DOI: https://doi.org/10.53350/pjmhs211551395

ORIGINAL ARTICLE

Behaviors and Attitude towards COVID19 Disease among the Saudi Population Based on Sociodemographic characters

HOWEIDA H.ABUSALIH, AMJAD AALGHAMDI, MALAK MALHAWSAWI
Princess Nourah Bint Abdulrahman University, College of Health Sciences and Rehabilitation. Epidemiology Program
Correspondence to Dr. Malak M Alhawsawi, Email: moneka192018@gmail.com, Tel: +966583424281

ABSTRACT

Aim: To investigate the attitude and associated sociodemographic characteristics of KSA residents toward COVID-19 during the peak of the pandemic.

Methods: A descriptive cross-section study was conducted during the lockdown period among 465 Saudi Arabia residentsenrolled by using a snowball sampling technique. Data was collected through an online questionnaire contained Likert scale questions regarding assessing attitudes of the population towards COVID preventative measures. The statistical analysiswas doneusingSPSS version 22, t-test, analysis of variance (ANOVA),and regression tests were used to evaluate the relationship between the variables.

Results: The mean score for perception towards COVID 19 was25.93± 2.217.Most of the items got more than 90% highest agreement was for dealing with diseases should be based on medical advice (97.63%) followed adhering to preventive procedure decrease disease infectionof the population(59.96%). The lowest score was for havingdirect contact witha COVID patient even when committing to preventive measures.There is nostatistical association betweenage and genderwith behavior.ANOVA test showed gender issignificantly associated with agreeing that following preventive measuresreduces the possibility of disease infection while the profession is significantly associated with being in contact with aCOVID patient while committing to preventive measures.

Conclusion: This study showed a positive attitude towards COVID-19 among the Saudi population, which could play an important role in following the preventive measures and thus reduce the spread of the disease.

Keywords: Behaviour, Attitude,COVID-19, Saudi Arabia

INTRODUCTION

The highly infectious emerging Coronavirus disease (Known as “COVID- 19”) is a respiratory sickness that is brought about by a novel Covid and was first identified in December 2019 in Wuhan, China. The essential manifestations include fever, dry cough, exhaustion, myalgia, and dyspnea, lesser ones are intense respiratory disorder, septic shock, metabolic acidosis, and coagulation disorders[1,2]. The World Health Organization (WHO) In response to this drastic crisis, declared COVID-19 as a public health emergency of international concern on January 30, WHO also called for collaborative work of all countries in the world to prevent the rapid spread of the disease[3].

In response to this world emergency, Saudi Arabia implemented several regulationsto combatthe diseasesuch as appendingthe air flights and introducing a curfew for specific hours[4]. The closing down of social activities aiming to diminish the spread of the pandemic had resulted in a worldwide lockdown, causing a crash of worldwide financial economics[5]. To guarantee a high achievement in the prevention of the disease, individuals' adherence to these control measures is fundamental, which is generally influenced by their perspectives, and practices towards COVID-19 as per Knowledge, mentality, and Practice[6]. The devastating result that happens now requires surveying public insight, indeed, individuals' behavior can drastically impact the speed of the spread of a pandemic[7,8]. Moreover, risk perception is considered as one of the central highlights of protection-motivation theory which drives individuals' desire to collaborate and accept wellbeing protective practices during pandemics[9,10]. In addition to that studying the perception will help in identifying gaps and strengthening ongoing continuous counteraction measures. Thus, this study aims to investigate the attitudeand associated sociodemographic characteristicsof KSA residents, toward COVID-19 during the peak of the pandemic. The findings of this study are expected to provide beneficial information to policymakers and public health officialstodesign interventions and policies on COVID 19 disease prevention that are evidence-based.

METHODOLOGY

A cross-section study was implemented in Saudi Arabia from July to September 2020 among residents aged 18-60. The sample size was 385calculated using the epi calculator and the equation n=pq Z2/d2 for an infinite population proportion.The parameters used were 95%confidence level, prevalence 0.5 average attitudewhich gives maximum sample size, the desired margin of error 0.05, and z=1.96[11]. To cater to the non-response rate, 20% was added to thecalculated sample size to give 462rounded to 465. Participants were pulled across all Saudi Arabia and data were collected by a structured questionnaire via an online route.The sampling was non-probabilityusing a Snowball sampling method. Data collection was conducted through electronic questionnairesvia Google formwhich contains participants' consent form,and it was posted on WhatsApp individuals and groups.Anonymity and voluntary participation were insured.

Data collection tool: The questionnaire used in this study was designed according to the guiding procedures recommended for the prevention of COVID-19 by the Saudi Ministry of health guideline [12].The online questionnaire wasdrafted and validated. In a pilot study, the questionnaire was pretested before using it. The first section containsdata about socio-demographic variables

(Age, Gender, education, marital status, occupation. The second section included 10 questions about the perception of protective measures of COVID 19 disease such as following preventive procedure will decrease the infection, have to learn more about disease prevention, deal with the disease based on medical advice, have direct contact with a COVID patient while committing to preventive measures, the effectiveness of traditional treatments to treat COVID-19,Presence in social gathering increases chance of getting the disease,Infected person should use a tissue when sneezing or coughing,taking new vaccine if it is availableand reportto officials about someone has COVID-19 symptoms and refuses to follow preventive measure.The responses werepresented as a three-point Likert scale.The validity of the questionnaire was 0.80 measuredby Cronbach alpha Formula 20 (KR-20) which is used for calculating internal consistency reliability for scales.

Statistical Analysis: Analysis of the data was done using SPSS version 22. Thestudy population characters were described by frequencies and percentages. For the inferential statistics, a t-test was used for comparing two means), and ANOVA (for more than two groups). Multivariate analysis using simple linear regression analytics to find the relationship between a sociodemographic character with a question following preventive measure reduce the possibility of disease infectionand the variable I do not hesitate, when needed, to come into direct contact with the infected relative while committing to preventive measures.

Ethical Consideration: Ethical approval was obtained from the Institutional Review Board of Princess Nourah Bint Abdulrahman University number 20-0253. Informed consent was taken from the participants. The anonymity of the participants and the confidentiality of their information was ensured.

RESULTS

The age distribution for the study population shows two fifths under 30 years (Less than 20 years (8.38%, 20 years to less than 30 years 33.97%) and two fifths for ages 30 to less than 50 years (30 years to less than 40 years 21.72% and 40 years to less than 50 years 21.29%.The population aged 50 years to less than 60 years was 13.54%. More than three quarters were female in a percentage of 83.23% where the males were only 16.77. Regarding the marital status slightly more than half were married (53.12%) and two-fifths were single (40%) whereas the divorces were 4.52% and widows 2.36%.For the educational level, almost three-fifthwere university graduates (60.21%), almost one fifth for postgraduate or secondary (21.29 % and 18.50% respectively).One-third of the population are government employees (30.54%) and almost a tenth are private employees (11.61%), where the remaining were either retired, unemployed, or students (5.81% 23.87% 28.17% respectively.

Table 1 demonstrates participants' perceptions toward COVID-19. Almost half of the participants (49.03%) agreed that COVID-19 has high transmission susceptibility, and most of them (95.69%) believed that preventive procedure decrease from disease infection and 87.95% of the participants think they have to learn more about the disease, and almost all of them (97.63%) believed in the importance of dealing with a patient based on medical advice, and (48.602%) of participants reported that they can't contact with a patient even if they are committed to preventive measures, (91.18%) of them revealed that social gathering increase from disease infection, and (94.4%) agreed that infected person should use a tissue when sneezing or coughing, (73.33%) reported if a new vaccine discovered they will take it, majority of the participants (79.35), revealed that they will report about someone has COVID-19 symptoms and refuses to follow preventive measure.

Table 2 shows the association between Sociodemographic Characteristics of the Studied Sample and perception. It is noticed that there is no significant association of age or gender with knowledge with perception (F=1.642 P=0.1473, t=0.856 P= 0.3938 and F= 2.1167 P= 0.0777 respectively.

Table 3 displays the outcome of the multivariate analysis in terms of simple logistics regression and ANOV testing the sociodemographic character with both agreeing that following preventive measure reduces the possibility of disease infection and the attitude of being in contact with a COVID patient while committing to preventive measures. Result showed that gender can predict following protective measures P-value of 0.01. The regression the intercept was 0.95and adjusted r=0.0118 which can be used as a measure of the slope of the least square line. For the attitude, result showed that the profession can predict dealing with patients while committed to the infection control procedure measures the P-value of 0.02. The regression the intercept was 2.12 and adjusted r=0.01 which can be used as a measure of the slope of the least square line.

Table 1.Attitudetowards COVID-19 among Studied Sample.

Variables	Agree, n(%)	Neutral, n(%)	Disagree, n(%)	
It is importance to deal with disease based on medical advice	454(97.63)	10(2.15)	1(0.215)	
Following preventive procedure decrease disease infection	445(95.69)	19(4.08)	1(0.215)	
Infected person should use tissue when sneezing or coughing	439(94.4)	13(2.79)	13(2.79)	
Presence in social gathering increases my chance of getting disease	424(91.18)	30(6.45)	11(2.36)	
I have to learn more about disease prevention	409(87.95)	50(10.7)	6(1.29)	
I will report about someone has COVID-19 symptoms and refuses to follow preventive measure	369(79.35)	76(16.34)	20(4.301)	
If a new vaccine discovered, I will not hesitate to take it	341(73.33)	98(21.07)	26(5.59)	
Everyone has possibility of COVID-19 infection	228(49.03)	121(26.02)	116(24.94)	
I can have direct contact with a COVID patient , while committing to preventive measures	155(33.33)	84(18.06)	226(48.602)	
I believe in the effectiveness of traditional treatments to treat COVID-19	108(23.22)	165(35.48)	192(41.29)	
Total attitude score	Mean ± SD	Median	**95% CI**	
	25.93± 2.217	27	Lower	Upper
			25.73	26.14

Table 2: The association between Sociodemographic Characteristics and the attitude of the Studied Sample.

Variables	Attitude Score X ± SD	Test of significance
Age		
Less than 20	25.87(2.40)	
From 20 to less than 30	25.7(0.175)	F= 1.642
From 30 to less than 40	26.17(0.21)	P= 0.1473
From 40 to less than 50	25.62(0.22)	
From 50 to less than 60 more than 60	26.49(0.27)	
	25.4(0.988)	
Gender		
Male	25.69(2.86)	t= 0.856
Female	25.98(2.06)	P= 0.3938
Occupation		
Government employee	26.26(2.01)	
Private employee	25.27(3.15)	
Student	25.80(1.90)	F= 2.1167
Unemployed	26(2.2094)	P= 0.0777
Retired	25.85(2.24)	

**P<0.05

Table 3.Simple Logistic regression and ANOVA test of sociodemographic characteristics with both agreeing that following preventive measure reduce the possibility of disease infection and attitude of being in contact with a COVID patient, while committing to preventive measures.

a)Agreeing that following preventive measure reduce the possibility of disease infection

Analysis of Variance						
Item		DF	Sum of square	Mean Square	F	Significant F
Age	Regression	1	0.001	0.001		
	Residual	463	709.964	1.533	0.00096	0.97
Gender	Regression	1	0.909	0.909		
	Residual	463	64.007	0.138	6.5761	0.01
Education	Regression	1	0.090	0.090		
	Residual	463	184.546	0.398	0.2271	0.63
Profession	Regression	1	1	4.128		
	Residual	463	463	1096.894	1.7428	0.18

b) Attitude of being in contact with a COVID patient, while committing to preventive measures.

Parameters Estimate							
	Multiple R	**Square R**	**Adjusted R**	**Standard Error**	**Intercept**	**F value**	**P value**
Age	0.0000	0.0000	1.2400	0.6133	3.017	10.71	0.97
Gender	0.1183	0.0140	0.0118	0.3718	0.9555	11.30	0.01
Education	0.0221	0.0004	-0.0017	0.6313	2.0390	14.20	0.63
Profession	0.0612	0.0037	0.0016	1.5391	2.1886	6.25	0.18

Analysis of Variance						
Item		DF	Sum of square	Mean Square	F	Significant F
Age	Regression	1	23.170	23.1704		
	Residual	463	686.795	1.483	15.620	8.95
Gender	Regression	1	0.1690	0.169		
	Residual	463	64.747	0.1398	1.208	0.27
Education	Regression	1	0.0245	0.0245		
	Residual	463	184.612	0.398	0.0615	0.80
Profession	Regression	1	21.1586	21.158		
	Residual	463	1079.865	2.332	9.071	0.00

Parameters Estimate							
	Multiple R	**Square R**	**Adjusted R**	**Standard Error**	**Intercept**	**F value**	**P value**
Age	0.18	0.03	0.03	0.12	3.54	24.04	0.89
Gender	0.05	0.00	0.00	0.37	1.21	26.79	0.27
Education	0.01	0.00	0.00	0.63	1.98	26.01	0.80
Profession	0.14	0.02	0.02	1.53	2.12	11.49	0.00

DISCUSSION

This paper aimed to predict and describe the beavior and attitude of Saudi residents toward COVID-19. Participants in this study showed a mean score of (25.93±2.217) which could be due to the great efforts expended by the government[13].The same result was found in a study conducted in Malaysia where the attitude of the residents towards COVID-19 was positive[14]. Nearly half of the participants (49.03%) agreed with the possibility to get infected with COVID-19, this indicates that residents who perceive high susceptibility towards a health problem (COVID-19) tend to take the preventive procedures more seriously to reduce the risk of infection[7]. Similar to a study carried out in Egypt where (86.9%) of the participants were concerned about the possibility to be infected with the virus[15]. Sixty-nine percent of the residents expressed that prevention methods must be followed to reduce disease transmission, as well (94.9%) of them agreed that infected people should use a tissue when sneezing or coughing as it considers a preventive measure.

Almost all the residents (97.63%) agreed that dealing with a disease should be based on medical advice, which indicates their high awareness of taking advice from reliable sources. Nearly half (48.60%) of the participants reported that they don't want to have direct contact with an infected person even if it was by following preventive measures, this indicates their fear of catching the infection if they didn't apply the procedures correctly. Moreover, (41.29%) disagree with the statement that COVID-19 can be treated with traditional treatments; this could be related to the availability of a lot of information regarding traditional herbs in social media which could be unreliable. From the responses (91.18%) of the participants were aware of the risk of social gatherings in increasing the infections. This result was consistent with a study conducted in Riyadh, Saudi Arabia where the participants reported that the virus spread can be limited by staying home (99.77%); avoid gathering with family and friends (85.91%)[16].The majority of the participants (79.25%) agreed to report a person with COVID-19 symptoms who refuses to follow the preventive procedures as well as (87.95%) reported that they have to increase their knowledge towards disease prevention and (73.33%) of them will receive the vaccine when it discovered; this could be attributed to their great sense of responsibility to protect their health and the health of their family and the society.

CONCLUSION

To sum up, the Saudi population showed a positive attitude towards Covid-19,this could be related to their high awarenessof the disease.Also, most of them agreed that following the preventive methods will help in reducing the spread of the disease; i.e., the majority of the participants are willing to receive the vaccine to reduce the spread of Covid-19.

Acknowledgement: The authors would like to express their gratitude to all of the participants in this study.

Funding: This research was funded by the Deanship of Scientific Research at Princess Nourah Bint Abdulrahman University through the Fast-Track Research Funding Program.The authors also would like to acknowledge the participants for taking the time to participate in the study.

Conflict of interest: No conflict of interest.

Funding this research was funded by the Deanship of Scientific Research at Princess Nourah Bint Abdulrahman University through the Fast-Track Research Funding Program .

Conflict of interests: Authors declare that there were no competing conflicts of interest.

REFERENCES

1. Epidemiology Working Group for NCIP Epidemic Response, Chinese Center for Disease Control and Prevention. [The epidemiological characteristics of an outbreak of 2019 novel coronavirus diseases (COVID-19) in China]. Zhonghua Liu Xing Bing XueZaZhi. 2020 Feb 10;41(2):145-151. Chinese. doi: 10.3760/cma.j.issn.0254-6450.2020.02.003. PMID: 32064853.
2. Chen N, Zhou M, Dong X, Qu J, Gong F, Han Y, et al. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. Lancet. 2020;395(10223):507-513.Doi: https://doi.org/10.1016/S0140-6736(20)30211-7
3. World Health Organization. 2019-nCoV outbreak is an emergency of international concern [Internet]. 2020 [cited 2020 Jul 22]. Available from: http://www.euro.who.int/en/health-topics/health-emergencies/international-health-regulations/news/news/2020/2/2019-ncov-outbreak-is-an-emergency-of-international-concern.
4. Arab News. COVID-19 prevention better than cure say Saudi health experts [Internet]. 2020 Mar 28 [cited 2020 Jul 23]. Available from: https://www.arabnews.com/node/1648596/saudi-arabia
5. Ephraim S, Ahmed Q, Gozzer E, Schlagenhauf P, Memish, Z. Covid-19 and Community mitigation strategies in a pandemic. BMJ. 2020;368:m1066. https://doi.org/10.1136/bmj.m1066
6. Tachfouti N, Slama K, Berraho M, Nejjari C. The impact of knowledge and attitudes on adherence to tuberculosis treatment: a case-control study in a Moroccan region. Pan Afr Med J. 2012; 12: 52
7. Van der Linden S. On the Relationship between Personal Experience, Affect and Risk Perception: The Case of Climate Change.European Journal of Social Psychology. 2014;44(5): 430–440. https://doi.org/10.1002/ejsp.2008
8. FunkS, GiladE, Watkins C, Jansen V.The Spread of Awareness and Its Impact on Epidemic Outbreaks.Proceedings of the National Academy of Sciences of Sciences. 2009;106(16): 6872–6877.https://doi.org/10.1073/pnas.0810762106
9. RogersR. A Protection Motivation Theory of Fear Appeals and Attitude Change.The Journal of Psychology. 1975; 91(1): 93–114.https://doi.org/10.1080/00223980.1975.9915803
10. Brewer N, Weinstein N,Cuite C, Herrington J. Risk Perceptions and Their Relation to Risk Behavior. Annals of Behavioral Medicine. 2004;27(2): 125–130. https://doi.org/10.1207/s15324796abm2702_7
11. Hollander M, Douglas A. Nonparametric Statistical Methods. Wolfe, Wiley-Interscience; 2nd Edition. 2000. ISBN 0-471-19045-4
12. Saudi Arabia Ministry of Health. The COVID-19 guidelines [Internet].2020 [2020 Jul 24]. Available from:https://www.moh.gov.sa/Ministry/MediaCenter/Publications/Documents/Coronavirus-Disease-2019-Guidelines-v1.2.pdf
13. U.S. Embassy and Consulates in Saudi Arabia. COVUD-19 Information [Internet]. 2020 Sep 29 [cited 2020 Aug 2]. Available from: https://sa.usembassy.gov/u-s-citizen-services/covid-19-information/
14. Azlan A, Hamzah M, Sern T, AyubS,Mohammed E.Public knowledge, attitude and practice towards COVID-19: A cross-sectional study in Malaysia. Plos One2020;15(5): e0233668. https://doi.org/10.1371/journal.pone.0233668
15. Abdelhafiz A, Mohammed Z, Ibrahim M, Ziady H, Alorabi M, Ayyad M, et al. Knowledge, Perceptions, and Attitude of Egyptians Towards the Novel Coronavirus Disease (COVID-19). Journal of Community Health. 2020;45, 881–890. https://doi.org/10.1007/s10900-020-00827-7
16. AlahdalH,Basingab F, Alotaibi R.An analytical study on the awareness, attitude and practice during the COVID-19 pandemic in Riyadh, Saudi Arabia. Journal of Infection and Public Health.2020;13(10): 1446-1452.https://doi.org/10.1016/j.jiph.2020.06.015