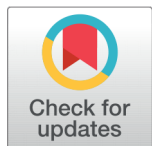


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A cross-sectional study on awareness, attitude and perception of COVID 19 among the people of Kingdom of Saudi Arabia.

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Abstract

Background/Objectives: Corona virus disease 2019 (COVID-19) has been accepted as a pandemic by the World Health Organization in the month of March 2020. Globally many efforts have been made to inhibit the spread of the disease through various strategies to create public awareness and changing personal behaviors. According to WHO report as on 2nd of October 2020, the mortality was 34,079,542 and morbidity rate of 1,015,963. In Saudi Arabia, there are 335,578 positive cases of coronavirus, 4,823 deaths and 320,348 recovered from illness. Keeping this in view, the present study was conducted to understand the level of awareness, attitude and perception regarding prevention and control of COVID 19 among people of the Kingdom of Saudi Arabia. **Methods:** Quantitative research approach was adopted with Cross sectional descriptive research design. Data was collected through the online semi structured questionnaire. The questionnaire has four sections including demographic variable, awareness, attitude and perception. The analysis is based on 301 respondents from 13 regions of the Kingdom of Saudi Arabia. Descriptive statistics was used to analyze the data. **Findings:** COVID 19 outbreak threaten the life and wellbeing of people around the world. The study finding shows that the people of Kingdom of Saudi Arabia have adequate awareness in various component of corona virus with positive attitude and good practices with regard to disease spread. Also, majority of young people mentioned that they attained awareness from social media, whereas the other age group mentioned as MOH as the major source of information. Hence, constant public educational campaign with various sources have added advantage with present outcome. **Novelty:** While COVID 19 outbreak threaten the life and wellbeing of people around the world, it's vital to constantly create awareness in cause, spread, treatment and prevention to control its impact further.

Keywords: COVID 19; awareness; attitude; practice; Coronavirus

1 Introduction

Corona viruses belongs to a large group of viruses that affect humans and animals. It affects the humans in the form of Middle East Respiratory Syndrome (MERS), Severe Acute Respiratory Syndrome (SARS) and newly discovered coronavirus disease COVID-19⁽¹⁾. The novel coronavirus causing COVID 19 was emerged at the end of 2019 in Wuhan city, China threatens the health and well-being of millions of people within a few weeks⁽¹⁻⁴⁾. Presently it becomes a major threat to mankind and this pandemic has spread around 216 countries. According to the WHO as on 2nd October 2020, the morbidity rate is 34,079,542 and mortality rate is 1,015,963. Among them, 22,051,879 patients have been recovered from illness⁽⁵⁾. According to UN data, the population of Kingdom of Saudi Arabia was estimated at 34,813,871 at mid-year of 2020 and it has 13 provinces.

2 Background

COVID-19 spreads through droplets from infected people when coughing, sneezing, or speaking. Relatively heavy droplets land on objects and surfaces including tables, doorknobs and handrails. Therefore touching these objects or surfaces and touching eyes, nose or mouth leads to human infection^(1,4). It was evident that it makes anyone sick irrespective of their race or ethnicity due to fear and anxiety. It was also noted that the illness is not posing an immediate risk of serious illness, people with comorbidity including Diabetes, Hypertension, Cardiovascular disease, Cancer, Kidney disease are at greater risk of acute illness^(1,6). Immunologist says the COVID 19 differs from seasonal flu in which they are highly contagious with a high chance of causing severe respiratory disease^(1,6). The most common symptoms associated with this disease are fever, dry cough, and tiredness. Less common symptoms include body aches, sore throat, diarrhoea, conjunctivitis, headache, loss of taste and smell, skin rashes, discoloration of fingers and toes. Some even develop serious symptoms like difficulty in breathing, chest pain or pressure and loss of speech or movement^(1,6). Though it was found that coronavirus is highly contagious, 80 % of COVID 19 patients do not require special treatment and can be safely managed at home under the supervision of trained health care professionals. Home isolation is affirmed rather than hospitalization in such cases^(1,6).

COVID 19 pandemic further impacts the government and public health system of the country. Government is taking more initiatives and adopting extraordinary measures to prevent the spread of infection in order to reduce the mortality and morbidity rate. Many countries are emphasizing people to stay at home to reduce the disease spread. Around 3 billion people are asking how long to stay at home?^(1,2,7). In addition to that the Government is emphasizing social distancing as one of the most effective methods to tackle COVID -19 pandemic. Many still have doubts how long will this social distancing continue? The answer for these questions depends on several factors like social distancing can be reduced once enough herd immunity is achieved. The World Health Organization has issued guidelines in managing problems from both physical and psychological origin due to the impact of the present situation. Those include selective strategies for patients, relatives, health care professionals^(1,2,7). It was further observed that the disease is highly prevalent among urban slums due to crowded life style practices⁽⁸⁾. Creating awareness to the general population improves the physical and mental wellbeing of people and thereby controls the present disaster.

Along with WHO initiatives, Global countries have taken steps to reduce the outbreak. The Kingdom of Saudi Arabia has taken vigilant operation since the confirmation of the first case of COVID 19 within the Kingdom⁽⁹⁾. The detailed decision has been taken since the last of February 2019 to combat the spread of infection. Those include suspension of attendance at the workplace in government and also non-government agencies, suspension of international and domestic flights and other public transportation, Temporary suspension of Umrah pilgrimage for citizens and residents, suspension of public attendance of sports events, Successful implementation in transformation of classroom teaching to E-learning platform for students in universities in schools, prohibition of social gathering at hotels, resorts and wedding halls, Suspension of congregational and weekly friday prayers, curfews in different phases. All these measures for the welfare of the citizens. The public health system of the country is giving awareness to the public through social media in different platforms which is very much needed in the present scenario⁽¹⁰⁾. The behavior of the people have significant bearing on the course of coronavirus disease which is highly influenced by knowledge and practice⁽¹¹⁾. Additionally, burnout has been increased among healthcare providers, understanding the factors influencing healthcare providers' burnout during the outbreak of COVID-19⁽¹²⁾. The researchers who belong to the related field, wish to assess the level of awareness in various aspects including cause, spread, treatment and prevention of COVID 19, also the attitude and perception of the general population, in order to increase the awareness according to their level of understanding thereby improving their holistic wellbeing.

3 Aim of the study

The objective of the present study is to understand the level of awareness of people regarding COVID 19 and also the attitude and perception regarding prevention and control of COVID 19 among people of the Kingdom of Saudi Arabia. Further to associate the awareness with selected demographic variables.

4 Material and Methods

The present research study was designed to assess the awareness, attitude and perception of people at Kingdom of Saudi Arabia regarding COVID 19. Considering the objectives of the study, Quantitative research approach was adopted with Cross sectional descriptive research design. Data was collected through the Online Survey method through Self-instructed semi-structured questionnaire which was prepared by literature review and expert guidance.

The questionnaire has four sections (Demographic Variable Proforma, Awareness Questionnaire, Attitude Questionnaire and Perception Questionnaire). The design of the above mentioned questionnaire has multiple options to answer. The language of the questionnaire was in Arabic and English. The constructed questionnaire was published on social media through Google form. Prior permission has been obtained from the Institutional review board and Ethical clearance board. The study participants were asked for voluntary participation and were informed about the anonymity and data confidentiality. This study was conducted during the second week of July 2020 for two weeks. People living in 13 regions of the Kingdom of Saudi Arabia were eligible to participate in the survey. Many strategies have been followed to reach the questionnaire to as many respondents as possible. Majorly two platforms have been utilized including whatsapp and social media. Additionally reminders have been given to the respondents for participation.

The collected data were analyzed using statistical packages for social services (SPSS). The data was analyzed using Descriptive analysis that focused on frequencies and percentages, Chi-square tests.

5 Analysis and Results

5.1 Result on demographic variables of respondents



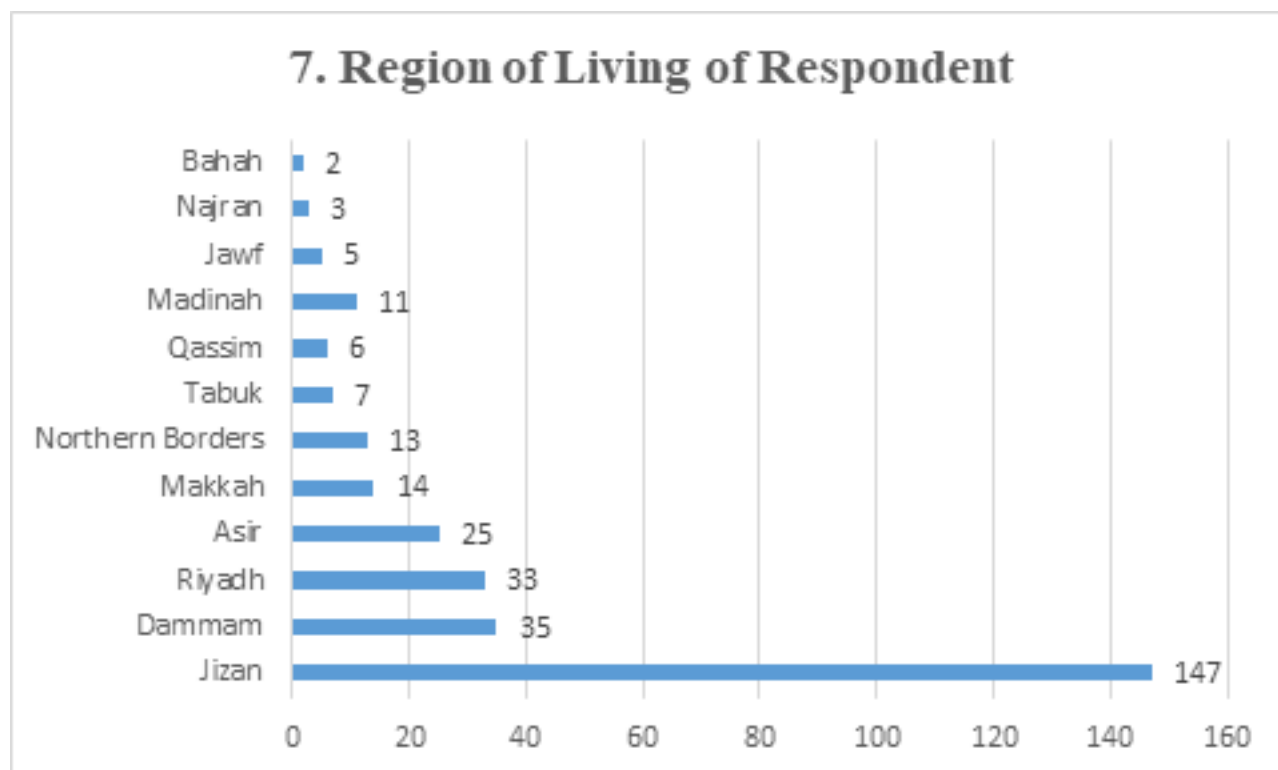
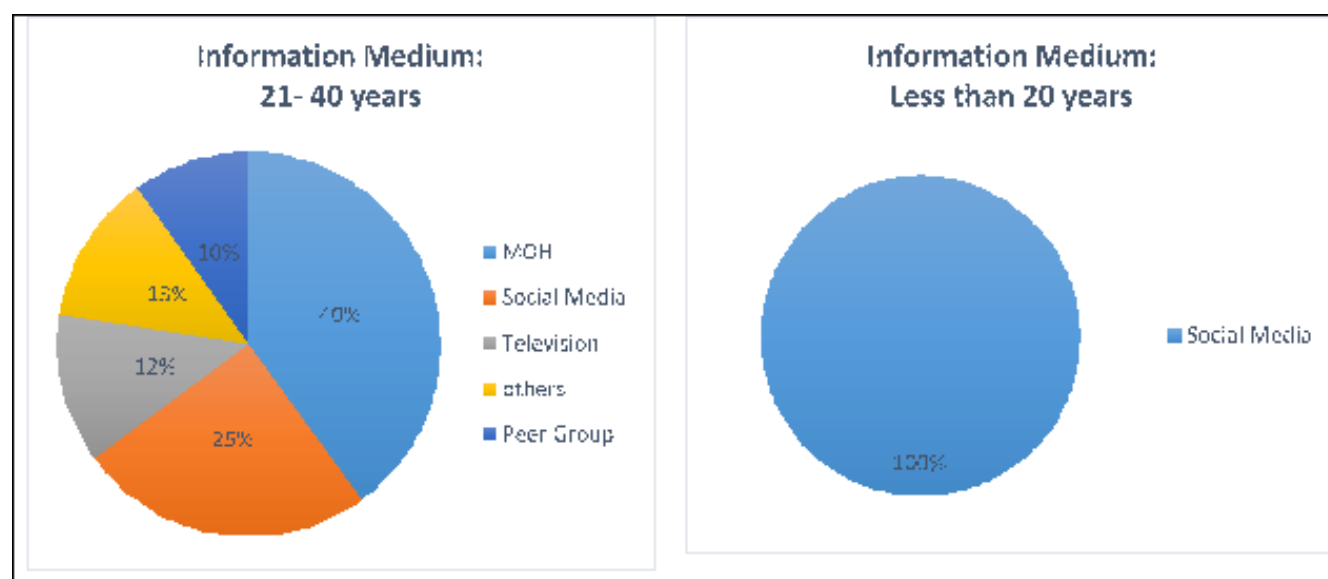


Fig 1. Frequency distribution of demographic variable of respondents

Figure 1 depicts the frequency distribution of respondents. Accordingly, majority of 193 respondents belong to age group of 21 to 40 years. Also, maximum of 199 respondents are females. Most of them of around 146 participants completed undergraduate education. Professionals hold more weightage of 89 among the respondents. An average of 166 Non-Saudis and 135 Saudis participated in survey. It was evident that majority of 154 participants received information from MOH news. Maximum of 147 participants belongs to Jizan Province.



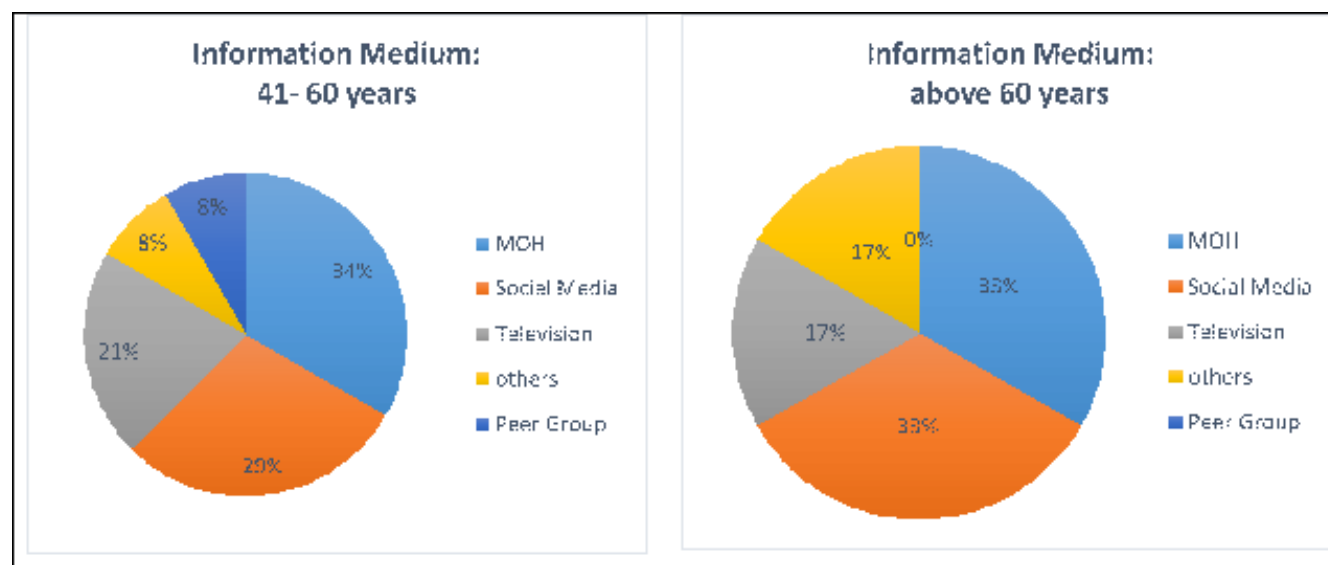


Fig 2. Frequency and percentage distribution of medium of information with regard to age of respondents

Figure 2 depicts the frequency and percentage distribution of medium of information with regard to age of respondents. It shows that many of the respondents received the awareness from MOH news, of which 40% between the age group of 21 and 40, 34% among 41 to 60 years and 33% above 60 years respectively. Whereas all the respondents below the age of 20 years mentioned that they received from social media.

5.2 Result on knowledge of respondents regarding COVID 19

Table 1. Frequency and percentage distribution of awareness of respondents regarding COVID 19

S.No	Knowledge Questionnaire	Correct Response	Incorrect Response
1.	COVID 19 is pandemic disease.	97 %	3 %
2.	Pandemic disease is epidemic occurring worldwide.	94.4 %	5.6 %
3.	COVID-19 is infectious disease caused by the most recently discovered corona virus.	83.4 %	16.6 %
4.	Is COVID 19 is different from Influenza?	83.8 %	16.2 %
5.	The conditions that may leads to serious illnesses in COVID 19 includes Heart & coronary heart disease, Hypertension, Diabetes, Cancer, Lung disease, stroke, elderly.	76 %	24 %
6.	Corona virus survive on surfaces for approximately 2 hours - 9 days.	18.5 %	81.5 %
7.	Corona virus enter the body through Breathing Infected droplets, Hands touching infected materials, Shaking hands with someone infected, Weak immunity, Eating or drinking contaminated food, Participate in blood transfusion.	58.3 %	41.7 %
8.	Can the corona virus disease spread through faeces?	28.8 %	71.2 %
9.	Can the corona virus disease spread through pets?	41.1 %	58.9 %
10.	Which are the animals that was found positive for COVID-19?	19.5 %	80.5 %
11.	The duration to develop symptoms after exposure to Corona virus is upto 14 days	2.3 %	97.7 %
12.	Fatigue, fever, running nose, nasal congestion, dry cough, sore throat, headache, body pain, chest discomfort, breathing difficulty, loss of consciousness, stomach discomfort are symptoms of COVID 19	73.8 %	26.2 %
13.	The immediate response, if you have minor symptoms, such as a slight cough or a mild fever is stay at home, self-isolate & monitor symptoms, Seek medical treatment, Take adequate rest, take adequate diet and fluids	57.9 %	42.1 %

Continued on next page

Table 1 continued

14.	The ways to protect yourself if you don't know who is infected includes staying at home as much as possible, washing hands often, keeping a safe distance, avoiding touching eyes, nose and mouth, keeping face mask on, avoiding crowds, increasing immunity.	73.2 %	26.8 %
15.	The average length of social distancing is 1 - 2 metres	92.1 %	7.9 %
16.	The precautions to follow when we come in close contact with someone who has COVID-19 includes taking a thorough bath, watching for symptoms, Self –Isolation, Informing Medical service.	72.8 %	27.2 %
17.	Self-quarantine means staying away from people, staying at home, not visiting friends	81.5 %	18.5 %
18.	Is there a vaccine, drug or treatment for COVID-19?	76.5 %	23.5 %
19.	Antibiotics are effective in preventing or treating COVID-19	43 %	57 %
20.	The way to boost your natural immunity is taking vitamin C & D in diet, protein in diet, exercise, rest and sleep.	77.2 %	22.8 %
21.	The way to control spread of COVID 19 includes postponing travel trips, avoiding eating out, avoiding social gathering, avoiding crowded places, keeping face mask on, hygienic practices, taking healthy food.	88 %	12 %
22.	Safe shopping practices during COVID 19 includes wearing rubber gloves and mask, Social distancing, disinfecting the trolleys before touching, thorough bathing after reaching home.	89.4 %	10.6 %

Table 1 enumerates the frequency and percentage of question wise distribution of knowledge of respondents regarding COVID 19. It was found that maximum respondents of 97% are aware that COVID 19 is pandemic and also 94.4 % knows the meaning of the disease. 83.3% mentioned that it is an infectious disease caused by most recently discovered coronavirus and also it is different from Influenza. Majority of 76% stated that COVID 19 may leads to serious illness including Coronary heart disease, Hypertension, Diabetes, Cancer, Lung disease, Stroke. On contrast, minimum of 18.5% only are aware that coronavirus survive on surface for approximately 2 hours to 9 days. More than half of 58.3% mentioned that coronavirus enter the body through breathing infected droplets, hands touching infected materials, shaking hands with someone infected, weak immunity, eating or drinking contaminated food, participation in blood transfusion. Minimum of 28.8% respondents agreed to the fact that coronavirus spread through faeces. Less than half of 41.1% stated that it spreads through pets. Minimum of 19.5% are aware of animals that was found positive to COVID 19. Many participants of 97.7% knows the duration to develop symptoms after exposure to coronavirus is up to 14 days. 73.8% are aware of the symptoms associated with COVID 19. 57.9% knows the immediate response to perform after getting minor symptoms of COVID 19. More than 73.2% are aware of the ways of protection against COVID 19. 92.1% mentioned that the average length of social distancing is 1 – 2 metres. 72.8% knows the precaution to follow immediately after having close contact with some one positive with COVID 19. Majority of 81.5% are aware of self-quarantine. Also 76.5% stated that there is no vaccination, drugs or definite treatment for COVID 19. Less than half of 43% mentioned that antibiotics are effective in treatment of COVID 19. Maximum of 77.2% knows the ways to boost natural immunity. 88% are aware of the ways to control the spread of the disease. 89.4% are aware of safe shopping practices.

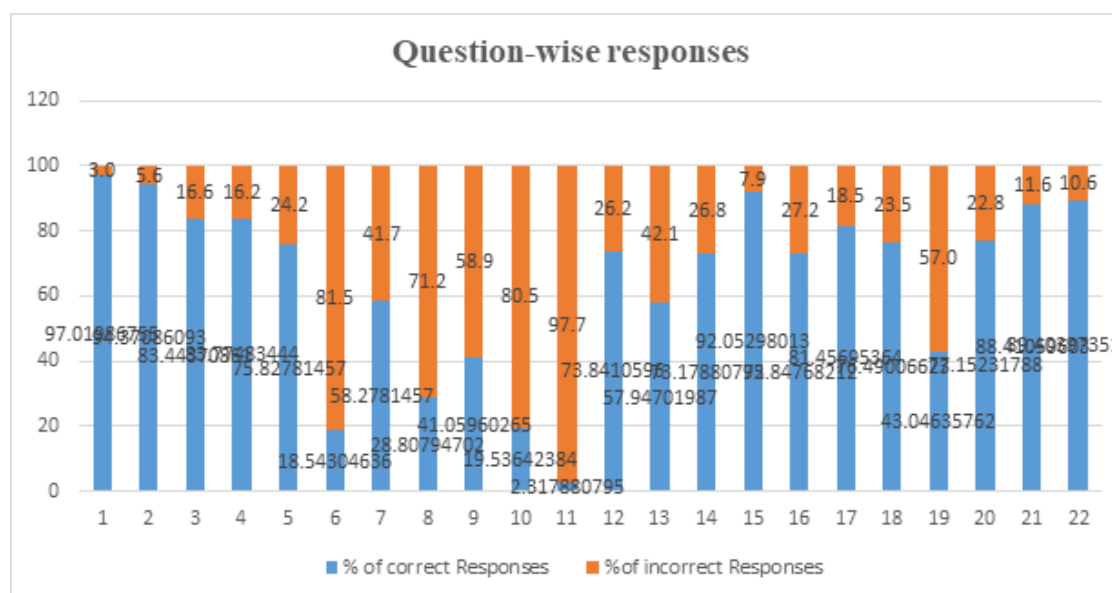


Fig 3. Frequency and percentage distribution of question-wise responses regarding COVID 19

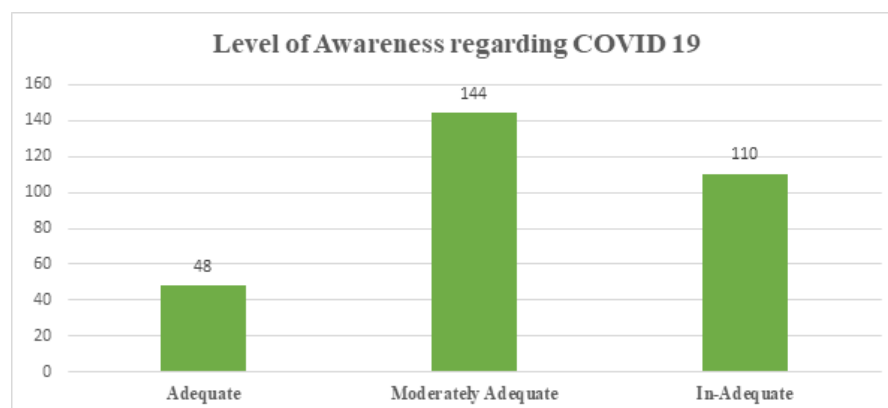


Fig 4. Frequency and percentage distribution of level of awareness of respondents regarding COVID 19

Figure 4 enumerates the frequency and percentage of level of awareness of respondents regarding COVID 19. It was evident that majority of 144 respondents have moderately adequate knowledge, 48 have adequate knowledge and minimum of 110 respondents have inadequate knowledge regarding COVID 19.

5.3 Result on attitude of respondents regarding COVID 19

Table 2. Frequency and percentage distribution of attitude of respondents regarding COVID 19

S.No	Attitude Questionnaire	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
		F	%	f	%	f	%	f	%	f	%
1	COVID 19 is pandemic and I worry about the illness	183	60.8	75	24.9	27	9	13	4.3	3	1
2	COVID 19 influence the physical, mental and social well being	151	50.2	101	33.6	33	11	14	4.7	14	4.7
3	I am not opposed to wear face mask all the time	40	13.3	56	18.6	38	12.6	98	32.6	69	22.9
4	The spread of infection will be controlled by hygienic practices like hand washing	167	55.5	103	34.2	21	7	4	1.3	6	2
5	People having comorbid illness will develop COVID 19 soon	72	23.9	92	30.6	84	27.9	47	15.6	6	2
6	People having respiratory illness and smokers will develop COVID 19 soon	130	43.2	84	27.9	59	19.6	24	8	4	1.3
7	Old age people and children should stay away from people with respiratory infection	208	69.1	62	20.6	14	4.7	14	4.7	3	1
8	Vitamin C and Vitamin D containing food can to boost natural immunity	186	61.8	94	31.2	19	6.3	1	0.3	1	0.3
9	Flu vaccine which prevents spread of COVID 19 infection	33	11	43	14.3	94	31.2	96	31.9	35	11.6

Table 2 shows the frequency and percentage distribution of attitude of respondents regarding COVID 19. It was found that maximum of 85.7% agreed that COVID 19 is pandemic and worried about the illness. 83.8% agreed that COVID 19 influence the physical, mental and social well-being. Only 31.9% agreed that they are not opposed to wear face mask all the time. 12.6% remains neutral. Maximum respondents of 89.7 decided that the spread of infection will be controlled by hygienic practices like hand washing. Around 59.5% stated that people having comorbid illness will develop COVID 19 soon. 71.1% agreed that people having respiratory illness and smokers will develop COVID 19 soon. Maximum of 89.7% agreed that old age people and children should stay away from people with respiratory infection. 93% agreed that Vitamin C and Vitamin D containing food can boost natural immunity. Minimum of 25.3% agreed that Flu vaccine which prevents spread of COVID 19 infection.

5.4 Result on practice of respondents regarding COVID 19

Table 3. Frequency and percentage distribution of practice of respondents regarding COVID 19

S.No	Practice Questionnaire	Yes		No	
		F	%	f	%
1	I hide the illness to avoid discrimination	44	14.6	257	85.4
2	I self-isolate if develop symptoms	287	95.3	14	4.7
3	I wash my hands using disinfectants/hand-rub	294	97.7	7	2.3
4	I wash my hands after touching personal items of someone who has cold	285	94.7	16	5.3
5	I wash my hands after shaking hands of someone who has cold	289	96	12	4
6	I cover the mouth with tissue while coughing or sneezing	298	99	3	1
7	I refrain from those who has cough and cold	292	97	9	3
8	I maintain social distancing in public	300	99.7	1	0.3
9	I wear well-fitting mask while going out	295	98	6	2
10	I eat fresh fruits and vegetables regularly	273	90.7	28	9.3
11	I eat fruits rich in vitamin C regularly	275	91.4	26	8.6
12	I exercise regularly	252	83.7	49	16.3
13	I clean my home regularly with disinfectants	280	93	21	7
14	I often interact with friends and relatives through social media	268	89	33	11

Table 3 shows the frequency and percentage distribution of practice of respondents regarding COVID 19. Many of 85.4% disagreed of hiding the illness to avoid discrimination. Maximum of 95.3% do agree to practicing self-isolation if develop symptoms. 97.7 stated that they washes hands using disinfectants/hand-rub. Also, 94.7% mentioned that they washes hands after touching personal items of someone who has cold. 96% stated that they washes hands after shaking hands with someone who has cold. 99% mentioned that they cover the mouth with tissue while coughing or sneezing. 97% cited that they refrain from those who has cough and cold. 99.7% noted that they maintain social distancing in public. 98% noted that they wear well-fitting mask while going out. 90.7% cited that they eat fresh fruits and vegetables regularly. Also, 91.4% eat fruits rich in vitamin C regularly. 83.7% exercises regularly. 93% cleaning their home regularly with disinfectants. 89% often interact with friends and relatives through social media.

5.5 Result on mean awareness and practice of respondents regarding COVID 19

Table 4. Frequency and percentage distribution of Awareness and Practice of respondents regarding COVID 19

S.No	Components	Average
1.	Awareness	64.9 %
3.	Practice	93.61 %

Table 4 interprets the mean awareness and practices of respondents regarding COVID 19. Accordingly, it was found that 64.9% have awareness regarding COVID 19 and 93.61% have good practices in prevention of COVID 19.

5.6 Result on awareness level with regard to selected demographic variable of respondents

Table 5. Percentage distribution of awareness with regard to Age

S.No	Age group	Level of Awareness in percentage
1.	Less than 20 years	71.1
2.	21 to 40 years	61.2
3.	41 to 60 years	61.2
4.	Above 60 years	51.1

Table 5 explains the percentage of awareness with regard to age. It was found that the respondents belonging to less than 20 years of age have 71.1% and those from 21 to 40 years and 41 to 60 years have average of 61.2 % of awareness.

Table 6. Percentage distribution of awareness with regard to Education

S.No	Education	Level of Awareness in percentage
1.	Primary	57.7
2.	Secondary	60.1
3.	Undergraduate	61.2
4.	Postgraduate	59.8
5.	Doctoral	75.5

Table 6 explains the percentage of awareness with regard to Education. It was evident that the awareness is more among people who completed the Doctoral level of education of around 75.5%.

Table 7. Percentage distribution of awareness with regard to Profession

S.No	Profession	Level of Awareness in percentage
1.	Professional	62.7
2.	Teacher	58
3.	Technical	64
4.	Clerical	57.4
5.	Homemaker	54.5
6.	Others	65.5

Table 7 explains the percentage of awareness with regard to Profession. It was evident that an average of 64% of people belongs to Technical professional have adequate awareness. 62.7% of Professionals and 65.5% belongs to other profession have adequate awareness respectively.

6 Discussion

The present study focused on level of awareness, attitude and practice regarding COVID 19 among people of Kingdom of Saudi Arabia. The findings were grouped in three categories. It was evident from **Table 1** that the people have more knowledge in many components of questionnaire related to coronavirus including the meaning, means of spread of disease, persons at risk of getting infection, ways of spread of disease, symptoms associated with COVID 19, immediate response after exposing to infection to prevent its spread, average distance to be maintained for social distancing, self-quarantine, ways to boost natural immunity, ways to control its spread and safe shopping practices. On contrast, many respondents are not aware certain aspects of questionnaire like duration of survival of coronavirus on surfaces, role of pets in spread of disease, treatment modalities.

Sachina Paudel et al. conducted a study on knowledge, attitude and practice towards COVID 19 among Nepalese residents as containments of disease is only possible with change in behaviors⁽¹³⁾. Behnam Honaver et al. studied on knowledge, attitude, risk perception and practices of adults towards COVID 19. It was found that 63% have knowledge, 78% answered correctly for practice questionnaire. Also it was found that only 4.8% knew about common signs and symptoms. The correlation of knowledge and practice was found 37%⁽¹⁴⁾. Hamed Alzoubi studied on COVID 19 knowledge, attitude and practice among Medical and Non-Medical University Students in Jordan. It was found that the main source of knowledge were social media, Internet and Television. Also, there is no significant difference noticed between Medical and Non-Medical colleges.⁽¹⁵⁾ Mohammed J. Almalki mentioned in his study which was conducted in Saudi Arabia depicted that 77% respondents answered correctly to knowledge questionnaire and thereby inferred that Saudi population have adequate knowledge, good attitude and practices towards COVID 19.⁽¹⁶⁾

Secondly in **Figure 4**, it was evident that the overall level of awareness of disease was around 64%. The other respondents are either not sure or answer asked in knowledge questionnaire. Thirdly with regard to attitude of respondents towards COVID 19, many have positive attitude in control of disease which was evident in **Table 3**. Further **Table 3**, clearly mentioned that maximum participants are effectively following good treatment and control of diseases. In addition **Table 4** compares the awareness and practice of people. It shows that 93.61% are following safe practices and 64.9% have adequate awareness regarding the disease. Mohammed K. Al Hanawi mentioned in his study that people of Saudi nationalities have high level of knowledge, optimistic attitudes and good practices towards COVID 19.⁽¹⁷⁾ Alahdal, H., Basingab, F., & Alotaibi, R found that despite the moderate public awareness, their attitude and practice were better. Therefore, public awareness must be improved to be prepared for epidemic and pandemic situations. A comprehensive public health education program is important to increase awareness and to reach sufficient knowledge⁽¹⁸⁾. Bonyan, R., Al-Karasneh, A. F et al., also stated in their article that awareness and practices of preventive measures of COVID-19 should be increased through public educational campaigns, which should be planned in accordance with communities' and countries' attitudes toward COVID-19⁽¹⁹⁾.

It was also found that younger age group of less than 20 years of age have more awareness. Also, those having the highest education profile like Doctoral education have greater awareness. Professionals and technical persons were also found to have more awareness. **Figure 2** infers the medium of information of COVID 19 with regard to age. All of them belonging to less than 20 years of age mentioned the social media

as source of information. Whereas, majority belongs to other age group mentioned the MOH as source of information regarding COVID 19.

7 Limitations

Data were collected online, through self-reported questionnaires. Therefore, the data used in the analysis of this study were self-reported, which might report bias. In addition to that, there were questionnaires found with incomplete response which the researcher didn't include for data analysis. Other constraint of survey method including accessibility to population might make the sample size less than expected.

8 Recommendations

This research will explain the current trend of people's knowledge, attitude and perception about COVID -19. In the future, it will be used to create public health awareness and more importantly to plan future campaigns to prevent the spread of coronavirus among the people of Saudi Arabia.

9 Conclusion

COVID 19 outbreak threaten the life and well-being of people around the world, hence it's vital to constantly create awareness to control its impact further. It was found that the people of Kingdom of Saudi Arabia have adequate awareness in various component of corona virus with positive attitude and good practices with regard to disease spread. Also, majority of young people mentioned that they attained awareness from social media, whereas the other age group mentioned as MOH as the major source of information. Hence, constant public educational campaigns with various sources have added advantage with present outcome.

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