

Attitude and Knowledge towards COVID-19 Vaccination among Women in Chattogram, Bangladesh

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Abstract

Background: The COVID-19 pandemic is changing rapidly and requires different strategies to maintain clinical preventive services, including immunization. The authorized vaccines have shown to prevent severe illness and hospitalization from COVID-19. However, knowledge and attitudes towards COVID 19 vaccinations among female populations are poorly understood. Thus, the study aimed to investigate knowledge and attitude towards COVID19 vaccinations in Bangladeshi women.

Materials and methods: A cross-sectional study was performed in Chittagong Medical College Hospital, Chattogram from 14 February to 16 February 2021. The study was conducted using a structured, pre-formed questionnaire containing informed written consent along with three sections, i.e. sociodemographic profile, knowledge and attitudes. All women who had come to take vaccine against COVID-19 in this hospital during the study period were the study population. Women who were not agreed to take part in the study and having complications e.g. mental disorder, hearing difficulty or critically ill were excluded from the study. The final sample size was 225. Systematic random sampling was applied to select the study population.

Results: During the study, 43% cases belong to 40-49 years' age group and 91% were from urban area. Regarding knowledge towards vaccination, 69% study group think vaccine can give complete protection from COVID-19 and 97% cases have knowledge that vaccine can reduce severity of COVID-19 but 6% didn't sure about death cases from vaccination, 51% shows positive results regarding elder people are at high risk from vaccination than younger, 79% study group think people with comorbid diseases are at high risk from vaccination. Regarding attitude towards vaccination, 95% cases were taking their vaccine willingly followed by 2% women think vaccine may not effective against COVID-19, 12% think rich people need vaccine more than poor.

Conclusion: The COVID-19 pandemic is still experiencing worldwide disasters but a possible ray of hope for the future can be found with the COVID-19 vaccine. The findings recommend that immediate programs of health education and the respective health authorities should provide more accurate information. In order to decrease vaccine relief enabled and promoted by disinformation in the media, policymakers should take efforts to provide appropriate understanding, favorable attitudes and views of COVID-19 immunization.

Key words: COVID-19; Knowledge and attitude study; Vaccination.

INTRODUCTION

COVID-19 is a deadly disease which continues to affect many countries in the world. This is caused by the new coronavirus strain SARS-CoV-2 which has become a serious public health concern worldwide.¹ The disease announced as a public health emergency of international importance and a pandemic by WHO on January

30, 2020 and 11 march, 2020 respectively.² The first COVID-19 case in Bangladesh was reported on 8 March 2020². Since then, the numbers of new cases have been rising rapidly in the country. As of 6 February 2021, the country has recorded 537465 positive cases of COVID-19 and 8182 deaths domestically.³

As SARS CoV 2 is highly infectious virus that impacts communities around the globe, vaccines are the most significant measure of public health and the most effective approach for protecting the population against COVID-19. The competitive effort for the discovery and development of COVID-19 vaccines against the spread and disastrous consequences of the illness is ongoing with the creation of new, more effective vaccinations as the pandemic passes.^{4,5} The distribution of vaccines is in the process and the acceptance of COVID-19 immunizations by the community must be investigated.⁶

With the distribution of vaccines underway, it is very important to examine community acceptance of COVID-19 vaccinations.⁴ Bangladesh authorities agreed to use the Covishield vaccine from India on 27 January 2021.⁵ A nurse, named Runu, was the first COVID-19 vaccine receiver.⁷

However, there is a large debate among the general people of Bangladesh over COVID-19 vaccines. A worldwide COVID-19 research showed that 48% of the study population had misunderstandings with the COVID-19 vaccines and were doubtful about their vaccination.⁸

There is also a great controversy about COVID-19 vaccinations among the female population of Bangladesh. A Chinese study found that only just over half of their participants (54%) said that they intended to have the vaccination⁹. These relatively low proportions of people willing to have the vaccine are potentially worrying, since although the most effective measure of controlling the spread of the virus is to protect oneself from being exposed to COVID-19, it is also necessary to vaccinate the vulnerable group of people as soon as possible.¹⁰ While there is some early data to suggest safety and efficacy of the approved vaccines, long term efficacy and any long-term side effects are largely unknown. Understandably, the acceptance of the new vaccine remains uncertain by both, healthcare experts and the public at large. In addition, a strong anti-vaccine movement, with multiple pseudoscientific conspiracy theories have flooded the media reports. It is for these reasons that vaccine hesitancy may become an important challenge in the immunization campaign against COVID-19.¹¹

In order to implement the most effective vaccination strategy in Bangladesh, we need to know the knowledge and attitudes of Bangladeshi women about COVID-19 vaccinations. In such a scenario, people's knowledge, attitudes towards COVID-19 are crucial for Government and policy makers to address all barriers to vaccine distribution.

Based on the hospital record vaccination was started in this hospital from 07 February 2021 and total 2,086 women had

taken vaccine from 14 February 2021 to 16 February 2021. Considering inclusion and exclusion criteria total 225 women were enrolled with response rate of 100%.

In this study our main goal is to evaluate the attitude and knowledge towards COVID-19 vaccination among women in Chattogram, Bangladesh.

MATERIALS AND METHODS

A cross-sectional study was performed in Chittagong Medical College Hospital, Chattogram from 14 February 2021 to 16 February 2021. Our study population was the women who had come to take vaccine from 14 to 16 February 2021. Total 5,231 people were taken vaccine during the study period, among them 2,086 were female.

The study was conducted using a structured and pre-formed questionnaire containing informed written consent along with three sections, i.e., sociodemographic profile, knowledge and attitudes. Women who were not agreed to take part in the study and having complications e.g. mental disorder, hearing difficulty or critically ill were excluded from the study. The final sample size was 225. Systematic random sampling was applied to select the study population. The information gathered through face-to-face interview techniques using a structured and pretested questionnaire, by taking all the necessary safety precautions of the outbreak. The questionnaire was first developed in Bangla then converted to English. All collected data were coding and input in SPSS-25 for further analysis. Both descriptive and inferential statistics done. Descriptive statistics including tables, figures and percentages were used to explain the data.

RESULTS

In figure-1 shows age distribution of the study group where 43% cases belong to 40-49 years' age group followed by 39% belong to 50-59 years' age group, 15% belong to 60-69 years' age group and 3% belong to ≥ 70 years' age group.

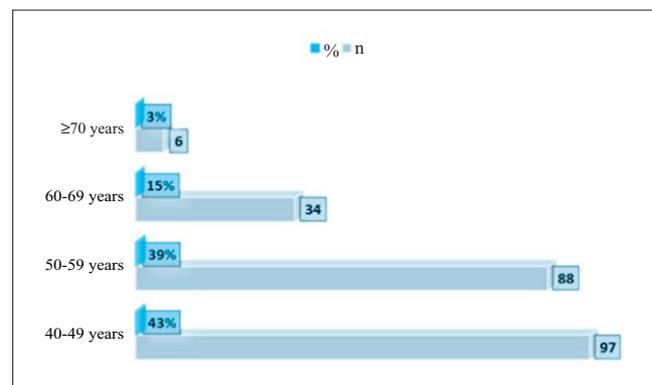


Figure 1 Age distribution of the study group

Table I shows demographic status of the study group, where most (76%) of the study group are graduate, 42% are house wife and 56% belong to middle socioeconomic status.

Table I Demographic status of the study group

Attributes	Variables	Frequency (n)	Percent (%)
Education	Graduate	171	76%
	HSC	32	14%
	SSC	16	7%
	Primary	6	3%
Occupation	Service	86	38%
	Business	45	20%
	Housewife	94	42%
	Upper	99	44%
	Middle	126	56%
	Lower	0	0%

In Figure 2 shows residential area of the study group where majority cases were from urban, 91%. The following figure is given below in detail:

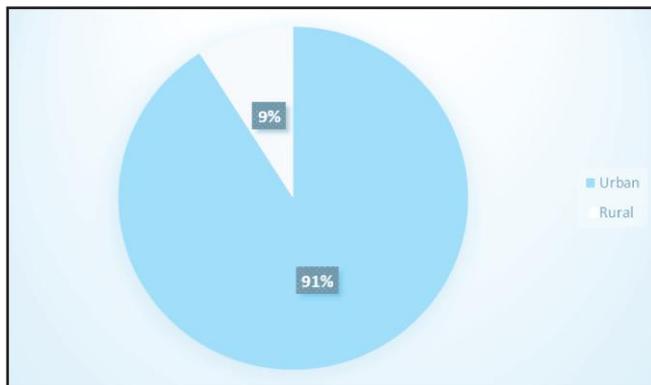


Figure 2 Residential area of the study group

In Table II shows Knowledge of study participants about vaccination where 94% study group think vaccine can give complete protection from COVID-19 followed by 97% cases have knowledge about vaccine which can reduce severity of COVID-19, 6% didn't sure about death cases regarding vaccination, 51% shows positive results regarding elder people are at high risk from vaccination than younger, 79% study group think people with comorbid diseases are at high risk from vaccination.

Table II Knowledge of study participants about vaccination

Attributes	Variables	Frequency (n)	Percentage (%)
Primary source of information about COVID-19 vaccination	Media (Mass media and social media)	212	94%
	Health worker and others	13	6%
Vaccine can give complete protection from COVID-19	Yes	155	69%
	No	20	9%
	Not sure	50	22%
Vaccination can reduce severity of COVID-19	Yes	218	97%
	No	0	0%
	Not sure	7	3%

Attributes	Variables	Frequency (n)	Percentage (%)
Vaccination can reduce death rate from COVID-19	Yes	191	85%
	No	5	2%
	Not sure	29	13%
Mild Complication like malaise, fever common after vaccination	Yes	200	89%
	No	0	0%
	Not sure	25	11%
Even death may occur from vaccination	Yes	0	0%
	No	212	94%
	Not sure	13	6%
Elder people are at high risk from vaccination than younger	Yes	115	51%
	No	45	20%
	Not sure	65	29%
People with comorbid diseases are at high risk from vaccination	Yes	178	79%
	No	9	4%
	Not sure	38	17%

Table III shows attitude questions among study group where 95% cases weretaking their vaccine willingly and 2% women think vaccine may not effective against COVID-19, 12% thought rich people need vaccination more than poor.

Table III Attitude questions among study group

Attributes	Variables	Frequency (n)	Percentage (%)
Willingly taking vaccine	Yes	214	95%
	No	11	5%
Vaccines may not be up to the mark yet	Yes	0	0%
	No	153	68%
	Not sure	72	32%
Free Vaccination may be a kind of study on the people of developing countries	Yes	11	5%
	No	158	70%
	Not sure	56	25%
Vaccine may not be effective against COVID-19	Yes	4	2%
	No	198	88%
	Not sure	23	10%
Just taking the vaccine as it is free of cost and others are taking	Yes	13	6%
	No	212	94%
Rich people need vaccine more than poor	Yes	27	12%
	No	68	30%
	Not sure	130	58%
Taking vaccine due to family members request	Yes	29	13%
	No	196	87%

DISCUSSION

According to one study, participants with a higher level of education were found to have more knowledge about COVID-19 vaccinations, which is also supported by previous research. Similar scenarios were found in other earlier studies in Bangladesh, illustrating that individuals with a higher educational background showed more knowledge regarding COVID-19.⁸

It may be the case that more educated people are more knowledgeable and concerned about their health and well-being, through access to more information sources, and become more engaged in life events that could impact them, such as COVID-19 vaccinations.¹¹ Where as in our study we found similar type of results.

People who have received any vaccine earlier were found to have more knowledge regarding COVID-19 vaccinations in one study. A recent study in China evaluating COVID-19 vaccine acceptance found that people who were previously vaccinated against influenza were more likely to accept the COVID-19 vaccine, which was also demonstrated in a study in Hong Kong.^{12,13}

This tendency among people may be due to previous positive experiences from vaccination. The level of knowledge about COVID-19 vaccinations were significantly higher among people living in the urban areas, compared to rural areas. This is supported by an earlier study in Bangladesh which demonstrated significant correlation between COVID-19 knowledge and urban location.⁴ We also found positive attitude and knowledge among majority of urban people, 91%. However, our finding is inconsistent with a recent study which found more accurate knowledge about COVID-19 among people in rural areas in Bangladesh.⁸

In the one study, over 80% of participants had more positive attitudes towards COVID-19 vaccine.⁷ This association is in line with a previous study on attitudes towards dengue vaccination conducted in Indonesia and attitudes towards COVID-19 carried out in Bangladesh.⁷

Where as in our study regarding knowledge about vaccinations, we found 94% study group think vaccine can give complete protection from COVID-19 followed by 97% cases have knowledge about vaccine which can reduce severity of COVID-19, 6% didn't sure about death cases regarding vaccination, 51% shows positive results regarding elder people are at high risk from vaccination than younger, 79% study group think people with comorbid diseases are at high risk from vaccination. Also, regarding attitude about vaccination, 95% cases were taking their vaccine willingly followed by 2% women think vaccine may not effective against COVID-19, 12% thought rich people need vaccine more than poor.

In another study, in participants assumed that the recently discovered COVID-19 vaccine (The vaccine currently being used in Bangladesh) could have some side-effect, which is similar to a study in the US.¹⁴ A study in China found that 48% of respondents postponed vaccination before confirmation of the safety of the vaccine, which shows their doubt regarding vaccine safety.¹⁵ Worryingly, the exceptionally rapid pace of vaccine development, the skepticism of certain groups of science and health experts might elevate doubt about COVID-19 vaccine.¹⁶

CONCLUSION

The COVID-19 pandemic is still experiencing worldwide disasters and lives, but a possible ray of hope for the future can be found with the COVID-19 vaccine.

RECOMMENDATIONS

The findings recommend immediate programs of health education and that the respective health authorities should provide more accurate information. In order to decrease vaccine relief enabled and promoted by disinformation in the media, policymakers should take efforts to provide appropriate understanding, favorable attitudes and views of COVID-19 immunization.

DISCLOSURE

All the authors declared no competing interest.

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