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AWARENESS OF THE RISK PERCEPTIONS ATTITUDE ABOUT SIGNS AND SYMPTOMS OF THE VACCINATION AGAINST COVID-19

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ABSTRACT

A new variant of the Coronaviridae family is the main reason for the contagious Coronavirus disease (COVID-19). COVID-19 mainly spreads by direct contact with the virus through contact with a COVID-19's patient, coughing, sneezing, or touching surfaces contaminated with the virus. The Ministry of Health (MOH) has made the audience conscious of the virus infectious styles and the value of quarantine, curfew and vaccination versus COVID-19. Despite strict measures taken, the awareness of people towards vaccination against COVID-19 and symptoms of the vaccination against COVID-19 the most important factor in limiting the widespread of diseases. To assess the awareness of risk the perceptions attitude about signs and Symptoms of the Vaccination against COVID-19 and communication practices of Vaccination about COVID-19 among the Adult Saudi Population. This cross-sectional study was conducted online among Saudi Arabia adults population in a primary health care center in Makkah Al-Mukarramah. The questionnaire collected socio-demographic characteristics, attitudes about symptoms of the vaccination against COVID-19, and practices of vaccination about COVID-19. A self-managed survey was proposed and has been sent to the study entrants during social media platforms and email. Our total entrants were (350). During the pandemic interval, a strong request for and high acceptance of COVID-19 inoculation has been cleared among the Saudi Arabia population, many adults are willing to get a COVID-19 vaccine, though acceptability should be monitored as vaccine development continues, while concerns exist about symptoms of vaccination against COVID-19. To expand vaccination coverage, programs should be designed about symptoms.

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Introduction

The Spread of Coronavirus Disease 2019 (COVID-19) has prompted the lamentable loss of numerous humans living and is the burden of enormous financial and social disturbance across the world [1-3]. Alongside defensive measures, for example, social separating and isolating, a viable immunization, will be the best system for moderating the spread of COVD-19 and advancing positive clinical and financial results [4].

Consciousness, behavior, and practice have been about signs and symptoms of the vaccination against COVID-19 and correspondence practices of vaccination about COVID-19 among Adult Saudi Population concentrated in many former epidemics, for example, swine influenza [5], Middle East Respiratory Syndrome (MERS) [6] and Dengue fever [7].

The drawn-out accomplishment of the public health reaction to the COVID-19 virus disease 2019 (COVID-19) pestilence will rely upon procured resistance to an adequate extent of the populace (crowd invulnerability), which is assessed to be 67% for COVID-19 [8]. Widespread immunization is fundamental for overseeing COVID-19 transmission, even though questions stay about the degree and period of prevention that will be provided from COVID-19 vaccines [3, 9].

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With more than 4,000,000 confirmed (COVID-19) cases and more than 150,000 passing's, the United States keeps on engaging the general public health emergency emerging from the pandemic spread of the SARS-CoV-2 infection (COVID-19 Dashboard, 2020). All around the world, starting on 25 December 2020, there have been 77,920,564 affirmed instances of COVID-19, including 1,731,901 deaths, reported to WHO [10].
COVID-19 vaccination will help shield you from getting COVID-19. You may have a few signs and indications, which are ordinary signs that your body is building assurance. These results may influence your capacity to do daily activities, yet they should disappear in a couple of days. A few groups have no signs and symptoms [11].
Additionally, the signs and symptoms after your subsequent dose might be more extraordinary than the ones you encountered after your first dose. These results are typical signs that your body is building assurance and should disappear within a couple of days [12].

Literature Review
WHO and MOH have proposed a few practices that can help tallness the mindfulness about practices of manifestations of the vaccination about COVID-19 at an individual level and grown-up Saudi Population [13].
On Feb. 2021, in request to end the progressing pestilence, the COVID-19 immunization has been outlined as the ideal arrangement. In Bangladesh, the public authority has effectively begun the COVID-19 inoculation [14]. The information concerning signs and symptoms of COVID-19 immunizations was low among the greater part of the populace. In this examination, information was essentially connected with training, family type, month-to-month pay of a family, and past antibody take-up experience. Nonetheless, perspectives were considerably related to only sex and previously vaccine management experience organization experience [15].
In July 2020, a cross-sectional study in Indonesia was directed to survey perceptions attitudes about symptoms of the vaccination against COVID-19 and practices of vaccination. They found that among 1,359 respondents, 93.3% might want to be inoculated for a 95% successful vaccine, but this approval diminished to 67.0% for a vaccine with half viability. They inferred that approval of a COVID-19 immunization was profoundly affected by the pattern viability of the vaccine. Preparing the general inhabitants to admit a vaccine with comparatively low performance may be difficult [16].
The severity of features was demonstrated to be more in elderlies, alongside those with the basic persistent medical issue because of pneumonia, cytokine storm, and multi-organ failure [11].
Vaccines are the main audience health measures and the best methodology to shield the populace from COVID-19 since SARS-CoV-2 is profoundly infectious and influences populaces broadly and universally [17].
Research evaluating perceptions, attitudes, and practices about symptoms of the vaccination against COVID-19 in Australia was done in June 2020 in the wake of directing an online study of 4362 Australians matured 18 years and more established in Australia and when likely passing's and health framework capacity were still of great concern. Lacking health proficiency and lower schooling level were altogether connected with a hesitance to be immunized against both flu and COVID-19. Outstandingly, a high extent, in general, was certain about the state and federal government's reaction. In Australia, attitudes towards a COVID-19 vaccine appear, by all accounts, to be more sure than announced in France in late March 4 [18].

Rationale
This investigation aimed to estimate the awareness of the risk of the observations and attitudes about signs and symptoms of the Vaccinate against COVID-19 and communication practices of Vaccinate about COVID-19 among the adult Saudi population and their association with the rate of vaccination.

Aim of the Study
To assess the awareness of risk, perceptions, and attitude about signs and symptoms of the vaccination against COVID-19 and communication practices of vaccination about COVID-19 among the adult Saudi population

Objectives
To assess the attitudes and practices toward symptoms of the vaccination against COVID-19 to increase COVID-19 vaccination rates
To evaluate factors affecting attitudes and practices toward symptoms of the vaccination against COVID-19 for adults in Saudi Arabia

Materials and Methods

Study Design
This cross-sectional survey has been carried out among people in the city of Makkah Al-Mukarramah. The study was carried for 25 days, from the 1st till the 25th of February 2021, among the adult Saudi population who attended the PHC centers in Makkah; with participants aged between 18 and 65 years old.

Study Setting / Study Area

Study participants have been recruited on Makkah including PHC centers under the supervision of the Directorate of Health Affairs of Makkah Al-Mukarramah in Saudi Arabia. The study has been conducted in the city of Makkah Al-Mukarramah whose population of Makkah is about 1.578 million.

Study Population
The study has been conducted among Patients in the PHC centers in the Makkah Al-Mukarramah at Saudi Arabia, including Al-Ka'akya, Al-Adl, Al-Zahir primary healthcare centers.

Inclusion Criteria
The study participants that all were Saudi people above 18 years of age have been recruited from Makkah Al-Mukarramah and got vaccinated.

Exclusion Criteria
Saudi people younger than 18
Participants who did not approve to share in the investigation, and/or did not reply to the questions of the investigation
Patients with language barriers

Study Sample
The sample size has been calculated by applying Raosoft sample size calculator and is 300 adult Saudi Population attending PHC and adding 10 more to reduce the margin of error. After adding 5% oversampling, the minimum calculated sample has been 350. A computer-generated simple random sampling technique was used to select the study participants.

Sampling Technique
Systematic random sampling technique is adopted.

Data Collection Methods
The self-managed reconnaissance is proposed based on former studies and frameworks to evaluate the awareness of attitude and practices about symptoms of the vaccination against COVID-19 among Adult Saudi Population
The questionnaire was developed in English and was then translated into Arabic. The questions were first pre-tested and reviewed and completed after pilot testing. Before completing the survey, participants were required to indicate their consent using a forced response question followed by the survey questionnaires. The survey is assessed to take 5 min to complete.
To collect the information, a set of questions were constructed and developed.
The reconnaissance is composed of two major divisions; the first division focuses on socio-demographic and background information about age, education level, outcome, and gender of the participants; Attitude about signs and Symptoms of the vaccination against COVID-19; and practices of vaccination about COVID-19 among adult Saudi population.

Study Variables
Independent Variables
Socio-demographic criteria such as gender, age, education level, job situation, marital situation, family size, and revenue were considered as descriptive independent variables.

Dependent Variables
Whereas the level of awareness, attitude, and practice were considered as response-dependent variables.

Pilot Study
A pilot study was carried out and the questions were first pre-tested and were reviewed and finalized after it was pilot tested. Before completing the survey, participants were required to indicate their consent using a forced response question followed by the survey questionnaires.

Data Analysis
The Statistical Package for Social Sciences (SPSS) software version 22.0 has been employed for results entry and analysis. A p-value ≤ 0.05 has been considered statistically significant.

Results and Discussion

Table 1 shows that most of the participants were in the age group of 40-50 years; 34.0% were in the age group of 30-40 years, the majority of them were female; In addition, regarding nationality most of the participants were non-Saudi; Regarding the marital stats most of the participants were married; regarding the level of education, and the majority of participants had a university education.

From the participants' responses, it can be said that you will be infected with the virus once you are vaccinated, and will have symptoms like sore throat, diarrhea, and conjunctivitis (eye infection).

Table 1. Distribution of Demographic Characteristics of the Research Sample (n=350)

	N	%
Age		
<30	30	8.6
30-40	119	34
40-50	134	38.3
50-60	54	15.4
Above 60	13	3.7
Gender		
Male	125	35.7
Female	225	64.3
Nationality		
Saudi	147	42
Non Saudi	203	58
Marital Status		
Single.	153	43.7
Married.	197	56.3
level of education		
Primary/ Intermediate	75	21.4
Secondary school	116	33.1
University	139	39.7
Postgraduate Studies	20	5.7
Region		
Central region	36	10.3
Northern region	86	24.6
Southern region	118	33.7
Eastern region	84	24
Western region	26	7.4

Table 2. Description of the Awareness about the Risk Perceptions Attitude about Symptoms of Vaccination Against COVID-19 among Adult Saudi Population

	N	%
Did you have any symptoms?		
No	116	33.1
Yes	234	66.9
If yes how severe were the symptoms you experienced when you had the get the COVID-19 vaccination?		
Mild symptoms	75	32.1
Moderate symptoms but health care providers were not contacted	104	44.4
Moderate symptoms and health care providers were contacted	18	7.7
Severe symptoms/hospitalization	37	15.8
How severe were the symptoms of the COVID-19 vaccination of your extended family member?		
Mild symptoms	61	17.4
Moderate symptoms but health care providers were not contacted	229	65.4

Moderate symptoms and health care providers were contacted	32	9.1
Severe symptoms/hospitalization	28	8
How has the COVID-19 vaccination affected your psychological status?		
Severely	124	35.4
Moderately	74	21.1
Mildly	139	39.7
Not at all	13	3.7
How closely do you follow the news regarding the COVID-19 vaccination		
Very closely	62	17.7
Somewhat closely	84	24
Not very closely	36	10.3
Not at all	168	48
What is your primary source of information regarding the signs and Symptoms of COVID-19 vaccination (It is possible to choose more than one answer)Local News		
Friends or social media	69	19.7
Celebrities/Public Figures	151	43.1
Religious Scholars	118	33.7
Other	12	3.4
If you don't want to take the vaccine against the new Coronavirus, is one of the following reasons why you rejected the vaccine?		
I don't think the vaccine is safe.	209	59.7
I don’t think the vaccine is effective.	238	68
I don't trust the sources that encourage the vaccine.	228	65.1
I fear of symptoms and signs of the Vaccinate COVID-19	244	69.7
I am not convinced of general vaccinations, including the vaccine against the new Coronavirus	265	75.7
The sources I trust don't encourage me to take the new Coronavirus vaccine.	273	78
If you were vaccinated, this means that you will be infected with the virus once you were vaccinated you contract the COVID-19 vaccination, the virus can never be eliminated from your body.		
True	79	22.6
False	271	77.4
once you were vaccinated of COVID-19 You will have symptoms can include sore throat, diarrhea, and conjunctivitis (eye infection)		
True	113	32.3
False	237	67.7
Most people who contract COVID-19 will recover If they get the vaccine.		
True	222	63.4
False	128	36.6
When you taking the covid-19 vaccination, the signs and symptoms appear in the patient		
Strongly agree	163	46.6
Agree	2	.6
Disagree	10	2.9
Strongly disagree	175	50.0
How important is it for you to get the COVID-19 vaccination		
Very important	150	42.9
Important	99	28.3
Somewhat important	63	18.0
Not very important	38	10.9
I'm likely to not take the vaccine against the new Corona virus to avoid the signs and symptoms of the infection of COVID-19		

I strongly agree.	9	2.6
I agree to some extent	35	10.0
I'm not sure	77	22.0
I don't agree	100	28.6
I don't agree very much	129	36.9
Side effects of most vaccines are more than the desired benefits:		
Strongly agree	110	31.4
Agree	70	20.0
Uncertain	22	6.3
Disagree	94	26.9
Strongly disagree	54	15.4
The new Corona virus vaccine has been rushed so that some possible signs and Symptoms of the Vaccinate COVID-19 taking this vaccine cannot be detected?		
I strongly agree	101	28.9
I agree	63	18.0
Unsure	77	22.0
Is not OK	42	12.0
Is not very ok	67	19.1

Table 3. Description of the Awareness about Communication Practices of Vaccination about COVID-19 among Adult Saudi Population

	No		Yes	
	N	**%**	**N**	**%**
Have you recently been to a social event involving a large number of people vaccinating Against COVID-19	75	21.4	275	78.6
Have you recently been to a crowded place without not been you have vaccinated Against COVID-19	71	20.3	279	79.7
Have you recently avoided cultural behaviors, such as shaking hands after being vaccinated Against COVID-19	88	25.1	262	74.9
Have You're still practicing social distancing after being vaccinated Against COVID-19	110	31.4	240	68.6
Unlike the common cold, congestion, runny nose, and sneezing are less common symptoms of vaccination Against COVID-19	81	23.1	269	76.9
Compliance with the Ministry of Health precautions will prevent signs and Symptoms of the Vaccinate COVID-19	115	32.9	235	67.1
After taking the vaccination, I should refrain from mixing with people and stay at home to protect myself from exposure to Symptoms of the Vaccinate COVID-19.	97	27.7	253	72.3
The appearance of signs and symptoms of vaccination COVID-19 is rapid and severe, so I do not recommend taking the vaccine COVID-19	66	18.9	284	81.1

Table 4. Distribution of Awareness of the Perceptions Attitude and Practices, about Symptoms of the Vaccination against COVID-19 among Adult Saudi Population

		N	**%**	**Total Score**	
				Range	**Mean±SD**
Attitude	**Weak**	120	34.3	6-27.	17.3914±6.835
	Average	72	20.6		
	High	158	45.1		
Practices	**Weak**	88	25.1	1-6.	4.329±1.061
	Average	249	71.1		
	High	13	3.7		

Table 6 show that regarding the age data there is a clear significant correlation between attitude and age. Considering gender no significant relation is seen between the attitude and gender; regarding nationality, a significant relationship exists between the attitude and nationality.

Concerning marital status there is a significant relation between the attitude and marital status; regarding the level of education there is a significant relation between the attitude and level of education; regarding region, there is no significant relation between the attitude and region.

Table 6. Distribution the Relation of Socio-demographic Data (Age, Gender, Nationality, Marital Status, Level of Education and Region) and Attitude about Symptoms of the Vaccination against COVID-19 among Adult Saudi Population

Demographic data		N	Attitude			F or T	ANOVA or T-test	
			Mean	±	SD		Test value	P-value
Age	<30	30	11.467	±	1.676	F	43.121	<0.001*
	30-40	119	13.487	±	3.793			
	40-50	134	19.455	±	6.819			
	50-60	54	22.815	±	6.461			
	Above 60	13	23.000	±	7.605			
Gender	Male	125	17.192	±	6.557	T	-0.406	0.685
	Female	225	17.502	±	6.997			
Nationality	Saudi	147	16.048	±	6.375	T	-3.170	0.002*
	Non-Saudi	203	18.365	±	7.006			
Marital Status	Single.	153	15.686	±	6.497	T	-4.210	<0.001*
	Married.	197	18.716	±	6.813			
level of education	Primary/ Intermediate	75	13.813	±	7.768	F	33.335	<0.001*
	Secondary school	116	15.103	±	6.176			
	University	139	20.230	±	5.235			
	Postgraduate Studies	20	24.350	±	0.875			
Region	Central region	36	16.389	±	7.096	F	0.341	0.851
	Northern region	86	17.407	±	7.058			
	Southern region	118	17.585	±	6.911			
	Eastern region	84	17.750	±	6.586			
	Western region	26	16.692	±	6.498			

According to **Table 7** regarding age, there is a significant correlation between the practices and age; regarding gender, there is no significant relation between the practices and gender; regarding nationality, there is a significant relation between the practices and nationality. regarding marital status, there is a significant relation between the practices and marital status, regarding the level of education there is a significant relation between the practices and level of education; regarding region, there is no significant relation between the practices and region.

Table 7. Distribution the Relation of Socio-demographic Data (Age, Gender, Nationality, Marital Status, Level of Education and Region) and Practices about Symptoms of the Vaccination against COVID-19 among Adult Saudi Population

		N	Practices			F or T	ANOVA or T-test	
			Mean	±	SD		Test value	P-value
Age	**<30**	30	3.667	±	0.758	F	8.598	<0.001*
	30-40	119	4.210	±	1.007			
	40-50	134	4.328	±	1.129			
	50-60	54	4.722	±	0.763			
	Above 60	13	5.308	±	1.316			
Gender	**Male**	125	4.320	±	0.980	T	-0.112	0.911
	Female	225	4.333	±	1.106			
Nationality	**Saudi**	147	4.143	±	1.047	T	-2.813	0.005*
	Non-Saudi	203	4.463	±	1.054			
Marital Status	**Single.**	153	4.196	±	1.076	T	-2.068	0.039*

	Married.	197	4.431	±	1.041			
level of education	**Primary/ Intermediate**	75	3.613	±	1.089	F	39.504	<0.001*
	Secondary school	116	4.017	±	0.987			
	University	139	4.899	±	0.783			
	Postgraduate Studies	20	4.850	±	0.671			
Region	**Central region**	36	4.083	±	1.105	F	1.099	0.357
	Northern region	86	4.372	±	1.096			
	Southern region	118	4.271	±	1.083			
	Eastern region	84	4.488	±	0.976			
	Western region	26	4.269	±	1.041			

This investigation aimed to evaluate the awareness of risk the perceptions attitude about signs and symptoms of the vaccination against COVID-19 and communication practices of vaccination about COVID-19 among the adult Saudi population. Socioeconomic criteria of the inhabitance to obtain information that could be employed awareness campaign and to estimate whether people's knowledge varied based on particular criteria of the target inhabitance. Most of the participants (38.3%) were in the age group 40-50 years, the majority of them were female (64.3%), also regarding the nationality most of the participants non-Saudi were (58.0%) while Saudi were (35.7%); most of the participants were married (56.3%); regarding the level of education, the majority of the participant had a university education (39.7%) while the others had secondary school education (33.1%). Regarding the region, most of the participants were from the southern region (33.7%) **(Table 1)**.

According to the MOH update on the 20th of April 2020, the number of COVID-19 patients increased to 10,484 in Saudi Arabia. Many investigations have recorded the significance of consciousness, perceptions of behavior, and practice about symptoms of the against COVID-19 society to decrease the spreading rate through pestilences and pandemics [19]. Similarly, lack of consciousness participates to undesirable observations of behaviors and practice, about symptoms of the against COVID-19 caused negative effects on infection control [20].

In this investigation, we found a considerable correlation between consciousness and behavior, indicating that the preferable level of consciousness was reflected in their behavior. The same was also true for the relation between behavior and practice. Results from this investigation noticed a moderate public consciousness level of the COVID-19 vaccine.

During the COVID-19 outbreak, a similar awareness existed about the risk perceptions attitude about symptoms of the vaccination against COVID-19 among the Adult Saudi Population [21]. A similar level of consciousness was observed among health care providers in UAE, Vietnam, and Uganda [22], also this study is similar to another study the vaccine, and COVID-19 vaccines can cause side impacts, most of which are mild or moderate and go away within a few days on their own. As it is clear in the data of clinical studies, more severe or long-lasting side impacts are possible. Vaccines are frequently surveyed to detect negative situations [22]. Recorded side impacts of COVID-19 vaccines have mainly been mild to moderate and have lasted no longer than few days. Typical side impacts involve pain at the inoculate site, fever, fatigue, headache, muscle pain, chills, and diarrhea. The chances of any of these side impacts occurring following vaccination vary according to the specific vaccine. COVID-19 vaccines are preserved versus the SARS-CoV-2 virus only, so it is still significant to keep yourself healthy and well [23].

In the current study, awareness of the perceptions attitude and practices, about symptoms of the vaccination against COVID-19 among the adult Saudi Population was at the highest level (45.1%) and participants had good awareness about vaccination against COVID-19, like other studies [7, 20]. On the other hand, other trials indicated poor awareness about symptoms of vaccination against COVID-19 [24]. While practices about symptoms of the vaccination against COVID-19 average were (71.1%) **(Table 4)** concerning the level of relation between behavior and practices attitude, show that there is a significant positive correlation between attitude and practices r= 0.788 and p-value =0.001 **(Table 5)**.

A study in China reported that 48% of respondents delayed vaccination before verification of the safety of the vaccine, which demonstrates their doubt regarding vaccine safety. Worryingly, the exceptionally fast pace of vaccine evaluation, the skepticism of definite groups of science and health experts might promote doubt about the COVID-19 vaccine [25].

The participants' socio-demographic data (Age, gender, nationality, marital status, level of education, and region) and attitude and practices about symptoms of the vaccination against COVID-19 among the adult Saudi Population are considerably correlated with participants' consciousness, as evidenced by this study.

Participants' age data report a significant correlation between the attitude and age were P-value=0.001. In addition, nationality shows a significant relation between attitude and practices and nationality [26].

In agreement with this investigation, other trials found identical findings, as awareness of the perceptions and attitude towards symptoms of the vaccination against COVID-19 was significantly among the level of education people with higher levels of education were more knowledgeable compared with other categories. Moreover, marital status was positively related to better awareness. On another hand, regarding gender and region, there is no significant relation between the attitude and gender; practices also show no significant relation between practices and gender and region in [China, the USA, and Nepal [22, 27]. Participants from business and governmental sections have significantly reported the highest COVID-19 consciousness **(Tables 6 and 7)** This result is identical to other studies with higher KAP through married peoples [28]. It was thought that

married people had a higher level of positive behaviors towards COVID-19 as they cared for close family members, involving young children [3, 29].

Conclusion

COVID-19 disease was pronounced as a pandemic on the 12th of March 2020. The causative of this disease is highly contagious, therefore, enhancing consciousness is a main of perceptions attitude about signs and symptoms of the vaccination against COVID-19, and practices of vaccination about COVID-19 among the adult Saudi population is very important features to curb the transmission of the COVID-19. The data of this study recognized regions of misconceptions symptoms of the vaccination against and specific groups to be targeted for educational programs regarding vaccination against COVID-19. Many aspects were less knowledgeable through respondents, containing the symptoms of the vaccination against virus mode of transmission, symptoms, incubation period and re-infection and the vulnerable people. It is therefore suggested that a well-planned and structured co-educational program should be undertaken to develop the level of consciousness and participate in better behavior and practice. In this current pandemic, people should follow the ministry of health instructions and evade close contact with others, especially immune compromised personals.

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Conflict of interest: None

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Ethics statement: Permission from the family medicine program was obtained.
Permission from the regional Research and Ethical Committee was given to conduct our study.
All the subjects have participated voluntarily in the study.
Privacy of information and confidentiality has been maintained.

A full explanation about the study and its purpose was carried out for the subjects' participation.

References

1. Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. Lancet. 2020;395(10223):497-506.
2. Lazarus JV, Ratzan S, Palayew A, Gostin LO, Larson HJ, Rabin K, et al. Hesitant or not? A global survey of potential acceptance of a COVID-19 vaccine. medRxiv. 2020.
3. Eltayeb LB. An update about Coronaviruses with Emphasis on Newly Emerged COVID 19. J Biochem Technol. 2020;11(3):14-20.
4. Ghebreyesus TA. WHO Director-General's opening remarks at the media briefing on COVID-19-11 March 2020. World Health Organ. 2020;11.
5. Baig M, Jameel T, Alzahrani SH, Mirza AA, Gazzaz ZJ, Ahmad T, et al. Predictors of misconceptions, knowledge, attitudes, and practices of COVID-19 pandemic among a sample of Saudi population and its impact: a cross-sectional study. medRxiv. 2020.
6. Badawi A, Ryoo SG. Prevalence of comorbidities in the Middle East respiratory syndrome coronavirus (MERS-CoV): a systematic review and meta-analysis. Int J Infect Dis. 2016;49:129-33.
7. Calina D, Sarkar C, Arsene AL, Salehi B, Docea AO, Mondal M, et al. Recent advances, approaches and challenges in targeting pathways for potential COVID-19 vaccines development. Immunol Res. 2020;68(6):315-24.
8. Knight GM, Glover RE, McQuaid CF, Olaru ID, Gallandat K, Leclerc QJ, et al. Antimicrobial resistance and COVID-19: Intersections and implications. Elife. 2021;10:e64139.
9. Isiko AP. Religious construction of disease: An exploratory appraisal of religious responses to the COVID-19 pandemic in Uganda. J Afr Stud Dev. 2020;12(3):77-96.
10. COVID C. Global Cases by Centre for Systems Science and Engineering. Johns Hopkins University. 2020.
11. Stawicki SP, Jeanmonod R, Miller AC, Paladino L, Gaieski DF, Yaffee AQ, et al. The 2019–2020 novel coronavirus (severe acute respiratory syndrome coronavirus 2) pandemic: A joint american college of academic international medicine-world academic council of emergency medicine multidisciplinary COVID-19 working group consensus paper. J Glob Infect Dis. 2020;12(2):47.
12. Robson B. COVID-19 Coronavirus spike protein analysis for synthetic vaccines, a peptidomimetic antagonist, and therapeutic drugs, and analysis of a proposed achilles' heel conserved region to minimize probability of escape mutations and drug resistance. Comput Biol Med. 2020;121:103749.

13. Assiri A, Abedi GR, Al Masri M, Bin Saeed A, Gerber SI, Watson JT. Middle East respiratory syndrome coronavirus infection during pregnancy: a report of 5 cases from Saudi Arabia. Clin Infect Dis. 2020;63(7):951-3.
14. Monrad JT, Sandbrink JB, Cherian NG. Promoting versatile vaccine development for emerging pandemics. NPJ Vaccines. 2021;6(1):1-7.
15. Ferdous MZ, Islam MS, Sikder MT, Mosaddek ASM, Zegarra-Valdivia JA, Gozal D. Knowledge, attitude, and practice regarding COVID-19 outbreak in Bangladesh: An online-based cross-sectional study. PloS one. 2020;15(10):e0239254.
16. Costell MH, Ancellin N, Bernard RE, Zhao S, Upson JJ, Morgan LA, et al. Comparison of soluble guanylate cyclase stimulators and activators in models of cardiovascular disease associated with oxidative stress. Front Pharmacol. 2012;3:128.
17. Wibawa T. COVID-19 vaccine research and development: ethical issues. Trop Med Int Health. 2021;26(1):14-9.
18. Islam MS, Siddique AB, Akter R, Tasnim R, Sujan MSH, Ward PR, et al. Knowledge, attitudes and perceptions towards COVID-19 vaccinations: a cross-sectional community survey in Bangladesh. medRxiv. 2021.
19. Alboaneen D, Pranggono B, Alshammari D, Alqahtani N, Alyaffer R. Predicting the Epidemiological Outbreak of the Coronavirus Disease 2019 (COVID-19) in Saudi Arabia. Int J Environ Res Public Health. 2020;17(12):4568.
20. Alahdal H, Basingab F, Alotaibi R. An analytical study on the awareness, attitude and practice during the COVID-19 pandemic in Riyadh, Saudi Arabia. J Infect Public Health. 2020;13(10):1446-52.
21. Maleki S, Najafi F, Farhadi K, Fakhri M, Hosseini F, Naderi M. Knowledge, attitude and behavior of health care workers in the prevention of COVID-19. 2020.
22. Wahed WYA, Hefzy EM, Ahmed MI, Hamed NS. Assessment of knowledge, attitudes, and perception of health care workers regarding COVID-19, a cross-sectional study from Egypt. J Community Health. 2020;45(6):1242-51.
23. Setiawan AS, Zubaedah C. Covid-19 Pandemic and Challenges of Dentistry: Application of Health Belief Model on Child's Dental Visit Postponement during the COVID-19 Pandemic. Eur J Dent. 2020;14(Suppl1):S7.
24. Akalu Y, Ayelign B, Molla MD. Knowledge, attitude and practice towards COVID-19 among chronic disease patients at Addis Zemen Hospital, Northwest Ethiopia. Infect Drug Resist. 2020;13:1949.
25. Wang J, Lu X, Lai X, Lyu Y, Zhang H, Fenghuang Y, et al. The changing acceptance of COVID-19 vaccination in different epidemic phases in China: A longitudinal study. Vaccines. 2020;9(3):191.
26. Singh DR, Sunuwar DR, Karki K, Ghimire S, Shrestha N. Knowledge and perception towards universal safety precautions during early phase of the COVID-19 outbreak in Nepal. J Community Health. 2020;45:1116-22.
27. Erfani A, Shahriarirad R, Ranjbar K, Mirahmadizadeh A, Moghadami M. Knowledge, attitude and practice toward the novel coronavirus (COVID-19) outbreak: a population-based survey in Iran. Bull World Health Organ. 2020;30(10.2471).
28. Sun N, Wei L, Shi S, Jiao D, Song R, Ma L, et al. A qualitative study on the psychological experience of caregivers of COVID-19 patients. Am J Infect Control. 2020;48(6):592-8.
29. Fadel HH, Ahmed MAR. A combination of Immunotherapies and Micronutrients May Relieve the Severe illnessin COVID19 Patients. Int J Pharm Phytopharmacol Res. 2020;10(5):8-21.