Driving and using mobile phone among medical students at Al-Majmaah University

Khalid E. Madani [1], Sami S. A labdulqader [2], Mohammad M. Almutairi [2], Ahmed M. A lghyyamah [2], Abdulaziz M. Alsubaie [2], Abdulrahman Y. Alfaleh [2], Abdulmajeed K. Al-Duraywish [2]

(1) Associate Professor, Department of community medicine and public health, Al-Majmaah university, Saudi Arabia
(2) Medical student, Al-Majmaah university, Saudi Arabia

Corresponding author
Dr. Mohammad M. Almutairi
Al-Majmaah university, Saudi Arabia
Tel.: 0546472572
Email: 56565htc1@gmail.com

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Abstract

Introduction: Driving accidents in Saudi Arabia are very common and the main reason is that it's the most common transport method in the KSA. Little research has been conducted on the issue. The purpose of our research is to assess the attitude of medical students in our university, while driving. Students use their mobile phone more because of the increased number of applications on smart phones.

Methodology: The study design is a across sectional study, based in the medical department in Majmaah university. The sample size comprised 218 students, and data were collected by pre tested questionnaire and analyzed by SPSS.

Results: Students who use a mobile phone while driving were 87%. Most of the students use their mobile phone while others are in the car (59.5%).

Conclusion: We have observed that 87% of the students said that they use a mobile phone while driving and the majority of those who had negative impacts (74.7%), are still using their mobile phone (81.6%).

Keywords: Driving, Mobile, Medical, Students, Al-Majmaah, Saudi

Introduction

A Mobile phone is a wireless handheld device that allows users to communicate, through audios, videos, and calls, and sends text messages, among other features (1). The phone is a huge help in people's lives. In 1983, the first mobile phones went on sale in the U.S (1).

At that time, it was a huge step toward making people's lives easier. They commenced with voice messaging only, followed by text messaging. Then using a Wi-Fi open network allowed more connections with the world, and more people using different applications, though some people mess misuse them making their lives difficult instead of what it is supposed to do, which is making their lives easier (2).

Using mobile phones while driving entails composing, sending and reading text messages, email, and calling or using the web on a mobile phone while operating a motor vehicle. It therefore, disturbs the concentration of the driver and is common among teenagers according to WHO. Drivers using a mobile phone are approximately 4 times more likely to be involved in an accident than when a driver does not use a phone. Using a Hands-free phone is not much safer than hand-held phone sets (2).

Cell phone technology has become very useful for people on the move, which is demonstrated by surveys that show that the majority of users reported using their phones while driving. Cell phone use by drivers, although difficult to quantify, has been estimated through observational data by the Spanish federal government at six percent of drivers in 2021. (3).

This rate means that at any moment during the day, one million passenger vehicles in the United State are being driven by people using hand-held cell phones. Further analysis of these statistics show that women are more likely to be on their phones while driving; eight percent of women use cell phones while driving compared to five percent of their male counterparts (4).

Two-thirds of cell phone owners say they were expected by family, friends or employers to always be reachable by phone or another communication device. Among young drivers in this survey, 40 percent said they send or read text messages along with other activities while driving in order to remain connected (5).

A 2010 study conducted by the Pew Internet & American Life Project surveyed 2,252 adults on cell phone distractions. 47% percent of texting adults reported they have sent or read a text message while behind the wheel. 75 % percent of adults owning cell phones, reported that they have talked on a mobile phone while driving. In addition, 49% reported that they have been a passenger in a car when the driver was texting on their mobile phone. 44% indicated that they have been a passenger in a car when the driver used a cell phone in a way that put themselves or others in danger (6). A trial was done at Carnegie Mellon University regarding brain distraction while driving. The researchers examined fMRI pictures of the brain while participants drove and answered true/false questions. The results showed that simply listening to someone speak on the other end of a cell phone is enough to impair driving. Furthermore, the fMRI scans showed that listening to someone speak while they were driving reduced by 37 percent the amount of brain activity associated with driving, compared to driving alone (7).

A study by Laberge-Nadeau was done to determine whether an association exists between mobile phone use and the risk of being involved in a road crash. A total of 36,078 drivers completed a survey regarding driving habits, and crash history within the preceding 24 months and mobile phone use data were collected. The results shows that the relative risks (RR) for injury collisions and also for all collisions is 38% higher for men and women cell phone users (8).

A US study done for Traffic Safety, analysed a nationally representative sample of crashes that occurred between 1995 and 1999 and resulted in one or more passenger vehicles having to be towed due to damage, and found that 8.3% of drivers in these crashes were reported to have been distracted. The most common sources of distraction cited in these crashes were an outside person, object or event (29.4% of crash-involved drivers); adjusting radio, cassette or CD (11.4%), or another occupant in the vehicle (10.9%). Distraction related to the use of a cell phone was cited in (1.5%) of crashes (9).

In a study done in 2011, distraction was a contributing factor in about 10% of all driver fatalities and 17% of injuries in the U.S. (10), with drivers 15–19 years of age representing the highest proportion of distracted drivers (11). Among U.S. high school students, 45% reported texting and driving in 2012 (12), which was an increase from 26% of 16- and 17-year-olds in 2009 (13). In certain college samples, 92% of respondents reported reading texts while driving (14). Of all adults in 2010 in the U.S., 31% said they have "sent or read a text while driving" (15), while in Europe, the self-reported frequency of texting "regularly or fairly often" or "at least once" in the past 30 days ranged from approximately 15 to 31% (16).

In the UAE more than a third regularly lose concentration while driving, a new survey suggests. This was particularly true for younger drivers aged 18 to 24, of whom 43% admitted their full attention was not always on the road (17).

This study aimed to assess pattern of mobile phone uses during driving among male medical students at Al-Majmaah university, Saudi Arabia.

Subjects and Methods

Study design, setting and time: a cross–sectional study was done at Al-Majmaah University, Saudi Arabia from August to September 2022. AL Majmaah University which is located in ALMajmaah city is a governorate in the north of Riyadh province, Saudi Arabia. It has a population of around 48,000. It is surrounded by many governorates such as Zulfi, Shaqra and Thadiq.

Sampling and study participants: a total coverage sample was used. The inclusion criteria were male medical students at Al-Majmaah University from the 1st till the last academic year. The exclusion criteria were male students from the preparatory year and students from other universities.

Data Collection: A questionnaire was used to collect the data to identify the usage of mobile phones while driving among medical students and the consequences of distractions caused by it.

Data Analysis: The data was analysed using SPSS version 23. Mean and standard deviation (SD) were used to present quantitative variables. Frequencies and percentages were given for qualitative variables. Pearson, chi-square and /or fisher exact test was applied to observe associations between qualitative variables. A p-value of <0.05 was considered as statically significant

Ethical considerations: ethical approval for the study was obtained from the research ethics committee of Al-Majmaah university, Saudi Arabia.

Results

Figure (1) shows that most of the students 166 (76%) were in the age group 22-25 years old, 51 (23%) of them between 18-21 and only 1(0.5%) student was more than 26 years old.

Table (1) shows that students who travel on a daily basis, 147 (67.4%) and 62 (28.4%) weekly, while 9 (4.1%) travel monthly. Table (2) shows that 23 (12.1%) of students uses their mobile all the time, 45 (23.7%), most of the time, 77 (40.5%) of the students uses their mobile sometimes while driving and 45 (23.7%) rarely use their mobile while driving. Of students, 113 (59.5%) uses their mobile phone while driving, in presence of passengers, and 77 (40.5%) use their mobile phone when they are alone. Only 15 (13.3%) of the 113 drivers use a mobile phone in presence of their friends, 34 (30%) use their mobiles with their family and 64(56.7%) use their mobiles with friends and family. The most common type of usage was social media by 92 (42.2%) of students, the second type was calling by 58 (26.6%) then browsing by 40 (18.3%) of 190.

WhatsApp was the most used of applications by 41 (41.6%) out of 92 who use social media, then Snapchat by 29 (31.5%), Twitter by 20 (21.7%) and 2 (2.2%) of students use all of the applications mentioned. Most of the participants, 155 (81.6%) experienced negative impacts during driving and using mobile phone (in the form of divergence on the road and/or accident) while 35(18.4%) of participants have had no negative impact.

Figure (2) shows that 190 (87%) students out of 218 use their mobile phone while driving and 28 (12.8%) don't use their mobile while driving. Figure (3) shows that 157 (82.6%) of 190 students uses the car media utilities (headphone and radio Bluetooth) while driving and 33 (17.4%) don't use them.

There was an association observed between using a mobile phone while driving a short distance (20-70Km) and negative impact P=0.317 (Table 2). The highest negative impact was observed during driving on a weekly basis (59.5%). There was a statistically significant association observed between using mobile phones while driving an intermediate distance (71km-150km) and negative impact P=0.004 (Table 3).

The highest negative impact was observed during driving on a weekly basis (65.2%). There was astatistically significant association observed between using mobile phone while driving a long distance (more than 150 km) and negative impact P=0.013 (Table 4). The highest negative impact was observed during driving on a weekly basis (56.3%)

Figure 1 : Age distribution of students

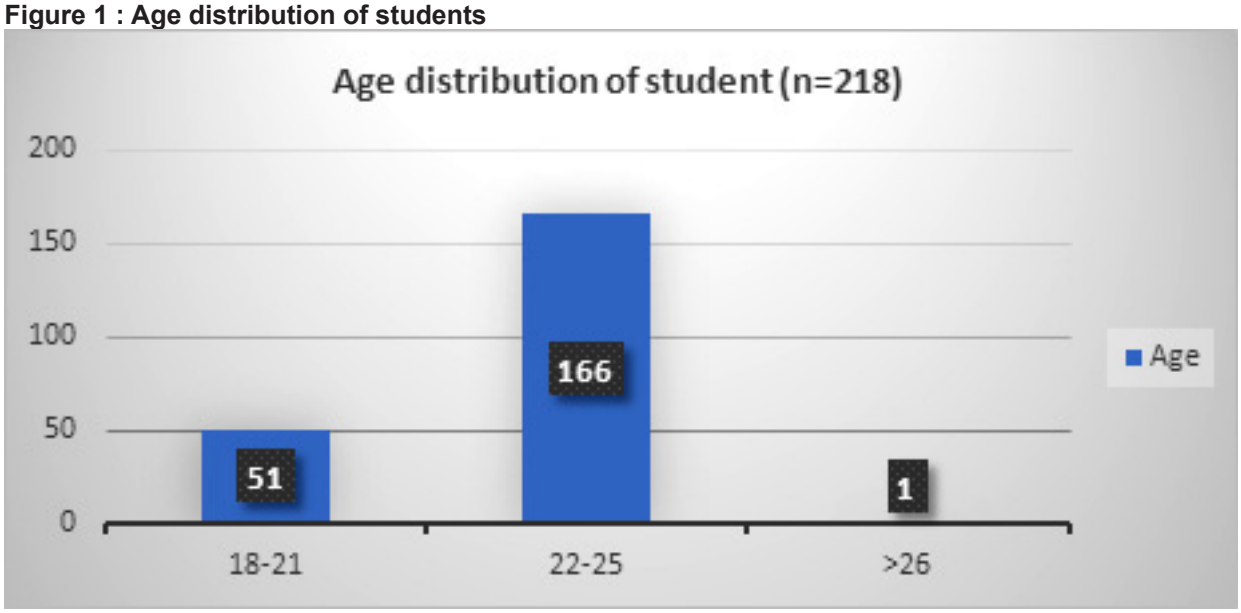

Table 1. Distribution of studied students according to pattern of driving and pattern of mobile phone use during driving

Variable	No.	%
Frequency of driving from the house to the college		
Daily	147	67.4%
Weekly	62	28.4%
Monthly	9	4.2%
Phone Usage Time		
All the time	23	12.1
Most of the time	45	23.7
Sometimes	77	40.5
Rarely	45	23.7
Using mobile with Passengers		
yes	113	59.5
No	77	40.5
Using Phone while passengers in the car		
who are they	15	13.3
friend	34	30.0
Family	64	56.7
both	113	100
Types of using mobile phones types of usage		
calling	58	26.6
Browsing	40	18.3
Social media	92	42.2
Most used social media application.		
Most used of apps	20	21.7
twitter	29	31.5
Snapchat	41	44.6
WhatsApp	2	2.2
Impact of using mobile phone while driving.		
Yes	155	81.6
No	35	18.4

Figure 2: Using mobile phone while driving

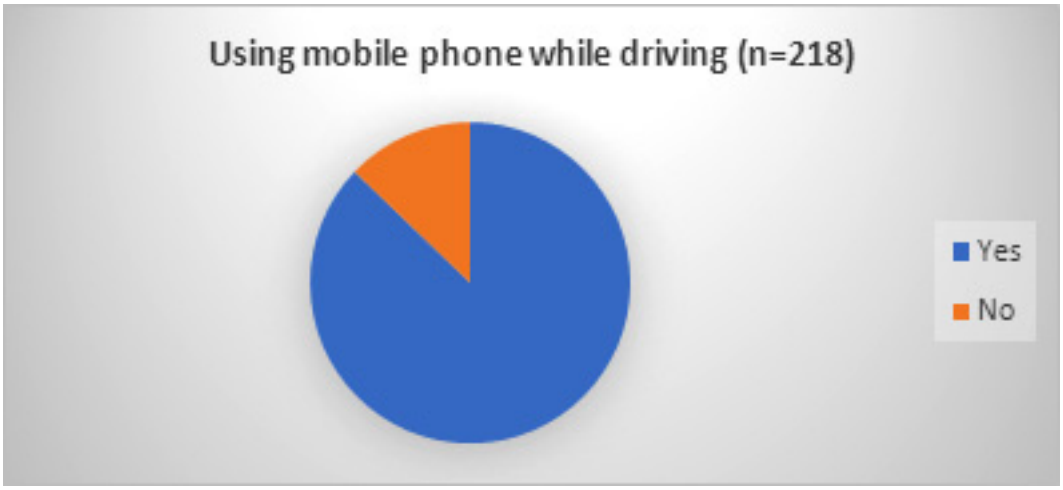

Figure 3 – using of the car media utilities.

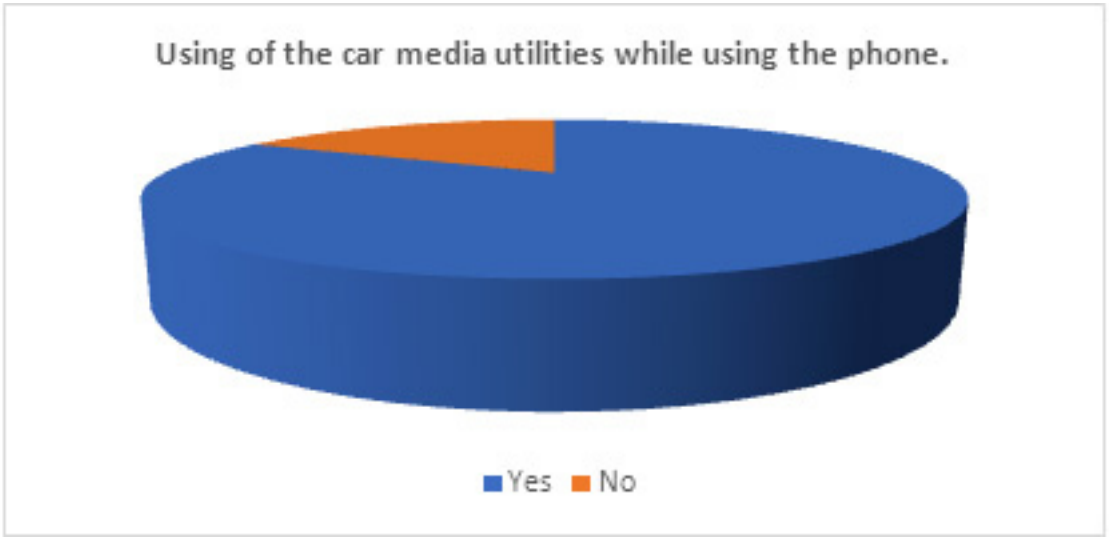

Table 2. Association between negative impact, frequency of driving in short distance (between 20 _70Km)

	Daily		weekly		monthly		Total	
impact	No	%	No	%	No	%	No	%
Accident	42	31.1	77	57.1	16	11.8	135	100
Divergent of the road	21	38.1	30	54.5	4	7.4	55	100
Total	63	33.1	107	56.3	20	10.6	190	100

N.B.: P=0.317

Table 3. Association between negative impact, frequency of driving in intermediate distance (between 71 _ 150Km)

	Daily		weekly		monthly		Total	
impact	No	%	No	%	No	%	No	%
Accident	42	31.1	77	57.1	16	11.8	135	100
Divergent of the road	21	38.1	30	54.5	4	7.4	55	100
Total	63	33.1	107	56.3	20	10.6	190	100

N.B.: P=0.004

Table 4. Association between negative impact, frequency of driving in Long distance (More than 150Km)

	Daily		weekly		monthly		Total	
impact	No	%	No	%	No	%	No	%
Accident	21	15	98	70	21	15	140	100
Divergent of the road	14	28	26	52	10	20	50	100
Total	35	18.5	124	65.2	31	16.3	190	100

N.B.: P=0.013

Discussion

The current study showed that there was a high percentage of male students using a mobile phone while driving (87%). This figure is higher than a study conducted by the Pew Internet American life project which showed that 75% of adults were using mobile phones while driving (18).

In KSA a study was conducted on 418 candidates (students and teachers) trying to evaluate distracted driving namely the use of mobile phones (texting and talking) while driving. On enquiring about what they do when they get a call while driving, 72% of all respondents (teachers + students) were answering the calls, 17% were ignoring the calls, and only 11% were pulling over the car and answering. When we compare this figure in the various groups, we found only 44% (26/59) of teachers were answering while driving while 275/359 students (76.6% of all students) were answering the call while driving (19).

It is thought that our percentage is higher due to a difference in sample size or methodology. In addition, now smartphones are more used and technology and applications are distracting drivers.

In relation to the time of driving, we found that the higher impact (accident and diversion on the road) are those where participants were driving weekly and of distances between 71-150 km (65.2%). A previous study done in Riyadh region Saudi Arabia and found that , where 44.6% of participants reported having car accidents in the six months prior, and 37.9% of them blamed their cell phones for these incidents. Variable percentages claimed participants always text (53.3%), talk on a handheld (66.2%), or use a hands-free phone (26.1%) while driving. More people (77.0%) and acknowledged that there were risks associated with texting (73.9%) and talking on handheld phones (83.9%) while driving than with hands-free (35.9%) (20).

According to our knowledge this is a unique result for the study which showed an association between impact, distances of driving and time of driving despite our sample size being medical students who are supposed to be well educated people in the community. Those students should be aware of the hazards of using mobile phones while driving.

The risky behavior among the participants while using mobile phone was very high and still 74.7% of them who have had a negative impact are still using their mobile phone. It is therefore a problem of behavior, rather than knowledge.

Limitations

A limitation of the present work could be the use of a self-reporting questionnaire which could entail recall bias.

Conclusion

This work found that a high percentage of medical students were using a mobile phone while driving (87%) and this led to negative impacts. The majority of those who had negative impacts were still using their mobile phones (74.7%) in (81.6%). Implantation of programs to change behavior and strict rules regarding anyone using their mobile phone while driving is needed. Health education programs are necessary to raise the awareness of the community about health risks of using mobiles during driving.

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