Original Research Article

Awareness, Seeking Behaviors and Preventive Practices towards COVID-19 among Najran University Students

Abstract

Background: New corona virus (nCOVID-19), as an international health threat poses a challenge to physical as well as psychological resilience in the affected countries.

Objective: The aim of this survey is to explore the level of awareness, health seeking behaviors and preventive measures towards COVID19 among Najran Uuniversity students.

Methodology: By adopting a convenient sampling technique, an observational and cross-sectional study was carried out at Najran University*(State the location, community and country)*. A self-reporting electronic questionnaire had been utilized for collecting data.

Results: A total of 684 students werevoluntarily completed the questionnaire. The mean age of the participants was 20.2±14.1., The most cited source for obtaining information about COVID-19 was the social media (51%). Females showed higher level of knowledge and awareness about the symptoms of the disease than males (74.3% vs 69.9%) respectively, although the difference was not significant with (*P*-value >0.05). Concerning compliance with preventive measures, medical students were significantly aware and complying with various preventives measures towards COVID-19 (*P*-value <0.05). Moreover, females seem to besignificantly more very keen in seeking medical advice when needed significantly more than males (*P*-value <0.05). Almost more than two-third of the respondents know the recommended general precautions in terms of wearing masks, not to touch outdoors surfaces directly without gloves and avoiding crowded places. 556 (81.3%) of the participants believe that they should wear face-masks outdoors. Interestingly, 6% of the participants thought that they prefer to take some herbs daily in different forms to avoid being infected with COVID-19. Additionally, females had an overall higher Mmean of tension level towards being infected than males (Mmean± SD was 5.61 ±1.65 vs 4.55± 1.63) respectively.

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Conclusion: It was concluded that the our students have high level of knowledge and awareness about COVID-19, beside positive attitudes to preventive measures and acceptable health seeking behaviors. It is highly recommended to assessthat the entire Najran University community level of awareness be assessed to design and implement educational programs when needed.

Key words: *COVID-19, University Students, Awareness, Health Seeking Behaviors*

Introduction

Starting from December 2019, the number of Novel Corona-virus (nCOV-2019) cases are increasing dramatically especially in Middle East countries, although they are declining in some countries worldwide including China which is the original source of this pandemic[1,2]. Corona-virus is a highly contagious disease, which is caused by group of viruses with different genetic compositions that are invading the respiratory system and therefore, itcausing numerous respiratory health problems ranging from mild common cold symptoms to fatal pneumonia[3].

It had been reported that people who are at greater risk for developing severe symptoms are elderly people besides those with chronic health disorders such as hypertension, diabetes, cardio-vascular diseases, chronic respiratory disorders and cancers. Although, for children it appears to be relatively rare and mild[4,5,6].

However, the underlying pathological mechanisms that let some infected people to get seriously sick while others get mild symptoms,are still unknown[7]. This disease of unknown etiology and source let WHO and most countries to adopt strict international precautions to stop spreading of the disease[8,9]. These strict precautions beside social media speculations and closing off all out-door places including academic institutions as well as increasing deaths anywhere put people in psychological distress that generates negative emotions for individuals, families and entire communities[10].

Moreover, to date, there have been no definite treatment or vaccines for this disease[11,12].*(consider expunging this statement because it is outdated as vaccines are currently available and WHO had approved some drugs for the treatment).*The disease is still spreading widely with various variants despite available vaccines. Therefore, it is very important for people to be aware about this pandemic in terms of its etiology, signs and symptoms, mode of transmission and obviously how to prevent spreading of the disease beside how and when to seek and ask for medical advice and assistance.

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Saudi Arabia has had a vast majority*(Revise the appropriateness of this word here)*of infected cases with COVID-19 among Middle East countries. The cases ranged from asymptomatic contacts, being suspected, positively diagnosed up to manifestations of pulmonary damaged cases[13,14]. This outbreak can put significant psychological stress on people, which may lead to unfavorable effects on the overall physical, psychological as well as emotional stability[15].

Numerous studies documented that fear from death and pervasive feelings of anxiety, loneliness, sadness, irritability, and other serious concerns may arise among healthy people during pandemics[16,17]. Despite the importance of physical as well as psychological problems during this pandemic occurrence, so much contradicted information is available about COVID-19 in various social media and internet sites. Therefore, public awareness about the nature of this virus and how to prevent it may decrease such unpeasant irritability and other unfavorable problems. Moreover, good, right and reliable information would be useful in improving preventive strategies besides aiding in designing proper health education programs for controlling the disease.

Accordingly, it is necessary to conduct such surveys for assessing the awareness level among populations. The aim of this study was to explore the awareness, health seeking behaviors and preventive measures towards COVID-19 among Najran University students during this outbreak.

Materials and Methodology.

By adopting a convenient sampling technique, an observational and cross-sectional study was carried out at Najran University *(State the location of the institution - town and country)* during the period from March – to- June 2020. 684 students were voluntary participated in the current study.

For collecting data, a self-reporting electronic questionnaire was utilized. The questionnaire was reviewed for validity by experts at the Ffaculty of Nnursing which shows an acceptable internal consistency (Cronbach's alpha, r= 0.895). Additionally, the questionnaire was pilot tested on 20 subjects from the target population, who were excluded in this study. Besides that, the questionnaire explains the aim of the study along with assuring the participants' confidentiality.

Statistical Analysis.

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Continuous variables were expressed in term of Mmeans (M), and Sstandard Ddeviation (SD). While the categorical variables were calculated as numbers and percentages. Associations between students' characteristics and responses about COVID-19 awareness, health seeking behaviors and preventive measures were assessed by bivariate analysis using χ^2tests and *t*- test. Comparison of scores between groups was based on analysis of variance chi-square and one-way ANOVA test. *P*-value was set at <0.05.

Results.

684 participants were voluntary completed the current survey. Table (1) shows the demographic characteristics of the participants. In terms of gender, female students were 405 that represents 59.2% of the participants. The mean age of the studied subjects was 20.21 ±4.1, the minimum was 19 years, and the maximum was 26 years old. With respect to the respondents' college affiliation, the majority of them are currently enrolled in non-medical colleges 398(958.2%). Regarding level of education, the vast majority of the surveyed sample 516 (75.44%) are currently studying in Bbachelor degree programs.

Medical colleges include mMedicine, nNursing, dDentistry, Ppharmacy, and rRadiology. While non-medical colleges include Ccollege of Aart, Ccomputer Ssciences, Ccommunity Ppreparatory Ccollege, Ccollege of Sharia and Ccollege of Eeducation.

Table (1): The demographic characteristics of the sample (n=684)

Characteristics	**Results**	
Age *(mean ±SD)* years	20.21 ± (4.1)	
	Frequency	**%**
Sex		
Males	279	40.8%
Females	405	59.2%
Level of education		
Diploma	168	24.56%
Bachelor's degree	516	75.44%
Colleges		
Non-medical colleges	398	58.2%
Medical colleges	286	41.8%

As displayed in Ffigure (1), the most cited source for getting information and news about COVID-19 was social media (51%), followed by news from TVs' channels (38%), while the least cited source was the families (29%).

Figure (1): Sources of getting information about COVID-19 (n=684) (Consider placing this Title below the Figure

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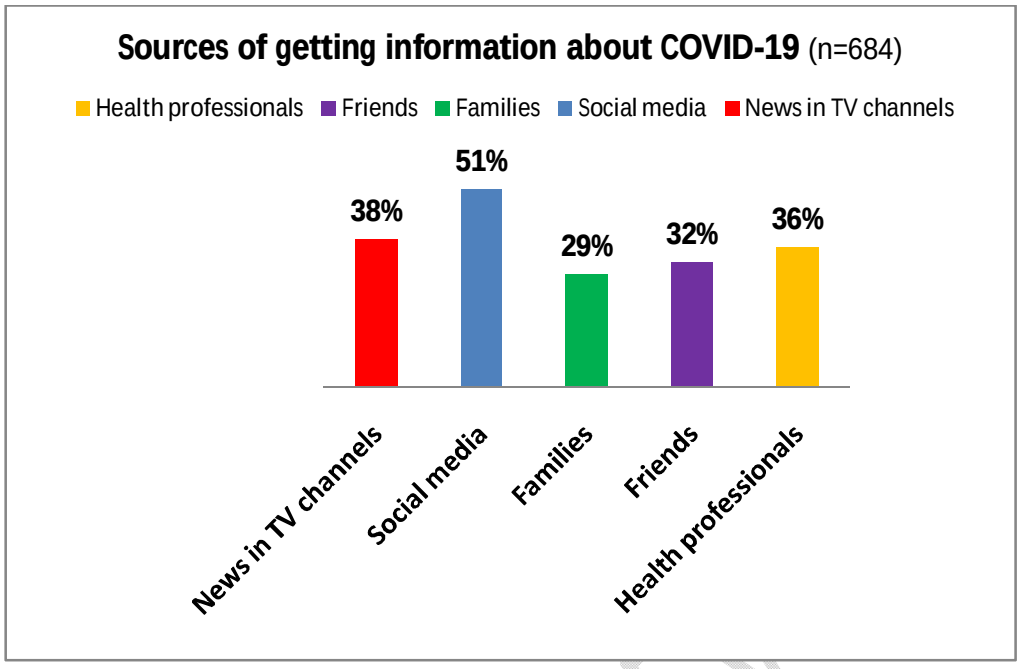

Awareness about COVID-19 symptoms and rout of transmission

In general, the responses to the awareness questions regarding symptoms and route of transmission of COVID-19 were displayed in Ttable (2). It shows that the majority of the respondents 496 (72.51%) were correctly identified its typical symptoms. While regarding routes of transmission, most of the participants 524 (76.6%) show awareness about the disease's route of transmission correctly, andalthough the differences between males and females regarding the awareness were not statistically significant (*P*-value >0.05).

Almost all respondents had heard that the numbers of infected individuals are increasing worldwide. The majority of the studied subjects (75.1%) were satisfied with the quality and quantity of information that is available and accessible for them at Saudi ministry of health official website. Regarding knowledge about route of transmission of COVID-19, the most cited route of transmission by participants was through sneezing or coughing and personal contact (46%), followed by through contaminated objects outdoors (31%), and airborne transmission route was cited by (18%) of the participants, while only 5% don't know.

Table (2): Respondents' awareness about COVID-19 symptoms & route of transmission (n=684)

Gender	Symptoms of COVID-19			*P*-value	Route of transmission			*P*-value
	Yes (correct)	No (incorrect)	Not sure		Yes (correct)	No (incorrect)	Not sure	
Male	195	63	21		203	58	18	

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	(69.9%)	(22.6%)	(7.5%)	0.103	(72.8%)	(20.8%)	(6.5%)	0.211
Female	301 (74.3%)	60 (14.8%)	44 (10.9%)		321 (79.3%)	68 (16.8%)	16 (4%)	

It is suggested that line showing the columns in the table be drawn as with the rows.

The results of the one-way ANOVA as shown in Table (3) reveals a significant difference between the Mmeans of students' health seeking behaviors according to their levels of information about COVID-19 [$F_{(3\text{-}277)}$ =4.286, *P*-value <0.05] based on their own perceptions respectively.

Table (3): One-way ANOVA results of the participants' health seeking behaviors towards COVID-19 based on their own perceptions according to level of awareness information (n=684)

Source of the variance	Sum of squares	SD	Mean of squares	F	P	Significant categories
Between groups	5782.641	3	1978.816	4.286	0.004*	Insufficient information
Within groups	136410.251	277	528.526			Sufficient information
Total	142192.892	290				

P-value <0.05*

Table (4) reflects the overall significant predictors of awareness, preventive measures and health seeking behaviors towards COVID-19. It shows that medical students were significantly have higher level of awareness, compliance with preventive measures and of course for health seeking behaviors (*P*-value < 0.05). In comparison between males and females about health seeking behaviors, the results surprisingly reveal that females have positive behaviors towards health seeking attitudes than males.

Table (4): Overall Significant predictors of awareness, preventive measures & health seeking behaviors towards COVID-19 (n=684)

Independent variables	*P*	OR	95% CI Lower	95% CI Upper
Awareness about causes, symptoms & mode of transmission				
Age	0.061	2.580	1.330	4.502
Females (reference: males)	0.103	1.846	1.157	3.015
Medical (reference: non-medical group)	0.001*	0.960	0.915	0.997
Compliance with preventives measures				
Age	0.056	1.946	1.182	3.464
Females (reference: males)	0.051	0.608	0.467	0.995
Medical (reference: non-medical group)	0.003*	1.052	1.110	1.212
Health seeking behaviors				
Age	0.055	1.437	1.671	2.241
Females (reference: males)	0.001*	1.267	1.301	1.844
Medical (reference: non-medical group)	0.002*	1.857	1.284	3.103

P-value <0.05*

Behaviors towards precaution and preventive measures

Almost two third of the studied respondents knows the recommended general precautions in terms of not to touch outdoors' surfaces and objects with hands directly. 556 (81.3%) of the subjects believe that they should wear face masks when going outside their homes, while 6% agree that they should take some herbs daily to

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avoid getting infected with the virus. Female students had an overall higher mean of tension level than males (Mean± SD was 5.61 ±1.65 vs. 4.56 ±1.63) respectively.

Discussion.

COVID-19 pandemic in Saudi Arabia as in other countries around the globe had beenis considered one of the most challenging threats to national public health. Since there is no vaccine or treatment for COVID-19, awareness about it is crucial for preventing the spread of this pandemic. Therefore, the main goal of the current study was to assess the level of awareness, health seeking behaviors and preventive measures towards COVID-19. The findings reveal that, although some variability was noted in knowledge concerning COVID-19 causes, symptoms and route of transmission. 72.51% of the participants in the current study have good knowledge and they correctly identified the causes, symptoms, and route of transmission of the disease.

The high level of awareness among theour university students could be due to the effectiveness of different awareness campaigns that were conducted by Saudi Ministry of Health around the country beside the abundant information that available in social media. This finding was in accordance with what had been reported by Pranav et al. who concluded that 71.2% of their studied students in Mumbai (India) were reporting correct answers regarding the awareness about COVID-19[18]. Although, it is a bit less than what had been reported by Alzoubi et al who stated that the level of awareness about symptoms of COVID-19 among their studied sample in Jordan which was more than 90%[19].

In contrast, our obtained result regarding awareness is higher than what had been concluded by Rhea et al in India (48%) and higher than what had been reported by Chesser et al in USA at Wichita State University, which was only 18% of their sample, identified the symptoms correctly[20,21].

The possible explanation of the differences between these results could because the data collection processes performed by different measurement instruments as well as the different sample sizes and different populations with different cultures.

Regarding source of information for the students about COVID-19 issues, the majority of the participants in the current study, 51% cited that social media was their main source. Interestingly, this obtained result support the evidence published in numerous of studies, indicating that the most cited source of getting information

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regarding COVID-19 was the social media[22,23,18]. This could be because this age generations are called techno-generation in most countries.

In terms of health seeking behaviors, our study discoveredconcluded that 556(81.3%) of our studied participants believe that they should wear facemask when leaving their homes. The highest percentage of positive responses were significantly noticed among medical students. The findings of the current study in this specific matter are similar to those from other studies that conducted in India, Jordan and China[18,19,24]. Additionally, college affiliation was significantly has an impact on the total knowledge and behavior scores among the students which was high among those at medical colleges.

Conclusion and Recommendation

In conclusion, COVID-19 outbreak can be avoided by adopting certain precautions that include frequent hand washing with soap and water at least for 20 seconds, avoiding unnecessary going outside homes, besides wearing masks in public places. The current study shows that the undergraduate students in different colleges at Najran University have adequate knowledge and awareness about the different aspects of COVID-19 in terms of recognizing its symptoms, beside the recommended preventive precautions that should be taken seriously. Although, the students showed adequate knowledge with an overall percentage of 72.51% correct answers, but more emphasis should be put on updating their knowledge regarding the upcoming events about COVID-19 periodically for controlling the spreading of the disease.

Moreover, raising the level of awareness and knowledge about this pandemic will help not only the University students, but also can encourage the suspected and those at-risk individuals to seek medical help as early as possible and thus to be treated properly and timely.

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