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A CROSS-SECTIONAL STUDY TO ASSESS KNOWLEDGE, ATTITUDE AND PRACTICE (KAP) TOWARDS COVID-19 VACCINATION AMONG GENERAL POPULATION

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Abstract

Background- In March 2020, the WHO declared the COVID-19 outbreak a pandemic. COVID-19 pandemic has affected many aspects of the people's life including physical, social, emotional and behavioral wellbeing.

Objective- Assessing Knowledge, Attitude and Practice (KAP) Towards COVID-19 Vaccination among the general population and to evaluate Factors associated with Vaccine acceptance in general population.

Methods- This web-based cross-sectional survey targeted general population aged 18 years to 45 years. A pre-validated questionnaire was administered to subjects who volunteered to be part of a survey and the responses were filled. An online questionnaire was administered to a sample (n= 100) drawn from general population, to assess their knowledge, attitude, perceptions, social media exposure, social norms, trust and their intentions to take up the Covid-19 vaccine. Due to Covid 19 situation the entire study was based only on the Google form Questionnaire & it was collected from the general population.

Results- The sample had a predominance of female participants (73%) and the rest (27%) male participants. Most participants belonged to the 18-29 years of age group (97%) and maximum of participants resided in urban area (74%) and the rest (26%) resided in rural area. Most participants

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belonged to the middle socio-economic class (85%). 84% of study participants had a good knowledge of the statement that people after recovering with COVID-19 can take vaccine. Various motivating factors influencing them to get vaccinated include perception that there is no harm in getting vaccinated (61%), more than half of participants believe that taking Covid-19 Vaccine is a Societal Responsibility (61%) and its benefits outweigh the risks involved (46%).

Conclusion- Attitude towards the importance of vaccine that it protect the people from covid-19 and preventive measures like wearing mask & social distancing should be followed even after Getting COVID-19 vaccine and they also shows positive attitude that they will encourage their family and friends to get vaccinated.

Keywords- COVID-19, Vaccine, knowledge, attitude, practices.

INTRODUCTION

In 2019, a disease outbreak that originated in Wuhan, China and named as a Coronavirus and was identified as the cause of a disease outbreak. Corona viruses are a family of Nidovirus, and viruses' illness ranges from mild to moderate illnesses such as the common cold and severe acute respiratory syndrome and virus is known as the severe acute respiratory syndrome Coronavirus 2 (SARS-CoV2) and therefore the disease caused by virus is referred as Coronavirus disease 2019 (COVID-19). In March 2020, the WHO declared the COVID-19 outbreak a pandemic. COVID-19 pandemic has affected many aspects of the people's life including physical, social, emotional and behavioral wellbeing.[1-3]

The process of vaccine development is a slow and time-consuming process, and has to go through multiple checks for potency, efficacy and safety, particularly in high-risk individual's viz., elderly, pregnant women, and people with co-morbidities, and immuno-deficiencies. In addition, the acceptability of the newly launched vaccine is yet another parameter to be considered, since vaccine coverage rate among the population is essential for a successful immunization program. The launch of the COVID-19 vaccine has been an accelerated program because COVID-19 is globally declared as the pandemic and the vaccine marketed merely nine months after discovery of the virus.[4-6]

The year 2003–2004 is a best-known example that Nigerian boycotts the polio vaccine that resulted in an increase in the cases and surge of the disease. Therefore, it is important that social acceptance and efforts against vaccine hesitancy regarding the COVID-19 vaccination especially in limited-resource settings are addressed.[7,8] Therefore, understanding general population attitudes towards Covid-19 vaccination is crucial to the successful implementation of a vaccination program. Identifying factors associated with vaccine acceptance and hesitancy is needed and public confidence in vaccines due to rumors and conspiracy theories is a major challenge for public health experts worldwide. Hesitation, spreading rumors, and fake news can affect public mentality and vaccine decisions.

This study determines the COVID-19 vaccine knowledge, attitudes, and acceptance among the general population.

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MATERIALS and METHODOLOGY

This web-based cross-sectional survey targeted general population aged 18 years to 45 years. A pre-validated questionnaire was administered to subjects who volunteered to be part of a survey and the responses were filled. It was explained that filling the questionnaire and submitting the data implied their consent for participation in the study. An online questionnaire was administered to a sample (n= 100) drawn from general population, to assess the knowledge, their attitude, perceptions, social media exposure, social norms, trust and their intentions to take up the Covid-19 vaccine.

Due to Covid 19 situation the entire study was based only on the Google form Questionnaire & it was collected from the general population. Questionnaire included 3 sections that contained questions related to the Knowledge, attitude, and practice towards COVID-19 vaccine. The questionnaire consisted of questions designed to elicit the following: demographic details, information related to knowledge, attitudes and perspectives regarding COVID19 and then in detail responses to the following questions was analysed.

The first section of the KAP questionnaire consists of socio-demographic profile. The second section of KAP questionnaire had 23 questions (Eight related to knowledge, nine related to attitude, and four related to practice). Two questions were asked to determine factors associated with Vaccine acceptance/ hesitancy in general population.

KAP Questionnaire Included:

The Knowledge part of the questionnaire included questions that was used to measure the knowledge of general population regarding Covid vaccine.

The attitude part comprised of questions about their thoughts and views related to COVID-19 Vaccine.

The practice part of questionnaire included questions such as have you taken Covid vaccine, what side effect did you get after vaccination etc.

Inclusion criteria: The Inclusion criteria for the study were voluntary participation, and limited to subjects above the age of 18-45 Years.

Exclusion criteria: Exclusion criteria were Healthcare professionals & individuals not giving the consent to participate in the study.

Statistical analysis: Statistical analysis Frequency and percentages was calculated for categorical variables.

Microsoft Excel was used for making graphs & charts. Frequency and percentage was used in the descriptive statistical analysis.

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RESULTS

Table1: Socio-demographic characteristics of study participants.

S.No.	Socio-demographic variable	Demographic variables	Frequency (n = 100)	Percentage (%)
1	**Gender**	Female	73	73%
		Male	27	27%
2	**Age(Years)**	18-29	97	97%
		30- 39	1	1%
		40-45	2	2%
3	**Level of education**	Primary school	1	1%
		High School	5	5%
		Bachelor's degree	62	62%
		Professional degree	32	32%
4	**Socio-Economic Status**	High	7	7%
		Low	8	8%
		Middle	85	85%
5	**Residence**	Urban	74	74%
		Rural	26	26%

A total of 100 responses were collected. The socio-demographic information of 100 participants is depicted in Table 1.
The sample had a predominance of female participants (73%) and the rest (27%) male participants. Most participants belonged to the 18-29 years of age group (97%) and maximum of participants resided in urban area (74%) and the rest (26%) resided in rural area. Most participants belonged to the middle socio-economic class (85%).

Most of the participants had limited knowledge regarding the eligibility to take vaccines in general population groups such as people with severe allergic reaction (1%) and adults above 18 year of age (62%), and 34% believed that everyone can take vaccine.

Table 2: Response to Statements Assessing Knowledge towards COVID-19 Vaccination among general population.

S.NO.	Questions Assessing COVID-19 Vaccination Knowledge	Percentage of subjects who gave YES Response	Percentage of subjects who gave NO Response	Percentage of subjects who Don't Know Answer
1	Can People with other comorbidities like Diabetes,	60%	21%	19%

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	Hypertension and Heart disease can take Covid vaccine			
2	Can People after recovering with Covid -19 can take vaccine	84%	10%	6%
3	Can a person having active Covid -19 infection can take Covid 19 vaccine	22%	67%	11%
4	It is legally mandatory to take Covid-19 Vaccine	69%	25%	6%

Findings depicted that participants had a fair knowledge of the statement that people with other Co-morbidities like diabetes, hypertension and heart disease can take COVID-19 Vaccine (60%). And 84% of study participants have a good knowledge of the statement that people after recovering with COVID-19 can take vaccine.

Participants had a good knowledge regarding the statement that person having active COVID-19 infection cannot take COVID-19 Vaccine (67%). Whereas, only 25% of the participants knew that it is not legally mandatory to take COVID-19 vaccine.

Table 3: Score of Attitude towards COVID-19 Vaccination among general population.

S.NO.	**Attitude Questions**	**Percentage of subjects who gave YES Response**	**Percentage of subjects who gave NO Response**	**Percentage of subjects who Don't Know Answer**
1	Do you think it is important to get a vaccine to protect the people from Covid 19	92%	1%	7%
2	Do you think preventive measures like wearing mask & social distancing should be followed even After getting COVID 19 vaccine	99%	1%	0%
3	Do you think that after both the dose of vaccine you are safe	52%	31%	17%

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4	Would you afford the vaccine at your own expense if it was not provided free by the government	72%	28%	0%
5	Would you encourage your family/friends/relatives to get vaccinated	96%	4%	0%
6	Is it possible to reduce the incidence of Covid 19 without vaccination	23%	62%	15%
7	Can the vaccine protect you from getting Covid 19 infection	66%	22%	12%

Findings depicted that maximum (92%) respondents think that it is important to get a vaccine to protect people from COVID-19. And maximum Respondents think preventive measures like wearing mask & social distancing (99%) should be followed even after getting COVID 19 vaccine. slightly more than half of the participants (52%) think that after both the dose of vaccine they are safe. Majority of the participants would recommend to their family and friends to get vaccinated (96%). Only 23% of the participants believed that it is possible to reduce the incidence of Covid 19 without vaccination. whereas more than half individuals believe that vaccine protects them from getting Covid 19 infection (66%).

Table 4: Frequency (n) of side effect did peoples got after COVID-19 vaccine:

Side Effects	**Frequency of side effect did peoples got after vaccination**
a) Fever	38
b) Headache	7
c) Pain at injection site	19
e) All the above	15
f) No side effect	21
Grand Total	**n= 100**

Among the 100 study participants, nearly 38% of individuals got fever as a side effect after the COVID-19 vaccine, 21% of individuals did not have any side effects, 19% of the participants got pain at injection site after vaccination, 15% of participants had all the side effect after vaccination and few participants got headache (7%).

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Table 5: Factors that encourage general population to take COVID19 Vaccine.

Statements	**Percentage(%) of Respondents**			
I have taken/will take the COVID-19 vaccine because:	**Strongly agree**	**Agree**	**Disagree**	**Strongly disagree**
I think there is no harm in taking vaccine	61%	38%	1%	0%
Covid19 Vaccine is available free of cost	48%	46%	5%	1%
I feel benefits of taking vaccine outweighs the risk involved	46%	48%	6%	0%
I believe that taking Covid19 Vaccine Is a Societal Responsibility.	61%	38%	1%	0%
Many people are taking Covid 19 vaccine.	44%	49%	7%	0%
My healthcare professionals/Doctors recommended me.	39%	50%	9%	2%

Various motivating factors influencing them to get vaccinated include perception that there is no harm in getting vaccinated (61%), more than half of participants believe that taking Covid-19 Vaccine Is a Societal Responsibility (61%) and its benefits outweigh the risks involved (46%). However, less than half participants had a belief that many people are taking vaccine so they should also take a vaccine (44%). However, less than half believe that Covid19 Vaccine is available free of cost (48%) so they should go for the vaccination and few participants were interested in getting vaccinated if their healthcare provider would recommend those (39%).

DISCUSSION

Our study aims to highlight the knowledge regarding the COVID-19 vaccine, and also the predictors of vaccine hesitancy, in a general population. A total of 100 responses were collected. The socio-demographic information of 100 participants is depicted and the sample had a predominance of female participants (73%) with only (27%) male participants. Maximum participants belonged to the 18-29 years of age group (74%) and most of the participants resided in urban area (74%) and the rest (26%) resided in rural area. Maximum participants belonged to the middle socio-economic class (85%). Most of the participants had limited knowledge regarding the eligibility of vaccines in general population groups such as people with severe allergic reaction (1%) and adults above 18 year of age (62%), and

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34% peoples believe that everyone can take vaccine. Similar findings were seen in few studies.[8-11]

Findings depicted that maximum (92%) respondents think that it is important to get a vaccine to protect people from COVID-19. And maximum Respondents think preventive measures like wearing mask & social distancing (99%) should be followed even after getting COVID 19 vaccine. slightly more than half of the participants (52%) think that after both the dose of vaccine they are safe. Maximum (72%) would respondent's shows positive attitude that they will afford the vaccine at their own expense if it was not provided free by the government in free. Whereas, Majority of the participants would recommend it to their family and friends to get vaccinated (96%). Only 23% participants believe that it is possible to reduce the incidence of Covid 19 without vaccination, whereas more than half individuals believe that vaccine protect them from getting Covid 19 infection (66%). This is in accordance with few studies.[11,13]
Among the 100 study participants, nearly 38% of individuals got fever as a side effect after the COVID-19 vaccine and 21% of individuals do not have any side effects whereas the 19% of the participants got pain at injection site after vaccination and 15% of peoples have all the side effect after vaccination and few people got headache (7%). And maximum people had taken first dose of COVID-19 vaccine (63%) and only few people had taken both the dose of COVID-19 Vaccine whereas 21% of study participants not get vaccinated of both the dose which is similar to studies.[14,15]

Various motivating factors influencing them to get vaccinated include perception that there is no harm in getting vaccinated (61%), more than half of participants believe that taking Covid-19 Vaccine Is a Societal Responsibility (61%) and its benefits outweigh the risks involved (46%). However, less than half participants had a belief that many peoples are taking vaccine so they should also take a vaccine (44%). However, less than half believe that Covid19 Vaccine is available free of cost (48%) so they should go for the vaccination and few participants were interested in getting vaccinated if their healthcare provider would recommend those (39%).

The majority of the participants expressed their concern about the various factors influencing them to not to get vaccinated include perception that Covid 19 vaccine might not be easily available to me (44%) and they might have some unforeseen future effects of Covid 19 vaccine (28%). Apart from this, there were few concerns among people regarding the vaccine might have them immediate serious side effect after taking COVID-19 vaccine (24%) & infection will provide better immunity and that vaccination is not required (22%) and some people believe that vaccination will make them weak and cause more harm than good (15%). Various studies have shown different results depending on the country and other factors.[9-11,15]

CONCLUSION

The rapid development of COVID-19 vaccine might have contributed to the emergence of concerns among the general population. It is concluded that many participants did not have knowledge that it is not legally mandatory to take COVID19 vaccine and had a fair idea that recovered COVID patients were eligible for the vaccine. However, many participants were aware about the eligibility of people

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with comorbidities to take the vaccine.

Most participants showed a positive attitude towards the importance of vaccine that it protects the people from COVID-19 and preventive measures like wearing mask & social distancing should be followed even after Getting COVID-19 vaccine. They also showed a positive attitude in that they will encourage their family and friends to get vaccinated.

The factors that encouraged the participants towards vaccine acceptance is that there is no harm in taking vaccine and more than half of the study population believe that COVID-19 vaccine is the societal responsibility.

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