Response to the Precautionary Measures to Prevent Coronaviruses-19; after Decline of the Pandemic, Taif City, KSA

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Abstract

Introduction: In spite of regression of pandemic curve in the Kingdom of Saudi Arabia there is fears of second wave especially during this winter**.**

Objective: This study aims to explore the public commitment to COVID-19's precautionary measures after the dropping of the cumulative curve towards regression, and to determine the role of society culture in the compliance with these preventive procedures.

Methodology: This is a descriptive cross-section survey conducted in Taif city, Saudi Arabia. Using a convenience sampling method.

Results: The score of society compliance with precautionary measures after regression of curve towards flat line was (3.72±0.47/) which considered high. There was a significant relationship between nationality and the precautionary measures to prevent COVID-19 (t=-2.34, p<0.05, = 0.02), the mean score of non-Saudi (3.88±0.36), which exceeded Saudi mean scores (3.70±0.48). Fewparticipants thought that there was overstatement against COVID-19's precautionary measures.

Conclusion: After regression of COVID-19 curve towards flat line, the level of society commitment to the preventive measures was still high. Most responders adhere to kept a distance from a person who has signs of SARS-CoV-2.

Keywords: *COVID-19, precautionary measurements, response, curve regression.*

Introduction

The coronavirus (COVID-19) is pandemic disease of which, recently, there have been 56,623,643 confirmed cases of (COVID-19) worldwide, including 1,355,963 deaths.[1] In Saudi Arabia the total confirmed case was 354,813 people.[2] Therefore, many countries took the initiative to impose precautionary measures to limit the spread of this pandemic, when the first wave of the SARS-CoV-2 (COVID-19) swept around the globe.

The level of rigorousness of these measures was varied; most countries enforced a complete lockdown, physical spacing and isolation of infected persons,[3,4]while other countries were neglectful and delayed the application of these precautionary measures.

Saudi Arabia is considered to be one of the first countries to impose these precautionary measures,[5] in which the level of commitment of society members in implementing of these precautionary measures was high.[6,7]

The history of application of public precautionary measures to prevent and control infectious diseases dates back to 100 years ago when it was applied to control the spread of the Spanish flu which swept almost European countries.[8] In recent history the preventive measures were applied to control the spread of swine and bird flu.[9,10]

The best method to prevent SARS-CoV-2 infection is the practicing of physical distancing,[11] which refers to the maintenance of a safe distance between people who

are not from one home.[12]

Social distancing includes the practice of staying at home and compliance with at least 1-metre space. People who engaged in dynamic public regime are the most likely to violate social distancing processes.[13]

Another measure that is not less important than physical distancing in limiting the spread of the COVID-19 is to practice hand hygiene with soap and/or alcohol.[14]Hand hygiene is considered one of the main non-pharmaceutical behaviours implemented widely to control the spread of previous pandemics and the COVID-19 pandemic. With regard to the wearing of face masks to prevent the spread of COVID-19, there is discrepancy in this issue.

Wearing masks was not recommended by world health organization for the public, while the Centers for Disease Control and Prevention (CDC) recommended wearing fabric masks for society in crowd settings.[15]In Saudi Arabia fabric masks were recommended for the public.

People assumed or confirmed SARS-CoV-2 can decrease the spread of infection by adhering to face mask wearing while they are in close contact with other persons. The public masking is recommended if COVID-19 spread in the society. Masking also advising for further community sector personnel who have close contact with people such as postal transfer, receivers of community services, educators, store persons and food dispensers.[16]

The family of the virus that COVID-19 belongs to is thought to be transmitted commonly through inhalation of the droplets liberated from infected persons through coughs or sneezes. Because these droplets are large, they can likewise attach on shells and people can catch them with their hands and become infected.[17]

In light of clear laxity, will the governments need to use a punishment for those who violate the commitment to precautionary measures, or use the motivational approach and intensify awareness campaigns through various media to reduce the occurrence of the second wave of the COVID-19; or just follow the reports and the cumulative curve of the pandemic? Up to now there is no evidence on the global database to answer these questions.

Up to now there has been no study carried out in Saudi Arabia to assess the response of the public to these preventive measures after the pandemic curve has dropped towards regression, so this study was conducted to explore the response of the public to these COVID-19 precautionary measures.

Now the cumulative curve of the pandemic is going towards a regression in Saudi Arabia. The peak rate of COVID-19 confirmed cases was between May and August 2020, then the rate of cases started declining. However, there is a fear of a second wave that may be more ferocious than the first. In order to maintain the regression of the curve, evaluation of society's response to the precautionary measures is crucial. Therefore, this study aimed to assess the community commitment to the precautionary measures after the decline of the cumulative curve towards a flat line, as well as to determine the role of Saudi culture in the compliance with COVID-19 preventive guidelines.

Method

Study Type and setting

This is a descriptive cross-sectional survey conducted among society in Taif city western Saudi Arabia, it's one of the cities that were affected by the COVID-19 pandemic at early phases. The total of population living here are around 500000 people.

Study Population

The sample used in this study is non-probability convenience sampling which obtained from general society accommodate in Taif city, both Saudi and non-Saudi, male and female, for those 18 years and over.

Data Collection

This study used an electronic questionnaire. These questionnaires designed on google forms which was shared on WhatsApp and twitter. These social media are one of the most favorable social media used by Saudi society, to obtain a high participation rate. The data was collected from December to January 2021.

Collection Instrument

The electronic questionnaire consists of two sections: the first section includes the agreement to participate and biographic data; the second section involves information about the precautionary measures of SARS-CoV-2.

Data Analysis

Data was analyzed using SPSS version 23.0. The frequencies, percentage, mean and standard deviation were computed for the scale and for demographic factors. One-way ANOVA, independent t test and Pearson correlation were used to test relationships between the scales of the socio-demographic information. A *p value* less than 0.05 was considered statistically significant. One-Sample Kolmogorov-Smirnov Test was used to test the data normality. The precautionary measures to prevent COVID-19 Scale was measured using the 5-points Liker scale from Always = 5 to Never = 1. The level of range was calculated using the following formula: Interval level = (biggest number –smallest number) / (number of points). Interval level = (5-1)/5=0.80, so the level was presented from very high(4.20-5) to very low(1-1.79).

Ethical Aspects

This study was approved by the Research Ethics Committee of Taif university, Saudi Arabia (Application code: 42-0079).

Results and Discussion

191 people participated in this survey, including 162 (84.8%) male and 29 (15.2%) female; 118 (61.8%) were married, 65 (34%) were single and only 8 (4.2%) were widowed. 164 (85.9%) were Saudi, and 27 (14.1%) were non-Saudi. 135 (70.7%) were employed in the government sector, 25 (13.1%) were in self-employment work, 16 (8.4%) worked in the private sector, and 8 (4.2%) were retired. The mean age of the participants was (33.43±10.38). 163 (85.3%) reported that they did not have chronic disease, and 50 (26.2%) were smokers. 113 (59.2%) were worried about the risk of catching the COVID-19 infection.

As shown in Table 1 the precautionary measures to prevent COVID-19 Scale were analyzed using descriptive analysis (the frequencies, percentage, mean and standard deviation).

The overall mean score was (3.72±0.47/High). Item (8) 'You are keen to escape from a person who has COVID-19 signs' achieved highest mean score (4.60±0.74/Very High), and item (20) 'Do you think the precautionary measures against COVID-19 are exaggerated?' got the lowest mean (2.23±1.19/Low).

Table 1: Descriptive analysis of the precautionary measures to prevent COVID-19 Scale

Statement	Never	Rarely	Sometimes	Frequently	Always	Mean±SD / level
Are keen to sleep early?	23	18	55	51	44	3.39±1.27
Are you keen to stay in home?	1	5	17	59	109	4.41±0.80
you are keen to hand washing	0	3	18	59	111	4.46±0.73
You are keen to be a meter or more away when mixing with others	1	7	19	83	81	4.24±0.82
You are keen to adhere to coughing technique	5	7	27	46	106	4.26±1.01
During sneezing, you are keen to use a tissue or sneeze on the elbow	3	2	22	43	121	4.45±0.86
You are keen to put the used tissue in a closed basket	8	5	22	47	109	4.28±1.05
You are keen to escape from a person who has COVID-19 Signs	2	2	11	41	135	4.60±0.74

Cont... **Table 1: Descriptive analysis of the precautionary measures to prevent COVID-19 Scale**

You are keen to participate in social events (wedding, and etc...)	82	36	31	24	18	2.27±1.37
You are keen not to touch the mouth, eyes and nose	8	11	40	72	60	3.86±1.06
Take the initiative to contact the health workers or go to the hospital when you feel symptoms of Corona	5	9	16	46	115	4.35±1.00
You are Keen to eat foods that strengthen the immune system	4	5	36	62	84	4.14±0.95
When meeting with relatives and friends, you are keen to initiate a handshake	66	38	35	26	26	2.52±1.43
When going to public places, you are keen to wear gloves	17	8	38	53	75	3.84±1.24
When going to public places, you are keen to wear face mask	22	26	35	26	82	3.63±1.44
When returning home, you are keen to embrace your children and those in the house	86	29	29	24	23	2.31±1.45
You are keen to follow the news of COVID-19	10	7	29	60	94	4.25±0.88
You are interested to follow rumours related to COVID-19 news	74	38	32	21	26	2.41±1.44
You are keen to tell your family members the necessity to adhere to COVID-19 preventive measures	1	3	15	42	130	4.55±0.75
Do you think the precautionary measures against COVID-19 are overstated?	90	29	27	29	16	2.23±1.39
Mean ± SD/Level3.72/0.47 /High						

Table 2 shows that the associations between the precautionary measures to prevent COVID-19 Scale and socio-demographic factors were conducted using independent t test, one-way ANOVA and Pearson correlation at 0.05.

Table 2: Associations between the precautionary measures to prevent COVID-19 Scale and demographic factors

Variables	M±SD	Statistic /p
Gender Male Female	 3.72 (0.48%) 3.71 (0.42%)	t=0.12 (0.90%)
Martial statue Single Married Widow	 3.63 (0.50%) 3.76 (0.44%) 3.85 (0.56%)	F=1.96 (0.14%)
Nationality Saudi Non Saudi	 3.70 (0.48%) 3.88 (0.36%)	t=-2.34 (0.02%)
Work statue Government Private Free work Retired House wife	 3.68 (0.47%) 3.77 (0.51%) 3.88 (0.45%) 3.75 (0.45%) 3.74 (0.43%)	F=0.97 (0.43%)
Do you have any chronic disease? No YES	 3.70 (0.46%) 3.82 (0.50%)	t=0.12 (0.90%)
Are you smoker? No YES	 3.72 (0.47%) 3.73 (0.46%)	t=0.12 (0.90%)
Are you worried about the risk of catching the Corona virus? No YES	 3.71 (0.50%) 3.73 (0.44%)	t=0.12 (0.90%)
Age	33.43 (10.38%)	r=0.21** (0.004%)

** is significant at (0.05)

The result shows that there was a significant relationship between nationality and the precautionary measures to prevent COVID-19 (t=-2.34, $p<0.05$, = 0.02), the mean score of non-Saudi (3.88±0.36), which exceeded Saudi mean scores (3.70±0.48). There was a positive significant relationship between age and the precautionary measures (t=0.21,$p<0.05$, = 0.004), which means that older people take more care and pay more attention to the coronavirus atmosphere.

The sliding of the COVID-19 curve towards a flat line does not mean that the pandemic has gone away, therefore the higher the rate of commitment with preventive guidelines, the less chance of a second wave. The findings of this study was in line with the results of others studies,[6,7] which shows that the level and response of Saudi community to health guidelines to

prevent COVID-19 was high.

Attending social events, such as weddings and funerals, and embracing friends and relatives are well-established in Arab cultures, the COVID-19 pandemic has examined to what extent Arab society adheres to these cultures; thus it can be said that society has succeeded to a high degree in relinquishing these cultures because of this pandemic, as well as most participants reporting that they have not participated in social events and do not shake hands of relatives and friends. This study reveals that about 50% of participates were following the pandemic news, whereas more than one third of them did not followed the rumours related to pandemic, which may be broadcast more quickly than the SARS-CoV-2 infection spread.[18] This indicates the awarenessof community about the pandemic.

There are contradictionsabout society masking,[19,20]and this study found that most of responders adhered to wearing face masks when they were going out of their home. This agrees with what was found in the literature: utilization of masks is most the necessary action for the public to reduce the spread of COVID-19 infection.[21] In addition to this, literature shows that masks are more effective to reduce the possibility of COVID-19 contagion.[22]

On the other hand, adherence to mask wearing will prevent the spread of COVID-19 transmission among community members, especially in crowd zones, because masking will reduce the possibility of face touching, particularly touching of the eyes, nose and mouth.[23] This study explored that most participants were keen to not touch their mouth, eyes and nose which reflected their good behavior regarding face touching.

The findings of the study show that the majority of participants were keen to initiate contact with health authorities when they felt clinical signs of COVID-19 infection. In Saudi Arabia, the Ministry of Health has launched an application on Android and Apple devices called "Tetamman" to receive suspected cases, contacts and returnees from travel. One of the main limitation of this study is sample size was not enough.

Conclusion

After regression of COVID-19 curve towards a flat line, the level of Saudi commitment to preventive measures was still high. Moreover, most responders were keen to keep a distance from a person who has signs of SARS-CoV-2 infection.

Declaration:

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Ethical Clearance: Taken

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