

ORIGINAL ARTICLE

Social Networking Trends Among Female Health College Students in King Khalid University, Saudi Arabia

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ABSTRACT

Objective: The present research was to study the social networking trends among female health college students in Kku Abha, Saudi Arabia. **Methodology:** A pretested questionnaire was developed consisting of 11 items concerning with individual's usage of social media. All female students of colleges in King Khalid University were considered for the study. **Results:** A total of 466 female students participated in the research. 96% of the students had registered themselves at some social networking site. Whatsapp was found to be the most popular application (17.4%) followed by Twitter (16.2%), YouTube (15.2%), Google-plus (13%), Facebook (13%), Skype (10.7%) and others. Majority of students (64%) accessed Google for their academic assignments and information gathering. 76% of students had practice of accessing to SNS on a daily basis. Majority (43%) of students' accessed social networking sites late night before sleep or after college hours (32%). The most common reason for SNS usage was for Entertainment (45%). The Pearson's correlation analysis showed that there was no significant correlation between the frequency of SNS usage and student's average academic grades ($r = 0.064$, $p = 0.174$). **Conclusions:** The female students at the university are very active on SNS. The social media platforms are mainly used for social interactions or entertainment. There was no statistically significant correlation between social media usage and academic outcomes. Social media platforms should be considered as an effective and informal media in engaging students for academic purposes.

Keywords: Social Media, University students, Academic grades

INTRODUCTION

There has been a rapid change in contemporary online social communication practices. The previous methods of communicating and socializing over the Internet were limited to email, instant messaging, personals sites etc., people are now able to socialize in more diverse ways. Today, an increasingly

popular way for people to communicate is through social media. The usage of social network services reflects one's personal identity and also has become a basic necessity of social interaction.¹ Social networking sites allow users to easily keep in contact with others. Indeed life today is almost unimaginable without social media.

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Social networking sites are one of the most popular online activities among college students.^{2,3} Students are now more connected and have endless access to information resource than ever before. A study found that 53% of 15–18 year olds used social networking websites and among those, they spent an average of 48 minutes per day on the sites.⁴ Similar findings were found with other study where 65% of youth aged 12–17 and 67% of young adults aged 18–32 used social networking sites.⁵ The recent survey shows 91% of US teens go onto the Internet via a mobile device and girls are more active on social media than boys.⁶

In the recent past there has been an increasing trend of high social media usage in Saudi Arabia. According to 2012 report the youth between the ages of 15 and 29 make up around 70% of Facebook users in the Arab region and further Saudi Arabia alone had up to 50% of Facebook users among the Gulf regions.⁷ A statistics report of 2014 suggests that Saudi Arabia stands 30th rank as in world ranking according to number of internet users with the population penetration rate of 59.24% and has yearly growth rate of 11%.⁸ The most recent report of 2015 suggests that social media in the Arab world has been perceived to have positive influences in one's quality of life, business and governmental interaction with the public.⁹

Despite the popularity of social networking sites and applications there is scarce information available on impact of social media in educational contexts. The new technologies are being created and used at such a quick pace that it is difficult for researchers to capture the effects of these rapidly changing technologies. There is no consensus on the effects of technology usage on academic outcomes to date.^{10,11} Although there are some negative perceptions about the possible effects of social media usage on students' academic performance,^{12,13,14} some studies found it quite appropriate to use both for teachers and students to socialize by this means and also it allows them to share knowledge in formal education contexts.^{15,16,17}

Today social media is believed to have influenced all sections of society, but it could be of particular interest to learn the extent that social media has empowered females in Saudi Arabia especially among higher education students. Therefore, the objective of the present research was to study the social networking trends among female health college students at King Khalid University, Saudi

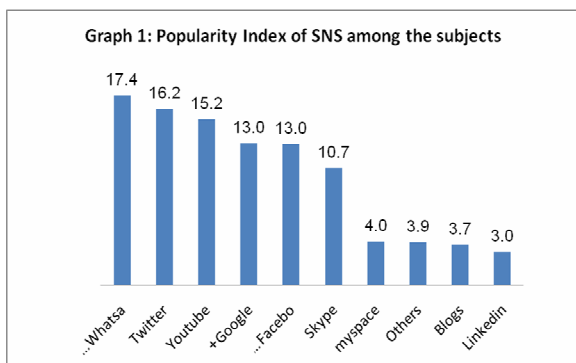
Arabia. This study project as part of a wider study of social media usage in Saudi Arabia, tries to fill a gap in this field. This study will be of importance for higher education faculty to be aware of how their students are using technology and its influence on academic performances. This awareness of the effect on academic performance may be more open to interventions that will help to develop better strategies for managing student's time and cognitive workload which is a necessary step in supporting them throughout their college careers.

METHODOLOGY

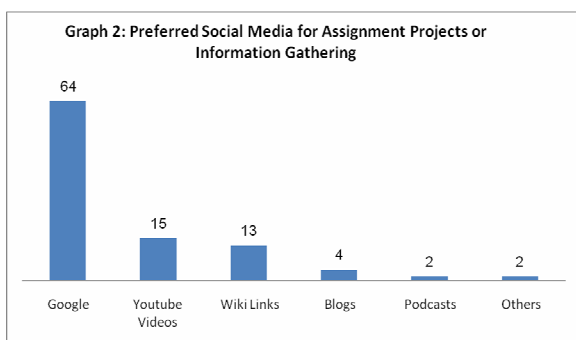
This cross-sectional study was conducted to investigate social networking trends among all female health college students at King Khalid University, Abha, Saudi Arabia. The ethical approval was obtained from the institutional ethical review board. A questionnaire was developed consisting of 11 items concerning individual's usage of social media. All the items in the questionnaire were designed and presented in simple multiple choice format. The face validity of questionnaire was checked after constructing the draft questionnaire with special focus on some terms and explanation in translation from English to Arabic language. The health related colleges in the university included: College of Medicine, Dentistry, Nursing, Pharmacy, Radiology, Laboratory Sciences and Physiotherapy. The purpose of study was explained to students in their classrooms before delivering the questionnaire and the data was collected from the students who were willing to participate. The responses obtained were coded and entered into the computer for further statistical analysis.

RESULTS

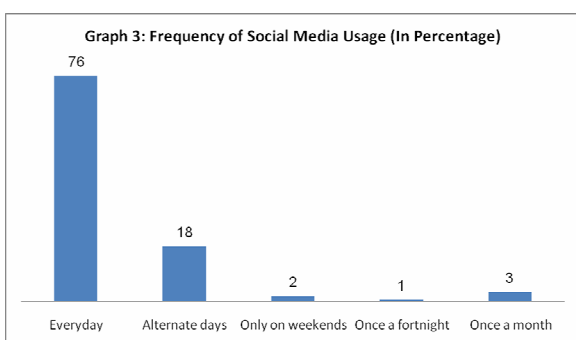
A total of 466 female students participated in the research with the response rate of 97%. Out of the total number, 96% (n=446) of the students had registered themselves at some social networking site. Among the students, social media in the order of popularity were: Whatsapp (17.4%), Twitter (16.2%), YouTube (15.2%), Google-plus (13%), Facebook (13%), Skype (10.7%) followed by the least popular MySpace, LinkedIn and Blogs (Graph 1).



Majority students accessed Google (64%, n=375) for their academic assignments and information gathering followed by YouTube videos (15%, n=90), WikiLinks (13%, n=74) with least using Blogs (4%, n=24) and Podcasts (2%, n=10) (Graph 2).

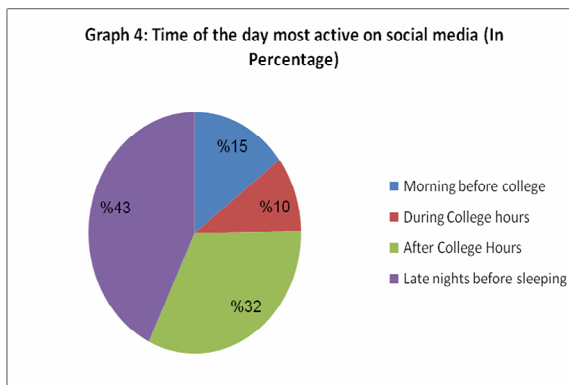


Most students (76%, n=387) had practice of accessing to social networking sites on a daily basis and lesser number of students accessed once in two days (18%, n=94) (Graph 3).

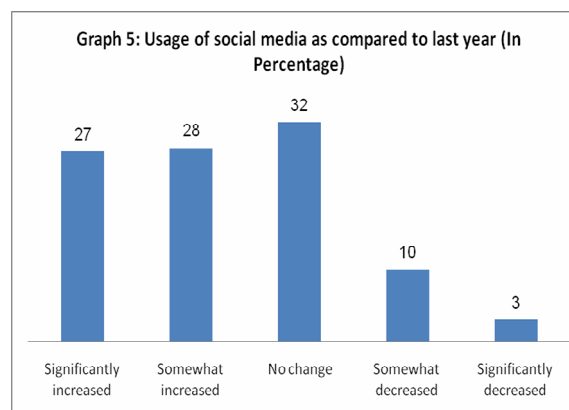


Majority of students accessed to the social networking sites at either after college hours (32%,

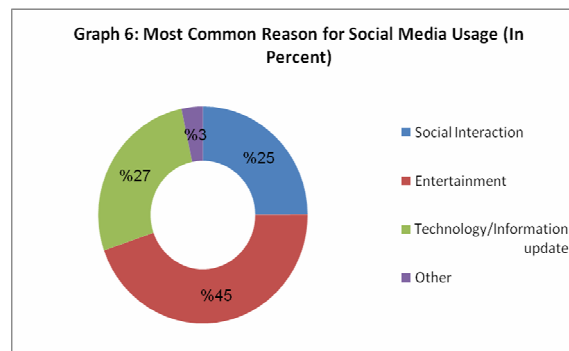
n=151) or late night before sleep (43%, n=200) (Graph 4).



The number of students who reported that their usage of social media has significantly increased from last year was 55% (n=311) and in 13% (n=75) the usage had decreased over previous year (Graph 5).



The most common reason for Social Networking Site (SNS) usage was for Entertainment (45%, n=285) followed by Information Gathering (27%, n=172), and Social Interaction (25%, n=159) (Graph 6).



The Pearson's correlation analysis showed that there was no significant correlation between the frequency of SNS usage and student's average academic grades ($r = 0.064$, $p = 0.174$).

DISCUSSION

In this study 'entertainment' (45%) represents the highest category among the various reasons for using the social media followed by 'technology or information updates' (27%) and 'Social interaction' (27%). In comparison with other reports, our study clearly indicates that social network sites are primarily used for non-academic purposes by students.¹⁸ Increased use of Facebook especially has been reported to have addictive influence in a research among female students.¹⁹ Social interaction, passing time, entertainment, companionship, and communication were the motives behind using the social media. The non-academic usage can be correlated to the fact that majority of the students were most active on social media at their leisure times either after the college hours or late night before sleep. This could possibly have negative impact on the student's study hours; hence it is important for the students to think about balancing the use of social media for leisure and academics.

The usage of social media and its impact on academic performance has been extensively studied. Our study found no correlation between the frequency of social networking site usage and their academic grades. This finding is similar to various other studies suggesting either no adverse effect or positive effect of social media activity and academic outcomes.^{15,16,17,20} However, several other researches suggests negative influence of social media on academic performances.^{12,13,14} Most of the students in our study have had registered account in some SNS and majority were actively using it on daily basis. This clearly indicates that social media platforms are now a part of routine life. As a researcher it is important to understand that several other personality dimensions like individual's commitment to academics, personal interests, dedication towards professional goals etc. might have more direct influence on academic grades than mere social media activity. The students should be wise enough to efficiently manage their time and make the best use of social media in academics apart from entertainment purposes.

King Khalid University has a well-established department of Information and Technology. The department offers students free access to internet through both browsing centers and Wi-Fi connectivity. The Blackboard System provides the students access to learn about the academic courses, communicate with the faculty and fellow students, view grades, free access to journals and books. Our study found that students utilized the more popular social media sites than official university network applications even for academic purposes. It is of importance for higher education faculty to be aware of how their students are using technology which helps to develop better strategies for managing student's time and improved connectivity to best support them throughout their career.

CONCLUSIONS

The female students at King Khalid University are very active on social networking sites and there is an upward trend of SNS usage both in terms of frequency and time. The social media platforms are mainly used for entertainment, information update and social interactions. WhatsApp was clearly found to be the most popular social media for communication and Google was found to be most commonly used search engine for information gathering. There was no statistically significant correlation between social media usage and academic outcomes. The high usage of social networking sites and applications among students should be considered as an effective and informal media in engaging students for academic purposes

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ORIGINAL ARTICLE

Prevalence of recurrent headache and its association with academic performance among King Khalid University male medical students

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ABSTRACT

Objectives: To identify the magnitude and risk factors of headache among male university students in medical colleges, King Khalid University, Abha, Kingdom of Saudi Arabia. **Subjects and Methods:** A cross-sectional questionnaire-based study was implemented included a representative sample of male students registered and regularly attending in colleges of Medicine, Pharmacy, Dentistry and Applied Medical Sciences for the academic year 1434-1435 H. A stratified sampling technique with proportional allocation was adopted. The data were collected through filling a self-administered questionnaire include demographic data and details of headache using Headache Assessment Questionnaire. **Results:** The prevalence rate of headache during the last 12 months was 70.4%. According to the criteria of the International Headache Society (IHS) for diagnosis of different types of headache, the prevalence of tension-type headache was 17.7% while that of migraine was 8.5%. Smokers and students of college of medicine were at higher risk for headache. Almost a quarter of medical students with history of headache visited physicians seeking for treatment. Regarding type of medication taken by medical students for treatment of their headache, acetaminophen and ibuprofen were taken by 33.5% and 22% of them. Academic performance of the medical students, based on their grade point average (GPA) in the last term, was significantly associated with their history of headache during the last year ($p=0.009$). **Conclusions:** Headache is a high-prevalence condition among medical students at King Khalid University. Headache is of greater prevalence than migraine and tension-type headache. Most university students rely on non-prescription simple analgesics for headache relief. Students who report headache have worse academic performance.

Keywords: Headache; Migraine; Prevalence; Academic performance; Medical students; Saudi Arabia

INTRODUCTION

It is well established that headache causes substantial disability worldwide¹ and is among the most commonly reported neurological disorders in primary

care.² Because of their high prevalence and their disabling nature, tension-type headache (TTH), migraine and medication-overuse headache are three disorders collectively responsible for the majority of headache-attributed burden.³⁻⁷

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It is estimated that globally, among the adult population, 46% have headache in general, 11% have migraine, 42% have TTH, and 3% have chronic daily headache.⁷

The quality of life for individuals with headaches can be compromised by several factors. These factors include the presence of physical and emotional limitations, an impact on professional and academic activities and a drop in labor productivity. A headache patient's social and family life can also be compromised since headache may limit the victim's activities. Such factors can represent a high cost to society.⁸ Annual indirect costs related to migraine in the United States were estimated between US\$ 1.4 and 17 billion.⁹ In Brazil, it is estimated that migraine alone is responsible for 4,016,076 consultations in primary care settings, 3,887,504 in secondary care and 93,103 in tertiary care per year, generating an annual direct medical cost of approximately US\$ 140 million.¹⁰

Prevalence of headache among university students varies from 33 to 98.5%.¹¹⁻²⁰ The prevalence of migraine varies from 2.4 to 46.3%.^{11-17, 20-21} and for TTH from 9.5 to 60%.^{19, 21-24}

A previous study reported that 62.7% of migraine-suffering students claimed a reduction in academic performance during a headache attack. This research reported a mean of 5.8 days that students did not study at home and of 1.6 days that they missed classes because of headache in 6 months. A total of 24.4% TTH-suffering students reported a reduction of their academic performance during headache episodes. There was a mean of 1.5 days that they did not study at home and of 0.3 days that they missed classes because of headache during the 6 months prior to the study.¹³

In Brazil, a study of students at a college of medicine showed that headaches exert greater influence over academic performance than sex, state of origin, smoking habits, consumption of alcoholic beverages, practice of extracurricular activities, work and stress. There was association between headache and the need to do recovery exams.¹⁶

Inevitably, many factors exist that can interfere with the academic performance of university students. It is important to verify if headache is associated with a poor academic performance, given that it has a high prevalence in the Saudi population and is a condition that can undergo abortive and prophylactic treatment²⁵. A better understanding of the influence over

academic performance could deliver a potential improvement to student well-being.

This study aimed to identify the magnitude and risk factors of headache among male university students in medical colleges, King Khalid University, Abha, KSA.

SUBJECTS AND METHODS

This study was conducted, following a cross-sectional study design at the medical colleges of King Khalid University (KKU) in Abha City, KSA. There are around 70,000 male students at KKU and has 14 colleges for males.

The total number of male students registered in medical colleges of KKU for the academic year 1433-1434 H was approximately 3200 students distributed as follows: College of Medicine "1200 students", College of Pharmacy "500", College of Dentistry "500 students" and College of Applied Medical Sciences "1000 students". The sample size was calculated by using the single proportion equation in Raosoft software package,²⁶ as 267 students at 95% confidence intervals (expected prevalence of 36%,²⁷ and an accepted error margin of 5%). The sample was increased to 300 to compensate for possible drop outs.

By applying a stratified sampling technique with proportional allocation, the sample size was divided along the 4 medical colleges and was determined as a percentage proportionally related to the total number of the students in the different colleges as follows: 19 students from each of the six academic years of the College of Medicine; 10 students from each of the five academic years of the College of Pharmacy; 10 from each of the five academic years of the College of Dentistry; and 20 students from each of the five academic years of the College of Applied Medical Sciences. However, due to absence of few selected students on the day of data collection, participants were 114 students from the College of Medicine; 46 students from the College of Pharmacy; 46 students were from the College of Dentistry; and 96 students from the College of Applied Medical Sciences. All students were selected by simple random technique from a list of their names at each college administration.

For the classification of headache, the researchers applied the operational diagnostic criteria of the International Headache Society (IHS),²⁸ which is a hierarchically constructed classification. Migraine was defined as recurrent headache (lasting 4 to 72 hours) with at least 2 to 4 of the following quality of pain features: unilateral, pulsatile, or throbbing; moderate to severe headache; exacerbating on movement; and associated with gastrointestinal symptoms (either nausea or vomiting) or photophobia/phonophobia. No attempt was made to differentiate between the different forms of migraine.

Data was collected using a self-administered questionnaire that included demographic data and details of headache using the "Headache Assessment Questionnaire"²⁹ throughout the last year. The filled questionnaire sheets were collected by the researcher after 2 days. Students' grade point average (GPA) was categorized into four categories: <2.75 (fair); 2.75-<3.75 (good); 3.75-<4.5 (very good); ≥4.5 (excellent).

Tension-type headache was defined as mild or moderate bilateral or vertex tightness or pressure-like feeling in the absence of gastrointestinal discomfort (nausea or vomiting) and photophobia/phonophobia.

Data were entered into a personal computer and was analyzed using the Statistical Package for Social Sciences (SPSS version 20). Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative categorical variables, and means and standard deviations for quantitative variables (only age). Analytic statistics using Chi Square tests (χ^2) to test for the association and/or the difference between two categorical variables (history of hypertension in the last 12 months and possible associated factors) were applied. Fischer exact test was utilized instead of chi-square test for small frequencies. P-value equal or less than 0.05 was considered statistically significant.

RESULTS

As described in Table 1, out of 302 distributed questionnaire sheets, 233 students responded, with an overall response rate was 77.2%. The highest rate was reported among students of the College of Pharmacy

(89.1%), while the lowest rate was observed among students of the College of Medicine (70.2%).

Table 1: Response rate of male medical students according to their college

College	Recruited Students	Responded Students	Response Rate (%)
Medicine	114	80	70.2
Pharmacy	46	41	89.1
Dentistry	46	40	86.9
Applied Medical Sciences	96	72	75.0
Total	302	233	77.2

Table 2 shows that more than one third of students (38.6%) were 21 years old or less, about one fourth of them (26.6%) were 22 years old, about one fifth of them (20.2%) aged 23 years and 14.6% aged 24 years or more. Third academic year represents 22.3% of students while fifth and sixth years represent 16.7% and 4.3% of them, respectively. Slightly more than half of them (50.6%) were from rural areas. The fathers of almost a quarter of them (24%) were government employees while the fathers of 19.7% and 18.5% of them were professionals and business men, respectively. The family income was more than 10,000 SR/month among 47.2% of them. The majority of participant students (86.3%) reported history of habitually drinking coffee, while current smoking was reported by 18.9% of them, i.e., some smokers were also habitually drinking coffee. Based on students' GPA during the previous semester, almost half of students (50.6%) got good degree whereas 38.2% and 7.7% got very good and excellent grades, respectively.

Table 3 shows that prevalence of recurrent headache throughout the past year among participants was 70.4%. The frequency of headache attacks was 10 and more among almost half of them (49.4%). Family history of headache reported among 56.8% of them. Daily attacks were reported among 8% of the participants while monthly attaches were reported among 60.2% of them.

Regarding type of headache, pulsatile/throbbing, sharp/stabbing and tightness/pressing feeling were reported by 30.2%, 26.1% and 25% of them,

respectively. Attacks of headache lasted between one and four hours among almost half of them (48.9%).

Table 2: Characteristics of participants (n=233)

Characteristics	No.	%
Age in years		
• ≤21	90	38.6
• 22	62	26.6
• 23	47	20.2
• ≥24	34	14.6
Academic year		
• 1 st	43	18.5
• 2 nd	51	21.9
• 3 rd	52	22.3
• 4 th	38	16.3
• 5 th	39	16.7
• 6 th	10	4.3
Residence		
• Urban	115	49.4
• Rural	118	50.6
Father's occupation		
• Professional	46	19.7
• Military	26	11.2
• Business	43	18.5
• Technical	23	9.9
• Retired	24	10.3
• Government employee	56	24.0
• Unemployed	15	6.4
Family monthly income		
• ≤5000 SR	38	16.3
• 5001-10000 SR	85	36.5
• >10000 SR	110	47.2
Habitual drinking of coffee	201	86.3
Cigarette smoking	44	18.9
Last semester's academic performance		
• Fair	8	3.4
• Good	118	50.6
• Very good	89	38.2
• Excellent	18	7.7

Table 3: Headache characteristics of medical colleges' students, King Khalid University (n=164)

Headache characteristics	No.	%
Recurrent headache during the last year		
• Yes	164	70.4
• No	69	29.6
Frequency of headache during the last year (n=164)		
• <5	41	25.0
• 5-9	42	25.6
• ≥10	81	49.4
Family history of headache	93	56.8
Frequency of headache (n=164)		
• Daily	13	8.0
• Weekly	52	31.8
• Monthly	99	60.2
Type of headache (n=164)		
• Pulsatile/throbbing	50	30.2
• Sharp/stabbing	43	26.1
• Tightness/pressing feeling	41	25.0
• Heavy feeling	22	13.6
• Others	8	5.1
Duration of headache (n=164)		
• < one hour	56	34.1
• 1-4 hours	80	48.9
• 4-24 hours	19	11.4
• >24 hours	9	5.6
Headache is accompanied or preceded by other symptoms (n=164)	49	30.1
Location of headache* (n=164)		
• Unilateral	41	25.0
• Alternation right and left sided	95	57.9
• Frontal	30	18.2
• Back	25	15.3
• Holocranial	19	10.8
• Orbital	8	5.1
Severity (n=164)		
• Mild	75	46.0
• Able to continue daily activities	28	17.0
• Moderate	48	29.0
• Severe	10	6.3
Daily activities become suspended	3	1.7
Type of headache according to the criteria of International Headache Society		
• Tension headache	29	17.7
• Migraine	14	8.5

* Multiple locations were possible

Headache attacks were accompanied by nausea, vomiting, loss of appetite or preceded by photophobia, phonophobia among 30.1% of the respondents with history of headache. Regarding its location, it was unilateral, alternating or frontal among 25%, 57.9% or 18.2% of them, respectively. Mild form was reported by 46% of them whereas severe form and daily activities suspended were reported by 6.3% and 1.7% of them, respectively.

According to the criteria of the International Headache Society (IHS) for diagnosis of different types of headache, the prevalence of tension headache was 17.7% while that of migraine was 8.5%.

Table 4 shows that almost a quarter of medical students (24.4%) with history of headache visited physicians seeking for treatment. More than half of respondents with history of headache (55.5%) reported self-medication for headache, whereas 15.2% and 12.8% reported prescribed and traditional medication for headache, respectively, while 16.5% reported receiving no medication at all for their headache. Regarding type of medication taken by medical students for treatment of their headache, acetaminophen and Ibuprofen were taken by 33.5% and 15.2% of students, respectively. Among those who reported history of medication for headache (n=116), 50% of them reported that they improved sometimes with medication whereas 36.2% reported that they always improved and 13.8% reported no improvement with medication.

Table 5 shows that the commonest precipitating or aggravating factors for headache as mentioned by medical college students were Lack of sleep (52.4%), too much/excessive or long working hours (36%) and lack of rest (20.7%). Regarding relieving factors, sleep, rest and take medications were reported by 45.7%, 38.4% and 32.3% of the students who had history of headache, respectively.

Table 6 shows that history of headache during the last 12 months was not significantly associated with student's age (p=0.393). The highest prevalence rate of headache during the last 12 months was among students of college of medicine (80%) whereas the lowest rate was reported by students of the college of health sciences (61.1%). The association between

student's college and prevalence of headache during the last 12 months was statistically significant (p=0.041). The highest rate of headache during the last 12 months was reported among students of fourth academic year (89.5%) whereas the lowest rate was reported by students of the third academic year (57.7%). The association between student's academic level and prevalence of headache during the last 12 months was statistically significant (p=0.030). The highest rate of headache during the last 12 months was reported among students whose fathers were professionals (80.4%), whereas the lowest rate was reported by students whose fathers were technical workers (56.5%). However, the association between father's occupation and prevalence of headache during the last 12 months among medical students was not statistically significant (p=0.399). History of headache during the last 12 months was not significantly associated with student's residence (p=0.491). Prevalence rate of headache during the last 12 months steadily increased with increasing in family's income (ranged between 60.5% among those whose family's income was ≤5000 SR/month and 78.2% among those whose family income was >1000 SR/month). This difference was statistically significant, (p=0.043).

Table 4: Headache medication characteristics of male medical students, King Khalid University

Headache medication characteristics	No.	%
Visiting a physician for management of headache	40	24.4
Receiving medication for headache		
• No	27	16.5
• Self-medication	91	55.5
• Traditional medication	21	12.8
• Prescribed medication	25	15.2
Received medications for headache		
• Acetaminophen	55	33.5
• Mefenamic acid	25	15.2
• Ibuprofen	36	22.0
Relief of headache by medication (n=116)*		
• Usually	42	36.2
• Sometimes	58	50.0
• No relief	16	13.8

* Forty-eight responses were missing

History of headache during the last 12 months was not significantly associated with drinking coffee among medical students, ($p=0.843$). Prevalence rate of headache during the last 12 months was significantly higher among smoker students compared to non-smokers (90.9% versus 65.6%, $p<0.001$). History of headache during the last 12 months was not significantly associated with wearing sunglasses among medical students ($p=0.703$).

Academic performance of the medical students, based on their GPA in the last term, was significantly associated with their history of headache during the last year. Three-quarters of students who got fair grade and 77.1% of those who got good grade compared to only 38.9% of those who got excellent grade had history of headache. This differences were statistically significant ($p=0.009$).

Table 5: Factors that precipitate or aggravate headache among medical colleges' students with headache

Precipitating and relieving factors related to headache	No.	%
Precipitating factors * (n=164)		
• Lack of sleep	86	52.4
• Too much/excessive or long working hours	59	36.0
• Lack of rest	34	20.7
• Watching television	17	10.4
• Exposure to sunlight	16	9.8
• Head motion	16	9.8
• Working on computer	15	9.1
• Exercise	6	3.7
• Movement [e.g., climbing or walking down stairs]	7	4.3
• Others	12	7.3
Relieving factors (n=164)		
• Sleep	75	45.7
• Rest	63	38.4
• Taking medications	53	32.3
• Others	7	4.3

* Multiple factors were possible

Table (6): Prevalence of headache among students according to their characteristics

Students' Characteristics	No headache		Headache		P value
	No.	%	No.	%	
Age:					
• ≤ 21 years	22	24.4	68	75.6	0.393
• 22 years	21	33.9	41	66.1	
• 23 years	13	27.8	34	72.3	
• ≥ 24 years	13	38.2	21	61.8	
College:					
• Medicine	16	20.0	64	80.0	0.041
• Pharmacy	10	24.4	31	75.6	
• Dentistry	15	37.5	25	62.5	
• Applied Medical Sciences	28	38.9	44	61.1	
Father's occupation					
• Professional	9	19.6	37	80.4	0.399
• Military	8	30.8	18	69.2	
• Business	14	32.6	29	67.4	
• Technical	10	43.5	13	56.5	
• Retired	5	20.8	19	79.2	
• Government employee	17	30.4	39	69.6	
• Unemployed	6	40.0	9	60.0	
Drinking coffee					
• No	9	28.1	23	71.9	0.843
• Yes	60	29.9	141	70.1	
Cigarette smoking					
• No	65	34.4	124	65.6	<0.001
• Yes	4	9.1	40	90.9	
Wearing sunglasses					
• Yes	17	25.8	49	74.2	0.703
• Sometimes	28	30.4	64	69.6	
• No	24	32.0	51	68.0	
Academic performance					
• Fair	2	25.0	6	75.0	0.009
• Good	27	22.9	91	77.1	
• Very good	29	32.6	60	67.4	
• Excellent	11	61.1	7	38.9	

DISCUSSION

In the present study, prevalence of headache among medical students was 70.4%. This prevalence lies within the range reported by other studies conducted among university students (from 33% to 98.5%).^{11-13, 15-20, 30} Our prevalence of TTH of 12.4%, is within the variation range found in other studies, closer to the lower limit of that range (9.5% to 60%).^{11,13,15, 17, 19, 21-23, 30}

We reported a prevalence of 6% for migraine. This is again within the range of most studied conducted among university studies and also closer to the lower value of the range (from 2.4 to 48.5%),^{11-13, 15-17, 19, 21-24, 31-32}

Medical colleges' students form a selected group and the prevalence figures for headache within this group will almost certainly not be applicable to the entire population of the country. The high prevalence of headache among medical colleges' students may relate to the clustering of subjects genetically prone to headache attacks in the university as well as to a high level of "floating" tension and stress within the university and medical environments.¹⁵

Cigarette smoking can contribute to headaches for both the smoker and the non-smoker. Nicotine, one of the components of tobacco, stimulates the blood vessels in the brain to constrict (narrow). Smoking also stimulates the nerves in the back of the throat, contributing to headache.³³ Usually, by removing the stimulus (nicotine), headaches will be relieved.³³ Quitting smoking or reducing exposure to second-hand smoke is helpful for those with cluster headaches. In one study of people with cluster headaches, those who reduced their tobacco use by less than one-half pack of cigarettes per day found their headaches decreased by 50%.³⁴ In accordance with this fact, our study revealed that smokers were at a higher risk for headache (prevalence rate of 90.9%) compared with non-smokers (prevalence rate of 56.6%).

Less than 25% of students with headache sought medical assistance during headache episodes. This is despite the fact that the medical school is near to a teaching hospital that runs a daily students and staff clinic. One possible reason for this low recourse to hospital treatment might be the relatively light

headache burden. Most students had headache lasting less than 4 hours. Most studies^(14-15, 17-18) have reported that despite the high prevalence of headache in university students, only a small percentage (5-23%) sought medical attention for headache.

Most students with headache in our study self-medicated with non-prescription over-the-counter drugs. The range of drugs used was limited to simple analgesics such as paracetamol and the non-steroidal anti-inflammatory drug, ibuprofen. The same has been reported among Nigerian University students¹⁵ and medical students at Sultan Qaboos University.²⁹

The low consultation rate and the rarity of usage of specific anti-headache drugs probably point to inadequacies in the management of headaches in our population. Sleep, either alone or in combination with analgesics and rest, was the most common non-drug headache-relieving strategy used by almost half of students. The same has been reported by others.¹⁵

Traditional herbal remedies were not popular as headache-relieving medications in our participant students. Probably, this finding is due to the fact that our students learn only the classic non-traditional medicine in their university courses, but not due to the non-availability of effective headache-relieving traditional herbal remedies.

Several studies suggested that headache contributes to a reduction in academic performance.^{13,16} Moreover, Falavigna et al.³⁴ reported that headache may have a major impact on the undergraduate students' lives and ultimately leads to educational failure. Catharino et al.¹⁶ noted that headache is associated with learning difficulty complaints. Bigal et al.³⁵ added that 62.7% of migraine victims and 24.4% of tension-type headache sufferers, when in pain, complained of decreased productivity while studying.

The evaluation of the academic performance in university students in most published studies was carried out by the student's self-reporting of absenteeism, need for re-taking exams, and the number of failures per subject. In the present study, we depended on the GPA of the last semester taken from the student's themselves which could be subjected to memory bias. It was more accurate to take them from the academic records system of the university.

However, this was not possible since the questionnaire was anonymous for confidentiality. Anyhow, the impact of headache on academic performance was evident in our study.

Among possible limitations of the present study, the information about headaches and students' performance outcomes was collected in a single moment in time through a cross-sectional study. Hence, it is not possible to affirm that there is a causal relation between headaches and a worse academic performance by the students. Another limitation is the conduction of the study among male students of medical colleges only, excluding female and other colleges' students. This would limit free generalization of our results. Diagnosis of headache in our study was not confirmed by neurological examination as we depend on self-report by students which increase the possibility of over or under estimation of the prevalence.

CONCLUSION

Headache is a high-prevalence condition among medical students, KKU. Headache is of greater prevalence than migraine and tension-type headache. Students of College of Medicine and cigarette smokers are at higher risk for headache than others. Few students with headache seek medical consultation. Most of students rely on non-prescription simple analgesics for headache relief. Students who report headaches have worse academic performance.

University students should be encouraged to seek medical consultation for headache, especially for moderate and severe forms. Further studies that include female students and those from non-medical colleges are needed. Smoking-cessation interventions should be stressed among university students. Measures should be taken to reduce the misuse of analgesics since most university students rely on nonprescription medications.

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