation, absolute and relative A P-value of less than 0.05 was considered statistically significant.

RESULTS

Overall, in one year period until the end of March 2015, we gathered 150 cases. According to table 1, the sleeping habits in children depend on the nationality, father's education, mother's age, days of the week spent on playing games, the time child spends on playing game every day, kind of game, instrument and place of the instruments. Different sleeping habits among children are depend on the mother's age and the time in a day the child spends on playing the games (p value =0.019 and 0.02) but there was no statistically significant relation with other items. As it show in the table(1) as mother's age increases, the sleeping habits in children also decreases

and sleeping disorders in the children who play in the morning is more.

According to table 2, there was a significant relation between nationality and sleep disorders (P-value=0.001). Ethnic groups divided to 4 subgroups of: Persian (Fars), Arabs, Lor and other groups. Present study showed that the sleep disorders among the Persian group people were less than all other groups.

DISCUSSION

The aim of the study was to find out relationship between computer games habits and sleep disorders among the boy's primary school students in Ahvaz. Present study showed that the sleeping habits among children depend on the amount of hours they spend in playing computer games and this disorder is more prevailing among children who start playing games from morning.

In this study different sleeping habits and sleep disorders have been analyzed in comparison to other elements such as age of parents, their jobs and their ethnic. The current study showed that the sleeping habit is more common among children with young mothers and those who are belonging to the Fars nationality but sleeping disorders is less than other nationalities. Statistical Analysis

showed that sleeps disorders is related with different elements.

A study in relation to the effect of using media on the sleep among children at the school age has been conducted in China. Results showed that children having Television and computer in their bed rooms were about 18.5% and 18.3% respectively. Having these instruments in the bed rooms had significant relationship with late and shorter sleep. As it can be seen in Shanghai study, the sleep disorders has direct relationship with the use of television, but as we also mentioned there was no relationship regarding the use of computer and sleep (17). King et al. (2013) conducted a study on the effects of violent video games on sleep among youth. These games in comparison to the other normal games cause reduction in the quality of sleep (less than 85%) and total duration of sleep (27 ± 12) minutes which were accompanied with movement of eyes (18). King et al. study there is more relationship between sleep disorders and playing games before sleep, which was not compatible with the results obtained by us.

SUGGESTIONS

We suggest that future studies conduct based on effects of other Medias on each of the sleep disorders and sleep habits.

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Table1-relation between children’s sleep habits and studied factors

Sleep habits	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	11.030	1.628		6.773	.000
Nation	-.184	.185	-.081	-.998	.320
Father’s education	.002	.125	.001	.012	.990
Mother’s age	-.065	.027	-.194	-2.349	.020
The number of weekdays for game	.116	.241	.040	.483	.630
Time of day for game	-.503	.211	-.197	-2.379	.019
Device of game	.212	.154	.116	1.375	.171
Kind of game	-.043	.191	-.018	-.225	.822
Device location	.231	.303	.064	.763	.447

Table 2- relation between sleep disorder and children'n nation

Model	Unstandardized Coefficients		Standardized	t	Sig.
	B	Std. Error	Beta		
(Constant)	18.125	1.129	1	16.057	.000
Nation	-1.553	.444	-.276	-3.495	.001

Table 3-relation between children's sleep disorder and studied factors

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
					Tolerance
Father's education	-.083 ^b	-1.049	.296	-.086	.991
Mother's education	-.076 ^b	-.964	.337	-.079	.995
Father's age	-.046 ^b	-.578	.564	-.048	.991
Mother's age	-.086 ^b	-1.084	.280	-.089	.996
Father's job	-.051 ^b	-.647	.519	-.053	1.000
Mother's job	-.105 ^b	-1.326	.187	-.109	.998
The number of weekdays for game	.090 ^b	1.143	.255	.094	.998
Time of day for game	.063 ^b	.792	.430	.065	1.000
Device of game	-.033 ^b	-.413	.680	-.034	.993
Kind of game	-.048 ^b	-.607	.545	-.050	1.000
Device location	.114 ^b	1.430	.155	.117	.979