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Knowledge, Attitudes, and Practices related to COVID-19 among People in Kurdistan Region of Iraq: A Cross-Sectional Survey

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Abstract

Background & Objectives: Coronaviruses disease 2019 is a serious public health concern worldwide. The major style of a person is not identical to another person's style in extensive areas including Iraqi Kurdistan where people have little knowledge about Coronaviruses. It is noticed that Coronavirus infection is not dealt with as required in terms of the expressed knowledge, attitudes and the practice taken. This study aimed at finding out the level of knowledge and attitudes of Kurdish people in addition to their practices concerning Coronaviruses.

Methods: This study adopted an online cross-sectional survey design from March 23 to April 2, 2020 to collect data from Iraqi Kurdistan Region citizens who willingly took part in this survey and have been asked to identify knowledge, attitudes, and practices in terms of Corona virus.

Results: The majority of the study participants were young and male gender (62.5%). Majority of respondents (92.9%) were optimistic that the government could take necessary procedures to reduce the risks of Coronaviruses infection. Less than half of the participants wore mask and gloves when they leave home (41.4%, 45.1% respectively). Most of the participants had good knowledge (74%), good practice (64.6%), and vast majority had positive attitude (98.1%) concerning Coronaviruses.

Conclusion: Less than half of the participants who got engaged in this study wore masks and gloves whenever they go out. Hereby, the participants are to be provided with an extensive health education program so that they can increase their awareness of Coronaviruses infection.

Key words: COVID-19, Knowledge, Attitude, Practice, Kurdistan Region.

Introduction

Coronavirus disease 2019 (COVID-19) has recently emerged to be recognized as a respiratory disease caused by a new type of corona virus family. It has been detected for the first time in Wuhan, China in December 2019.[1] The disease is found to be highly infectious among human, and the patients are usually presented with respiratory symptoms as shortness of breath, dry cough, and constitutional symptoms as fever, fatigue, and myalgia.[2-3] Among the participants 18.5% of the ill cases are found to be progressed to a severe stage that led to acute respiratory distress syndrome, septic shock, severe form of metabolic acidosis, and coagulation dysfunction[1-4]. An active contagion that can be efficient via a close

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contact with an infected person identifies Coronavirus disease 2019.[5-6] Empirical clinical data have shown that the overall mortality rate of the diseases was 8% in the world which was lower than that of SARS (9.5%), MERS (34.4%), and H7N9 (39.0%).[1,7]World Health Organization (WHO) reported that COVID-19 pandemic spread was very fast as by June 28, 2020 the virus distributed in 216 countries, areas or territories with documented positive lab results and significant human deaths.[9] Many aggressive measures have been undertaken to control the spread of the diseases to the whole world such as curfew and closing many public places, with strict isolation of both confirmed cases with COVID 19 and even suspected ones.[9-10] Through evaluating public understanding and knowledge of coronavirus, it is possible to gain deeper insights into current public attitudes and practices, thus, helping to recognize characteristics that affect the public when implementing safe practices and sensitive activities.[11] Kurdistan like other parts of Iraq; are still fighting in a hope of full success. Adherence to the control measures by people is very important, and this will be hugely affected by their knowledge, attitudes, and practices (KAP) towards the disease according to the KAP hypothesis.[12-13] To make the management of COVID-19 epidemiceasier, there is an immediate need to understand the public's awareness of COVID-19 at this risky moment. In this study, we investigated the knowledge, attitudes and practices towards COVID-19 among Kurdish residents.

Materials and methods

An online cross-sectional survey design from March 23 to April 2, 2020. was used to assess the knowledge, attitudes, and practices of COVID19 among the Iraqi Kurdistan region population during the slow rise period of the COVID-19 outbreak, therefore, it was not possible to do random sampling survey. A sample size calculator (*Raosoft software)* was used to measure the representative target sample size needed to achieve the study objectives and adequate statistical power.[14] The online data collection has long been one of the safe and most popular data collection techniques in this period, pre-tested online questionnaire survey was adopted and used. Further, both English and Kurdish languages were used in the questionnaire. To develop a COVID-19 knowledge questionnaire, the authors depended on the guidelines for controlled and community management of COVID-19 by the European Centre for Disease Prevention and Control (ECDC), the Centres for Disease Control and Prevention (CDC) and World Health Organization (WHO).[15,16-17] These questions were answered on a Yes/No basis with an additional "I don't know" option. The Cronbach's alpha coefficient of the knowledge questionnaire was 0.76 in our sample indicating acceptable internal consistency.[18] The questionnaire is divided into three sections. Section A collects information on socio-demographic background such as gender, age, marital status, family members, education levels, city, place of residence and employment income. Individual characteristics are collected in Section B, which involve information on the role of social media in coronavirus and online meeting on outbreak. The last section, Section **C**, contains details of the knowledge, attitudes, practices related to COVID19, and it also includes clinical presentations, communication routes, and prevention and control of COVID-19. Online questionnaire survey was posted/reposted to moments and groups via telecommunication and social networking. The respondents who voluntarily participated were informed about the purpose of the study. Besides, the respondents were ensured that their answers would be kept confidential and

would only be used for research purpose. As soon as the respondents have completed the answers of the questions, they started submitting the questionnaires online. Further, the emails were arranged and kept in a single folder.Data was analysed by using the IBM Statistical Package of Social Sciences (SPSS) version 25. Initially the data was analysed descriptively using frequency, percentage. The responds of the participant's knowledge items included three answers (0 = I don't know, 1= Incorrect, and 2= Correct). The calculation of overall participant's knowledge (12 items) was categorized to three groups of Poor knowledge (0-8), Fair knowledge (9-16), and Good knowledge (17-24). The responds of the participant's practice items included three answers (0 = Not done, 1= Sometimes, and 2= Done). The calculation of overall participant's practice (3 items) was categorized to three groups of Poor practice (0-2), Fair practice (3-4), and Good practice (5-6).The responds of the participant's attitude items included three answers (0 = I don't know, 1= Disagree, and 2= Agree). The calculation of overall participant's attitude (5 items) was categorized to two groups of Negative attitude (0-5) and Positive attitude (6-10).

Results

Table (1) showed that the participants were mostly young; and male, nearly 667 (62.5%) were aged less than 35 years, and 677 (62.6%) were male. The responders were mostly from families having less than 5 members 678 (62.7%), Diploma and Bachler bachelor educated level 777 (72.9%), being governmentally employed 434 (40.1), middle income economic status 1000 (92.5), lived in urban 927 (85.8) and Erbil 856 (79.2).

Table (1): Sociodemographic characteristics of the study population.

Socio-demographic Characteristics (n=1081)		No.	%
Age	15-24	358	33.1
	25-34	469	43.4
	35-44	197	18.2
	45-54	47	4.3
	≥ 55	10	0.9
Gender	Male	677	62.6
	Female	404	37.4
Marital status	Single	542	50.1
	Married	539	49.9
Family members	< 5	678	62.7
	6-10	376	34.8
	> 10	27	2.5
Education levels	Primary and Secondary	153	14.2
	Diploma and Bachelor	777	71.9
	Master and PhD	151	14.0
Job	Student	280	25.9
	Government Employees	434	40.1
	Not working	118	10.9
	Private Employee	183	16.9

	Free Job	66	6.1
Income	Low	58	5.4
	Middle	1000	92.5
	Upper middle	23	2.1
City	Erbil	856	79.2
	Sulaymaniyah	185	17.1
	Duhok	32	3.0
	Halabja	8	0.7
Place of residence	Urban	927	85.8
	Rural	154	14.2

Table (2) demonstrated that the responders had relatively positive awareness about COVID 19. We noticed that the responders had relatively increased positive awareness of COVID 19, as 1038 responders (96%) believed in COVID 19. Almost 958 (88.6) % knew that COVID-19 virus spreads via respiratory droplets of infected individuals. Meanwhile, belief about wearing the gloves, mask, and the possibility of product being contaminated were mostly less 45%.

Table 2: knowledge about Covid-19 .

Knowledge (n=1081)	**Yes**		**No**		**I do not know**	
	No.	**%**	**No.**	**%**	**No.**	**%**
Do you believe in COVID19?	1038	96.0	43	4.0	0.0	0.0
Do you know much about the coronavirus disease (COVID-19)?	647	59.9	414	38.3	20	1.9
Do you know the main medical symptoms of COVID-19 are fever, fatigue, dry cough, and myalgia?	751	69.5	123	11.4	207	19.1
Is coronavirus disease (COVID-19) the same as the flu?	688	63.6	153	14.2	240	22.2
Is COVID-19 virus spreads via respiratory droplets of infected individuals?	958	88.6	60	5.6	63	5.8
Am I at risk for COVID-19 from a package or products shipping from China or other countries?	450	41.6	338	31.3	293	27.1
Should I wear a mask to protect myself?	448	41.4	573	53.0	60.	5.6
Should I wash hands frequently using soap and water to protect myself?	684	63.3	397	36.7	0.0	0.0
Should I wear gloves when I go shopping?	492	45.5	589	54.5	0.0	0.0
Should I avoid touching my face, nose, and eyes?	528	48.8	553	51.2	0.0	0.0
Should I avoid close contact with anyone who has cold flu like symptoms to protect myself?	665	61.5	411	38.0	5.0	0.5
Should I avoid going to crowded places such as masjid and avoid taking public place?	719	66.5	362	33.5	0.0	0.0

Table (3) illustrated that for 956 (88.4%) of the respondents, the most frequent practice to protect from COVID 19 was staying at home with all family members

while less than 464 (43%) bought products that from China and Iran.

Table (3): Practices to protect from COVID 19.

Practice (n=1081)	Yes		No		I do not know	
	No.	%	No.	%	No.	%
During this period, have you bought products from China, Iran or other products that have infected COVID19?	464	42.9	365	33.8	252	23.3
During this quarantine, have you stayed at home?	843	78.0	238	22.0	0.0	0.0
During this quarantine, have all family members stayed at home?	956	88.4	66.0	6.1	59.0	5.5

Table (4) showed the participants' attitude in terms of COVID 19. Most of the participants 1004 (92.9%) agreed with the governmental measures to reduce the COVID 19 risk, and some responders 278 (25.7%) perceived and felt worry about COVID-19.

Table (4): Attitude according to COVID 19 protective measures.

Attitude (n=1081)	Yes		No		I do not know	
	No.	%	No.	%	No.	%
Do you agree that you are at risk from COVID-19 due to taking products from outside of Kurdistan region?	450	41.6	338	31.3	293	27.1
Do you agree that government can win the conflict against COVID-19 virus?	991	91.7	64	5.9	26	2.4
Do you agree with the procedures the Government achieved to decrease people's risk of being infected by/with COVID 19?	1004	92.9	54	5.0	23	2.1
Do you agree to help Government to control this situation?	958	88.6	65	6.0	58	5.4
Do you agree with your worry feel about COVID-19?	278	25.7	502	46.4	301	27.8

Table (5) showed that most participants had good knowledge 800 (74%), positive attitude 1060 (98.1%), and good practice 694 (64.6%) concerning COVID-19.

Table (5): The Overall knowledge, attitude, and practice about COVID-19.

Overall Knowledge (n=1081)	No.	%
Good	800	74.0
Fair	281	26.0
Poor	0	0.0
Overall Practice (n=1081)		
Good	698	64.6
Fair	378	35.0
Poor	5	0.5
Overall Attitude (n=1081)		
Positive Attitude	1060	98.1
Negative Attitude	21	1.9
Total	1081	100

Discussion

To our knowledge the present study is the first of its kind focusing on studying KAP among the general population of Iraqi Kurdistan for the COVID-19 outbreak. The regular number of local COVID-19 cases has dropped substantially to nearly zero in areas since late April. Nevertheless, the direct link of COVID-19 transmission has started since the viral return because many people came back from outside Kurdistan that have been exponentially increasing since June 2020.[19] Observing the instantaneous effective number of reproductions and real-time tuning of policy interventions to ensure controllable second wave, the overriding public health priority remains close.The data on population knowledge, attitudes, and practices towards COVID-19 or other similar viruses, specifically in Kurdistan, have been limited in publication. Along with its uncertainties, the novelty of this disease makes it essential for health authorities to plan appropriate strategies to prepare and manage the public. Therefore, it is of significant to study the knowledge, attitudes, and practices of the population to monitor these efforts.On the other hand, in a similar study to the current study, those with low monthly income were scored among the lowest knowledge scores.[10-20]This may indicate limited access to credible and timely information about the virus. The difference in stages of knowledge is probably reflective of the existing COVID-19 figures background in the area[10].The majority of the participants demonstrated that they had relatively positive awareness about COVID 19. Nearly 92.9% agreed about the governmental measures to reduce and 88.6% agreed about controlling the COVID 19 risks at the first wave. Likewise, similar studies to the current study in China, Malaysia and Saudi Arabia showed that majority of the participants also held an optimistic attitude towards COVID-19 epidemic: they believed that COVID-19 would finally be successfully controlled and they were confident that China, Malaysia and Saudi Arabia could win the battle against the virus.[1,10-20]his study also evaluated KAP's characteristics in contradiction to COVID19 and described some related demographic variables to KAP. Remarkably, the Kurdistan population practices were incautious: 41.4% wore masks when leaving home during the COVID19 outbreak's rapid rise period and 66.5% avoided crowded places. In Kurdish society,the use of facemasks is basically n ot a common. It is rare for the people in this area to wear a facemask during disease period. In contrast to the findings, the Chinese residents' practices were very cautious: nearly (96.4%) avoided crowded places and (98.0%) wore masks when leaving home during the COVID19 outbreak.

Conclusion

This study comes to conclude a suggestion which calls for providing the residents with an extensive health education program so that they can increase their awareness of Covide-19. Hence, the limitation of sample representation requires further studies to check the KAP to Coronaviruses among people living in low socioeconomic situation in Kurdistan Region.

Conflicts of interest

The author report no conflicts of interest.

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