



Utilization of Social Media in Educating Family Medicine Residents in the Kingdom of Saudi Arabia: Frequency and Belief

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ABSTRACT

Background: Social media may offer certain advantages over more traditional educational tools as they can be accessed geographically and temporally in asynchronous manners as well as the majority of young health professionals prefer online media as their primary source of information. **Objectives:** To explore the frequency of use and belief of family medicine residents all over the Kingdom regarding the utilization of social media in learning. **Subjects and methods:** Cross-sectional study was carried out January to October 2019 in all Regions of the Kingdom of Saudi Arabia (KSA) that hosts a postgraduate training program. A sample of family medicine residents enrolled in all family medicine residency programs of the Saudi Commission of Health Specialists (R1-R4) was chosen. Data were collected using an online questionnaire consists of four main parts: personal characteristics of the residents, details of SM utilization in education belief concerning the impact of utilization of SM on learning and barriers and problems faced in using SM in education. **Results:** The study included three hundred family medicine residents. Females represent 56.7% of them. The majority of them (93%) reported using social media in education. Almost one-third of the participants (36.6%) reported daily use of social media in education. The commonest used social media in education was YouTube (73%), followed by Google+ (32.3%) and Twitter (14.3%). Overall, the percentage of the belief regarding the impact of SM on learning scores among family medicine residents ranged between 36.2% and 100% with a mean \pm SD of 72.1 ± 13 and median (IQR) of 74.5% 963.8-80.9%). More than half of the family medicine residents (51%) reported non-communication with their tutor via social network. Nearly one-third of the family medicine residents (36%) reported institutional non-usage of social media in education. Only 39.1% of family medicine residents were aware of the ethical guidance for using social media. **Conclusion:** The use of social media among family medicine residents in Saudi Arabia in medical education is very common, with no difference according to gender, residency level or place of the residency program. However, an apparent confusion was observed concerning the belief of family medicine residents towards the influence of utilizing social media in learning.

Keywords: Social Media, Family medicine, Clinical practice

Abbreviations: SM: Social Media; USA: United States of America; KSA: Kingdom of Saudi Arabia; ASN: American Society of Nephrology; K-S test: Kolmogorov-Smirnov test; SPSS: Statistical Package for Social Sciences; χ^2 : Chi-Square test

INTRODUCTION

Social media (SM) are web applications and tools designed to facilitate online communication and sharing information through texts, audio, photos, and video messages [1]. It is considered one of the most powerful communication tools all over the world nowadays [1]. SM assists in patient communication with each other, share their personal information about their diseases as well as gives them the freedom to express their emotions and opinions [2]. In addition, SM is utilized in education purposes [3].

There is an international debate about the influence of social media on clinical practice [4-10]. Physicians are unsure of patient expectations [11,12], and of their legal and ethical obligations when using social media for patient com-

munication [13,14]. However, SM utilization in medical education has been gradually increasing in the last few years. In the USA, most of the medical schools have a website and the majority of them have Facebook. Almost a quarter of them have official medical school SM pages and more than 70% have groups for students [15].

Among resident physicians, the utilization of social media may be restricted by working hours that hinder their participation in in-person conferences and educational sessions [16]. Social media may offer certain advantages over more traditional educational tools as they can be accessed geographically and temporally in asynchronous manners [17]. In addition, the majority of young health professionals prefer online media as their primary source of information [18].

In USA, Childers, et al., explored the use of social media among students at internal medicine residency training program, using audio recordings (podcasts) to supplement morning reports that highlighted the most important learning points and found that these audio recordings were well received and residents appreciated their effectiveness as an educational supplement [19]. On the other hand, Arnbjornsson concluded that despite social media represents an important source of medical information that is widely used in education and in everyday lives, no studies in his systematic review (out of the included 8 studies) have reported that it has a significant impact in enhancing the learning process [20]. Also, Crossley, et al., reported a debatable conclusion regarding the effectiveness of SM for educational purposes over other educational tools [21]. Cheston, et al., reported that SM enhances a deeper understanding of the students; however, privacy concerns were mentioned by almost one-third of them [22].

Students, in general, prefer to utilize the internet and social media in education as compared to books [23]. Many universities around the world have incorporated the internet and social media into medical education [24]. It has been documented that continuing medical education can be encouraged with the utilization of social media [25-27].

Compared to traditional learning, social media is easier to access regarding time and place and encouraging interaction. Moreover, it has been proved to be cost-effective too in teaching [28]. The effectiveness of social media as a teaching enhancement tool has been approved by students [19].

Rationale

- Family medicine residents work at different times and are often unable to attend all scheduled educational sessions, therefore, new learning approaches are needed such as social media tools that may be useful, because they are accessed at times convenient for the learner
- The utilization of SM tools such as Facebook, Twitter, and WhatsApp has provided students an environment of interactive education as well as collaboration communication
- Investigating the frequency and belief of family medicine resident physicians in KSA regarding the utilization of social media in education is unique and could be used as a model for other specialties

Aim of the Study

To explore the frequency of use and belief of family medicine residents all over the Kingdom regarding the utilization of social media in learning aiming to improve the learning environment for enrolled residents.

Specific Objectives

1. To estimate the prevalence of using different resources of SM in medical education among family Medicine residents in the Kingdom of Saudi Arabia (KSA)
2. To identify the factors associated with the utilization of SM in learning among them
3. To explore their belief regarding the impact of SM on learning
4. To identify the possible barriers regarding utilizing SM in education

LITERATURE REVIEW

With reviewing the literature, only one study conducted recently in Saudi Arabia was cited in addition to some international studies. The following is a summary of the most relevant findings of these studies.

In Saudi Arabia

Alsuraihi, et al., carried out a cross-sectional study in different universities to investigate the use of social media by

a sample of Saudi medical students and defining the commonest resources utilized in medical education as well as to explore their belief about the impact of SM on learning. Both male and female students used most frequently YouTube (42.3%). Twitter and Wikis were more used by a male compared to female students ($p=0.001$). The majority of the students (95.8%) believed that SM is useful in learning. Female students believed that SM helps them in linking basic and clinical science compared to male students ($p=0.003$) [29].

International Studies

In Australia, Brown, et al., implemented a cross-sectional study to describe the doctors' attitudes toward and utilization of social media. Most involved physicians used social media privately, with only 25.7% of them were not using any social media websites at all. Almost one-fifth of them (19.4%) had received a "friend request" from a patient. About one-third of the participants (30.5%) had communicated with patients through email and 48.1% could provide electronic information to their patients if the patients preferred this way of communication. About two-thirds of the doctors (60.8%) reported being comfortable about interacting with patients who had accessed personal information about them online, prior to the consultation and 65.8% of them were hesitant to introduce themselves more fully in social media and online communication due to worries about public access and legal issues [30].

In the USA, Shariff, et al., analyzed the tweets of a network created between renal patients and the American Society of Nephrology (ASN) and concluded that ASN was unable to form strong connections with trainees through Twitter. However, medical societies became more familiar with Twitter and understand the mechanisms to develop connections [31].

Paton, et al., carried out a literature review regarding the utilization of SM in medical and health education. They concluded that there is little evidence to support the use of social media tools in medical and health education. However, social media appeared to have unique advantages over non-social educational tools. Additionally, the learning experience appeared to be enhanced by the ability of students to build connections, make friends and find mentors [32].

Galiatsatos, et al., carried out an interventional study to evaluate the use of Twitter in medical education and assess the attitude and behavior of internal medicine residents toward using social media for medical education. At baseline, 77% of the participants used social media for medical education; however, only three used Twitter for educational purposes. After the establishment of the Twitter page for medical education, this percentage increased to 85%. The percentage of residents using the application at least once a week also increased significantly from 11.4 to 60.0%. Almost all residents (95%) felt that social media could be useful as a medical education tool [16].

Arnbjornsson conducted a systematic review to demonstrate the benefits of using social media to enhance the learning process, as indicated by the performance of students on examinations. He concluded that despite social media represents an important source of medical information that is widely used in education and in everyday lives; no studies (out of the included 8 studies) have reported that it has a significant impact in enhancing the learning process [20].

Berg, et al., investigated the influence of social media on the residency program's educational mission in the USA. The results revealed that residents generally found the chief residents' tweets informative, and almost two-thirds of them (69%) agreed that Twitter enhanced their overall education [33].

Cevik, et al., carried out a review article to summarize the utilization of social media in various scientific activities. They concluded that social media play a very essential role in sharing knowledge in medical education and encouraging local initiatives with limited resources [34].

Zulfikar, et al., carried out a cross-sectional study in Pakistan to assess student's satisfaction on the use of WhatsApp and social media for learning as part of clinical rotation. In a 3-month session of online discussion sessions on WhatsApp, most of the students participated at least twice weekly. Majority of them (98%) were satisfied by the experience. Improvement in knowledge after sessions were observed by 60%. The majority (88%) felt that they were motivated for more education and 60% expressed a great level of comfort with the facilitator [35].

METHODOLOGY

Study Design

The cross-sectional study design was adopted.

Study Area and Setting

The study was carried out in all regions of the Kingdom of Saudi Arabia (KSA) that host a postgraduate training

program. KSA is a Western Asian country constituting the majority of the Arabian Peninsula. The land area is approximately 2,150,000 km² [36] and the 2018 estimated population is 33,000,000 [37].

Target Population

All family medicine residents enrolled in all family Medicine residency programs of the Saudi Commission of Health Specialists (n=1329) constituted the target population for the study.

Inclusion Criteria

All family medicine residents enrolled in all family Medicine residency programs of the Saudi Commission of Health Specialists (R1-R4)

Exclusion Criteria

No specific exclusion criteria.

Study Period

From January to October 2019

Sampling

Using Online Roasoft sample size calculator with the following assumptions:

- Total number of family medicine residents enrolled in all family Medicine residency programs of the Saudi Commission of Health Specialists (n=1329)
- Margins of errors 5%
- Confidence level 95%
- Considering the prevalence of using social media in education as 50% since there was no figure among family medicine residents in Saudi Arabia

The calculated minimum sample size was 299.

Data Collection Tools

Data were collected using an online questionnaire. It was adopted from a previously used valid and reliable questionnaire used among medical students in KSA [29]. Little modifications were added to suit the target population. The questionnaire consists of four main parts:

1. Personal characteristics of the residents: Gender, residency level and the region of the family medicine program
2. Details of SM utilization in education (utilization of SM, frequency, and preferred SM tools)
3. Belief concerning the impact of utilization of SM on learning (influence on education, communication, and collaboration)
4. Barriers and problems faced in using SM in education (ethical problems, institutional, availability barriers, and cooperation)

A Likert-scale was used in the last three parts (1=strongly disagree, 2=disagree, 3=undecided, 4=agree, and 5=strongly agree).

Data Collection Technique

The questionnaire was submitted online with the help of some people working at the Saudi Commission for Health Specialists. Coordination with those people was done. Residents were asked through a short online cover letter to voluntarily and anonymously participate in the study. Permission to use the original questionnaire was obtained from the corresponding author through e-mail communication. The new questionnaire (after limited modifications) was validated (face/content validity) by two experts, including the supervisor in addition to a psychologist. Data collection continued until we reached the required sample size.

Pilot Study

A pilot study was conducted among 15 of family medicine residents in Tabuk to test the wording of the questionnaire

in order to avoid inter-observer bias. As feedback, the questionnaire was clear and understandable and no significant changes were done. Therefore, their results were included in the final report.

Administrative and Ethical Considerations

All the necessary official permissions were obtained before data collection.

During data collection, a short cover letter explained the objectives of the study to all participants. They were assured that no harm is ever expected to occur if they decide to not participate in the study. They were also assured about the anonymity and full confidentiality of their responses. Their participation was considered informed consent.

Data Entry and Statistical Analysis

Statistical Package for Social Sciences (SPSS) software version 25.0 was used for computerized data entry and analysis. Descriptive statistics (number and percentage) were applied. Normality of the numerical variable (percentage of the belief score regarding impact of social media on education) was tested by Kolmogorov-Smirnov test (K-S test) and since it was abnormally distributed as evidenced by significant K-S test, non-parametric statistical tests were applied for comparisons: Mann-Whitney test to compare two groups and Kruskal-Wallis test to compare more than two groups. In addition, the Chi-Square test (χ^2) was applied to test for the association and/or the difference between two categorical variables. p-value equal to or less than 0.05 was considered statistically significant.

Budget

This study was completely funded by the researcher herself.

RESULTS

The study included three hundred family medicine residents. Table 1 presents their personal characteristics. Females represent 56.7% of them. Third residency level residents represent 30.3% of them whereas those of fourth residency level represent 19.3% of them. Almost one-third of them (33%) were recruited from the Western Region whereas 11% were recruited from the Northwest Region.

Table 1 Personal characteristic of Family Medicine residents, Family Medicine residency programs, Saudi Commission of Health Specialists

Variables	Frequency, N=300	Percentage (%)
Gender		
Male	133	44.3%
Female	167	56.7%
Residency level		
First residency level	75	25.0%
Second Residency level	76	25.4%
Third residency level	91	30.3%
Fourth residency level	58	19.3%
Region of the residency program		
Eastern Region	42	14.0%
Western Region	99	33.0%
Central Region	63	21.0%
North Region	29	9.7%
North-West Region	33	11.0%
South Region	34	11.3%

Prevalence of Using Social Media in Education

As demonstrated from Figure 1, the majority of the family medicine residents (93%) reported using social media in education. Almost one-third of the participants (36.6%) reported daily use of social media in education whereas 31.9% reported weekly use in Figure 2. The commonest used social media in education by family medicine residents, Saudi Arabia was YouTube (73%), followed by Google+ (32.3%) and Twitter (14.3%) Figure 3.

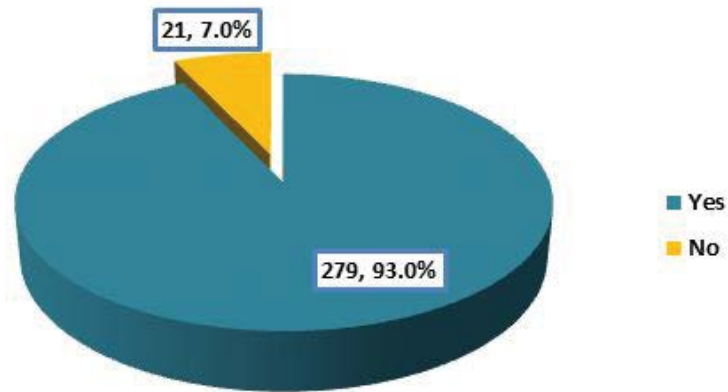


Figure 1 Prevalence of using social media in education among family medicine residents, family medicine residency programs, Saudi Commission of Health Specialists

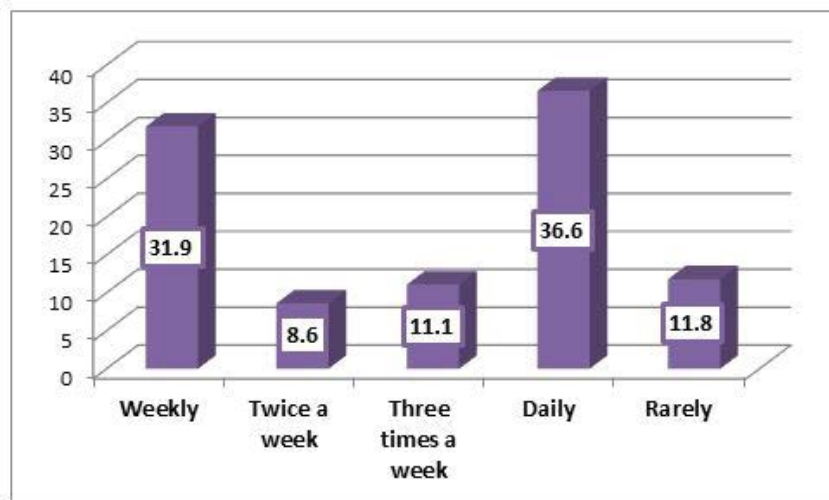


Figure 2 Frequency of using social media in education among the participants (n=279)

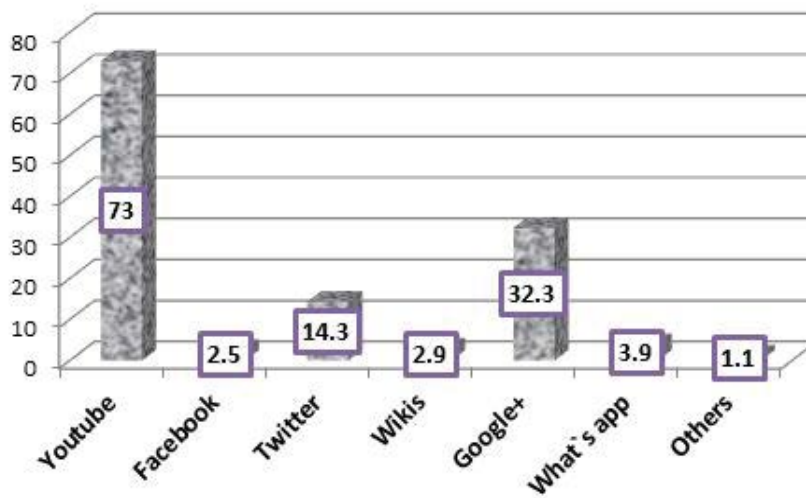


Figure 3 Most commonly used social media by family medicine residents, Saudi Arabia

Factors Associated with Using Social Media in Education

As shown in Table 2, none of the studied factors (gender, residency level, and region of the residency program) was associated with using of social media in education among family medicine residents, Saudi Arabia.

Table 2 Factors associated with using social media in education among family medicine residents, Saudi Arabia

Variables	Using social media in education		p-value
	No, N=21	Yes, N=279	
	N (%)	N (%)	
Gender			
Male (n=133)	11 (8.3%)	122 (91.7%)	0.441
Female (n=167)	10 (6.0%)	157 (94.0%)	
Residency Level			
First residency level (n=75)	5 (6.7%)	70 (93.3%)	0.143
Second Residency level (n=76)	4 (5.3%)	72 (94.7%)	
Third residency level (n=91)	4 (4.4%)	87 (95.6%)	
Fourth residency level (n=58)	8 (13.8%)	50 (86.2%)	
Region of the Residency Program			
Eastern Region (n=42)	2 (4.8%)	40 (95.2%)	0.889
Western Region (n=99)	8 (8.1%)	91 (91.9%)	
Central Region (n=63)	3 (4.8%)	60 (95.2%)	
North Region (n=29)	3 (10.3%)	26 (89.7%)	
North-West Region (n=33)	2 (6.1%)	31 (93.9%)	
South Region (n=34)	3 (8.8%)	31 (91.2%)	

Belief Regarding the Impact of SM on Learning

The majority of the family medicine residents (86.4%) either strongly agreed or agreed that social media affects education beneficially and social media helps in relating basic to clinical science (80.7%). Almost three-quarters of them either strongly agreed or agreed that communicating with their colleagues help them to focus their studying on the important topics in practice (74.7%), on the important topics in exams (73.6%) and to learn more about the topic (70%). Almost two-thirds of them (68.7%) either strongly agreed or agreed that social media facilitates communication with colleagues in other program areas.

Overall, the percentage of the belief regarding the impact of SM on learning scores among family medicine residents ranged between 36.2% and 100% with a mean \pm SD of 72.1 ± 13 and median (IQR) of 74.5%, 963.8-80.9%) Figure 4 and Table 3.

Table 3 Belief of the family medicine residents regarding the impact of SM on learning

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
	N (%)	N (%)	N (%)	N (%)	N (%)
Social media affects education (Beneficial)	119 (39.7%)	140 (46.7%)	34 (11.3%)	4 (1.3%)	3 (1.0%)
Social media affects education (Distracting)	36 (12.0%)	99 (33.0%)	110 (36.6%)	38 (12.7%)	17 (5.7%)
Does social media helps in relating basic to clinical science?	81 (27.0%)	161 (53.7%)	48 (16.0%)	7 (2.3%)	3 (1.0%)
Does social media facilitates communication with your colleagues in your institution?	90 (30.0%)	109 (36.3%)	43 (14.3%)	22 (7.3%)	36 (12.0%)
Does social media facilitates communication with colleagues in other program areas?	81 (27.0%)	125 (41.7%)	48 (16.0%)	13 (4.3%)	33 (11.0%)
Communicating with my colleagues help me to learn more about the topic?	84 (28.0%)	126 (42.0%)	53 (17.7%)	8 (2.7%)	29 (9.7%)
Communicating with my colleagues help me to focus my studying on the important topics in exams?	85 (28.3%)	136 (45.3%)	40 (13.3%)	9 (3.0%)	30 (10.0%)

Communicating with my colleagues help me to focus my studying on the important topics in practice?	72 (24.0%)	152 (50.7%)	36 (12.0%)	11 (3.7%)	29 (9.7%)
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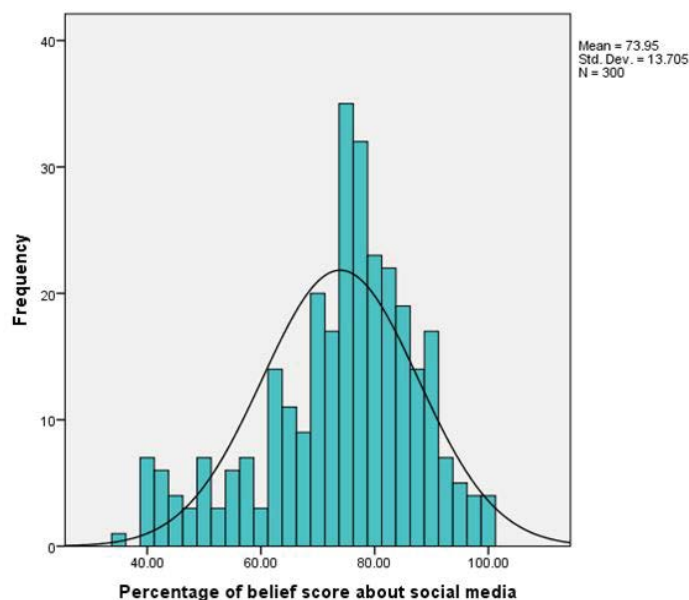


Figure 4 The percentage of the belief score about social media among family medicine physicians, Kingdom of Saudi Arabia

Factors Associated with Belief Regarding Impact of Social Media on Learning

None of the studied factors (gender, residency level, and region of the residency program) was associated with the belief of family medicine residents, Saudi Arabia regarding the impact of social media on learning Table 4.

Table 4 Factors associated with the belief of the residents regarding the impact of social media on learning

Variables	Percentage of the Belief Score about Social Media			p-value
	Median	IQR	Mean Rank	
Gender				
Male	75	66.25-82.5	148.43	0.712*
Female	75	67.5-82.5	152.15	
Residency Level				
First residency level	80	70-82.5	160.22	0.707
Second Residency level	75	65-84.38	144.8	
Third residency level	75	67.5-82.5	147.4	
Fourth residency level	75	67.5-85	150.26	
Region of the Residency Program				
Eastern Region	76.25	70-83.13	155.44	0.775
Western Region	77.5	67.5-82.5	153.22	
Central Region	77.5	70-85	154.23	
North Region	77.5	70-82.5	156.06	
North-West Region	75	62.5-83.13	141.97	
South Region	75	62.5-78.75	129.62	

* Mann-Whitney test; ** Kruskal-Wallis test

Barriers and Problems Faced in Using SM in Education

Communication with tutor: As realized from Figure 5, more than half of the family medicine residents (51%) reported non-communication with their tutor via social network. A considerable proportion of family medicine residents (42.6%) undecided whether the tutor utilizes social media in education effectively or not while 39.7% either strongly agreed or agreed that they utilize social media in education effectively, Figure 6.

Institutional use of social media: Nearly one-third of the family medicine residents (36%) reported institutional non-usage of social media in education as shown in Figure 7.

Ethical guidance for using social media: Only 39.1% of family medicine residents were aware of the ethical guidance for using social media as demonstrated in Figure 8. However, 67.7% of them either strongly agreed or agreed concerning the importance of ethical guidance for using social media (Figure 9).

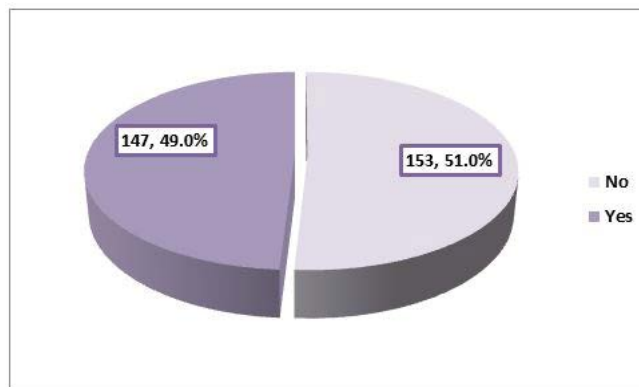


Figure 5 History of communication with tutor via social network among family medicine residents, Saudi Arabia

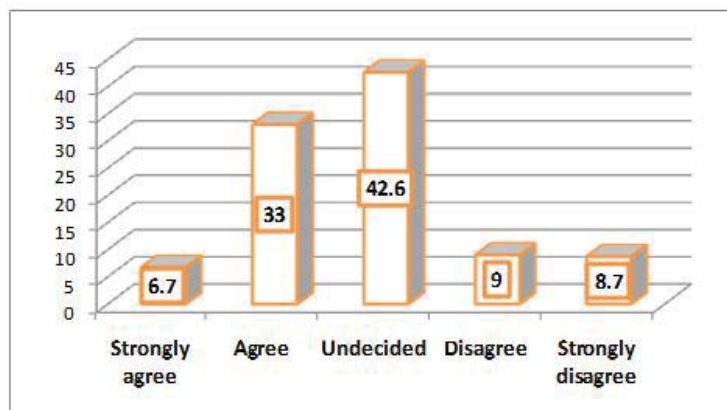


Figure 6 Family medicine residents' opinion regarding tutor utilization of social media in education effectively

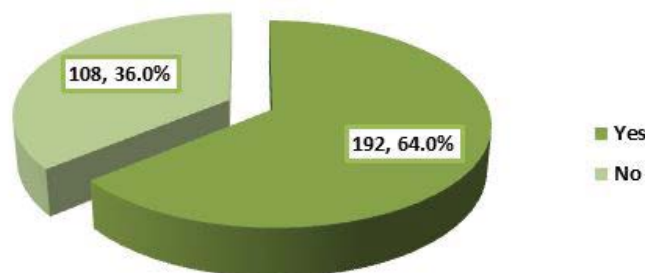


Figure 7 Institutional use of social media in education among family medicine residents, Saudi Arabia

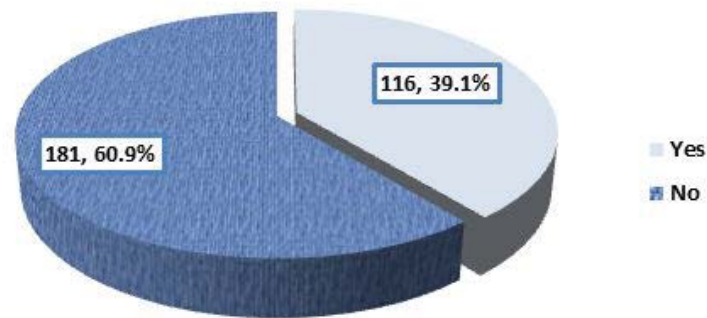


Figure 8 Awareness of ethical guidance for using social media among family medicine residents, Saudi Arabia

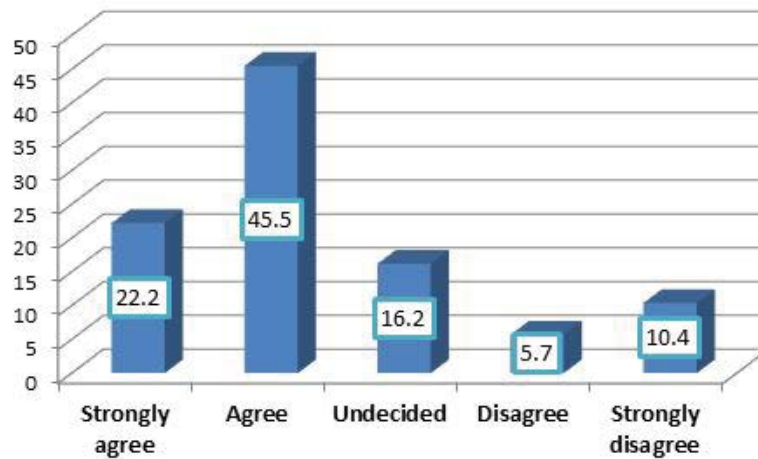


Figure 9 Agreement of the family medicine residents regarding the importance of ethical guidance for using social media in education

DISCUSSION

The utilization of social media tools in medical education has been nowadays gradually increasing [15,29] and has become a popular method to communicate tutors and learners [38]. The active social interaction and sharing of information between learners and their tutors may facilitate the learning process [39]. Since family medicine residents are often unable to attend all learning activities because of their work demands, using alternative approaches like social media tools may be useful. This study was conducted to explore the frequency of use and belief of family medicine residents all over the Kingdom regarding the utilization of social media in learning.

The majority of the family medicine residents (93%) in the current study reported using social media in education and almost one-third of them reported daily use. In Australia, most of the physicians used social media privately, with only 25.7% of them were not using any social media websites at all [30]. This very high prevalence of using social media in education is encouraging.

In this study, the commonest used social media in education by family medicine residents Saudi Arabia was YouTube (73%), followed by Google+ (32.3%) and Twitter (14.3%). In another Saudi study that included Saudi medical students from different universities, the most frequently utilized social media was YouTube (42.3%) [29]. In a study carried out by Barlow, et al., facebook ranked first, followed by YouTube (99.4% versus 96.9%) [40]. The common use of YouTube among our population could be attributed to the fact that the search on YouTube is easier for specific topics, also, it is applicable to share contribution with others without the need for an account and to get a variety of examples on the same subject. Furthermore, YouTube was observed to be better regarding content, integration of information, and interaction among users when compared to other tools [41].

The majority of the family medicine residents (86.4%) in the current study agreed that social media affects educa-

tion beneficially and social media helps in relating basic to clinical science (80.7%). This positive belief was also documented in various studies. Cevik, et al., in their review concluded that social media play a very essential role in sharing knowledge in medical education and encouraging local initiatives with limited resources [34]. Similarly, the majority of the students (95.8%) in another Saudi study believed that SM is useful in learning and female students believed that SM helps them in linking basic and clinical science compared to male students [29]. In the present study, there was no gender difference as regards the belief of the residents towards the utilization of social media in learning. Recently, Zulfikar, et al., assessed medical student's satisfaction on the use of WhatsApp and social media for learning as part of the clinical rotation and revealed that the majority of the students (98%) were satisfied by the experience. Improvement in knowledge after sessions were observed by 60% as well as the majority (88%) felt that they were motivated for more education and 60% expressed a great level of comfort with the facilitator [35]. In an interventional study carried out to evaluate the use of Twitter in medical education and assess the attitude and behavior of internal medicine residents toward using social media for medical education. After the establishment of the Twitter page for medical education, the percentage of those who used social media for education increased from 77% to 85% and the majority of residents (95%) felt that social media could be useful as a medical education tool [16]. In the USA, almost two-thirds of residents (69%) agreed that Twitter enhanced their overall education [33]. In a study carried out by Avci, et al. [42], it was observed that medical students believed that Twitter is efficient and effective in their learning. Also, Paul et al concluded that it strengthened student-tutor relationships [43].

Contrary to the aforementioned studies, Arnbjornsson concluded from a systematic review that despite social media represents an important source of medical information that is widely used in education and in everyday lives; no studies (out of the included 8 studies in that review) have reported that it has a significant impact in enhancing the learning process [20]. Also, Paton, et al., concluded that there is little evidence to support the use of social media tools in medical and health education. However, the learning experience appeared to be enhanced by the ability of students to build connections, make friends and find mentors [32]. Therefore, a further in-depth study is recommended to investigate this issue intensively, particularly if we know that in the present study 45% of the residents agreed that social media is distracting the education process.

In the present study, more than half of the family medicine residents reported non-communication with their tutor via social network as well as a considerable proportion of them undecided whether the tutor utilizes social media in education effectively or not. The same has been documented in another Saudi study carried out on medical students [29]. This could be explained by the absence of organizational policies or the underestimation of the importance of social media in education. In Australia, most of the physicians were hesitant to use social media and online communication with patients fully due to worries about public access and legal issues [30].

In this study, among barriers mentioned to proper utilization of social in education was finding that almost one-third of the family medicine residents reported institutional non-usage of social media in education. Also, only 39.1% of them were aware of the ethical guidance for using social media [44,45], despite almost two-thirds of them agreed concerning the importance of ethical guidance for using social media. The professional use of SM is regulated by these ethical guidance in many countries [45]. However, in Saudi Arabia, till the present, this guidance does not exist.

This study has some limitations including the utilization of online way to collect data. Therefore, we could not estimate the response rate and also, we could not judge the distribution of the sample overall regions of the kingdom. Also, using a self-administered data tool is subjected to information bias. Despite those two limitations, the study provides important information for decision-makers regarding the utilization of social media among family medicine residents in Saudi Arabia.

CONCLUSION

The use of social media among family medicine residents in Saudi Arabia in medical education is very common, with no difference according to gender, residency level or place of the residency program. However, an apparent confusion was observed in this study concerning the belief of family medicine residents towards the influence of utilizing social media in learning as although the majority of them believe that social media is beneficial in learning, about half of the beliefs that social media is distracting to learning. YouTube was the commonest used social media tool for learning, followed by Google+ and Twitter.

Recommendations

1. Organizing educational sessions for family medicine residents and their tutors educational to orient them about the importance of social media in learning
2. Creation of pages on common social media resources, particularly YouTube and reviewed by health professionals, to supply residents with reliable information
3. Joint family medicine program directors should guide residents to get the maximum benefit from social media and avoiding their distractibility
4. Health institutions should apply social media in education
5. Increase awareness of ethical guidance regarding the importance of ethical guidance for using social media
6. The higher authority should create ethical guidance in Saudi Arabia to regulate the professional use of SM
7. Further research is recommended to assess the true impact of the utilization of social media on residents' learning and promotion of better patient care

DECLARATIONS**Conflict of Interest**

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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