

A Cross Sectional Study to Assess the Knowledge, Attitude and Practice Toward Covid-19 among the Arts and Science Students in Farasan, Kingdom of Saudi Arabia

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Abstract

Coronavirus disease (COVID-19) is an infectious disease caused by a new variable of the Coro-naviridae family. COVID-19 spreads primarily by contacting the virus either from a COVID-19-infected individual through coughing or sneezing or from COVID-19-contaminated surfaces. A Descriptive cross-sectional survey of 200 participants, was conducted to explore the awareness, attitude and practice of COVID-19 among the arts and science students studying in University college of Farasan. Results: Of all the participants, 58% showed a moderate level of awareness, 70% presented a high attitude and 56% presented an adequate practice regarding COVID-19. Significant positive correlation between awareness-attitude ($r = 0.156$, $p\text{-value} < 0.001$) and attitude-practice ($r = 0.192$, $p\text{-value} < 0.001$) were found. Majority of students with non-medical background agreed that the patient with COVID-19 could remain asymptomatic ($p < 0.01$) while considering the transmission route, the students from non-nursing background students were found more conscious ($p < 0.01$) that infection could spread through personal contact, respiratory droplets and possibly by faeces. 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.

Keywords: *Knowledge, Attitude, & Practice of COVID 19, Arts and science students,*

Introduction

During epidemics and pandemics, a gap in knowledge about the emerging disease can cause chaos and panic among the public. Dis-tributing the proper information can not only guide society through such events but can also increase epidemic preparedness that might occur in the future. In addition, negative attitudes and practices towards new infectious diseases can aggravate epidemics which may eventually result in pandemics. Awareness, Attitude and prac-tice have

been studied in many previous epidemics such as swine influenza¹, Middle East Respiratory Syndrome (MERS)² and Dengue fever³. The World Health Organization (WHO) declared this outbreak as a global pandemic on the 12th of March, with the continuous increase in reported cases⁴. COVID-19 disease is caused by Severe Acute Respiratory Coronavirus 2 (SARS-CoV-2)⁵.

The virus spreads between humans by coughing discharge that contaminates the surfaces. It can also be highly transmitted by asymptomatic individuals during the virus incubation period^{6,7,8}. The virus can last on surfaces up to 5 days depending on the type of surfaces^{9,10,11}. Although infected people may be asymptomatic, others may develop flu-like symptoms including fever and coughing, which may deteriorate in some cases¹². The severity of symptoms has shown to be more in elderlies, along with those with underlying

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chronic health conditions as a result of pneumonia, cytokine storm and multi-organ failure¹³.

As the risk of COVID-19 becomes more widespread, people should take steps to safeguard themselves from infection and limit its spread to others. Though the students from allied health sciences are not directly involved in managing COVID-19 patients, they can serve as an information provider. They can sensitize community people about maintaining personal hygiene, symptoms of COVID-19 and how to prevent its spread. Students must possess the basic knowledge about novel Coronavirus and be able to clear the myths pertaining to COVID-19. With this background, our study is aimed to assess the knowledge, perceptions and practice about COVID-19 among allied health science students.

Objectives

1. To assess the knowledge about COVID 19 among arts and science students.
2. To assess the attitude of COVID 19 among arts and science students.
3. To assess the practice of COVID 19 among arts and science students.
4. To correlate the knowledge, attitude and practice of COVID 19 among arts and science students.
5. To associate the knowledge, attitude and practice scores of students with their demographic variables

Methodology

Research Approach: Quantitative Research Approach

Research Design: Descriptive Cross Sectional survey design

Population: Arts and Science students studying in University College of Farasan.

Samples: students from level 1-8

Sampling Technique: Non-Probability Purposive sampling technique

Sample Size: 200

Setting of the Study: University College of Farasan, Farasan Campus, Jazan University.

Tool for data collection:

A survey with 35 Questions (in English language) was formulated. The survey questionnaire comprises four sections to collect data regarding demographic variables, knowledge, perception, and practices towards COVID-19 pandemic. The knowledge section has 15 questions. These question had three choices (True/False/Don't know) to answer. The attitude or perception section had 10 questions. These question had three choices (True/False/Don't know) to answer. The practice section had 10 questions. These question had three choices (Yes/No/Don't know) to answer..

Ethical considerations:

The official ethical approval will be obtained from the **Scientific Research Ethics Committee - Jazan University and also** obtain permission from the Dean, University College of Farasan.

Data Collection Procedure:

A web-based cross sectional survey study was conducted using a "Google Form" the students from 1st level to 8th level of Allied health students studying in University College of Farasan. After data collection the education was given about general awareness, information sources, knowledge and perceptions related to COVID-19 through web based lecture.

Data Analysis:

Descriptive statistics was applied to calculate proportions and frequencies. The chi-square test was used to investigate the level of association among study variables.

Results

Demographic Variables:

Out of 200 participants that filled out the web based survey, 190 participants have given their consent

with a response rate of 95%. The majority of the study participants was 21years (71.8%). Nearly half of the percentage students were from level 3 & 4 (37%). Majority (63.1%) of the students was not caring COVID 19 suspected or confirmed patients. Maximum of the

students had primary source of knowledge about COVID 19 through Social media (81.6%). Highest percentage of the students were from Nursing program (73.8%) and maximum (41%) were residing in jazan.

Table No.1: Knowledge about Corona virus among study participants

n = 190

S. No	Knowledge aspects of COVID 19	True	False	Don't know
1.	COVID-19 is an infectious disease caused by the most recently discovered novel coronavirus in Wuhan, China.	95.1%	1%	3.9%
2.	The time between catching the novel coronavirus and beginning to have symptoms will be 14 days.	88.3%	4.9%	6.8%
3.	Fever, dry cough, tiredness, and body pains are the most common symptoms in COVID 19	96.1%	1.9%	1.9%
4.	The person infected with novel coronavirus definitely develops symptoms.	71.8%	10.7%	17.5%
5.	The majority of people (about 80%) who get COVID-19 becomes seriously ill and develops breathing problem	67%	10.7%	22.3%
6.	Old age people, and those with underlying medical problems like high BP, heart problems or diabetes, are more likely to develop serious illness.	89.3%	2.9%	7.8%
7.	People can also catch COVID-19 if they breathe in droplets from a person with COVID-19 who coughs out or exhales droplets	74.8%	23.7%	1.5%
8.	Social distance means stay more than 1 m (3 feet) away from a person who is sick.	78.6%	15.5%	5.8%
9.	COVID-19 can be transmitted through the air.	38.8%	35.9%	25.2%
10.	Regular hand wash, social distancing, avoiding crowd, wearing a mask and stay at home can protect the person from getting COVID-19	97.1%	2.9%	0
11.	The virus can infect a person more than once	63.1%	10.7%	26.2%
12.	Children cannot be infected with the virus that causes COVID-19	12.6%	76.7%	10.7
13.	Pregnant women are more vulnerable to get the COVID-19 disease	51.5%	14.6%	34%
14.	Treatment with antibiotics can kill the virus caused COVID-19 disease	36.9%	30.1%	33%
15.	Healthy food and drinking water increases body's immunity and resistance to COVID 19.	81.6%	2.9%	15.5%

Assessment of knowledge about novel Coronavirus among the students shows that, Majority of the study participants (95.1%) correctly identified novel Coronavirus i.e. COVID-19. A high proportion of study participants (88.3%) provided the correct response while 6.8% did not have any idea about time between catching the novel coronavirus and beginning of symptoms. Maximum of them (96.1%) were answered the symptoms of COVID 19. Majority (89.3% & 97.1%) of the participants answered correctly about high risk

of old age people and all protectives measure such as distancing, wearing mask, regular hand wash, avoiding crowd and stay at home respectively. Nearly 75% of the participants given correct answer about COVID 19 transmission and Social distancing. Only half of the percentage (51.5%) answered pregnant women are more vulnerable to get the COVID 19 disease. More than two-thirds of the participants know about the healthy food and drinking increases body immunity and resistance to COVID 19.

Table No.2 : Attitude / Perception about Corona virus among study participants

n = 190

S. No	Attitude aspects of COVID 19	True	False	Don't Know
1.	COVID-19 virus CANNOT be transmitted in areas with hot and humid climates.	27.2%	44.7%	28.2%
2.	Taking a hot bath CANNOT prevent the novel Coronavirus disease.	47.6%	29.1%	23.3%
3.	The novel Coronavirus CAN be transmitted through mosquito bites.	18.4%	50.5%	31.1%
4.	Hand dryers are NOT effective in killing the novel Coronavirus.	39.8%	21.4%	38.8%
5.	Spraying alcohol or chlorine all over your body cannot harm skin and mucous membranes.	22.3%	53.4%	24.3%
6.	Vaccines against pneumonia can protect against the novel Coronavirus.	32%	31.1%	36.9%
7.	Eating garlic helps in the prevention of infection with novel Coronavirus	50.5%	17.5%	32%
8.	Vitamin D & Vitamin C Foods/Supplementation are effective in preventing and treating the novel Coronavirus	63.1%	9.7%	27.2%
9.	Holding breath for more than 10 s is a test for COVID-19.	24.3%	35%	40.8%
10.	Medicines are available in the global market to prevent or treat the novel Coronavirus.	23.3%	51.5%	25.2%

Over 70% of the respondents were in favor of attitudes towards limiting the spread of COVID-19. Majority of the participants (44.7%) believe that COVID-19 virus CANNOT be transmitted in areas with hot and humid climates while some (27.2%) of the participants do not agree with the statement. About half of the students (47.6%) were found to have a correct perception that Taking a hot bath CANNOT prevent the novel Coronavirus disease as well as 63.1% rightly agreed that Vitamin D & Vitamin C Foods/Supplementation are effective in preventing and treating the novel Coronavirus. A large number of the

participants (50.5%) incorrectly believe that Eating garlic helps in the prevention of infection with novel Coronavirus. Notably, one third of participants believe that Hand dryers are NOT effective in killing the novel Coronavirus as well as Vaccines against pneumonia can protect you against the novel Coronavirus. 53% believed that Spraying alcohol or chlorine all over your body cannot harm skin and mucous membranes. Half of the percentage of the respondents are not believing that Medicines are available in the global market to prevent or treat the novel Coronavirus.

Table No.3 : Practice about Corona virus among study participants

n = 190

S. No	Practice aspects of COVID 19	Yes	No	Don't Know
1.	Do you stay at home during this COVID-19 pandemic.	84.5%	11.7%	3.8%
2.	Do you cover your mouth and nose with a tissue or elbow when sneezing.	92.2%	2.9%	4.9%
3.	Do you follow social distancing (>1 m) when meet other people?	78.6%	16.5%	4.9%
4.	Do you perform regular hand wash in your daily routine activities?	85.4%	11.7%	2.9%
5.	Do you wear a mask when you visit a hospital or infected person.	93.2%	3.9%	2.9%
6.	Have you traveled to any area affected with COVID-19?	23.3%	71.5%	4.9%
7.	Do you sanitize the surfaces which are suspected of infection exposure?	88.3%	4.9%	6.8%
8.	Have you recently been to a crowded place	53.4%	41.7%	4.9%
9.	Do you give shake hand upon meeting of friends/family members/others?	54.4%	41.7%	3.9%
10.	Do you touch routinely your mouth, nose, and eyes?.	65%	28.2%	6.8%

Over 80% of respondents agreed on the importance staying at home during pandemic, whereas 92% of the respondents agreed on cover the mouth and nose with a tissue or elbow when sneezing. More than two third (79%) of respondents follow social distancing (>1

m) when you go and meet other people. Majority of them perform regular hand wash in your daily routine activities (85%) and wear a mask when visiting a hospital or infected person wearing mask (93%) respectively. Around 60 % of the respondents practiced wrongly

about visited crowded place, shake hand upon meeting of friend's/family members/others and touch routinely their mouth, nose, and eyes. In relation to participants' practice 89% recommended sanitizing all groceries prior usage, 77% recommended washing fruit and vegetables with soap and water.

Association of Demographic Variables:

On the basis of statistical analysis, significance with the participant background was observed in areas of identification of novel Coronavirus, its origin, asymptomatic behaviour and the modes of transmission. Majority of students with non medical background agreed that the patient with COVID-19 could remain asymptomatic ($p < 0.01$) while considering the transmission route, the students from non-nursing background students were found more conscious ($p < 0.01$) that infection could spread through personal contact, respiratory droplets and possibly by faeces.

Correlation between knowledge, attitude and practice:

Correlation between awareness-attitude was significant and positive ($r = 0.156$, $p\text{-value} < 0.001$). Also, there was a significant correlation between attitude-practice ($r = 0.192$, $p\text{-value} < 0.001$).

Discussion

The purpose of this study was to estimate the general level of awareness, practice and attitude towards the emerging COVID-19 disease. The majority of the participants had a good general level of awareness, attitude and practice toward the virus. However, according to the participants' responses less knowledge was detected in various aspects related to the virus' way of transmission, the disease symptoms, vulnerable people, re-infections and incubation period and practice. Since the initial outbreak of COVID-19 disease in China, it has spread widely to various countries. According to the MOH update on the 20th of April 2020, the number of COVID-19 cases raised to 10,484 in Saudi Arabia with the majority of cases 2210 in Riyadh. Many studies have reported the importance of awareness, attitude and practice of society to reduce the spreading rate

during epidemics and pandemics^{14,15}. Similarly, lack of awareness contributes to undesirable attitudes and practice, which leads to negative impacts on infection-control¹⁶. In this study, we found a significant positive correlation between awareness and attitude, indicating that the better the level of awareness was reflected in their attitude. The same was also true for the correlation between attitude and practice.

Conclusion

We discovered that the students are having adequate awareness about COVID-19. Also, it has been observed that majority of participants acquired the information from social media which is an unauthentic resource of obtaining evidences about disease. Students should be informed about the authentic sources of information as provided by global health authorities and health ministry of respective countries. Our study finding also highlights the specific aspects of knowledge, perception and practice where the partial or incorrect responses were noted and these areas were addressed through webinars to improve the understanding and to correct the myths about COVID-19.

Limitation of the Study:

- Firstly, as this is an online cross-sectional survey, there are chances of recall bias in information as well as it is possible that the students may have looked up the answers to some of the questions before answering.
- Secondly, the survey was conducted among the students from health science background so the findings cannot be extrapolated to the health care professionals.
- Lastly, as this is an internet-based online survey, responses from the regions without internet access may not be captured which may lead to demographic selection bias.

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