

Use of Electronic Communication and Entertainment Devices: A Survey of Arabian Gulf University Medical Students

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Objective: To evaluate the use of electronic communication and entertainment devices by Arabian Gulf University (AGU) medical students.

Setting: Arabian Gulf University, Kingdom of Bahrain.

Design: Cross sectional study.

Method: Years 1 to 4 medical students who were enrolled in the 2008-2009 academic year were included in the study. A self-administered anonymous questionnaire was used, which included enquiries on personal characteristics and the use of electronic communication and entertainment devices.

Result: Four hundred forty-three students responded. The study showed different habits according to gender and accommodation. Hundred and thirty (42%) female students used their mobile phones for more than 2 hours per day compared to 95 (31.3%) watched television (TV)/DVD and 203 (66.1%) used computers. The corresponding numbers and percentages for male students were 30 (24%), 49 (39.2%) and 79 (63.2%) respectively.

Conclusion: The AGU medical students do not appear to adopt healthy habits for using electronic communication and entertainment devices. Moreover, these habits are seen among students based on gender and accommodation. Urgent interventions are needed at AGU on promoting the appropriate use of the devices among medical students.

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Medical students are the future doctors and are expected to play an exemplary role in the community. During recent years, the Kingdom of Bahrain and other Arab Gulf states have witnessed tremendous developments at an astounding rate, and as a result, the standard of living rose and mechanization became apparent in all aspects of people's lives.

As industrialization and modernization progressed, a number of changes in lifestyle occurred which undoubtedly carried unfavorable consequences on health outcomes of the populations^{1,2}.

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Life styles behavior needs to be changed and the physician needs to be prepared to give appropriate medical counseling to prepare the individual for such change. In addition, medical education needs to be changed to adapt to the medical students' lifestyle and physical fitness³.

A sedentary lifestyle is not uncommon among university students. The pressure of work is so severe for university students that much of their time and energy is likely to be occupied with their studies. Computers and the internet provide more choices for entertainment and reduce interest in exercise⁴. Students proved to be valuable advocates for families as they were able to offer practical help in lifestyle behavior changes, communication and community-resource use⁵.

The aim of this study is to evaluate the use of electronic communication and entertainment devices by AGU medical students.

METHOD

Years 1 to 4 medical students who were enrolled in the 2008-2009 academic year were included in the study. A self-administered anonymous questionnaire in the English language was used. The questionnaire has been abridged from the adult questionnaire of the "United Arab Emirates Health and Lifestyle Survey 2000" which was validated and field-tested.

Data entry and analysis were done using SPSS, Version 17.0. A *p-value* less than 0.05 was considered statistically significant.

RESULT

Four hundred forty-three (82.8%) out of the 535 medical students who were enrolled in years 1-4 during the academic year 2008-2009 responded to the questionnaire. One hundred thirty-one students (29.8%) were from year 1, 109 (24.6%) from year 2, 90 (20.3%) from year 3 and 113 (25.5%) from year 4.

Table 1 shows the personal characteristics of the medical students by gender, age group, medical year, nationality and accommodation. Three hundred and fourteen (71.4%) students were females. In both genders, 117 (26.5%) were 18-19 years, 200 (45.4%) were 20-21 years, 116 (26.3%) were 22-23 years, and only 8 (1.8%) were 24 years or older. One hundred eighty-seven (42.4%) students lived with their families, 149 (33.8%) in the university housing, and the rest either lived alone 47 (10.7%) or with their friends 49 (11.1%).

Table 1: Personal Characteristics of the AGU Medical Students

Characteristic	Category	Medical Students Number and %
Gender*	Male	126 (28.6%)
	Female	314 (71.4%)
Age Group (years)**	18-19	117 (26.5%)
	20-21	200 (45.4%)
	22-23	116 (26.3%)
	≥ 24	8 (1.8%)
Medical Year (n=443)	Year 1	131 (29.6%)
	Year 2	109 (24.6%)
	Year 3	90 (20.3%)
	Year 4	113 (25.5%)
Accommodation Status**	With Family	187 (42.4%)
	University Housing	149 (33.8%)
	With Relatives	9 (2%)
	With Friends	49 (11.1%)
	Living Alone	47 (10.7%)

* Age was not documented for 3 students ** Age was not documented for 2 students

Most medical students spent 1-4 hours daily working on their computers, using their mobile phones and watching TV/DVD. A smaller number of students performed these activities for less than one hour per day. One hundred and thirty (42.2%) female students used their mobile phones for more than 2 hours per day, 95 (31.3%) watched TV/DVD and 203 (66.1%) used computers. The corresponding figures for male students were 30 (24%), 49 (39.2%) and 79 (63.2%), respectively, see table 2.

Table 2: Daily Use of Mobile Phone, TV/DVD and Computer According to Gender

	Hours		
	Less Than 1	1-2	> 2 hour
Mobile Phone			
Male (n=125)	50 (40%)	45 (36%)	30 (24%)
Female (n=308)	114 (37%)	64 (20.8%)	130 (42.2%)
Total of both genders*	164 (37.9%)	109 (25.2%)	160 (37%)
TV/DVD			
Male (n=125)	30 (24%)	46 (36.8%)	49 (39.2%)
Female (n=304)	110 (36.2%)	99 (32.6%)	95 (31.3%)
Total of Both Genders **	140 (32.6%)	145 (33.8%)	144 (33.6%)
Computer			
Male (n=125)	9 (7.2%)	37 (29.6%)	79 (63.2%)
Female (n=307)	30 (9.8%)	74 (24.1%)	203 (66.1%)
Total of Both Genders ***	39 (9%)	111 (25.7%)	282 (65.3%)

* Gender was not documented for 10 students ** Gender was not documented for 14 students

*** Gender was not documented for 11 students

The mobile phones were used for more than 2 hours by 19 (40.4%) students who lived alone, 23 (46.9%) who lived with friends, 61 (42.1%) who lived in the university housing, 45 (24.3%) who lived with their families and 3 (33.3%) who lived with their relatives. Twenty-nine (61.7%) students who lived alone watched TV/DVD daily for more than 2 hours per day, 23 (47.9%) who lived with friends, 71 (38.8%) who lived with their families and 45 (31.3%) who lived in university housing. There were no statistically significant difference in computer use by

accommodation. Thirty-eight (77.6%) students who lived with friends used the computer for more than 2 hours/day, 96 (66.2%) who lived in the university housing, 116 (63%) who lived with their families, 8 (88.9%) who lived with relatives and 30 (63.8%) who lived alone, see table 3.

Table 3: Daily Use of Mobile Phone, TV/DVD and Computer According to Accommodation

	Hours		
	Less Than 1	1-2	More Than 2
Mobile Phone			
With Family (n=185)	74 (40%)	66 (35.7%)	45 (24.3%)
University Housing (n=145)	54 (37.2%)	30 (20.7%)	61 (42.1%)
With Relatives (n=9)	3 (33.3%)	3 (33.3%)	3 (33.3%)
With Friends (n=49)	9 (18.4%)	17 (34.7%)	23 (46.9%)
Alone (n=47)	11 (23.4%)	17 (36.2%)	19 (40.4%)
Total of All Accommodation Status (n=435)*	151 (34.7%)	133 (30.6%)	151 (34.7%)
p value	0.028		
TV/DVD			
With Family (n=183)	44 (24%)	68 (37.2%)	71 (38.8%)
University Housing (n=144)	52 (36.1%)	47 (32.6%)	45 (31.3%)
With Relatives (n=9)	2 (22.2%)	4 (44.4%)	3 (33.4%)
With Friends (n=48)	12 (25%)	13 (27.1%)	23 (47.9%)
Alone (n=47)	9 (19.1%)	9 (19.1%)	29 (61.7%)
Total of All Accommodation Status (n=431)**	119 (27.6%)	141 (32.7%)	171 (39.7%)
p value	0.032		
Computer			
With Family (n=184)	14 (7.6%)	54 (29.3%)	116 (63%)
University Housing (n=145)	14 (9.7%)	35 (24.1%)	96 (66.2%)
With Relatives (n=9)	0 (0%)	1 (11.1%)	8 (88.9%)
With Friends (n=49)	3 (6.1%)	8 (16.3%)	38 (77.6%)
Alone (n=47)	3 (6.4%)	14 (29.8%)	30 (63.8%)
Total All Accommodation Status (n=434)***	34 (7.8%)	112 (25.8%)	288 (66.4%)
p value	0.753		

* Missing data for 8 students, ** Missing data for 12 students

*** Missing data for 9 students

DISCUSSION

The use of electronic communication and entertainment devices is common lifestyle risk behavior, which is seen among young people especially students and the tendency for the risk factors to be cumulative has important implications for health promotion⁶.

A study among Greek university students reported that students use their mobiles mostly at home, then at the university. Health issue is their main concern and the reason to limit the mobile use. However, there was no statistical significant relationship between genders and their preferences in that study⁷. Compared to our study the use of mobiles and other entertainment devices are much among AGU medical students.

The study recommends encouraging the active participation of the students in the health promotion activities in their countries, and suggests a regional GCC study using a standardized questionnaire on the lifestyle of the students in different universities.

The study has the following limitations, the questionnaire focused on events that happened during the past, ranging from the previous week to the previous six months. Hence, the possibility of recall bias could not be excluded. The response rates varied according to gender and medical year, which might limit the generalization of the results. The study did not include students in the clerkship phase (Year 5 and 6). Accordingly, the results are applicable to the students in Years 1-4.

CONCLUSION

The AGU medical students do not appear to adopt healthy habits regarding the use of electronic communication and entertainment devices. Moreover, these habits are observed among students according to gender, and accommodation. Urgent interventions are needed at AGU on promoting the appropriate use of the devices among medical students. Such interventions would be including the hazards of prolonged use of electronic devices in the curriculum, the undergraduate research activities and others.

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