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Original Research Article

Exploring knowledge, attitudes, and barriers towards preventive measures against COVID-19 among Alnakasah population in Makkah

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ABSTRACT

Background: The success of preventive measures against COVID-19 depends on the knowledge level and attitude among the public. This study aimed to assess the knowledge and adherence to preventive measures against COVID-19 among Alnakasah residents in Makkah.
Methods: This is a cross-sectional study used a structured questionnaire. Data were collected from the residents of Alnakasah slum in Makkah. Responses related to the medical status, knowledge level, attitude, and barriers to preventive measures were analyzed.
Results: The study indicated a low knowledge level among participants regarding the transmission mode. Fever and shortness of breath were the most common chosen symptoms with 60.8% and 34.1%, respectively. The current study also reported perceptions related to preventive measures including wearing facemasks 67.2% and vaccination 57%. The most common sources of information were family and friends 60.8%, followed by SMS and WhatsApp messages 41%.
Conclusions: A relatively lower knowledge of the mode of transmission of COVID-19 was reported in the present study. However, a positive attitude toward preventive practices was exhibited in the findings. Good adherence to preventive measures was reported by the participants.

Keywords: COVID-19, Preventive measures, Knowledge, Makkah, Alnakasah

INTRODUCTION

The global impact of coronavirus disease (COVID-19) has been unprecedented. The parlous state of economies, healthcare disruptions, and loss of human lives are just a few highlights of the pandemic so far.[1] Overwhelming outbreaks of COVID-19 erupted across the globe after the first case of novel coronavirus was reported in Wuhan, China on 31 December 2019. The disease is caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which has phylogenetic similarity with the 2003 SARS virus.[2] The highly contagious nature and the long incubation period are the prominent features of the SARS-CoV-2 virus.[3] As infection rates jumped across the globe, the World Health Organization (WHO) declared COVID-19 a pandemic on 11 March 2020. As of 18 November 2022, there have been 633.60 million confirmed COVID-19 cases and 6.59 million deaths.[4] The primary mode of

transmission was identified as droplets, dispersed through sneezing and coughing. In response to the pandemic, preventive measures including lockdowns, travel restrictions, and mass awareness have been implemented by governments.

With the development of the COVID-19 vaccine at the end of 2020, mass vaccination campaigns have been focused. However, non-compliance is still an issue among the general public. As the COVID-19 pandemic ravages the world, effective control is dependent on engagement in preventive behaviors. Risk perception is the primary factor to motivate strong adherence to preventive measures.[5] Multiple factors influence the risk perception of an individual including knowledge level, access to information, and emotional state. People's adherence to control measures is affected by their knowledge, attitude, and practices toward COVID-19.[6] In addition, negative perceptions and attitudes hinder the effective control of the disease. Improvement in awareness levels can increase adherence to preventive measures such as social distancing, hand hygiene, and wearing a face mask which can curb the COVID-19 pandemic.[7]

The present study aimed to determine the knowledge and perception among the community of the Alnakasah slum in Makkah, Saudi Arabia towards the COVID-19 pandemic. Attitude and adherence practice of preventive measures were analyzed among participants. The findings of the study will pave way for effective policy development regarding health education to combat COVID-19.

METHODS

Study design

This is a cross-sectional study that utilized an online form of a structured questionnaire to explore the knowledge and attitude towards COVID-19 preventive measures.

Study area

The study was conducted in Alnakasah neighborhood in Makkah province, Saudi Arabia. Alnakasah is a demotic neighborhood located in the mountains of the city of Makkah. The crowded and random nature of the place are considered risk factors for communicable diseases.

Study population

The majority of the population living in Alnakasah are non-Saudis, Burmese population represent the living majority.

Inclusion criteria was individuals who has presented to the mobile clinic, resides in Alnakasah, and agreed to participate in the study. Exclusion criteria were individuals aged less than 18 years old.

Sample size

Based on governmental reports, Alnakasah population is about 50,000. Therefore, a minimum sample size of 382 was needed according to an online calculator (raosoft.com). Equation was built with 95% confidence interval, 5% margin of error and 50% distribution rate.

Data collection

A set-up of mobile clinic was arranged to provide primary health care services to the population of Alnakasah for one week between 27 June to 01 July 2021. The approach to participants was facilitated by community leaders and Derhum Weqaya non-profit organization. Participants who agreed to take part in the study were asked by study investigator through electronic questionnaire. The questionnaire contained five sections including demographic characteristics, medical history, knowledge, attitude and barriers of using preventive measures against COVID-19.

Statistical analysis

The statistical package for the social sciences (SPSS, IBM Corp. Released 2020. IBM SPSS Statistics for Windows, Version 27.0. Armonk, NY: IBM Corp) was used for data analysis. Variables having less than 5% missing values were replaced using the mean for continuous variables and mode for categorical variables. Continuous variables were tested for normal distribution prior to summarization. Normally distributed variables were summarized using mean and standard deviation (SD) while skewed data were summarized using median and interquartile range (IQR). Categorical variables were summarized using proportions.

Ethical considerations

All the participants were informed about the nature and objectives of the study prior to obtaining consent to fill the questionnaire. Collected data were completely anonymous and were used for research purposes only. Furthermore, only the main investigators of the research had the acquisition and access to the data during the data collection.

RESULTS

A total of (293) responses were coded and analyzed. The mean age was 46.9±14.3, males represented 56.3%, and the majority (98%) were from Myanmar. Overweight participants represented 30.7%, while obese represented 31.4%. See the sociodemographic characteristics and body mass index (BMI) categories in (Table 1).

History of chronic medical diseases was obtained. Hypertension and diabetes were the most common diseases with prevalence rates of 54.9% and 54.6%, respectively. Upon physical examination, body temperature, blood pressure and blood glucose level were obtained. Using

37.5 C as cut-off for temperature, only 3.4% had high temperature. Blood glucose levels were high among 42.6%. The medical history of chronic diseases, blood pressure and blood glucose categories are shown in (Table 2).

Table 1: The sociodemographic characteristics of the sample.

Parameters	N	%
Gender		
Male	165	56.3
Female	128	43.7
Nationality		
Burma	287	98
Bangladesh	4	1.4
Pakistan	1	0.3
Saudi	1	0.3
Marital		
Single	29	9.9
Married	227	77.5
Divorced	6	2
Widow	31	10.6
Educational level		
Uneducated	141	48.1
Elementary	87	29.7
Intermediate	26	8.9
High school	23	7.8
University	16	5.5
Occupation		
None	191	65.2
Office work	13	4.4
Field work	49	16.7
Manual	40	13.7
BMI category		
Underweight	18	6.1
Normal	93	31.7
Overweight	90	30.7
Obese	92	31.4

Regarding the knowledge about the mode of transmission of COVID-19, possible answers included respiratory droplets, air, body secretions and food. Providing the option "not sure", the answers varied and indicated a low level of knowledge among the population. The answers are shown in (Figure 1). Participants were also inquired about the typical symptoms of COVID-19 allowing multiple choices of a total of ten symptoms. Fever and shortness of breath were the most common chosen symptoms with 60.8% and 34.1%, respectively, followed by headache and dizziness with 20.1% each. The answers are shown in (Table 3). Participants were also asked about their perception of the role of common preventive measures against COVID-19. Suggested preventive measures included face mask, vaccination, hand hygiene, traditional remedies and social distancing. The participants answers are shown in (Table 4). The participants were also asked about their practice of COVID-19 preventive measures. Wearing face mask, social distancing and hand hygiene were all inquired.

The responses regarding the frequency of practicing preventive measures are shown in (Table 5).

Table 2: Chronic diseases, blood sugar and blood pressure categories of the sample.

Parameters	N	%
Hypercholestremia		
Yes	91	31.1
No	202	68.9
Diabetes		
Yes	160	54.6
No	133	45.4
Hypertension		
Yes	161	54.9
No	132	45.1
Do you smoke?		
Yes	26	8.9
No	267	91.1
Blood sugar level		
Low	3	1.4
Normal	117	56
High	89	42.6
Blood pressure		
Normal	36	12.3
High blood pressure	213	72.7
Hypertension crisis	44	15

Table 3: Participants perception about the symptoms of COVID-19.

Symptoms	N	%
I do not know	84	28.7
Fever	178	60.8
Shortness of breath	100	34.1
Diarrhea	21	7.2
Headache	59	20.1
Dizziness	59	20.1
Fatigue	46	15.7
Vomiting	9	3.1
Loss of smell and taste	31	10.6
Abdominal pain	8	2.7
Loss of appetite	14	4.8

Participants were asked about their source of information regarding COVID-19 preventive measures. The most common sources of information were family and friends 60.8%, followed by SMS and WhatsApp messages 41%, and TV 37.2%.

Other sources of information included community leaders, ministry of health campaign and social media with the responses showed in (Table 6).

Table 4: Participants perception regarding the preventive measures of COVID-19.

Parameters	N	%
Face masks help preventing COVID-19		
Yes	197	67.2
To a certain level	41	14
No	31	10.6
I don't know	24	8.2
Vaccination help preventing COVID-19		
Yes	167	57
To a certain level	39	13.3
No	35	11.9
I don't know	52	17.7
Hand washing/sanitizing help preventing COVID-19		
Yes	218	74.4
To a certain level	28	9.6
No	19	6.5
I don't know	28	9.6
Traditional remedies (ginger and garlic) and supplements help preventing COVID-19		
Yes	156	53.2
To a certain level	49	16.7
No	35	11.9
I don't know	53	18.1
Social distancing help preventing COVID-19		
Yes	202	68.9
To a certain level	35	11.9
No	26	8.9
I don't know	30	10.2

Table 5: Participants practice of COVID-19 preventive measures.

Parameters	N	%
When do you wear the facemask?		
All the time	19	6.5
When I go out or meet someone	153	52.2
In crowded places or when meeting new people	90	30.7
I don't wear face mask	31	10.6
When do you practice social distancing?		
With everyone including my family	46	15.7
With everyone except my family	131	44.7
Crowded places or new people	101	34.5
I don't use social distancing	15	5.1
When do you wash your hand or use hand sanitizers?		
Always	212	72.4
Sometimes when I remember	72	24.6
Rarely	6	2
I don't wash my hands	3	1

Table 6: Sources of information of the participants regarding COVID-19 and its preventive measures.

Where do you receive your information about COVID-19 from?	Yes		No	
	N	%	N	%
Family members and friends	178	60.8	115	39.2
SMS, WhatsApp messages	120	41	173	59
TV	109	37.2	184	62.8
Community leaders	94	32.1	199	67.9

Continued.

Where do you receive your information about COVID-19 from?	Yes		No	
	N	%	N	%
Ministry of health campaigns and messages	99	33.8	194	66.2
Social media	65	22.2	228	77.8

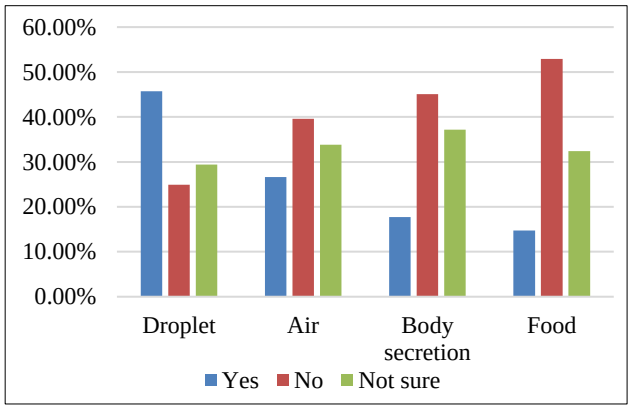

Figure 1: Participants perception regarding the mode of transmission of COVID-19.

DISCUSSION

The COVID-19 pandemic had a devastating impact on the quality of life across the globe. It has claimed millions of lives during this short period. The major challenge to fight COVID-19 concerns appropriate knowledge of COVID-19 preventive measures. Improvement in knowledge level has been associated with an improved attitude and implementation.[8] Unconcerned attitudes and non-adherence to preventive measures are often attributed to a lack of awareness which hinders strategies to curb the COVID-19 menace. Misinformation, psychological elements, and economic factor can exert pressure on limiting compliance with mandatory measures.[9] The resent study aimed at assessing the knowledge, perception, and adherence to preventive measures among the community of the Alnakasah slum in Makkah, Saudi Arabia. This study is vital to predict public behavior towards the pandemic and design plans accordingly.

The present study revealed a low level of knowledge related to the COVID-19 mode of transmission among participants. These findings are consistent with Islam et al study conducted among slum dwellers in Dhaka, Bangladesh.[10] However, several studies contrasted our findings where participants showed higher knowledge levels of the COVID-19 mode of transmission. Ngwewondo et al reported a higher knowledge level (84.19%) among the public of Cameroon. The majority (94.3%) of participants were aware that disease can be transmitted by droplets.[11] This was much higher than our findings where only 45.7% of participants knew of droplets as the mode of transmission. Similar findings were reported in Riyadh, Saudi Arabia where 99% were aware of the mode of transmission.[12]

Zhong et al also revealed a higher knowledge level among the Chinese public. He also found a relationship between education and knowledge level.[6] Indian and Egyptian studies also showed good knowledge levels regarding the transmission of the disease.[13,14] There are two explanations for these findings: the study provided a 'not sure' option which could have impacted the answers, and most of the participants (48.1%) were uneducated. Education level has been linked with the knowledge level of the COVID-19 pandemic. Haftom et al have reported that better education increased the knowledge level of participants.[15] Regarding the symptoms of the disease, fever (60.8%) and shortness of breath (34.1%) were commonly reported among participants. These findings are in-line with Orfan and Elmyar, however, they reported higher percentages, 97%, and 95% respectively.[16] Olaimat et al also reported similar observations regarding symptoms among university students in Jordan.[17]

The current study also reported perceptions related to preventive measures including wearing face masks (67.2%), vaccination (57%), hand sanitizing (74.4%), traditional remedies (53.2%), and social distancing (68.9%). Such findings are supported by Ilesanmi and Afolabi, where 65.5% of participants reported face masks as an effective measure to control COVID-19, followed by social distancing (48%).[18] In the present study, more than half of the respondents believed traditional remedies like ginger, garlic, and warm water are effective against COVID-19. These findings are much higher than Ilesanmi and Afolabi, where only (1.1%) reported traditional remedies as effective measures.[18] Perception of preventive measures like hand hygiene (74.4%) and social distancing (68.9%) was lower in this study compared to previous studies. Barrett and Cheung reported a hand hygiene perception of 90.7% and a social distance of 93.5% to combat COVID-19.[19]

Regarding the source of information, the majority of respondents answered friends and family (60.8%), followed by SMS and WhatsApp messages 41%, and TV 37.2%. These findings were different from Abdelhafiz et al who reported social media (66.9%) as a major source of information among Egyptians. Also, friends and family (38.1%) as a source of information was much lower than in our study. The difference in findings could be due to the education level of the participants. In the Egyptian study, more than half of the participants were university graduates compared to 5.5% in our study.[14] The present study results were supported by a study in informal settlements in Nairobi, Kenya where education level was implicated in the source of information on COVID-19.[20]

The participants in the study reported government TV ads and messages as means of information. Olapegb et al reported mass media (81.5%) as a major source of COVID-19-related information, followed by social media and the internet.[21]

The current study is among the very first studies which focused on Alnakasah community. However, the approached sample size did not meet the target. This limitation would be attributed to the difficult communication as the community is closed on himself and the language briers. Moreover, data were collected from those who needs health services, so it does not represent all Alnakasah's population.

CONCLUSION

COVID-19 is a contagious disease with potential ramifications across different aspects of life. Adherence to preventive measures has been the best strategy to combat the disease. The results of the current study analyzed the knowledge level, perceptions, and attitudes toward COVID-19. The findings of the current study revealed a relatively low knowledge of the mode of transmission of COVID-19. However, the study exhibited a positive attitude toward preventive practices including hand sanitizing, social distancing, and wearing a face mask. In addition, good adherence measures regarding the prevention of COVID-19 were adopted by the participants of the study. The findings of the study suggest a well-planned awareness campaign to boost the knowledge of the public. Sensitization of the general public, especially those living in cramped living spaces is essential to curb the spread of the disease. Health education along with better living facilities can improve the outcome of the COVID-19 pandemic.

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