الدور المعلوماتي لوسائل التواصل الاجتماعي في اكتساب المعرفة الصحية لفيروس كورونا:الكويت انموذجاً

أ.د. مها مشاري السجاري [1]

أ.د. يعقوب يوسف الكندري [2]

(١) أستاذ الأنثروبولوجيا والاجتماع،كلية العلوم الاجتماعية، جامعة الكويت، huna1973@hotmail.com

(٢) أستاذ الأنثروبولوجيا والاجتماع،كلية العلوم الاجتماعية، جامعة الكويت، alkandari66@hotmail.com

الملخص:

كانت جائحة فيروس كورونا ((COVID-19) مصدر قلق خاص في جميع أنحاء العالم بسبب تهديده لصحة المرضى وحياتهم. هدفت هذه الدراسة الى تحديد نسبة الكويتيين الذين حصلوا على المعلومات الصحية المتعلقة بفيروس COVID-19 من خلال استخدامهم لوسائل التواصل الاجتماعي والكشف عن العوامل الاجتماعية والديموغرافية التي يمكن أن تؤثر على استخدام وسائل التواصل الاجتماعي في الحصول على معلومات حول الفيروسات بشكل عام و COVID-19 على وجه خاص . كان الاستبيان الإلكتروني هو الأداة الرئيسية للدراسة وتم توزيعه على 2108 مستجيب كويتي ممن يستخدمون وسائل التواصل الاجتماعي. وتكون الاستبيان من أسئلة حول المعلومات ديموغرافية للمستجيبين، و حصيلة المعلومات المكتسبة من خلال استخدامهم لأدوات الوسائل الاجتماعية والتقليدية ، و مدى استخدامهم لأدوات وسائل التواصل الاجتماعي. أشارت نتائج الدراسة الى وجود فروق ذات دلالة إحصائية بين الذكور والإناث في مقياس المعرفة بأعراض فيروس كورونا (CSKS)، ومقياس المعرفة الصحية بصورة عامة لفيروس كورونا (CGHKS)، ومقياس الثقة في وسائل التواصل الاجتماعي (SMTS) . أشارت النتائج إلى وجود فروق ذات دلالة إحصائية بين الفئات العمرية وكمية المعرفة المكتسبة حول المعلومات الصحية العامة والمعلومات المتعلقة بأعراض فيروس كورونا من خلال استخدامهم لوسائل التواصل الاجتماعي. وتختلف درجة الثقة حول وسائل التواصل الاجتماعي حسب الفئة العمرية . وكان WhatsApp هو الأداة المفضلة لوسائل التواصل الاجتماعي للاستفادة منها في الأخبار حول Coronavirus. فيما يتعلق بوسائل الأعلام التقليدية، جاءت القنوات التلفزيونية الكويتية الرسمية في المرتبة الأولى من حيث تفضيل أفراد العينة لمتابعة الأخبار. هناك حاجة ماسة لأعداد ورش عمل عن الصحة العامة لتثقيف المجتمع حول كيفية البحث على مواقع المعلومات الرسمية المتعلقة حول الصحة العامة من خلال استخدام الأنترنت ومنصات التواصل الاجتماعي أثناء تفشي المرض.

المصطلحات المفتاحية: وسائل التواصل الاجتماعي، المعرفة ، فيروس كورونا، اجتماعية —ديموغرافية

The informational role of social media in acquiring Coronavirus health knowledge: Kuwait as an example

Maha Meshari Al-Sejari 1

(1) College of social science, Kuwait University ,Huna1973@hotmail.com

Yagoub Yousif Al-Kandari 2

(2) College of social science,Kuwait University,alkandari66@hotmail.com

Abstract

The recent Coronavirus disease (COVID-19) pandemic was of particular concern for the public worldwide due to its threat on patients' health and life. This study aims to determine the proportion of Kuwaitis who obtained COVID-19 virus- and health-related information through the social media and to detect the socio-demographic factors that could affect the use of social media for seeking information on viruses in general and COVID-19 in particular. An electronic questionnaire was the major tool of study and was distributed to 2,108 Kuwaiti participants who use social media. The questionnaire was composed of respondents' demographic information, the degree of COVID-19 news, the information gained through social and traditional media tools, and the extent of using social media tools. Data show that there were significant differences between males and females in the Corona Symptoms Knowledge Scale (CSKS), Corona General Health Knowledge Scale (CGHKS), and Social Media Trust Scale (SMTS). There were significant differences among the age categories regarding the amount of general health knowledge gained through social media as well as the amount of knowledge gained regarding Coronavirus symptoms. The degree of trust in social media also differed between age groups. For the social media platform, WhatsApp was the preferred social media tool to utilize for news about Coronavirus. For the traditional media, official Kuwaiti TV channels was the first media preference for following news. Public health workshops are needed to educate the community on how to find official health-related information sites using the internet and social media platforms during the disease outbreak.

Keywords: Social media, Knowledge, Coronavirus, Socio-demographic

Introduction

For the last two decades, internet-based search engines have become an important source for acquiring health information and for detecting and tracking emerging diseases (Huang et al., 2020; Lu et al., 2020; Zhu et al., 2020). Even though health information is available and easy to obtain due to the abundance of health-related sites, users need to be cautious and precise when selecting sources of this information (Baker et al., 2003; Eysenbach & Kohler, 2003). The speed of disseminating information with a single click enables inaccurate information and rumors to spread easily and be quickly distributed to a large number of social media users worldwide. A large quantity of inaccurate information has been posted repeatedly in social media search engines like Facebook, Twitter, and YouTube. Inaccurate postings often lead users to judge the information as credible and trustworthy (Ball & Lewis, 2012; Chandrasekaran et al., 2017)

There were several cross-cultural studies that examined the influence of social media as a major source of communication, education, and health-related information for the general public during the Zika virus outbreak. (Ali et al., 2017; Teng et al., 2017; Nagpal et al., 2015; Dubey et al., 2014). Sharma et al. (2017) stated that during the Zika virus pandemic, the most popular social media platform posts on Facebook were misleading and deceptive. In contrast, the accurate and reliable information posts about the disease were not as well-viewed (Sharma et al., 2017). The following studies demonstrate the percentages of inaccurate and misleading health-related information videos that have been posted on YouTube and their content: H1N1 influenza pandemic, 16.2% (Pandey et al., 2010); Sjogren's syndrome, 16.7% (Delli et al., 2016); kidney stones, 18.1% (Sood et al., 2011); West Nile virus infection, 20.7% (Dubey et al., 2014); rheumatoid arthritis, 30.4% (Singh et al., 2012); and hypertension, 33% (Kumar et al.,2 014). Boraa et al. (2018) evaluated YouTube videos as popular sources of public health information during the Zika pandemic. The study findings reveals that 70.3% of the online videos were useful and informative, 23.8% of the videos were misleading, and 5.9% of the videos were associated with individual experiences of the virus. Moreover, the study outcomes detected that trustworthy, official video sources such as government-sponsored news agencies and university health organizations were more reliable and informative than independent user videos, which were more likely to be misleading and of poor quality.

A study by Chandrasekaran et al. (2017) evaluated the utility of social media platforms as search engines for health information about the Zika virus. The outcomes of the

study detect that 27% of the participants used Twitter, 25.9% used YouTube, 25.4% used Instagram, and 21.6% used Facebook as sources of Zika virus health information. The study demonstrated that more than half (56.22%) of the social media content was useful compared to 36.2% that was not useful and 7.5% that was misleading. The study reveals that participants considered 86.5% of the contents posted in social media tools to be informative; 13.4% believed the posts were clinically relevant texts. More than three-fourth (78.5%) of the videos on YouTube included misleading information, whereas Facebook's contents had the highest number of valuable clinical articles related to health providers. One third (31.1%) of the messages posted on Facebook and YouTube were informative, and 71.4% of the posts on Facebook provided clinically relevant information.

A study by McNeill et al. (2016) examined the role of social media networks (like Twitter) as a health-related source of information and communication during the H1N1 pandemic in the United Kingdom (UK). Findings of the study show that most of the information that was tweeted and retweeted was from reliable and trusted health information sources such as the National Heal Service (NHS) and was cited from websites that contained accurate information such as the World Health Organization (WHO), the British Broadcasting Corporation (BBC), or the Center for Disease Control (CDC). The study presents additional tweets that were descriptive, personal experiences containing unreliable information. Chew and Eysenbach's (2010) study examined the role of Twitter in the 2009–2010 H1N1 ("swine flu") pandemic. This study illustrates that most of Twitter's messages contained descriptive information linked to other websites, and that 32% of the tweets were users' personal experiences and opinions. The studies of Culotta (2010), Ritterman et al. (2009), Kwak et al., (2010), and Han et al. (2012) similarly demonstrate that Twitter spread informational messages from other news sites during the H1N1 pandemic period. Findings of these studies illustrate that the role of Twitter's messaging content was used for predicting flu trends as a news-sharing network and as a resource. Few messages were used for conversations or for evaluating the information's context and resources.

The outbreak of the Coronavirus disease (COVID-19) occurred in December 2019 in Wuhan, the capital of the Hubei province in China, with unknown causes (Huang et al., 2020; Lu et al., 2020). According to a WHO report, the number of infected patients is increasing rapidly around the world (especially in South Korea, Japan, Italy, and Iran) (WHO, 2020). Symptoms of COVID-19 include severe to acute respiratory syndrome Coronavirus (SARS-Cov) (Zhu et al., 2020; Gorbalenya et al., 2020). Other symptoms include fever, cough, shortness of breath, and breathing difficulties. COVID-19 symptoms vary from patient to patient, depending mainly on a

person's underlying health condition and age. In more critical cases, infection can cause severe to acute respiratory syndrome, pneumonia, kidney failure, and death. The main health recommendations to minimize the spread of the virus are washing hands regularly with soap and water for twenty seconds, cleaning hands with an alcohol-based hand rub, avoiding gatherings and crowded places, and refraining from touching mouth, eyes, and nose (WHO, 2020). The current study examines the impact of the social media platform on Kuwaitis' knowledge about COVID-19 and its signs and risk factors during the current outbreak. Several successful studies utilized social media and other internet resources such as search engines for sensing and tracing emerging diseases like influenza (Ginsberg et al., 2009; Zhang, 2019), dengue (Chan et al., 2011), and SARS (Dion et al., 2015). The findings of the current study will provide a better understanding of the portion of Kuwait's population who used social media as a health-related information source during the pandemic. It will also show how using these tools as a source of health information could lead to misinformation and the dissemination of rumors, fueling public panic, fear, and paranoia. This, in turn, can negate an authority's efforts to distribute vital information during public health emergencies (Merino, 2014; Gonsalves & Staley, 2014)

According to the Madar Research report (2006), there was a lower rate of personal computer usage among twelve Arabic countries compared to the global rate. This report shows that due to the availability of high speed internet and the wide use of smart phone devices among the Arabian Gulf countries (Kuwait, Saudi Arabia, the United Arab Emirates, Bahrain, Oman, and Qatar), the rate of using personal computers was relatively higher than that of the other Arabic countries (Al-Shorbaji, 2008). There are several determinants that impact users who seek online health-related information, such as the users' experience of the internet, the reasons for using it, and the type of information sought (Higgins et al., 2011). Furthermore, several studies reveal that there are many socio-demographic characteristics that influence the behavior of those seeking health-related information (Farzandipur et al., 2016; Beck et al., 2014; Bujnowska-Fedak, 2015; Van De Belt et al., 2013). For example, Higgins et al. (2011) found that female participants with higher levels of education and easy access to high-speed internet reported higher rates of searching for health information online. A study by Alkhatlan et al. (2017) of 250 Kuwaiti participants revealed that a high percentage (93.2%) of participants used the internet for one or more purposes, and more than half (62.9%) used the internet for retrieving health-related information. In the same study, the female participants who hold university certificates or higher levels of education and use computers at work reported a significantly higher rate of on-line searches for health-related information. In addition, the study demonstrates that participants diagnosed with two or more chronic diseases as well as those who visited health care facilities three or more times during the 12

months prior to the survey reported using the internet for obtaining health information. James and Harville's (2016) study showed that a higher proportion of individuals who used the Internet as a source of health information were female and owned smartphones; and Andreassen et al. (2007) found that female participants with higher levels of education who are specialized and certified in their field and hold professional positions were inclined to use the internet for seeking health information. The main aims of this study is to determine the proportion of Kuwaitis who obtained COVID-19 virus- and health-related information through the social media and to detect the socio-demographic factors that could affect the use of social media for seeking information on viruses in general and COVID-19 in particular.

Objective of the Study and Study Hypothesis

In comparison to past epidemics, the recent COVID-19 pandemic was of particular concern for the public worldwide due to its life-threatening health conditions. This virus triggered public fears about the spread of the disease and the threat to global health. Researchers discovered that during epidemic periods, social media tools attract thousands of viewers and experience a massive surge in viewer tracks. (Nagpal et al., 2015; Dubey et al., 2014). This study aims to determine the proportion of Kuwaiti participants who obtained COVID-19related information through the social media as well as the socio-demographic factors that could affect using social media for seeking information related to COVID-19 information. Five major social media tools are mostly use in Kuwait: WhatsApp, Twitter, Snapchat, Instagram, YouTube, and Facebook (Al_Kandari, 2019). This paper focuses on these tools and answers the following study hypothesis: 1) There are significant differences between male and female knowledge of COVID-19's symptoms? 2) There arehere significant differences between male and female general health knowledge of COVID-19? 3); There are significant differences between males and females when following news through social and traditional media? 4) There are significant differences among the sample regarding a) the symptoms and general knowledge of COVID-19; b) the trust of social media; and c) the sociocultural variables, such as age, governorates, and level of education? and 5) There is a significant association between male and female knowledge of the symptoms of COVID-19 and their following of the news through social media (WhatsApp, Instagram, Facebook, and YouTube)?

Method:

This research used a descriptive approach survey design which is an appropriate choice of the study aims and questions.

Sample: 2,108 Kuwaitis were selected using a non-random opportunistic voluntary sample from people using social media (male = 974; female = 1,110) aged 17 to 86 (M = 39.32;

SD = 14.36). This sample was selected by an electronic questionnaire given to Kuwaiti groups via social media. Respondents were asked to voluntarily answer questions. The sample size of the study represents almost 0.08% of the Kuwaiti population. The respondents included participants of all governorates in Kuwait, which ensured a solid representation of the whole population. The respondents came from the governorates of Capital (33%), Hawalli (20.4%), Ahmedi (9.9%), Farwaniyyah (12.4%), Jahra (7.2%), and Mubark AL–Kabeer (11.1%). Respondents agreed to participate in the study voluntarily. It needs to be stated here that this study is a part of big project has been conducted in Kuwait by researcher concern coronaviruse.

Variables: An electronic questionnaire was the major tool of the study, which showed good validity (Kayam, 2012). Electronic questionnaire was passed widely in Kuwait using Smartphone via social media. For this reason, a great amount of respondents were filled the questionnaire easily. Data collection was during the first months of pandemic period. It was between March to June, 2021. The questionnaire is composed of respondents' demographic information: age, gender, education level, and governorates. For data analysis, educational level was divided into three categories: high school or below, graduate and higher education, and MA and Ph.D. holders. Age was divided into four categories: 24 years or below, 25–44 years, 45–64 years, and 65 years and above. The questionnaire included three variables related to using social media. In the first variable, respondents were asked the degree to which they followed news and information of COVID–19 through social media tools, divided into six social media sites: Twitter, Facebook, WhatsApp, YouTube, Snapchat, and Instagram. In the second variable, respondents were asked the degree they followed COVID–19 news and information through traditional media, divided into four traditional media sources: Kuwait TV channels, local newspapers, Kuwait radio stations, and satellite channels. The third question asked respondents to determine to what degree they used social media tools, divided into seven social media sources: Twitter, Facebook, WhatsApp, YouTube, Snapchat, Instagram, and other social media tools. A final question was added relating to the use of social media in general. A six–point scale, from very much = (6) to never follow = (1), was used for these three variables:

1. COVID–19 Symptoms Knowledge Scale (CSKS): This scale, developed by the researcher for this project, was used after reviewing information from the World Health Organization (WHO). It included information about the respondents' knowledge of symptoms. Nine symptoms were selected, such as "fever," "cough," "shortness of breath," and "difficulty breathing." An answer of three points with "yes" = (1), "no" = (0), and "do not know" = (0) was used. Overall knowledge is nine out of nine.

2. COVID-19 General Health Knowledge Scale (CGHKS): This scale was also developed by the researcher for this project and used after reviewing information from the WHO. It included general information about COVID-19 that the respondents know. Seventeen informational facts were selected for this study, such as: "fast spreading," "infectious disease," "may appear two to 14 days after exposure," "spread by touching polluted stuff," "elderly more effected," etc. An answer of three points with "yes" = (1), "no" = (0), and "do not know" = (0) was used. Overall knowledge is seventeen out of seventeen.

3. Social Media Trust Scale (SMTS): Also developed by the researcher for this project, this scale contains information regarding the degree to which respondents trust information coming from the social media in general. It consisted of eight sentences, including: "I trust the social media more than the official TV"; "I return more quickly to social media than others to check any news about COVID-19 "; "I found the right information about COVID-19 in social media"; and "the fastest way to hear news about COVID-19 came from social media." A five-point scale, from strongly agree = (5) to strongly disagree = (1), was used. The highest possible score is 40 and the lowest is 0.

For the validity of all of these scales and questionnaire items, five faculty members from the College of Social Sciences at Kuwait University reviewed the scales to ensure their validity. When it came to reliability, all scales showed high internal consistency overall from .86 to .92.

Statistical Procedures: Descriptive and inferential statistics were applied using SPSS (version 23). T-test, ANOVA, Pearson Correlation, and Multi-regression were used. T-test was used to examine the Symptoms Knowledge Scale (CSKS), the General Health Knowledge Scale (CGHKS), and the Social Media Trust Scale (SMTS). T-test was also used for following news through social and traditional media and determining the degree of social media use in males and females. One-way ANOVA was used between CSKS, CGHKS, SMTS, and Sociocultural Variables. Pearson Correlation was utilized among media users to follow COVID-19 news; the degree of social media usage; and CSKS, CGHKS, and SMTS. A multivariate regression model was used to predict the effect of using social media and traditional media to follow Coronavirus news and to determine the extent of Social Media usage for gaining COVID-19 symptoms knowledge, COVID-19 general health knowledge, and trust in social media.

Results:

To examine the differences among Corona Symptoms Knowledge Scale (CSKS), Corona General Health Knowledge Scale (CGHKS), and Social Media Trust Scale (SMTS) in male and female respondents; to follow the news through social and traditional media; and to

determine the degree of using social media in male and female respondents. Tables (1) and (2) show these differences.

Table (1): Mean, Standard Deviation and t Value for (COVID-19) virus Symptoms Knowledge Scale (CSKS) , (COVID-19) virus General Health Knowledge Scale (CGHKS) , and Social Media Trust Scale (SMTS) in male and female.

Gender	CSKS			CGHKS			SMTS		
	M	SD	t	M	SD	t	M	SD	t
Male	6.18	1.54	-.200*	13.11	2.41	-2.07*	10.93	1.66	-.2.20*
Female	6.43	1.38		13.32	2.03		11.08	1.40	

* $P<.0.05$

Data show that there are significant differences between males and females in the Corona Symptoms Knowledge Scale (CSKS), the Corona General Health Knowledge Scale (CGHKS), and the Social Media Trust Scale (SMTS). Females show more awareness and knowledge about Coronavirus symptoms and general health information. They show also a higher trust in social media information and news. The significant degree was at the level (p<0.05) (Table 1).

For following the news through social media and through traditional media among the sample, data show that there are significant differences between males and females in following social media tools from Snapchat, Instagram, Facebook, YouTube, and Twitter and traditional news from Kuwait TV's official channel, local newspapers, Kuwait radio, and satellite TV channels. Males show higher means in following news though Facebook, YouTube, and Twitter and following traditional news from local newspapers, Kuwait radio, and satellite TV channels. On the other hand, females show a higher mean in following news from Snapchat and Instagram in social media and following traditional news from local newspapers, Kuwait radio, and satellite TV channels. No significant difference was found between males and females in following news from WhatsApp. For the degree of using social media, significant differences were found between males and females in the degree of using Twitter, Facebook, YouTube, Snapchat, and Instagram and using social media in general. Females show a higher use of social media in general, Snapchat, and Instagram compared with males, while males show a higher mean of using Twitter, Facebook, and YouTube. No significant difference was found between male and female use of WhatsApp (Table 2).

Table 2 examines following the news through social and traditional media and the degree of using social media in the sample. Table 2 shows that WhatsApp is the leading social media tool for following news about the Coronavirus; Instagram and Twitter are second; and Snapchat is

third. Facebook is the least used. For the traditional media, Kuwait's TV channel is the first media of choice for following news, satellite TV channels are the second, and local newspapers and Kuwaiti radio are the last. For the degree of using social media, WhatsApp is the primary social media tool, followed by Instagram, Snapchat, Twitter, YouTube, other social media, and Facebook, respectively.

Table (2): Mean, standard deviation and t-value for following news through social and traditional media and degree of using social media in male and female.

Media Variables	Male		Female			All Sample		
	M	SD	M	SD	t-value	M	SD	Rank
Following news through Social Media								
Snapchat	2.56	1.97	3.39	2.11	-8.89***	3.08	2.10	4
Whatsupp	4.46	1.71	4.36	1.70	1.30	4.39	1.71	1
Instagram	3.34	1.98	3.70	1.90	-3.97***	3.57	1.94	2
Facebook	1.44	1.20	1.25	.891	3.96***	1.32	1.02	6
YouTube	2.43	1.72	1.89	1.48	7.34***	2.10	1.59	5
Twitter	3.86	2.03	3.40	2.09	4.87***	3.57	2.08	2
Following news through Traditional Media								
Kuwait TV	3.61	1.89	3.79	1.96	-2.05*	3.73	1.93	1
Local Newspapers	2.24	1.72	1.93	1.58	4.04***	2.05	1.64	3
Kuwait Radio	2.07	1.60	1.87	1.53	2.73**	1.95	1.56	4
Satellite TV	3.22	1.91	2.43	1.77	9.33***	2.73	1.86	2
Degree of using Social Media								
Twitter	3.67	2.02	3.28	2.06	4.16***	3.43	2.05	5
Facebook	1.52	1.21	1.30	.962	4.37***	1.38	1.07	8
Whatsupp	5.13	1.27	5.10	1.28	.464	5.11	1.28	1
YouTube	3.40	1.75	3.08	1.67	4.09***	3.20	1.71	6
Snapchat	3.01	2.08	4.06	2.01	-11.18***	3.67	2.10	4
Instagram	3.68	1.95	4.46	1.70	-9.36***	4.17	1.84	3
Other Social Media	2.00	1.57	1.97	1.58	.339	1.98	1.57	7
Using SM in general	4.49	1.42	4.63	1.38	-2.31*	4.58	1.40	2

*$P<0.05$; **$P<0.01$

Table 3 examines the differences among Coronavirus symptoms knowledge, Coronavirus general health knowledge, and social media trust in correlation to the sociocultural variables of the sample: age, governorates, and level of education.

Data show that there are significant differences among age categories in Coronavirus symptoms knowledge, Coronavirus general health knowledge, and the degree of trust in social media. The older age group (65+) has a higher mean in all three scales: Coronavirus symptoms knowledge, Coronavirus general health knowledge, and the degree of trust in social media. The second higher mean was the 45–64 age group, then 25–44 and 24 years and below, respectively. The higher age group showed more knowledge of COVID–19 symptoms and information and more trust in the social media. For residency, data show that Hawali and the

Capital have the highest mean regarding knowledge of Coronavirus symptoms and general health knowledge. The lowest mean in these two scales was in the Farwaniyyah governorate. No significant difference was found between governorates and trusting social media scale. In addition, data show that more educated people (MA and Ph.D. holders) have more general health knowledge and trust in the social media compared to the less educated level (high school or less and graduated). No significant difference was found between educational level and the symptoms knowledge scale.

Table (3): One-way ANOVA between COVID-19 Symptoms Knowledge Scale (CSKS), General Health Knowledge Scale (CGHKS), and Social Media Trust Scale (SMTS) and Sociocultural Variables

	CSKS			CGHKS			SMTS		
Age (in years)	M	SD	F value	M	SD	F value	M	SD	F value
< 24 Years	5.73	1.53		10.43	1.45		23.93	4.83	
25–44 Years	6.19	1.43		11.09	1.51		25.12	5.07	
45–64 Years	6.48	1.33	23.88***	11.25	1.41	30.97***	25.57	4.81	9.80***
65 + years	6.72	1.19		11.66	.955		26.14	5.00	
Total	6.21	1.44		11.03	1.48		25.05	4.97	
Government									
Capital	6.28	1.41		11.17	1.32		25.34	4.80	
Hawalli	6.37	1.37		11.31	1.38		25.13	4.96	
Ahmadi	5.92	1.63		10.74	1.65		24.70	5.38	
Farwaniyah	6.08	1.48	4.79***	10.76	1.60	14.05***	24.62	5.10	1.65
Jahra	5.92	1.51		10.44	1.51		24.38	4.95	
Mubarak Al-Kabeer	6.22	1.39		10.82	1.81		25.16	4.92	
Total	6.21	1.44		11.02	1.50		25.04	4.97	
Educational Level									
High School or below	6.18	1.52		10.93	1.56		25.14	5.28	
Graduate	6.19	1.50		10.98	1.51		24.85	4.84	

Postgraduate	6.35	1.25	1.85	11.32	1.40	7.66***	25.70	4.93	3.84***
Total	6.21	1.44		11.02	1.51		25.04	4.97	

*** $P < 0.001$

Table 4 examines the relationship between using media to follow COVID–19 news (social media and traditional) and the degree of using social media (in the full sample and in both males and females), and between the COVID–19 Symptoms Knowledge Scale (CSKS), the COVID–19 General Health Knowledge Scale (CGHKS), and the Social Media Trust Scale (SMTS)..

Data in Table 4show that there is a significant association between COVID–19 virus symptoms knowledge and following news through WhatsApp, Instagram, Facebook, and YouTube for the entire sample. Association was shown in all the social media for females, including Snapchat, while an association was found for men in only WhatsApp and Facebook. No significant association was found in Twitter. For following traditional media, data present an association between Coronavirus symptoms knowledge and Kuwait TV channels, local newspapers, Kuwait radio, and satellite TV channels. For males, no association was found with following news through Kuwait TV channels, while in females no association was found with local newspapers. For the degree of using social media and its association with COVID–19 virus symptoms knowledge, data reports this relationship with Facebook and Twitter throughout the sample, while there was an association with WhatsApp in males and with Instagram and Snapchat in females.

For COVID–19 general health knowledge and its association with using media to follow COVID–19 news, data show association between COVID–19 general health knowledge of the sample and Snapchat, WhatsApp, and Facebook in all samples, while association was found with WhatsApp, Instagram, and Facebook in females and Twitter in males. For the traditional media, association was found between COVID–19 general health knowledge and following the news through Kuwait TV channels and satellite TV channels throughout the sample, while there was association in following news and information though Kuwait TV channels, local newspapers, and satellite TV channels in females and satellite TV channels in males. Association was found between trusting social media and following news though Kuwait TV channels, local newspapers, Kuwait's radio station, and satellite TV channels throughout the sample and in females, while no association was found following news through local newspapers.

Data reports that there is association between COVID–19 virus symptoms knowledge and Facebook and WhatsApp in the sample; association was only in WhatsApp in females and in Facebook, WhatsApp, Snapchat, and Instagram in males. For correlation between

the COVID–19 general health knowledge and the degree of using social media tools, data report this relationship with Twitter, Facebook, WhatsApp, and Snapchat in the sample, while association was found in Twitter, Facebook, WhatsApp, YouTube, and Snapchat in females and WhatsApp, Snapchat, and Instagram in males. Association was found between trusting social media and the degree of using Twitter, WhatsApp, YouTube, Snapchat, and social media usage in general throughout the sample and in Twitter, WhatsApp, YouTube, Snapchat, Instagram, and social media usage in general in females and Facebook in males. In general, females were more trusting of social media compared with males (Table 4).

Table 4: Correlation among using media to follow COVID-19 news (social media and traditional) and the degree of using social media (in all sample and both male and female); and COVID-19 Symptoms Knowledge Scale (CSKS), COVID-19 General Health Knowledge Scale (CGHKS), and Social Media Trust Scale (SMTS).

	CSKS			CGHKS			SMTS		
Using media to follow Coronavirus news	Male	Female	All	Male	Female	All	Male	Female	All
Social media									
Snapchat	-.008	.057*	.034	-.104**	-.043	-.054*	-.029	-.099**	.071**
WhatsApp	.165**	.168**	.165**	.051	-.64*	.069**	-.007	-.098**	.065**
Instagram	.007	.086**	.059**	.022	.076*	.040	-.018	-.060*	-.042
Facebook	.170**	.060*	.108**	.040	.078**	.054*	.096*	.030	.058*
YouTube	.056	.075**	.061**	.001	.044	.015	.042	.001	.020
Twitter	.056	-.51	-.013	.013	-.026	-.032	.068	-.106**	-.038
Traditional media									
Kuwait TV	.070	.106**	.090**	.001	.058*	.060*	.131**	.162**	.151*
Newspapers	.091*	.047	.064**	.022	.081*	.028	.072	.110**	.086**
Kuwait Radio	.089*	.056*	.068**	.032	.049	.011	.112**	.155**	.134**
Satellite TV	.169**	.156**	.152**	.100**	.181**	.119**	.090*	.070*	.076**
Degree of using social media	Male	Female	All	Male	Female	All	Male	Female	All
Twitter	.006	-.046	-.059	.020	-.082**	-.069**	.045	-.117**	-.53*
Facebook	.108**	.050	.074**	.050	.111**	.088**	.074*	.014	.040
WhatsApp	.083*	.168**	.137**	.102**	.097**	.105**	-.022	-.117**	-.082**
YouTube	-.050	.023	.037	.019	-.059**	-.034	-.038	-.062*	-.051*
Snapchat	-.125**	.012	-.036	.175**	-.080**	-.084**	-.045	-.085**	-.067**
Instagram	-.073*	.006	.020	.075*	.010	-.012	-.049	-.74**	.061
Other Social Media	.013	-.028	-.010	.054	-.008	-.023	-.046	.009	-.010
Using SM in general	.032	.005	.015	.009	.011	.034	-.023	-.108**	-072**

*$P<0.05$; **$P<0.01$

A multivariate regression model was used to predict the effect of using social media (Snapchat, WhatsApp, Instagram, Facebook, YouTube, Twitter) and traditional media (Kuwait TV channels, local newspapers, Kuwait's radio station, and satellite TV channels) to follow COVID–19 news and to predict the degree of using social media (Twitter, Facebook, WhatsApp, YouTube, Snapchat, Instagram, other social media, and using social media in general) to obtain COVID–19 symptoms knowledge, COVID–19 general health knowledge, and trust in the social media. Table 4

illustrates the results of the multivariate regression test (Table 5).

The regression analysis indicates that gender; following WhatsApp, Facebook, Kuwait TV channels, and satellite TV channels; and the degree of using WhatsApp and Instagram were significantly associated and predicted by the Corona Symptoms Knowledge Scale (CSKS). The analysis also indicates that gender; education; following WhatsApp, Twitter, and satellite TV channels; and the degree of using Twitter, Facebook, WhatsApp, Snapchat, and social media in general were significantly associated and predicted by the Corona General Health Knowledge Scale (CGHKS). Analysis further indicates that following Kuwait TV channels, Kuwait radio stations, and the degree of using Twitter were significantly associated and predicted by the Social Media Trust Scale (SMTS).

Table 5: Regression coefficient on the effect of media variables on COVID-19 Symptoms Knowledge Scale (CSKS), COVID-19 General Health Knowledge Scale (CGHKS), and Social Media Trust Scale (SMTS).

CSKS	B	Beta	t. value
Gender	.169	.056	2.18*
Follow WhatsApp	.062	.073	2.33*
Follow Facebook	.173	.116	2.76**
Follow Kuwait TV	.036	.048	1.78*
Follow Satellite TV	.095	.119	4.22***
Degree of using WhatsApp	.119	.100	3.23**
Degree of using Instagram	-.080	-.099	-2.36*
Adjusted R Square		.055	F=5.989***
Multiple R		.060	

CGHKS	B	Beta	t. value
Gender	.266	.086	3.43**
Education	.078	.067	2.89**
Follow WhatsApp	-.077	.061	2.00*
Follow Twitter	.064	.089	1.97*
Follow satellite TV	.097	.120	4.30***
Degree of using Twitter	-.088	-.122	2.65**
Degree of using Facebook	.144	.080	1.95*
Degree of using WhatsApp	.267	.154	5.04***
Degree of using Snapchat	-.068	-.095	-2.48*
Degree of using Social Media in general	.063	.059	2.06
Adjusted R Square		.047	F=5.42***
Multiple R		.058	

SMTS	B	Beta	t. value
Follow Kuwait TV	.304	.118	4.41***
Follow Kuwait radio	.288	.087	3.07**
Degree of using Twitter	-.222	-.092	-1.98*
Adjusted R Square		.040	F=4.626***
Multiple R		.051	

*$P<0.05$; **$P<0.01$; ***$P<0.001$

Discussion:

At the present time and throughout the COVID-19 pandemic outbreak worldwide, the current study detects WhatsApp as the most popular social media platform for Kuwaiti participants for seeking health information regarding COVID-19 health-related information. At the present time, thousands of the videos, images, and messages about COVID-19 and related public health information have been posted through WhatsApp in Kuwait due to the popularity and the multifunction of this platform. Finding of the current study is comparable to Dida et al. (2021) study's findings that illustrates WhatsApp is the most favorite social media tools in Indonesia to acquire health related information. The WhatsApp platform offers multiple communication tasks such as text messaging and the sharing of images, videos, audio messages, and user location with other people worldwide, instantly and free of charge (Zhao & Zhang, 2017). On the other hand, as a complementary information-seeking channel, YouTube was the most popular social media platform for obtaining specific health information (Kuttschreuter et al., 2014; Rasmussen-Pennington et al., 2014). In Japan, an online source on networking sites for health, such as Yahoo!Chiebukuro (Japanese Yahoo!Answers) (Kishimoto & Fukushima, 2011), was most widely used for drug information.

Furthermore, the present study detects that participants aged 65 and older were more knowledgeable about COVID-19 general health information and symptoms. This could be due to the warnings and messages posted by the WHO regarding COVID-19's high risk factors for the elderly and for people with chronic disease to not only contract the virus but to suffer severe health complications and fatalities. The numbers and facts regarding global health during the pandemic period lead elderly participants to be more cautious and aware of the need to obtain virus health information from a trusted source. This study detects that older participants trusted social media sources for health-related information more than traditional information sources. This study is inconsistent with Tennant et al., (2015) outcomes that demonstrates individuals who use more internet for health information seeking were younger age group. Moreover, the current study outcome is dissimilar to Riiser et al. (2020) findings that detect family and TV were the most rely on sources of health related information to obtain information about COVID-19 virus among Norwegian adolescents during the COVID-19 pandemic.

Worldwide social media become an optimal device for disseminating data. With tremendous changes and developments occurring daily within the virus outbreak, people became attached to their smartphone device for ongoing updates regarding global health news ((Bradley, 2013; Prasad, 2013; Song et al., 2016; Sarasohn-Kahn, 2008; Chou et al., 2009). Findings of the present study are inconsistent with the findings of Jardine, et al. (2015), which illustrate that older

participants used traditional information sources (such as television, newspaper, and radio) more than other health-related information sources to obtain information regarding the severe acute respiratory syndrome (SARS) epidemic in 2003 and the H1N1 pandemic in 2009–2010. And the present study outcome is different from Ali et al., (2020) study among a sample of adults in the US that revels traditional media, such as TV and newspapers were the most used and trusted source of information to get health-related information for COVID-19 virus during the pandemic. The reliance on traditional information sources as the main source of health information can be attributed to the vast unreliable, misleading, and inaccurate information displayed in social media platforms that cause anxiety and confusion to readers. During epidemic periods, people start to rely more on formally announced public health information such as health education posts and messages, news announcements, and government-sponsored press releases (Slaughter et al., 2005; Voeten et al., 2009).

The current study reveals that Kuwaiti females reported more knowledge and accurate information about general health information and symptoms of COVID-19. This finding is relevant to the study results of Alkhatlan et al. (2017), James and Harville (2016), and Andreassen et al. (2007), which stated that women with a higher level of education, a professional position, a smartphone, and computer knowledge were those who used the Internet as a source of health information. Moreover, finding of the current study is comparable to Shahmir et al. (2020) that detect women were more likely to obtain health-related information about COVID-19 ,and more rely on official government websites for COVID-19 information.

Moreover, the current study demonstrates that higher educated participants (MA and Ph.D. holders) have more general health knowledge about COVID-19 and are more trusting of social media as credible and valuable sources of health information compared to less educated women. This findings resembles the work of Alkhatlan et al. (2017), which demonstrated a significant association between the level of education among Kuwaiti participants and use of the internet for seeking health information. Participants with higher levels of education tend to have excellent computer skills and use smart phones and computers at work. Comparable to Jardine et al. (2015), these findings show that more educated individuals relied on the Internet as their main source of obtaining information about the SARS epidemic and H1N1 pandemics due to the reliability and trustworthiness of Internet-based information. The findings of these studies might be attributed to the association between education level and proficient technology skills to operate and use devices such as computers and smartphones, which require a minimum rate of language and electronic proficiency achieved by years of education .

 Regarding the traditional media and COVID-19 general health information, the present study reveals that Kuwait TV channels are the main source of media that

participants receive daily. The Kuwait Ministry of Health held live press meetings daily via Kuwait's TV channels, reporting the rates of patient diagnosis and recovery from COVID-19. Moreover, since the first case of the virus was reported in Kuwait on February 23, 2020, Kuwait's TV channels and the Kuwait Ministry of Health started to present programs, shows, and interviews about COVID-19 general health information, keeping the audience updated with the progress of the pandemic outbreak locally and worldwide. This finding is similar to the findings of Rutsaert et al. (2013) and Van de Belt et al. (2013), which demonstrated that participants reported low trust levels of health information obtained from social media due to the unlimited amount of reader information, the contradictory nature of the information, and the biased point of view that might cause anxiety, fear, and confusion to the readers.

Finally, general health information about COVID-19 is significantly different according to the participants' residency area. Capital and Hawali governorates were more knowledgeable about COVID-19 general health information and symptoms than other governorates. This can be attributed to the fact that residents of these areas are mainly young, upper class, and highly educated Kuwaiti citizens compared to participants in other Kuwaiti governorates. For example, the Farwaniyah governorate exhibited the lowest mean of participants who reported knowledge about COVID-19 general health information and symptoms because most of the residents are non-Kuwaiti citizens with a lower economic status and educational level. This finding highlights the urgent need to broadcast official public health risk information about COVID-19 through all types of traditional and social media sources to governorates with large numbers of non-Kuwaiti residents, such as Farwaniyah (Kuwait Central Statistical Bureau, 2020).

Further studies are needed to examine individual ways of seeking information during a public health emergency in order to take precautions when misleading information and ambiguous data appear and to intervene with reputable information that the entire population can access. Finally, more cross-sectional studies are needed to better understand the barriers people have in accessing and using trusted sources of information during an infectious disease outbreak.

Recommendations:

This study illustrates the need to establish partnerships between official public health institutions, communication companies, and government agencies during any disease outbreak in order to assure the accuracy of information before it gets disseminated online to the public. Moreover, public health workshops are needed to educate the community about how to find the official health-related information sites through the net and social media platforms during a natural crisis and disease outbreak. Also, there is a need for enhancing a trasnparency princeple in the presentation of information by health institution, specially the Ministry of Health.

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