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Investigating Demographic Variables Associated with Text Messaging Addiction Among Students of Medical Sciences in Hormozgan University During 2013

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ABSTRACT

Background: SMS is one of mobile applications which is really popular among young people. **Objective:** The present study examined the relationship between demographic variables with text messaging addiction among students in the university of medical sciences in Bandarabas during 2013. **Method:** Subjects of this study consist of 400 students of University of Medical Sciences in Hormozgan who were selected by simple random sampling. Data gathering tool was a standard questionnaire. The two methods of descriptive and inferential statistics were used for the analysis. **Results:** Among the participants in the study, 303 (75.8%) were women and 97 (24.3%) were men, 319 (79.8%) were single and 81 (20.3%) were married results showed that of the 400 students, 209 (52.3%) were in the range of emotional reactions, 213 (53.3%) in the area of perceiving excessive use, 67 (16.8%) were in the area of maintaining human relationships had SMS addiction. SMS addiction in all areas was higher in boys than in girls. **Conclusions** Necessary training to the students about the dangers of excessive use of text messaging, providing recreational activities such as recreational sports for students, close contact with parents of young people, cooperation in various social and cultural organizations in preventing message addiction can be useful.

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INTRODUCTION

Nowadays, mobile phones have a greater impact on social life, lifestyle and behavior of consumers in comparison to computer and Internet technology because using mobile phones is both easy and cheap when compared with the other modern technologies (Beydokhti, A., 2012). SMS is one of mobile applications which is really popular among young people (Golmohammadian, M., P. Yyaseminejad, 2011). SMS was first coined in the late 90th century in Europe and was welcomed by the public interest and in our country in 2002 it was available to mobile users. Sending text messages currently in our country with an average more than 20 million messages per day has overtaken the UK which is the origin of this device. Despite the positive uses of these tools, such as entertaining, enjoying, spending leisure time, educational use, reducing the cost of communication and exchanging of information it also has negative consequences such as facilitating false interpersonal relationships and facilitating the ways that bad people abuse the others, publicity of modern culture, changing the non Iranian religion, culture and identity, and many other negative consequences that all have changed lifestyle and behavioral rules of people (Khosravi, Z., 2011). Among the negative consequences of using SMS, addiction to text can also be referred to, text addiction can be defined as excessive use of SMS and inability in controlling the number of messages that are sent and received (Yen, C.F., 2009). When we talk about the text addiction, of course, dependence on mobile as a communication device can be stated along with it. In fact, it can be said that among the damages of incorrect uses of mobile phones the injuries text addiction is a very serious problem. The diagnosis of this kind of addiction, is not easy as it is in drug and alcohol addiction, but there are

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signs that some users show when the phone is not accessible like any other drug addiction (Ghasemzadeh, 2006). This means that the application is not only relaxing for them but also gradually by increasing a person's tolerance levels, accessing to that previous comfortable position requires the use of the more advanced phones. Finally in the deprivation of that device isolation comes toward them. Checking messages which are received regularly and frequently, feelings of unrest if the sent SMS is not replied by the receiver, need to buy the latest mobile phone models with newer features and, finally, the need to communicate, being aware of all the ongoing events and being available to the others all are the main symptoms of addiction. Nowadays, most of the students use their mobile devices in different ways and one of the students' entertainments is engaging with their mobile and communicating with each other, which is often possible through SMS (Hasanzadeh *et al*, 2010). Among the problems that may college students as the most intelligent and most vulnerable age group of society can be prone to because of too much dependence on this modern system is poor performance, failing and dismissal from the university. The research findings which were conducted in the UK by Crystal in 2008 showed that 81 percent of mobile phone users in the UK were mostly between 15 and 24 years old and they mainly used SMS to develop their social ties. 37 percent of these messages were expressing love or hate (Crystal, D., 2008). Additional studies have shown that 80 percent of people who were 14 to 16 years old have a cell phone and them all used texting services of their cell phones. 9% of these teenagers have stated that they use texting more than conversational communication. The same researcher in other studies of the messages among undergrad college students reached the conclusion that only a third of their messages had scientific content and scientific and practical purposes and mostly included emotional, social, romantic, and intimate friendships relationships, attachment (Thurlow, C., A. Brown, 2003). In an additional study which was conducted in 2009 by Pierce *et al*. it was concluded that using information and communication technologies (particularly sending SMS) among adolescents and young people has resulted in anxiety and reducing social and face to face relationships (Pierce, T., 2009). Furthermore, Kamibapu *et al* in their study found that the sense of blaming why the reply of SMS or phone call was not received makes people stay up late at night and engage sending and receiving SMS. And this will lead to the disruption of their daily routine Kamibeppu, K., H. Sugiura, 2005. Also new research findings regarding cell phones' SMS in America show that young people who radically or excessively use SMS have high levels of impulsivity, feelings of loneliness and the social anxiety (Naderi, F., F. Haghshenash, 2009). Interest to texting in our society has gone to the extent that some people, especially young people, and young people are known to have texting frenzy and this alone is shows a serious cultural problem. This time that can be spent by doing exercise and studying is wasted in seconds and minutes, even hours texting. And has no benefits except fatigue and tiresome (Panahi, Y.,). These members of society due to their age and certain mental conditions that are in (they are in age of physical and social development) could be the main victims of mobile phone to come because they are more than both adults and children can be faced with the new subject of new positive or negative preoccupations and they can be drawn away from home more than any other age groups and are facing with their peers more than other age groups and because they lack the needed sophistication to deal with the pressure of groups they may treat those pressures negatively (Steinberg, L., K.C. Monahan, 2007). Since the studies which have been done so far were all done on teenagers and students and very few studies carried out on the college students, and since students as trained manpower are the human capital of the country, their dependence on new technologies such as short message service, includes adverse outcomes such as personal, academic and psychic problems, so it is essential that texting addiction and its various dimensions be examined. So the present study seeks to answer the question whether there is a relationship between the demographic variables and text messaging addiction among medical university students in Bandar Abbas?

Methodology:

This research study is a cross-sectional, descriptive analytical study. The purpose of this study is the investigating the relation between demographic variables and text messaging addiction among medical university students in Bandar Abbas. Study population consisted of all students in Hormozgan University of Medical Sciences, in 2013 that were chosen by stratified sampling (population of universities). According to previous studies, the prevalence of drug samples by SMS assuming an acceptable error of 5% and difference 0.04 is given by the following formula:

$$n = \frac{z^2 pq}{d^2} = \frac{(1.96)^2 (0.2)(0.8)}{(0.04)^2} \cong 385$$

Considering the loss of subjects and also for more insurance the

sample size in this study was considered as 450. The basis of above scale 103 people were students of the School of Public Health, 144 students were from College of Allied Health Sciences, 82 students were from Medical university, 78 were Nursing and Midwifery students, and 43 people were selected from Faculty of Dentistry. Data collection procedure includes two parts. Demographic information including: age, gender, marital status, being native or non-native, academic major, courses, and colleges of education) and the standard text messaging addiction questionnaire which was designed by Aygarashy *et al*¹ in 2005. It consists 15 items in which three components are measured: emotional responses (questions 1 to 5), the perception of excessive

use (questions 6 to 10), maintaining relationships (questions 11 to 15). Scoring text messaging addiction test was based on Five-point Likert scale. Fully agree with the five score, I agree with four score, I have no idea with 3 score, disagree with 2 score, and totally disagree with 1 score. Reliability² of text messaging addiction test via Cronbach alpha³ was 0.81. The content and construct validity⁴ is fixed. In the present by using Cronbach's alpha reliability coefficient was 0.86. Minimum score for the questionnaire was 15 and a maximum score was 75, which a score of 15 to 40 for a user with normal use of SMS, scores between 40 and 60 to the user as a moderate, and a score of 60 to 75 as the addicted user. And based on questions related to each area the state of addiction to texting for each component was as follows: a score of 5 to 13 as a normal user, score of 13 to 20 as the moderate user (at the risk) score of 20 to 25 earned by people who have been addicted to texting. The procedure was so, that the researcher after having a standardized questionnaire selected the sample selection from different colleges as there were the same frequency of the samples in the real world. So the sample was gathered in a way that the presence of the sample from one college having the same proportion of a sample of college in the real world. Then the confidentiality of information obtained from participants in the form were explained to the participants, they were also asked to refrain from writing their names from the 450 questionnaires that were distributed the data of 50 questionnaires were incomplete which were excluded from the study. After collecting all the data they were encoded via SPSS software and according to the objectives and research questions they were analyzed either descriptively or analytically.

Results:

Results of the current study showed that of the 400 student who participated in the study, 303 people (75.8%) were females and 97 (24.3%) were male, 319 (79.8%) were single and 81 (20.3%) were married, 107 (26.8%) were Native and 293 (73.3%) of students who were surveyed were non-native. 36 subjects (9%) had post-diploma degrees, 266 (66.5%) were at the undergraduate level, 14 (3.5%) had MS degree and 84 (21%) were at PhD. In this study, the majority of the participants had undergraduate degree in different disciplines. 93 (23.3%) were in the School of Public Health, 134 (33.5%) in the School of Allied Health, 72 (18%) in the School of Medicine, 78 (19.5%) in the School of Nursing and Midwifery, 23 (5.8%) in the Faculty of Dentistry. The results of the study regarding the number of different disciplines have also a statistically significant variety. 315 (78.5%) were in age from 18 to 22 which the most frequent number of participants were at this age range and the rest of the students were respectively in the age range of 62 subjects 23-27 years, 19 subjects at 28- 32 years, 4 people were 32-40 years, accordingly with the increase of age the number of students decreases which shows a statistically positive correlations. 10 (2.5%) of the students in this study had a history of failing during their university studies and 390 patients (97.5%) didn't fail and they can be divided into two groups: the first group was of 153 freshmen and the second group were the rest 237 remaining subjects who had passed at least one semester and they didn't failing history. Analysis of the current study showed that of the 400 students who were studied 209 (52.3%) subjects were within the emotional reaction, 213 (53.3%) subjects were in the area of perceived excessive use, 67 (16.8%) were in the area to maintain relationships had texting addiction (how text messaging addiction was evaluated) in this regard the same study showed that among the samples who were studied, SMS addiction in the area of emotional reactions and visual excessive use was significant. SMS addiction in all areas was more in the men (boys) than in women (girls) and statistically a significant relationship was found. In all areas SMS addiction was more among single people than in married individuals. In the non- native population use of extreme emotional reactions and perceptions of individuals was more than in the native individuals but none of these differences were not significant. The findings also showed there is a significant relationship between SMS addiction, perception of excessive use, and age ($p = 0.016$ correlation coefficient, 7.35) meaning that as the age increases SMS addiction reduces. As well, there was a significant relationship between SMS addiction and emotional reaction ($p=0.032$). In addition a significant relationship was found between academic level and the perception of excessive use ($p = 0.007$). These results also correct regarding the relationship between academic disciplines and emotional reactions.

Comparing the results of the SMS addiction components based on gender showed that there are significant differences in the components of SMS addiction (emotional reactions, perceptions of excessive use, and maintaining relationships) between men and women, so that in the three SMS addiction components emotional reactions, perceptions of excessive use, and maintaining relationships the proportion among men were than among women. The results are presented in the table below.

The following table shows the relationship between demographic variables with text addiction which based on the findings academic major with Chi Square 369 and alpha level 0.030 indicates a significant relation, and also for the academic degree of chi-square 81, and alpha level of 0.032 a significant relationship was observed. Variable age of 35.7 Chi Square and alpha level of 0.01 was significantly associated with texting addiction.

Based on the results of the present study and by using the Freedman test the most frequencies regarding the agreement or disagreement about the questions were briefly listed in the table below in order of preference. Accordingly, checking the received SMS was of the highest mean value and was in the first rank and the lowest mean value was that of exchanging the messages and was in the lowest rank.

Table 1: Frequency distribution of demographic information of the studied population .

variable	Groups	Emotional reactions		Perception of excessive use		Maintaining relationships	
		Not Addicted	Addicted	Not Addicted	Addicted	Not Addicted	Addicted
gender	Woman	142	161	139	164	243	60
	Man	18	79	15	82	34	63
	Sum	160	240	154	246	277	123
Marital Status	Single	118	201	116	203	213	106
	Married	42	39	38	43	64	17
	Sum	160	240	154	246	277	123
Residence	Native	46	61	48	59	77	30
	Non-native	114	179	106	187	200	93
	Sum	160	240	154	246	277	123
Degree	Post-Diploma	7	29	8	28	26	10
	Bachelor	129	137	113	153	183	83
	MS	4	10	10	4	11	3
	PhD	20	64	23	61	57	27
	Sum	160	240	154	246	277	123
College	Hygiene	41	52	38	55	66	27
	Paramedics	64	70	52	82	96	38
	Nursing	31	47	33	45	49	29
	Medicines	19	53	26	46	50	22
	Dentistry	5	18	5	18	16	7
	Sum	160	240	154	246	277	123

Table 2: Comparing the SMS addiction components with gender.

Component	Gender	Number	Mean \pm SD	Status		Sig
				Not Addicted	Addicted	
Emotional Reaction	Woman	303	16.18 \pm 4.59	142	161	P <0.001
	Man	97%	19.33 \pm 3.79	18	79	
the perception of excessive use	Woman	303	16.15 \pm 4.96	139	164	P <0.001
	Man	97%	19.08 \pm 3.85	15	82	
maintaining relationship	Woman	303	11.17 \pm 4.61	60	243	P <0.001
	Man	97%	17.72 \pm 5.03	63	34	

Table 3: The relationship between demographic variables addiction SMS (emotional response).

Variable	Chi square	df	sig
Field of Study	369	320	0.03
Degree	81	60	0.03

Priority	Sentences	Options						Mean rank
		Agree		No comment		Disagree		
		Number	Percent	Number	Percent	Number	Percent	
1	After sending message, I repeatedly check my inboxes to see whether I've received the answer or not.	267	66.8	70	17.5	63	15.8	10.52
2	I often check my inbox after seeing a message.	254	63.6	55	13.8	91	22.8	10.02
3	Sometimes when I'm talking with others I also send message.	216	54.1	58	14.5	126	31.6	9.49
4	Sometimes I spend a lot of time in exchanging messages.	212	53	60	15	128	32.1	9.17
5	I think, I am professional in typing and sending messages.	199	49.8	105	26.3	96	24.1	8.89

Discussion:

New communicative technologies have reduced social relations in the real world and they actually reduced welfare due to loneliness, depression (Kraut, R., 1998). Kambiu and Sugyra and Bill and the others have indicated that addictive capacity of mobile phones should not be neglected (Billieux, J., 2007). Evidence has shown that excessive use of mobile phones causes other behavioral patterns, including staying up late and sending short messages, and emotional attachment which is created in the mind of users. These findings support the negative effect of excessive use of cell and its negative impact on physical and psychological health of students(8). In this area very few studies have been done so the current study aimed to investigate the relationship between demographic variables of students and texting addiction among students in Hormozgan University of Medical Sciences in 2013. Of the 400 student who participated in the study, 303 people (75.8%) were females and 97 (24.3%) were male, 319 (79.8%) were single and 81 (20.3%) were married, 107 (26.8%)

were Native and 293 (73.3%) of students who were surveyed were non-native. 36 subjects (9%) had post-diploma degrees, 266 (66.5%) were at the undergraduate level, 14 (3.5%) had MS degree and 84 (21%) were at PhD. Results of testing hypothesis showed that students in the area of emotional reactions, perceptions of excessive use, and maintaining social relationships have texting addiction. In terms of maintaining social relationships it could be stated that having good relationships with friends can lead to texting addiction and this may be due to the need for having interpersonal communication (Igarashi, T., 2008). Short messages are useful primarily for maintaining strong and weak ties. Therefore some individuals may have mental obsession in receiving and sending SMS to prevent rejection and this may reflect the fact that SMS dependency is an obligation to obtain consent from a friend. Data analysis revealed a statistically significant association exists between SMS addiction and the age of the user. It seems that as the age increases excessive use of SMS decreases. SMS addiction is more common in the younger age group because of certain psychological, emotional and personality problems in adolescence period, they aren't willing to engage face to face and verbal communication, but as their age increases they participate in friendly circles and they have milder degrees of texting addiction. The findings showed that texting addiction was higher in men than in women in all areas. The findings of the present study confirm the result of the study by Zakariaee in 2001 and Shayeq's study in 1388 in which boys had more excessive SMS using than the girls (Shayegh, S., 2009). However the results of the current study was not consistent with the findings of a study by Qasemzadeh in 2006 Atefeh Biddokhti in 2012 in which no difference was found between men and women regarding SMS addiction (1) as well as Ramezanzadeh's study in which SMS addiction was more common among women than in men (Hasanzadeh, R., 2010). In addition the results showed that there is a statistically significant relationship between educational course and texting addiction, the findings of the study which was done by Igareshi et al among Japanese college student showed that freshmen on average exchange 20.1 SMS during a day. Data analysis also revealed that there is a significant relationship between the SMS addiction and fields of study. The results of the study which was done by Hassanzadeh et al in 2010 showed that SMS addiction is different in different academic groups. The mean value of SMS addiction among Medicine student was higher than that of students of Humanities.

Thus it can be stated as follows that SMS addiction can seriously affect the mental state of students but since this kind of addiction does not have any physical symptoms so its impairment, is not evident. Actually the presence of mobile phones has expanded virtual communication space and guides the communications into a new manner. Nowadays, this tool has influenced the industrial world in a way that all people from a ten-year-old child to an old man use it. And since it is particularly popular among majority of the young people, this age group is at the harmful risks of excessive SMS using more than any other age group. There is no doubt that training the students about the dangers of excessive use SMS, providing healthful recreational and sportive entertainment for the students, close and intimate relationship of parents with teens, cooperation of various organs and social and cultural organizations. The technological management requires that the performance of the others who are ahead of Iran should be evaluated, and then by getting an idea of their actions make them specialized for our country, and also our past pathological problems should be investigated and the in the prospect proper policies be developed their and proper planning was done on the basis of them. This study has some limitations including: small sample size and assigning it only to medical students, not sampling other academic groups because the researchers didn't access other groups and due the necessary facilities for high-volume sampling, use of questionnaires of loneliness, social anxiety, and personality questionnaires and its association with texting addiction, the probability of popular response to the questionnaire and inaccuracy in responding to the questions, and not comparing the results of the present study with other studies because there is not similar researches in this regard. It is recommended that further researches and broader impact of these tools on relationships between friends, spending leisure, quality of life and depressive symptoms be done.

At the end I know this as my duty to sincerely thank all students who participated in this research and preparation done by the Research Deputy who helped me in conducting this project

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