AWARENESS, ATTITUDE AND PREPAREDNESS OF VOLUNTEERS TO MANAGE PATIENTS WITH COVID-19 IN KSA: PILOT SURVEY

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Abstract

Background: The novel Coronavirus Disease 2019 (COVID-19) has spread globally with more load and shortage in needed health care staff. Retired professionals, medical students, military and volunteers are acting as a supplement to the workforce during this crisis.

Aims and Objectives: This study aims to assess awareness, attitude and preparedness of volunteers to manage patients with COVID-19 in Saudi Arabia.

Materials and Methods: A descriptive cross-sectional study was conducted during the period from October 2020 to December 2020 in all regions of Saudi Arabia targeting the population who worked as volunteers to manage patients with COVID-19 during the outbreak crisis. Data were collected using pre-structured electronic questionnaire. Participant's socio-demographic data, volunteers' attitude regarding care for COVID-19 and their preparedness to provide safe care was studied.

Results: A total of 310 volunteers to manage COVID-19 patients completed the study questionnaire. A total of 176 (56.8%) were females. Overall 287 (92.6%) of the study volunteers had good knowledge level regarding COVID-19 and only 23 (7.4%) had poor knowledge level. About 88% were fully confident and relaxed to the idea of daily duty despite infected cases in the hospital. Nearly, 43.5% preferred to care for confirmed cases, 28.1% prefer care for suspected cases while 24.8% are away of cases care.

Conclusion: The current study revealed that, there was adequate number of volunteers for COVID-19 cases care during the pandemic despite their fear of high risk of getting infection. Volunteers had more than satisfactory level of knowledge regarding the disease, very high attitude towards COVID cases care and high preparedness to provide safe care.

Keywords: COVID-19, volunteers, patient care, knowledge, attitude, practice, preparedness, Saudi Arabia

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*Eur. Chem. Bull. **2023**, 12(Special Issue 10), 3496-3505*

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Introduction

Coronavirus disease 2019 (COVID-19) caused by virus coronavirus 2 (SARS-CoV-2) usually presents as acute respiratory syndrome. (1) The World Health Organization (WHO) recognized it as a pandemic on 11 March 2020. (2, 3) As of 31st January 2023, 753,479,439 confirmed cases of COVID-19, including 6,812,798 have been reported. (4, 5)

Globally, the healthcare systems are obligated to work at more than maximum capacity for time period due to the high transmission rate and incidence of new infected cases of COVID-19 outbreak which increased their risk to catch infection and recording many deaths at all levels of the healthcare workers, several adjustments in surgical services will be required. (6, 7) WHO recommended many preventive measures to minimize spread of infection including hand washing and physical distancing. Individuals were informed to staying at home, limiting travel and avoiding crowded areas (8, 9)

Chronic worker shortages have worsened during the COVID-19 pandemic. Administrators are rehiring retired professionals, medical students, and turning to the military and volunteers to supplement the workforce (10, 11) All volunteers and non-medical staff should be aware of how to deal with patients with COVID-19 including infection control measures, contact distance, signs and symptoms for suspected cases and mode of virus transmission. This will reduce their high risk of getting infection and prevents further shortage due to infected staff isolation. The current study aimed to assess awareness, attitude and preparedness of volunteers to manage patients with COVID-19 in Saudi Arabia.

Materials and Methods

A descriptive cross-sectional study was conducted during the period from October 2020.. to December 2020 in all regions of Saudi Arabia targeting Saudi population who worked as volunteer to manage patients with COVID-19 during the outbreak crisis. Persons less than 18 years or above 60 years were excluded. Data were collected using pre-structured electronic questionnaire prepared by the researchers after intensive literature review and experts' consultation. (12, 13) Questionnaire was validated using pilot of 20 persons to assess clarity, needed time to complete and reliability with α-Cronbach's of 0.72. A panel of 3 experts reviewed the study questionnaire and all modifications were applied.

Final questionnaire covered participants sociodemographic data, personal and family history of COVID-19 infection. Second section covered volunteers' awareness regarding COVID-19.

Third section included volunteers' attitude regarding care for COVID-19 and their preparedness to provide safe care. After finalizing the study questionnaire, it was uploaded online and sent to participants using social media platforms by the researchers and their friends and relatives.

Data analysis

The data was analysed using statistical software IBM SPSS version 22(SPSS, Inc. Chicago, IL). For awareness items, each correct answer was scored one point and total summation of the discrete scores of the different items was calculated. A volunteer with score less than 60% (10 points) of the maximum score was considered to have poor awareness while good awareness was considered if he had score of 60% (11 points or more) of the maximum or more. Descriptive analysis based on frequency and percent distribution was done for all variables. Also, participants' knowledge items regarding COVID19, their attitude towards care for COVID19 cases, and their preparedness for safe care were showed in frequency tables. Crosstabulation was used to assess distribution of knowledge level according to participants' personal data and source of information. Pearson chi-square test and exact probability test for small frequency distributions were used. P value less than 0.05 was statistically significant.

Results

A total of 310 volunteers to mange COVID-19 patients fulfilling the inclusion criteria completed the study questionnaire. A total of 108 (34.8%) were from Southern region, 57 (18.4%) from Western region, 55 (17.7%) from Middle region, 49 (15.8%) from Northern region, and 41 (13.2%) from Eastern region. Participants' ages ranged from 18-35 years with mean age of 25.9 ± 3.5 years old. Exact of 176 (56.8%) were females and 272 (87.7%) were Saudis and 185 (59.7%) were single. As for educational level, 298 (96.1%) were university graduated. Exact of 303 (97.7%) participants were workers at the medical filed. Exact of 255 (82.3%) either infected with COVID-19 or had family member infected with the virus (table 1).

In Table 2, as for mode of transmission of COVID-19, 19.4% of the respondents know that through Respiratory droplet. As for the most-risky people to

catch COVID-19 infection, 95.2% of the participants selected Immune-compromised persons, 94.8% reported foe Co morbidity Patients, and 93.9% reported for elderly people. As for clinical symptoms, the most known were Loss of taste and smell sensation (94.8%), followed by fever (94.5%), fatigue (93.9%), and cough (93.5%). The correct incubation period for COVID-19 infection (up to 15 days) was known among 91.6% of the participants. Also, Regular Hand Washing as the most recommended measures could reduce the risk of infection was known for 94.2% of the study participants and 94.5% told that washing should be with water and soap. As for the effective duration for hand washing, 93.5% told for more than 30 seconds. Exact of 73.5% know that safety distance needed during communications should be 2-3 meters. Also, 90.3% of the participants know about PPE. Overall 287 (92.6%) of the study volunteers had good knowledge level regarding COVID-19 and only 23 (7.4%) had poor knowledge level. (Figure 1)

In Table 3, nearly 78.7% of the study volunteers worried/anxious to have infection with COVID19, and 88.4% fully confident/relax to the idea of daily duty despite infected cases in the hospital. Regarding the type of patients, they prefer to care for, 43.5% reported for confirmed cases, 28.1% prefer care for suspected cases while 24.8% are away of cases care.

Table 4 shows distribution of volunteers' preparedness to safely care for COVID-19 cases, Saudi Arabia. changing your clothes/scrub before and after the shift was reported among 97.1% of the volunteers, and 98.1% wear mask inside the Hospital while 91.9% use PPEs.

The most reported source was ministry of health (96.8%), followed by scientific reference (92.6%), social media (91.6%), Mss media (90.3%), friends and relatives (90.3%), while only 2.3% reported for other sources. (Figure 2).

Table 5 shows distribution of volunteers' knowledge level regarding COVID-19 by their bio-demographic data. Good knowledge was detected among 96.1% of volunteers aged 30-35 years compared to 84.1% of those who aged les than 25 years with recorded statistical significance (P=.001). Also, 96% of highly educated volunteers had good knowledge level in comparison to none of those with basic educational level (P=.001). Exact of 93.1% of volunteers at the medical filed had good knowledge level versus 71.4% of others work at the non-medical field (P=.031). Good knowledge was significantly higher among volunteers who had

COVID-19 infection or one of their family than others who did not (96.5% vs. 74.5%, respectively: P=.001). Also, 99.3% of volunteers who had their information from social media had good knowledge level compared to 98.9% who reported for mass media, and 42.9% of those who mentioned other sources (P=.001).

Discussion
The current study was conducted to assess awareness, attitude and preparedness of volunteers to manage patients with COVID-19 in Saudi Arabia during the pandemic crisis. With the increased cases during COVID-19 pandemic, health care workers challenged with high workload pressure, with the augmented total health expenditures. The huge burden of COVID19 pandemic mostly associated with high medical staff burnout. Particularly, the main sources of mental distress among healthcare workers mainly due to long work hours, affected sleep, fatigue, and the risk of being infected. (14, 15) In USA, within 1 day of a governmental call for citizens to join the NHS 'volunteer army', 500,000 people had joined. Over 750,000 were recruited with distributed tasks including transporting medication from pharmacies, driving patients to have care, or making regular phone calls to isolated individuals. Healthcare workers can ask help from these volunteers using a constructed application. (16) In Ireland, England, and Scotland, many rules were settled for volunteering during COVID-19 pandemic. This included that anyone can volunteer during the COVID-19 pandemic. However, you should volunteer from home where possible. Secondly volunteers should follow social distancing guidance while volunteering outside home. Third, minimising their social interactions and the time they spend in places where they can't maintain social distancing. (17) High awareness, with proper preparedness of volunteers to provide safe care is a vital issue to avoid catching infection and increased the crisis related load.

The current study showed that many volunteers from different regions provided their help during COVID-19 crisis in Saudi Arabia. Most of volunteers were young aged including both males and females. Most of volunteers were highly educated and work in health care field (other than physicians, nurses, pharmacists and laboratory staff). As for volunteers' knowledge regarding COVID-19, vast majority (93%) had good knowledge level regarding the disease in total. More than 90% of the volunteers were knowledgeable regarding high-risk group, clinical symptoms,

incubation period, measures to reduce risk of infection, had disinfection, and hand washing and personal protective equipment (PPE).

Also, about three quarters of the volunteers correctly know the safety distance needed during communications. On the other hand, one fifth (19.4%) of the volunteers know about the correct route of COVID-19 transmission via respiratory droplets. Also, the study showed that volunteers had different sources for information including ministry of health, scientific references, social media and friends. Knowledge level was significantly higher among participants aged above 25 years who mostly highly educated and exposed to cases in their families or friends. Also, volunteers from the medical field showed significantly higher level of knowledge with those with personal or family history of COVID-19 infection.

Regarding volunteers' attitude towards COVID-19 infected cases, irrespective of more than three quarters (78%) were anxious to have infection with COVID-19 but were fully confident/relax to the idea of daily duty despite infected cases in the hospital and willing to do duties in Emergency or Critical Care Department. A bit little than half of the volunteers (43%) showed their preparedness to deal with confirmed COVID-19 cases and nearly one fifth (28%) preferred to deal with suspected cases.

Considering volunteers' preparedness to safely care for COVID-19 cases, vast majority of them (>90%) changing your clothes/scrub before and after the shift, wearer mask inside the Hospital, and use PPE before operating in high risk/infected cases.

Previous studies assessed public awareness regarding COVID-19 but no similar study was conducted on volunteers. In India, Maharshi V et al. (18) reported that 39.7% of the Indian population had adequate knowledge (score >50% of the maximum), 82.1% showed positive attitude (score >0) and 82.9% revealed appropriate practices (score >50% of the maximum). Also, Serwaa D et al. (19) found that 62.7% of Ghanaians had good knowledge of COVID-19,

68.3% had a high risk of contracting the COVID19 infection and 81.4% had a moderate preparedness skill to prevent and control the disease.. In Saudi Arabia, Baig M et al. (20) reported that about 68% of the study participants had good knowledge level. Attitudes were highly positive in 93.1%, and practice scores were satisfactory in 97.7% of the participants.

Conclusion and recommendations

The current study revealed that, there was adequate number of volunteers for COVID-19 cases care during the pandemic despite their fear of high risk of getting infection. The volunteers were mainly young aged personal with high education level. They had more than satisfactory level of knowledge regarding the disease, very high attitude towards COVID cases care and high preparedness to provide safe care. Also, there were a variety of their source of information which explains their high awareness and preparedness. It recommended to carry on the continuous process of encouragement and award to be ready at any time needs .

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Table 1. Bio-demographic data of volunteers to manage COVID-19 patients, Saudi Arabia

Bio-demographic data	No	%
Region		
Eastern	41	13.2%
Middle	55	17.7%
Northern	49	15.8%
Southern	108	34.8%
Western	57	18.4%
Age in years *18-24*		
	113	36.5%
25-29	146	47.1%
30-35	51	16.5%
Gender *Male*		
	134	43.2%
Female	176	56.8%
Nationality *Saudi*		
	272	87.7%
Non-Saudi	38	12.3%
Marital status		
Single	185	59.7%
Married	125	40.3%
Educational level		
Basic education	7	2.3%

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Secondary education	5	1.6%
University / more	298	96.1%
Job title		
Health care worker	303	97.7%
Non-health care worker	7	2.3%
Have you or family member work at medical field *Yes*		
	306	98.7%
No	4	1.3%

~~Had you or family member infected or suspected as COVID-19 case~~		
Yes	255	82.3%
No	55	17.7%

Table 2. Distribution of knowledge regarding COVID-19 of volunteers to manage COVID-19 patients, Saudi Arabia

Knowledge items	No	%
The most common route of COVID-19 transmission		
Respiratory droplet	60	19.4%
Blood transfusion	236	76.1%
Feco-oral	4	1.3%
Sexual Intercourse	5	1.6%
Don't know	5	1.6%
The most-risky people for severe infection *Immune-compromised*		
	295	95.2%
Elderly	291	93.9%
Co morbidity Patients	294	94.8%
Young	283	91.3%
Clinical symptoms of COVID-19 including *Fever*		
	293	94.5%
Cough	290	93.5%
Loss of taste and smell sensation	294	94.8%
Fatigue	291	93.9%
Diarrheal	286	92.3%
Don't know	2	.6%
The incubation period of COVID-19 *3 days*		
	5	1.6%
5 days	3	1.0%
10 days	17	5.5%
15 days	284	91.6%
Don't know	1	.3%
Measures could reduce the risk of infection *Regular Hand Washing*		
	292	94.2%
Wearing face Mask	296	95.5%
Safe distance from the others	292	94.2%
Take regular Vit. C tablet	279	90.0%

|		
Don't know	1	.3%
Recommended method for hand disinfection *Water with soap*	293	94.5%
Alcohol Rub	5	1.6%
Water	5	1.6%
Don't know	7	2.3%
Effective hand washing duration *5 seconds*	6	1.9%
10 seconds	4	1.3%
20 seconds	7	2.3%
> 30 seconds	290	93.5%
Don't know	3	1.0%
The safety distance needed during communications *1-2 meters*	18	5.8%
2-3 mesters	61	19.7%
> 3 mesters	228	73.5%
Don't know	3	1.0%
Did you know about Personal Protective Equipment (PPE)? *Yes*	280	90.3%
No	30	9.7%
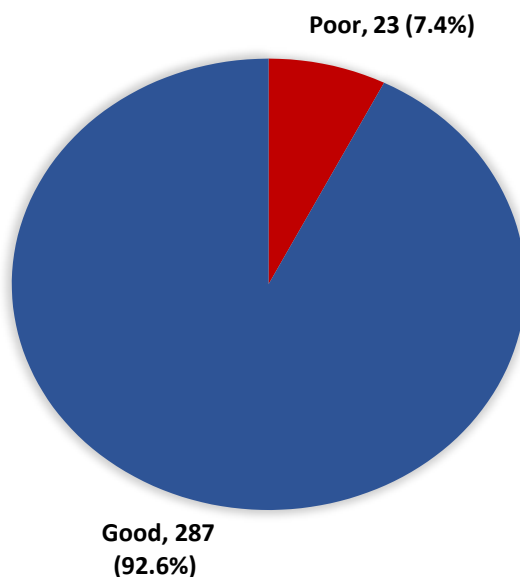
Figure 1. Overall volunteers' knowledge COVID-19 of volunteers to manage COVID-19 patients, Saudi Arabia

Table 3. Distribution of volunteers' attitude towards COVID-19 infected cases, Saudi Arabia

Attitude items	No	%
Are you worried/anxious to have infection with COVID-19		
Yes	244	78.7%
No	66	21.3%
Are you fully confident/relax to the idea of daily duty despite infected cases in the hospital?		
Yes	274	88.4%
No	36	11.6%
Are you willing to do duties in Emergency or Critical Care Department?		
Yes	244	78.7%
No	66	21.3%

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During the pandemic of COVID-19 which type of patients you prefer to care to?		
Confirmed cases	135	43.5%
Suspected cases	87	28.1%
Away of cases	88	28.4%

Table 4. Distribution of volunteers' preparedness to safely care for COVID-19 cases, Saudi Arabia

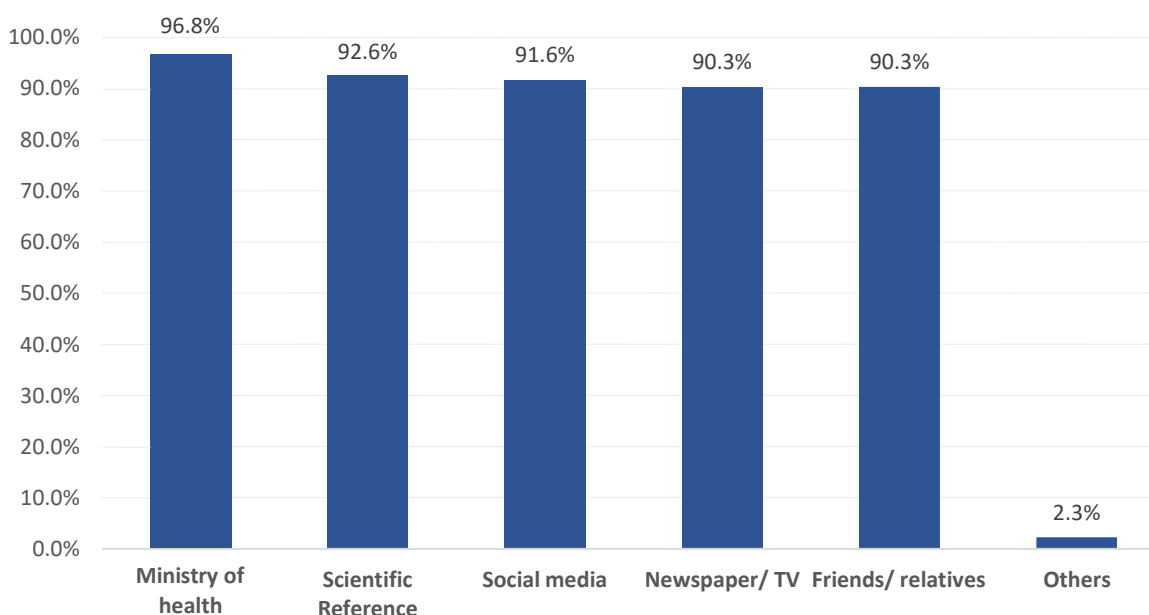| Practice items	No	%
Are you changing your clothes/scrub before and after the shift?		
Yes	301	97.1%
No	9	2.9%
All staff should wearer mask inside the Hospital?		
Yes	304	98.1%
No	6	1.9%
What is your precaution before operating in high risk/infected cases? Using PPE	285	91.9%
Standard	25	8.1%

Figure 2. Source of information regarding COVID-19 among study participants

Table 5. Distribution of volunteers' knowledge level regarding COVID-19 by their bio-demographic data

Bio-demographic data	Knowledge level				p-value
	Poor		**Good**		
	No	%	No	%	
Age in years					
18-24	18	15.9%	95	84.1%	.001*
25-29	3	2.1%	143	97.9%	
30-35	2	3.9%	49	96.1%	
Gender					
Male	11	8.2%	123	91.8%	.643
Female	12	6.8%	164	93.2%	

Marital status					
Single	18	9.7%	167	90.3%	.059
Married	5	4.0%	120	96.0%	
Educational level					
Basic education	7	100.0%	0	0.0%	.001*$
Secondary education	4	80.0%	1	20.0%	
University / more	12	4.0%	286	96.0%	
Job title					
Health care worker	21	6.9%	282	93.1%	.031*$
Non-health care worker	2	28.6%	5	71.4%	
Have you or family member work at medical field					
Yes	21	6.9%	285	93.1%	.001*$
No	2	50.0%	2	50.0%	
Had you or family member infected or suspected as COVID-19 case					
Yes	9	3.5%	246	96.5%	.001*
No	14	25.5%	41	74.5%	
Source of information about COVID-19					
Ministry of health	14	4.7%	286	95.3%	
Newspaper/ TV	3	1.1%	277	98.9%	
Scientific Reference	6	2.1%	281	97.9%	.001*$
Social media	2	.7%	282	99.3%	
Friends/ relatives	4	1.4%	276	98.6%	
Others	4	57.1%	3	42.9%	

P: Pearson X^2 test   *$: Exact probability test*

* P < 0.05 (significant)

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