Determining the Selected Social Network of Employees of Shahroud University of Medical Sciences to Receive News of Covid-19

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Abstract

Background: *Today, social networks play a very important role in communication between people. Many people use social networks as a source of information and a means of sending messages. This study aimed to determine the selected social network among the staff of Shahroud University of Medical Sciences.*

Methods: *This cross-sectional study was conducted at Shahroud University of Medical Sciences in 2020. Different variables, such as demographic characteristics, amount of interest in each social network, hours of using the Internet, trustworthiness, being up-to-date, accessibility, number of visits to each network, effectiveness, and how information is shared, and also the relationship between these variables were examined. The significant level was set at 0.05.*

Results: *A total of 109 (28.2%) women and 277 (71.8%) men participated in this study. The majority of the participants were aged 30-40 years (50%) and had a bachelor's degree (55.2%). All the participants were members of at least one social network. The participants rated Telegram and then WhatsApp as the most frequently-visited, accessible, trusted, and up-to-date social networks.*

Conclusions: *According to the findings of this study, Telegram and then WhatsApp is the social network of choice among the majority of the staff.*

Keywords: Social networking, COVID-19, News, Medical staff

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Introduction

In December 2019, about 40 cases of pneumonia were identified with an unknown cause, some of whom were salespeople and dealers in the Huanan Seafood Wholesale Market. Within a few weeks of these reports, the disease spread more rapidly around the world.[1] Following the increase in the number of affected cases and the global spread of the virus, on January 11, 2020, the WHO declared that the outbreak of the novel coronavirus was the sixth leading public health emergency worldwide that threatened not only China but the whole world.[2,3]

Since COVID-19 is a new disease that has had devastating effects around the world, the emergence and spread of this disease have caused confusion, anxiety, and fear among the general public. In some cases, it has even been observed that people hide their illnesses out of fear and anxiety and do not seek any treatments. The WHO has thus provided instructions and answers to people's questions through its reliable resources.[4,5]

In the contemporary world, which is called the age of information and communication, one of the special functions of the media, especially virtual social networks, is providing information and news coverage. Therefore, understanding how virtual social networks cover news about global events and developments is essential.[6] In the age of communication, no incident, even in the most remote locations, is limited to only one geographical area, and hence, extra-temporal, extra-spatial, and extraordinary speed are the three characteristics of mass media.[6]

As COVID-19 is spreading around the world, people use social media to receive and exchange information.[7] With the advent of smartphones, widespread Internet access, and the availability of instant messaging applications, it became clear that these communications can also bring numerous benefits to healthcare providers. WhatsApp is one of the most widely-used instant messaging applications in healthcare.[8] Given the worldwide prevalence of COVID-19 and the risk of infection for all people, WhatsApp has become one of the resources used to get the latest announcements by the WHO as well as by regional health centers and health professionals and has had a significant impact on public health. WhatsApp Messenger can also be used to contact members of the medical community to resolve questions and fact-check rumors about COVID-19 and thus avoid frequent visits to high-risk health centers. Moreover, family members and friends can make voice and video calls to each other using WhatsApp to reduce the stress of quarantine to some extent.[9] Today, with the implementation of social distancing policies, virtual communication has become an important source of information.[10] Instagram, like other social networks such as Facebook and Twitter, allows its users to share their thoughts, feelings, and opinions with others by sharing short messages. A unique aspect of Instagram is that posts containing images are accessible to all internet users, and to highlight their keywords, its users can share their topic with hashtags to get higher views.[11,12]

Social networks play a pivotal role in disseminating and using information during a pandemic.[13] For instance, YouTube

and Twitter provide direct access to a lot of content and may reinforce rumors and suspicious information. Also, by assessing the preferences and attitudes of the users, algorithms promote certain content and expand information.[14,15] Some studies have shown that fake news and misinformation may spread faster and more widely than real news[16] and have a variety of positive and negative effects on people's life. For instance, important positive safety tips such as "Wash your hands" and "Stay home" are widely shared among people in various ways to fight COVID-19.[17] Nonetheless, along with these positive aspects, fake news can also spread more quickly on social media than real news from reliable sources. This matter can damage the balance of the news ecosystem[18] and is becoming a public health concern, as exposure to large amounts of information can lead to media fatigue, which can then in turn lead to the cessation of healthy behaviors directed toward protecting people as an urgency.[19,20] The WHO launched the Myth Buster webpage in response to the spread of false information about COVID-19 on social media.[21]

In Iran, according to a survey in 2019 by the Iranian students polling agency (ISPA), the top three most frequently-used social network apps were WhatsApp, Telegram, and Instagram, in respective order of popularity.[22,23] Nonetheless, considering the extensive use of social networks including Telegram, Instagram, WhatsApp, YouTube, and Twitter, and the lack of basic information and polls among health professionals on the use of and trust in each of the social networks, this study was conducted to examine the extent of use of these messengers and the level of trust in each of them among the staff of the health and treatment department of Shahroud University of Medical Sciences to get acquainted with the capacity, popularity, accessibility, and reliability of each messenger and use this information to raise awareness about COVID-19 and other pandemics.

Materials and Methods

This cross-sectional study was conducted in the fall of 2020 in Iran after obtaining a code of ethics (IR.SHMU.REC.1399.120) from Shahroud University of Medical Sciences once their panel of experts had reviewed the study's topics on COVID-19. The feedback from the panel of experts, which included an emergency medicine specialist, a senior management expert, the treatment deputy of the university, and a statistician, was used for designing the questionnaire. The questionnaire consisted of two parts that were completed in a self-report format. The first part inquired about the personal information of the respondents, including their gender, age, education, income, and social networks used; the second part asked about the amount of time they used the Internet and their reasons for using different social networks. It should be noted that the purpose of designing and distributing the questionnaire was briefly explained to the respondents at the beginning of their questionnaire completion. Finally, the content validity of the questionnaire was approved by the four members of the panel of experts. To approve the face validity, the questionnaire was completed by five members of the target population who participated in the study and the sentences that seemed difficult or ambiguous to them were modified. Cronbach's alpha in this study was 0.86. The inclusion criteria were being a staff of Shahroud university of medical sciences

willing to take part in the study. The exclusion criteria were illiteracy, not using the Internet, and not having smartphones. The sample size was estimated as about 400 due to the cross-sectional nature of the study and the high knowledge level of the staff of Shahroud university of medical sciences.

Finally after the validity and reliability of the designed questionnaire were confirmed and the study's inclusion and exclusion criteria were reviewed, the questionnaires were distributed by convenience sampling among the staff of Shahroud university of medical sciences. The collected data were entered into SPSS-21 software for statistical analysis. Data were described using mean and standard deviation and frequency and frequency percentage with a 95% confidence interval. The Chi-square test was used to compare the qualitative variables and determine the differences in ratios between the two groups. The significant level was set at 0.05.

Results

The study questionnaire had two parts. The first part included items on participants' demographic information (e.g. age, gender, education, and income). The second part included items on their use of the Internet and social networks, amount of interest in each social network, hours of Internet use, trustworthiness, being up-to-date, accessibility, number of visits to each network, effectiveness, and how they share information on the social networks.

A total of 400 questionnaires were distributed in this study, but 14 were excluded due to incomplete information. A total of 109 participants (28.2%) were female and half of the participants were in the age range of 31-40 years. Also, 55.2% had bachelor's degrees and the monthly income of 63.2% of them was less than 30 million Iranian Rials. Most participants (36.8%) had the three applications Instagram, Telegram, and WhatsApp installed on their phones. According to the participants, Telegram and then WhatsApp were the most frequently visited, most accessible, trusted, up-to-date, and effective social networks during this epidemic.

According to the results, there was no significant difference between men and women in the duration of Internet use, the time spent on social networks, the number of social networks used, and their popularity and effectiveness. Men and women also used similar social networks to share and receive news.

According to the results, there was a significant difference in participants' opinions about their duration of Internet use, most frequently-visited social networks, and most trusted and effective social networks based on their level of education. Most of the participants with an education higher than a high school diploma used the Internet for 2-4 hours a day. The participants with a Ph.D. found Instagram more accessible, the participants with an associate or master degree considered WhatsApp more trustworthy, and the participants with a master degree considered WhatsApp effective. The other participants considered Telegram more accessible, trusted, and effective.

According to the results, the use of social networks was very low among the participants aged 50-60 years, while it was low among the participants aged less than 30 years or more than 60 years and moderate among those aged 30-50 years. The

participants' opinions did not differ significantly in the other parts of the questionnaire.

According to the results, most participants with an income of less than 30 million Iranian Rials used Telegram, those with an income of 30-70 million Rials used WhatsApp, and those with 70-100 million Rials used Instagram. The participants with an income of 30-70 million Rials considered WhatsApp more trusted and the other participants considered Telegram more trustworthy and they followed or shared the news on the same apps. The participants with an income of 50-100 million Rials considered Instagram the most effective social network, while others found Telegram to be more effective.

Table 1. The demographic characteristics of the participants

Variable	Frequency (percent)
Gender	
Male	109
Female	277
Age (years)	
<20	14
21-30	104
31-40	193
41-50	53
51-60	16
>60	6
Education	
Ph.D.	11
Master degree	47
Bachelor degree	213
Associate degree	78
High school diploma or lower	37
Income (Million Iranian Rials)	
>30	244
30-50	118
50-70	18
70-100	11

Table 2. A comparison of the questionnaire items by education, gender, age, and income

Items						Pvalue			
						Education	Gender	Age	Income
1. How many hours a day do you use the Internet?	<2	2-4	4-6	6-8	>8	0.027	0.182	0.489	0.052
2. How many hours a day do you spend on social networks?	<2	2-4	4-6	6-8	>8	0.111	0.241	0.224	0.282
3. How often do you log on to social networks?	Very little	Little	Moderate	Much	Very much	0.140	0.367	0.045	0.074
4. Which social networks did you visit the most during the COVID-19 pandemic?	Instagram	Telegram	WhatsApp	Twitter	YouTube	0.000	0.273	0.519	0.000
5. Which social network do you think is the most accessible during the COVID-19 pandemic?	Instagram	Telegram	WhatsApp	Twitter	YouTube	0.009	0.215	0.843	0.010
6. Which social network do you trust the most to follow the news about COVID-19?	Instagram	Telegram	WhatsApp	Twitter	YouTube	0.041	0.368	0.466	0.043
7. Which social network do you do check first to get the news during the COVID-19 pandemic?	Instagram	Telegram	WhatsApp	Twitter	YouTube	0.103	0.190	0.059	0.269
8. In your opinion, which social networks provide more up-to-date information during the COVID-19 pandemic?	Instagram	Telegram	WhatsApp	Twitter	YouTube	0.500	0.361	0.977	0.356
9. Which social network do you use the most to share news about COVID-19?	Instagram	Telegram	WhatsApp	Twitter	YouTube	0.137	0.201	0.070	0.014
10. Which social network do your friends use the most to share news about COVID-19 with you?	Instagram	Telegram	WhatsApp	Twitter	YouTube	0.504	0.250	0.455	0.000
11. In your opinion, which social networks have played a more effective role in providing information about COVID-19?	Instagram	Telegram	WhatsApp	Twitter	YouTube	0.000	0.116	0.518	0.000

Discussion

As COVID-19 is an emerging pandemic that has become a global crisis today, all people around the world are faced with many information challenges in dealing with this disease, whether in terms of prevention, treatment, or health care. The presence of Social networks has contributed significantly to the acquisition and dissemination of information and news about COVID-19 worldwide and among people speaking different languages. Certainly, this information and news have helped a lot in informing people and reducing their anxiety in the face of the disease while in quarantine. Nonetheless, the volume of false information and rumors and their dissemination can also harm people's mental health. Furthermore, medical staff and the staff of universities of medical sciences are less able to receive news and information through the radio and TV due to the nature of their job and the time spent in their work environment; therefore, they use various social networks on their cellphones to get information and news about COVID-19. As a result, the present study was conducted to determine the social network of choice among the staff of Shahroud university of medical sciences, so that the university officials can provide their staff with information related to COVID-19 prevention and care as well as up-to-date and reliable news on this disease.

According to the results, Telegram has been the most frequently-visited, accessible, trusted, and effective social network of choice among the staff of Shahroud university of medical sciences, as they and their family and friends shared most of their COVID-19-related news on this social network. This result might owe to the unique features of Telegram, which have kept it popular among many people. These features include high speed of data transfer, capacity to create groups with over 200 members and several admins, very good privacy and security, and ease of changing the user's phone number, which means the easy transfer of older data and files to one's new number. Another advantage of Telegram is that one Telegram account can be logged into on several different devices without any restrictions. Telegram has also been selected as a useful tool from the users' point of view in a study by Iqbal et al. (2020) and features such as ease of access to more information and educational resources, the unlimited number of people who can join groups or channels, and the users' ability to upload or download files were announced as the reasons for choosing Telegram,[24] which is consistent with the present findings. Faramarzi et al. (2019) also reported similar services for Telegram; they concluded that Telegram can facilitate online medical education in a pandemic situation, and most respondents described the app as a useful tool.[25] Zhong et al. (2020) further concluded that people more easily trust their social media groups for accessing health and medical information, because in the first few weeks after the outbreak, online and offline health and medical information about the disease were being constantly censored by the authorities, which led people to their friend's circles on social media to meet their health information needs. The study went on to point out that overexposure to health information can lead to depression. Therefore, it is better for people to occasionally take a break from social networks to avoid getting depressed.[26]

According to the results, university officials can put educational information and reliable news published from reputable resources such as the WHO in the form of educational videos, images, and news content in educational groups on social networks and invite the staff to these groups and complete or update this information every few days. They can also ask the staff to send any news they receive from reliable resources to the group admins so that they can check and ensure the accuracy of the news before sending it to the group. This way, other members of the group can share this verified news with their family and friends on various other social networks. This pattern will help reduce the spread of false news and rumors tremendously and the degree of stress and depression experienced by the public will decline. Ultimately, public health will be largely preserved by spreading true and reliable news.

According to the results, Telegram and WhatsApp messengers were the most popular and reliable messengers among the staff of Shahroud University of Medical Sciences. Most participants used these two messengers to communicate. Therefore, the authorities can share reliable information and news about the coronavirus through these two messengers between the university staff and the medical staff and be sure that this news will reach them in time.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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