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The Relation of Internet and Smartphone Addiction with Physical Activity Level in Medical Students

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ABSTRACT

Backgrounds: The more time spent on using the smart phones and internet causes the least time for doing any kind of physical activity.
Aim: To examine the relationship and the impact of excessive smart phone and internet use on physical activity.
Methods: The 400 students of our university in the year 2018 by the means Smartphone addiction scale (SAS), Yang Internet Addiction Test (YIAT) and The International Physical Activity Questionnaire-Short Form (IPAQ-SF) by sequential sampling technique. Eventually the relation of smart phone addiction and internet addiction to physical activity was evaluated.
Results: According to our study the internet addiction rate was more prominent among the females. The prevalence of the smart phones addiction was 49% and was more prominent in men than women. 43.3% were at risk of internet addiction and 1% was addicted. Half of the participants with internet addiction and 70.9% of them with smart phone addiction had low physical activity.
Conclusion: The physical level activity was considerably low in the addicted people to internet and smart phones
Keywords: Internet, Smartphone, Addiction, Physical activity, Students

INTRODUCTION

Numerous internet applications and its enthusiasm cause internet addiction. Internet addiction is one of the commonest forms of non-substance addictions which are defined by the overuse of internet resulting in the interfering the psychological state, occupational and daily life activities[1]. As the most recent reported period, the number of internet users worldwide was 3.9 billion, up from 3.65 billion in the previous year[2]. Moreover, at the present period of time cell phones become a part of our daily life. The improvement in smart phone technology in addition to the acceleration in internet speed has been connected to the augmentation in its usage[3]. The smart phone addiction is defined as having a fear of not being with your phone[4]. Although too much use of Smartphone can disrupt physical activity[5].

WHO delineate physical activity as any bodily movement that consumes energy. We should not confound physical activity with exercise. Exercise is a set of targeted physical activity to ameliorate the physical fitness. Furthermore, both moderate and high intensity physical activity are good for health[6] 1 out of every 4 persons in US and 1 in 5 high school students achieve the recommended levels of physical activity[7]. It has been concluded that physical activity positively associated (in a dose-dependent fashion) with self-perceived health in adolescents[8]. There is dose–response relationship between physical activity and health status[9]. Physical activity specifically has an important effect on social relationships, wellbeing, and self-esteem, energy level balancing and decreasing the likelihood of chronic disease during the old ages. According to different studies, the young people who do regular exercise will less likely involve in substance abuse and non-substance addiction.

The ones with internet and smart phone addiction have a remarkable lower average number of steps because they spend more time on internet and using their smart phones so their daily physical activity will decrease and therefore they consume lower calories per day so they have more fat mass and less muscle mass[10]. Mobile and internet addiction have different impacts on physical activities not only has physical effects but they also have countless consequences on psychological and academics effects nonetheless[11]. Sleep problems ,stress, anxiety and depression are all colligated with internet abuse, and also have been correlated to smart phones usage too[12]. There are some studies to evaluate the impacts of the internet and cell phones abuse on different aspects of life and social interactions among different age groups and genders yet there is not a study to examine the relationship and the impact of internet and smart phone addiction and the level of physical activity among the medical students of our university. Hence we decided to assess the impact of these two common addictions on physical activity in this group of people.

METHODOLOGY

This trial is an analytic cross sectional study and was performed over the year 2018. In this survey 400 students of medical sciences was selected by cluster random sampling.
Measures: All the students appraised the internet and smart phone addiction by using Smartphone addiction scale(SAS) (13), Yang Internet Addiction Test (YIAT)[14] and IPAQ-SF questionnaire[15]. SAS (Smartphone Addiction

Scale), is based on self-reporting and is consisted of 33 questions with 6 reply options for each (strongly disagree, disagree, somehow disagree, somehow agree, agree, strongly agree), to evaluate the smart phone addiction using self-reporting. Yang Internet Addiction Test (YIAT) has a 20 self-report items; whoever got five out of seven items in a six-month period is defined as an internet addict. At the end the IPAQ-SF questionnaire has done according to this test those who score HIGH engage in vigorous intensity activity on at least 3 days achieving a minimum total physical activity of at least 1500 MET minutes a week or 7 or more days of any combination of walking, moderate intensity or vigorous intensity activities achieving a minimum total physical activity of at least 3000 MET minutes a week. Those who score moderate on the IPAQ engage in 3 or more days of vigorous intensity activity and/or walking of at least 30 minutes per day or 5 or more days of moderate intensity activity and/or walking of at least 30 minutes per day or 5 or more days of any combination of walking, moderate intensity or vigorous intensity activities achieving a minimum total physical activity of at least 600 MET minutes a week. Scoring a LOW level of physical activity on the IPAQ means that one is not meeting any of the criteria for either MODERATE of HIGH levels of physical activity. All the data was analyzed and assessed by SPSS version 16

Procedure: The participants divided into two groups according to cell phone addiction and three categories due to internet addiction status and the level of activity compared between these threes

Ethical Considerations: The study procedures were carried out in accordance with the Declaration of Helsinki. The Institutional Review Board of the Shahid Beheshti University approved the study. All subjects were informed about the study and all provided informed consent

RESULTS

On a total of 400 students of our university who were undergone the sorting, 173 people were men (43.3%) and 227 people (56.8%) were women. All the study process was made clear for all the participants and whoever didn't accept wouldn't introduce to this study. The minimal age was 18 whereas the maximum age was 38 years old with the average age 23. All the participants used internet so that the lower limit for Yang Internet Addiction Test (YIAT) was 20 and on the other hand the maximum score was gained 85 and the average score is recorded 48. All the attendee used smart phones, the least SAS score was 33 and the most was 181 (mean=104). According to IPAQ-SF questionnaire the physical activity has been divided into three categories, high, moderate and low. 59people had highly daily activity (14.8%), 210 was moderately active (52.5%) and the rest 131 had a low daily activity. Among the number of persons was attended to this study, 173 peoples (43.3%) were at risk of internet addiction, 223 (55.8%) were not and 4(1%) was already addicted.

Although 24 of them (51%) were not addicted to their smart phones, 196 individuals (49%) were addicted. Surveyed the addiction state as claimed by gender had the following consequences:86 men (49.7%) were not addicted to their smart phones it for the 87 MSN (50.3%) the addiction was confirmed. Among women also 118 (52%) were not addicted versus the rest 109 (48%) were smart phones addicted.

Internet addiction was concluded that 98 men (56.6%) were not addicted to the internet, one man was addicted (0.6%) and the 74 men were predisposed to the internet addiction while at the same time 125 women (55.1%) were not addicted, 3 women were addicted and the remained 99 women (43.6%) were predisposed to addiction. Without the consideration of gender aspects 223people (55.8%) were not internet addicted, 4 people (1%) were addicted and 173(43.2%) were inclined to internet addiction.

In the order of physical activity 94 men (54.3%) had the low physical activity level, 61(35.3%) had the medium level of activity and 18 (10.4%) had the high level of activity but on the other hand among the women the results were as follows: 116(51.1%) low,70 (30.8%) moderate and 41(18.1%) high activity levels. On the whole 210 (52.5%) people were minimally active, 131(32.8%) people were moderately active and 59 (14.8%) had high active levels.

Out of 204 persons which were fell in the category of non addicted to smart phones, 191 people (93.6%) were not addicted to the internet as well, 13 people (6.4%) were susceptible to internet addiction from among 71(34.8%) were minimally active, 89 (43.6%) were moderately active and 44 (21.6%) had the high levels of activity(table2).

From the group of 196 people addicted to their smartphones,32(16.3%) were not addicted to internet, 4(2%) were also addicted to their smartphones and the others were 160 (81.6%) were predisposed to the internet addiction. Out of which 139 people (70.9%) had the low level of activity, 42(21.4%) were moderately active and 15 (7.7%) were highly active (table 1).

223 people were not addicted to internet all of 84 people (37.7%) had low level of activity, 95 (42.6%) medium level a d the 44 people (19.7%) were highly activity. The 4 people which were addicted to internet, 2 of them (50%) had low level of activity and 2 were moderately active and none of them were highly active. 173 people that were vulnerable to internet addiction, 124 (71.7%) had low level of activity and 34 (19.7%) were moderately active.

Table 1: Comparison between smart phone addiction & physical activity

Smartphone Addiction & Physical Activity						
			Physical Activity			**Total**
			High	**Medium**	**Low**	
Smartphone Addiction	No	Number	44	89	71	204
		Percent	21.6%	43.6%	34.8%	100%
	Yes	Number	15	42	139	196
		Percent	7.7%	21.4%	70.9%	100%
	Total	Number	59	131	210	400
		Percent	14.8%	32.8%	52.5%	100%

Table 2: Comparison between smartphone addiction & internet addiction

			Internet Addiction			Total
			No	Yes	Predisposed	
Smartphone Addiction	No	Number	191	0	13	204
		Percent	93.6%	0.0%	6.4%	100%
	Yes	Number	32	4	160	196
		Percent	16.3%	2%	81.6%	100%
	Total	Number	223	4	173	400
		Percent	55.8%	1%	43.2%	100%

Table 3: Comparison between internet addiction and physical activity

			Physical Activity			Total
			High	Medium	Low	
Internet Addiction	No	Number	44	95	84	223
		Percent	19.7%	42.6%	37.7%	100%
	Yes	Number	0	2	2	4
		Percent	0.0%	50%	50%	100%
	Predisposed	Number	15	34	124	173
		Percent	8.7%	19.7%	71.7%	100%
	TotalL	Number	59	131	210	400
		Percent	14.8%	32.8%	52.5%	100%

DISCUSSION

The study was performed to evaluate the prevalence of internet addiction across the medical sciences students of our university in the year 2018.43.3% of the students were predisposed to internet addiction and 1% were internet addicted. The addiction rate was more among the females (43.6% were women versus 42.8% were men). In a similar study which was done to evaluate the addiction rate to internet in the Tehran University in the year 2011 displayed that 8.9% of the students were internet addict and the 10,8% were predisposed to internet addiction[16].

In another meta-analysis study, the prevalence of Internet addiction in Iran was done during the years 2007 to 2016. The overall prevalence of Internet addiction in Iran was 20%. The prevalence rate of the Internet addiction in 5 studies were estimated 28%. The Internet addiction examined by age group between the age 15-18 years old the rate was 12%, and between age group of 18-23 years old with the rate was 40% and in the age group of 15-23 years was 35%. It was also found that the incidence in female users was 26%, versus in male users was 42%[17].

In Yung–Yeon research demonstrated that the prevalence of internet addiction was more among men than women but the results were reversed when smartphone addiction had been assessed[18]. We have concluded the same results. The prevalence of the smartphones addiction throughout the medical students of our university in our investigation was 49% and was more prominent in men than women. In a further experiment was accomplished in 2015, the overusing The smartphones and Facebook in African American youth was analyzed and it was announced that 11% of these population was addicted to their smartphones (19). InYahyazadeh et al study, 9.3% of nursing students were addicted to smartphones and this was directly related to internet accessibility and single marital status[20]. The factors that could explain the increasing prevalence in this survey is the numerous new applications in smartphones and the augmentation in internet speed in the last few years. What will explain the rise in the number of women addiction could have different roots. Gender stereotyping is still settled in many aspects of daily life. The families have more restrictions on women so as the time they can spend outside their homes hence they will be more dependent on their phones to spend time. As said by earlier the physical activity level and its correlation with internet and smartphone addiction was explained as well and a significant association between was detected. The physical level activity was considerably low in the addicted people to internet and also smartphones. In a previously accomplished assessment was done by Fayazbakhsh and his colleagues, the half of the participants had a bad lifestyle and 70% of the people confessed that internet causes a prominent decrease in physical activity[16].

The study that was achieved to balance the internet addiction and the life style and the state of health in people concluded that the addicted people gained the more score in this study. We can justify the results as the one spends more time on net the least he moves and this will interfere to a healthy lifestyle.

CONCLUSION

The physical level activity was considerably low in the addicted people to internet and also smart phones so as one spends more time on net he spends the least time to exercise and move

Limitations: One of the main restrictions of this study is that the other elements may meddle with having a healthy life style such as smoking, alcohol abuse, drugging, etc. has not been assessed. Furthermore, the demographic features in particular the education major should also include in another study.

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