

## ***Social Media Use for Health Reasons among Health Information Management and Technology Graduates from Imam Abdulrahman bin Faisal University***

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**Abstract**— The aim of this study is to investigate the social media usage for health reasons among Department of Health Information Management and Technology (HIMT) graduates. A cross-sectional web-based survey was conducted with 267 HIMT graduates. The survey contains questions in a multiple-choice format. The data analyses were conducted by employing a basic descriptive data based on frequencies and proportions. 125 HIMT graduates responded to the survey of this study. 72.4% are employees, and almost half of them are married. The respondents were working in different areas: health informatics (37%), quality and improvement (25.5%), information and technology (16.8%), research (9.2%), instruction (5.9%), and other areas of the field (5.9%). More than half of the participants considered that the healthcare organizations that use social media make easier the communication between physicians and patients. Similarly, the majority of HIMT graduates have searched for online information about their current health status, dieting or physical fitness topics, and preferred to use social sites in case of medical emergencies. Also, more than a half of the participants believed that the information posted on media sites is educational, important and reliable.

**Keywords**- Social media, health care, social network sites, HIMT

### I. INTRODUCTION

Social network sites are defined as “web-based services that allow individuals to construct a public or semi-public profile, articulate a list of other users with whom they share a connection, and view and traverse their list of connections and those made by others within the system” [1].

Nowadays, there are many social network sites such as the ones investigated in this research: WhatsApp, Snapchat, Instagram, Twitter, YouTube, Facebook, LinkedIn, Tango, Telegram, Skype, Myspace, Flicker and so forth. These sites can be accessed by smartphones, PC, laptop, Ipad/iPod and other devices.

With regard to smart-phones, in 2011 there was more than 6 billion person using smart-phones, and there are about 80% persons around the world spending approximately 2 and half hours daily on their smartphones [2]. Some researchers expect that by 2020, there will be 7 trillion smartphones devices used by 7 billion people [3].

These growing technological advances in social media have impacted most of the human activities, including the

way how people receive information regarding health care and medical treatments of diseases.

In this sense, around 61% of the adults in the US were searching on the internet for health-related topics, and 39% used Facebook for this purpose [4]. Related to this issue, statistics done in the UK indicates that Facebook is one of the most used applications for searching online for health information [5].

In relation to this topic, in a recent survey conducted in the United States of America, most of the respondents consider that social media are useful in health care and in the management of diseases [6]. In another survey carried out in the United States of America, it was observed that the use of social media is an effective method for physicians to stay updated and share their knowledge with other members of the medical community [7]. According to the opinion of the participants, social media is a useful tool to benefit and improve the quality of health care [7]. Likewise, in a survey of patients and healthcare specialists in obstetrics and gynecology, it was found that 59.9% of the patients used Twitter to increase their knowledge, and 70.7 % of the health professionals use LinkedIn for professional purposes [8]. Also, a survey conducted in the United States of America detected that the Internet has changed the ways patients seek information about medicine and health, up to the point that 48.6% of them try to obtain online information, before talking to their doctors [9].

Despite the benefits observed in the use of social media for the provision of health services, there are controversies that have been subjected to public debate. However, the positive impact of social media clearly outweighs the negative impressions, since research shows that social networks offer many clear health benefits by being online and connected. In this regard, a study suggested that social media present risks and benefits for patients and doctors [10]. However, when used properly, they contribute to the health care of patients and to the professional development of medical professionals [10]. In the same way, its use presents risks such as the distribution of information of low scientific quality and rupture of the privacy of patients, among other problems [10]. Also, a literature review indicated that social media is useful for patients to get information on health care, despite the limited willingness of medical institutions to use this information [11].

It is worth to mention, that social media usage is common among medical students when they start their

professional career because it allows the sharing of information and communication with other caregivers and patients. In a survey conducted to investigate the use of social networks among 1300 students from eight educational institutes, it was found that 83% of them use social networking sites for different intentions [12]. Also, in another study done in the United States of America, 86% of college students use social media sites [13].

Related to Saudi Arabia, there is no published information on the use of social media in health services. However, the increasing use of social media in the region offers the possibility of using these technological alternatives to contribute to the improvement of health services. Regarding the utilization of these technologies in the Middle East, the latest statistics published by Go-Gulf.com [14] point out that 88% of the total number of Internet users in this region have at least one account on a social networking site. Also, statistics information shows that the most popular sites are Facebook, Twitter, and LinkedIn. Approximately, the number of users for Facebook, Twitter and LinkedIn are 58 million, 6.5 million and 5.8 million, respectively.

The statistics also indicate that 65% of social media users are male, while 35% are females. Regarding age, 45% are under 24 years old and represent the majority of Internet users, 32% are between 25 and 34 years old, 11% are between 35 and 44 years old, and 12% correspond to people over 44 years old. In addition, 48% of the users employ the English language in social media, while 45% use the Arabic language. Users are distributed across the Middle East, with Saudi Arabia and the UAE leading the Gulf region by almost 80%. In contrast, 1 in every 4 Facebook users in the Middle East is from Egypt.

In Saudi Arabia, the Ministry of Communications and Information Technology published that the number of active users has doubled from 8.5 million to 12.8 million and finally reached 18.3 million, equivalent to 58% of the population of Saudi Arabia (by the year of 2016).

Facebook and Twitter have the largest number of users in the Kingdom, with 11 million and 9 million of users, respectively. Also, an average of 260 minutes per person is used in smartphone networks per day. In addition, the YouTube site was watched by a high of 7 million Saudi users at an equivalent rate of 105,900 hours per day.

The Kingdom ranked first in the Arab world in the use of the websites Snap Chat, WhatsApp, and Facebook. The percentages of use of these sites are 57%, 22%, and 21%, respectively.

These statistics reveal the potential of the Arab world to use these technologies in applications related to health care, among other possibilities.

In this sense, the objective of this study is to investigate the social media usage for health reasons among HIMT graduates of Imam Abdulrahman bin Faisal University- previously Dammam in the Eastern region of Saudi Arabia.

## II. METHODS

### A. Study Design

A cross-sectional, web-based survey was conducted with 267 HIMT graduates. Briefly, the survey consist of set of questions designed to get information about the following items: demographic characteristics of the HIMT population such as age, gender, social status, occupation, professional experience; area of work; membership in any social media; membership of any HMIT group in any social media sites; tools used for professional and personal purpose such as WhatsApp, Twitter, LinkedIn , You Tube, Snapchat, Instagram , Facebook , Skype , Telegram, Tango, Myspace, Flicker , and others; ways to access social networks accounts using PC, Laptop, Smartphones, iPad /iPod, among other means; years of experience using networking sites; time spent daily using networking sites; profile accounts used; difficulties to manage the privacy control of profile; uses and purpose of social media accounts; benefits of social media tools for work; healthcare advantages of using social media ; potential of social networking sites for improving doctor-patient communication; searching on line to get information about health status, dieting or physical fitness; uses of social networking sites in case of medical emergencies; and opinion about the quality of the health information published in any social media network. The ethical approval was obtained from the Institutional Review Board (IRB) of the Imam Abdulrahman Bin Faisal University.

### B. Study Population

The study population was 267 HIMT (Health Information Management and Technology) graduates from Imam Abdulrahman bin Faisal University in Saudi Arabia.

### C. Data Collection and Analysis

The data collection was carried out through a Web-based Survey which contains questions in a multiple-choice format with the option of write-in responses. The survey was accessed through Google Forms. The analyses were conducted by using the basic descriptive data (frequencies and proportions).

For the analysis purpose, data concerning the use of social media were dichotomized in general into “yes” or “no” responses. Similarly, categorical data regarding the social media site that had been used for the professional and personal purpose, and categorical data regarding the perceptions about the health information that is published in any social media network were categorized into : “Reliable”, “Important”, “Educational”, “Without a value”, and “Untrusted”. The survey was conducted on a small scale based on 267 of HIMT graduates.

## III. RESULTS

From a population of 267 HIMT graduates from Imam Abdulrahman University, 125 HIMT graduates responded to the survey of this study. This accounts for an approximated response rate of 46. 8%.

In Table 1 appear the demographic characteristics of the HIMT sample in terms of the percentage of gender, age, social and occupation status. The table indicates that

61.8% were employees, 14.6% students, 10.6 % employees and students, and 13% unemployed.

TABLE I. DEMOGRAPHIC CHARACTERISTICS OF THE HIMT POPULATION

Demographic Characteristic	Percentage
<b>Gender (Female Only)</b>	
Female	100%
<b>Age</b>	
20-25	12.70%
26-30	65.12%
Above 30	22.10%
<b>Social Status</b>	
Single	39.20%
Married	54.40%
Divorced	6.40%
<b>Occupation Status</b>	
Employee	61.80%
Student	14.60%
Employee & Student	10.60%
Unemployed	13%

It is necessary to point out that the respondents were working in different areas such as health and informatics, quality and improvement, information and technology, research, instruction, and other areas. Also, some of the respondents were not working in any area. The percentage of HIMT graduates in each area is depicted in Figure 1. The figure shows that 37% of the respondents were working in health informatics, 25.5% in quality and improvement, 16.8% in information and technology, 9.2% in research, and 5.9% were instructors, 5.9% were working in other areas of the field, and 1% was not working in any area.

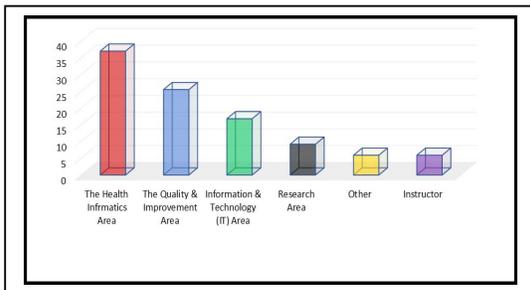


Figure 1. Percentage of the HIMT graduate according to their working area

In relation to the professional experience of the participants, it was found that 1% of the HIMT graduates have no experience, 40.2% have less than three years, 21.3% have 3 to 5 years, 35.2% have 6 to 10 years, and 2.3 % have more than 10 years.

Also, most of the HIMT participants (82.5%) were members of at least one of the social media sites. Also, there is a percentage of 56.1% of the participants who were a member of any HIMT group in any social media networks such as WhatsApp, Twitter or other social media sites.

Regarding this issue, Figure 2 displays the applications most frequently used for professional purposes by HIMT graduates such as WhatsApp, Twitter, LinkedIn, YouTube, Snapchat, Instagram, Facebook, Skype, Telegram, Tango, Myspace, Flickr, and others. The percentages of usage of these applications were : 67.5% (WhatsApp), 33.3% (Twitter) , 30.9% (LinkedIn), 17.1% (YouTube), 16.3% (Snapchat), 14.6% (Instagram), 7.3% (Facebook), 1.6% (Skype), 1.6% (Telegram), 0.8% (Tango), 0.8%(Myspace), 0% (Flicker), and 1.6% ( others).

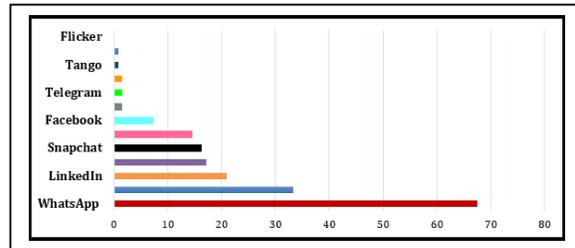


Figure 2. Percentage of the HIMT graduate opinion about the use of social media sites for professional purposes

Similarly, in Figure 3 is pictured the applications most frequently used for personal purposes by HIMT graduates: 80.8 % (WhatsApp) , 50.8 % (Snapchat), 43.3% (Instagram), 33.3 % (Twitter), 26.7% (You Tube), 9.2% (Facebook), 6.7% (LinkedIn), 4.2% (Tango), 3.3% (Telegram) , 2.5% (Skype) , 0% (Myspace), 0% (Flicker) , and 1.3% (others).

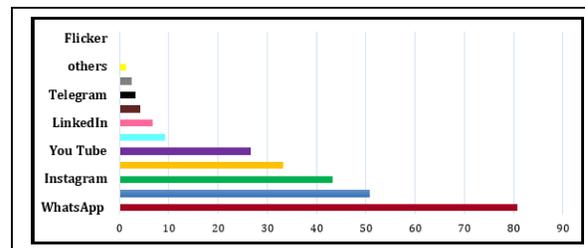


Figure 3. Percentage of the HIMT graduate opinion about the use of social media sites for personal purposes.

From the survey, it was detected that the participants accessed to their social network account by PC, Laptop, Smartphones, iPad /iPod, among other means. The corresponding percentages are: 6.6% PC, 24.8 % Laptop, 86.8 % Smartphone, 18.2 % iPad /iPod.

According to the survey, 80.5% of the participants have been using the social media sites for more than 4 years, 11.4% have used these networks between 2 and 4 years, and 8.1% have used these social networks for less than 1 year. On average, the time spent by the participants on social media sites was: 13.1% (less than 1 hour), 56.6% (2 - 5 hrs per day), 24.6% (6 -10 hrs per day), and 5.7% (more than 10 hrs per day). Also, it was detected that 62.8% of the respondents had a private account, 20.7 % a public profile account, and 16.5% a partially private

account. About the difficulty to manage the privacy controls on their profile, 62 % of the participants perceived that it is not difficult at all, 27.3 thought that is somewhat difficult, and 10.7 % considered that it is very difficult.

It was found that 11.4% of the participants use their social media sites for posting information, 31.7% of them use it mostly to see what others are posting, 52% employ the social media sites for posting and seeing what others were posting, and 4.9% don't have any specific reason to use the social media sites.

The HIMT graduates utilize the online social media networking for several purposes : 72.4% ( to find and search for information), 24.4% ( to play games), 26.8% (for professional and business contacts), 74% ( to keep in touch with family and friends,7.3% (to make new friends) , 41.5 % ( to share videos/pictures), and 4% (other purposes). In connection with the beneficial of using media sites for work purposes, 31.4% of the HIMT graduated considered that the use of social media sites benefitted their works, 23.1% think that their work was benefitted up to a certain degree, 3.3 % believe that the utilization of media sites hurt their work, and 31.4% don't use social media for this purpose .

In Figure 4 is shown the percentage of the HITM graduates response to the flowing statement "Healthcare organizations that use social media to interact with their patients are more likely to have a significant competitive advantage over those that do not" in terms of the expressions: strongly disagree, disagree, neutral, agree and strongly agree. In detail, the response percentages to this statement were: 17.2% strongly agreed with this statement, 39.3% agreed, 5.7 % disagreed, 20.5% strongly disagreed, and 17.2% were neutral.

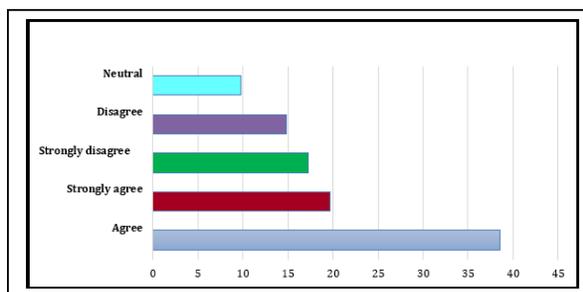


Figure 4. Percentage of the HIMT graduate opinion about the statement "Healthcare organizations that use social media to interact with their patients are more likely to have a significant competitive advantage over those that do not"

Likewise, in Figure 5 is depicted the percentage, in terms of the expressions: strongly disagree, disagree, neutral, agree and strongly agree, of the HITM graduates response to the flowing statement "Social networking sites have the potential for improving doctor-patient communications". Specifically, Figure 5 shows that 19.7 % strongly agreed with this statement, 38.5% agreed, 14.8 % disagreed, 17.2 % strongly disagreed, and 9.8 % were neutral.

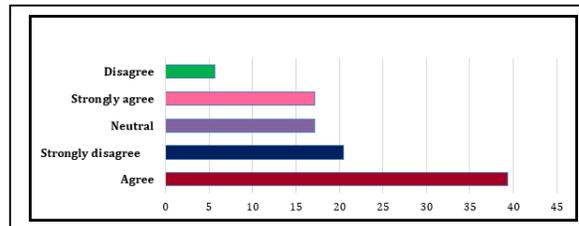


Figure 5. Percentage of the HIMT graduate opinion about the statement "social networking sites have the potential for improving doctor-patient communications"

About searching online to get information linked with the current health status, the response of the HIMT graduates, in terms of the words, yes, sometimes or never, were: 43.3%, 44.2%, and 12.5, respectively. Similarly, related to searching online information for dieting or physical fitness information, the responses of the HIMT graduates, in terms of the words, yes, sometimes or never, were: 55.7%, 33.6%, and 10.7%, correspondingly. Also, the answers of the HIMT graduates about the preference of using social networking sites in case of medical emergency were: 33.6%, 39.6%, and 27%, in terms of the words yes, sometimes and never, respectively.

In relation to the quality, importance and value of the health information that is published in any social media network, the percentage of the HIMT graduate's opinion is presented in Figure 6, using the qualitative scale: reliable, important, educational, without a value, and untrusted. The opinion percentages of the graduates in a descending order were educational (49.6%), untrusted (24.8%), important (3.1%), reliable (14%) and without value (9.1%).

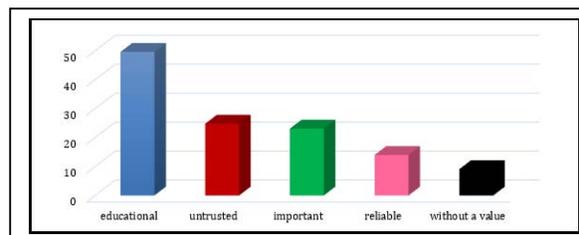


Figure 6. Percentage of the HIMT graduate opinion about the health information that is published in any social medianetwork

#### IV. DISCUSSION

##### A. Principal Results

According to Table 1, all the HIMT graduates from Imam Abdulrahman bin Faisal University in Saudi Arabia surveyed in this study belong to the female gender and are over 20 years of age. Also, most of the HIMT graduates (72.4%) were employees, and almost half of them are married.

From Figure 1, it can be observed that most of the HIMT graduates work in different areas such as health

informatics, quality and improvement, information and technology, research, instruction, and others areas. The majority of the respondents (37%) were working in health informatics area, which justifies the real importance of this branch, and the necessity that the program should focus more on teaching health informatics to the students, theoretically and practically. Regarding the professional experience, most of the participants had an experience between 1 and 10 years. Only 2.3% of the participants reported that they have worked for more than 10 years.

According to the survey, most of the HIMT participants (85.2%) were members of at least one of the social media sites, and 56.1% of the participants were a member of any HIMT group in any social media network. This suggests the high impact of social media in their personal life. In relation to this topic, the information described in Figure 2 indicates that the most often application used for professional purposes was WhatsApp (67.5%). In general, the applications were used in the following descending order: WhatsApp, Twitter, LinkedIn, YouTube, Snapchat, Instagram, Facebook, Skype, Telegram, Tango, Myspace, Flickr, and others.

Likewise, Figure 3 shows that the most often applications used for personal purposes by HIMT graduates was also WhatsApp (80.8%). The applications were used in the following descending order: WhatsApp, Snapchat, Instagram, Twitter YouTube, Facebook, LinkedIn, Tango, Telegram, Skype, Myspace, Flickr, and others.

As a matter of fact, WhatsApp is one of the most popular applications in our country; it is available in iPhone, and Android smartphones. It provides the security for their users by use end to end encryption. To access the social media networking, 86.8 % of the HIMT graduates, which is the majority of them, use smartphones. The rest employ Laptop, iPad /iPod, and PC. It is pertinent to say that, nowadays, smartphones become important in our daily life, making it easier for us to communicate with our friends and family.

The survey indicates that most of the HIMT graduates (80.5%) have been using the social media networks for more than 4 years, and only 8.1% have used these networks for less than 1 year. In general, the time spent by the HIMT graduates on social media sites was variable, but 56.6 % of them, the majority, employ between 2 and 5 hrs per day in this activity. Also, most of the HIMT graduates (62.8%) had a private account, which shows that they were able to control their own privacy issues. Because of that, more than half of them (62%) were not facing any difficulty on privacy controls. This suggests their awareness about the importance of the privacy role in social media.

Regarding the use of the social media sites, 52% of the HIMT graduates employ the social media for posting and seeing what others are posting. Also, the HIMT graduates utilize the social media sites for several purposes, but the major intention was to keep in touch with family and

friends. Only, 7.3% of respondents used these sites to make new friends.

About, the advantages of using social media for work beneficial, 54.5% of the HIMT graduated considered that the use of social media sites benefitted significantly or up to a certain degree their works. This suggests that additional to purely personal use, the majority of the HIMT graduates utilize social media for work beneficial and for support of their professional careers.

Related to the competitive advantages of the healthcare organizations that use social media to interact with their patients, Figure 4 expresses that more than half of the HIMT graduates (56.5%) opined that the healthcare organizations that use social media sites facilitate more effectively the communication between colleagues and patients.

In a similar way, as it is shown in Figure 5, more than a half of the HIMT graduates (58.2%) reported that social networking sites have a potential for improving doctor-patient communications. A previous study shows that the doctors are becoming more interested in communicating with their patients online. In this sense, around 60% of the doctors prefer to treat their patients through social media sites and to provide them with comprehensive health education [10].

Also, the majority of HIMT graduates (87.5 %) informed that they searched on the social networking sites to get online information about their current health status. According to published evidence, social networking sites are used as a primary source of health information and as a source of knowledge of previous patient experiences. Studies indicate that males and females differ in their reasons for using social media sites [9].

Almost all the HIMT graduates (89.3%) stated that they searched on media sites for online information related to dieting or physical fitness topics. In the social media sites, there are a lot of diet apps and physical activity apps that provide tips on healthy eating and how to calculate calories on daily basis [15].

According to the survey, 73.2% of HIMT graduates reported that they preferred to use social networking sites in case of medical emergencies. In these sceneries, social media sites facilitate the ability to communicate and provide relevant health information related to the emergency that it is happening.

The perspective of the HIMT graduates about the quality of the health information posted and published on social media sites is described in Figure 6. It is important to mention that more than a half of the respondents, considered that the health information published in media sites is educational, important and reliable. A recent literature review confirm these findings [11]. To help social media users to avoid observing inaccurate information, many of authors and institutions have published guidelines to assess the quality of health information published on social media sites. These

guidelines cover a variety of indicators to help the social media users determine the validity of the health information posted on the social media [16].

### B. Limitations and further studies

One of the limitations of this study is that it was done only with female HIMT graduates from Imam Abdulrahman bin Faisal University in Saudi Arabia. Furthermore, the responses were self-reported, and perhaps those most interested in the topic choose to complete the survey. Also, the HIMT graduates who use the social media may show a little overestimation because the sample used their cell phones to complete the online survey. In addition, it is convenient to mention that this research was a self-questionnaire-based study and respondent bias cannot be ruled out.

Future studies should aim to avoid above limitations, and further research could be based on the findings of this study to find the factors behind the social media usage for health-related reasons among HIMT graduated. Studies are also needed to explore the barriers of searching the health information among HIMT graduates.

### V. CONCLUSION

The survey carried out in this study provides a snapshot of the social media usage among HIMT graduates from Imam Abdulrahman bin Faisal University in Saudi Arabia. In this investigation, the majority of participants reported the utilization of many social media applications. Among them, WhatsApp was the most frequently used application for personal purposes and professional development. In relation to the social media use for health reasons, more than half of the HIMT graduates considered that the healthcare organizations that use social media networking make easier the communication between doctors and patients, and indicated that the utilization of these media sites has a potential to facilitate this communication. Similarly, the majority of HIMT graduates reported that they searched for online information about their current health status, dieting or physical fitness topics. In addition, the majority of HIMT graduates preferred to use social networking sites in case of medical emergencies, because these tools facilitate communication and provide relevant health information in these situations. Regarding the quality of the health information posted and published on social media sites, more than a half of the HIMT graduates believe that the information published is educational, important and reliable. Also, the findings show that social media sites can be effective tools for engaging the social media usage in the professional development of HIMT graduates.

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