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Original Article

The Changing Pattern of Behavior towards COVID-19 in Rural Population of Bangladesh- a prospective study

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ABSTRACT

Background: *In Bangladesh, an array of measures has been adopted for widespread dissemination of knowledge and to control the rapid spread of the COVID-19 pandemic. From the very beginning of this pandemic till today, the perception of general population has been changed over time reflected by their attitude and behavior. Although the overall change appeared to be progressive and positive, this may not be equal or equitable in all the population specially the rural population.* ***Objective****: In this study our main goal is to evaluate the changing pattern of behavior towards COVID-19 in rural population of Bangladesh.* ***Method:*** *This prospective study was carried out at village- sultanpur, Upazilla: Debidwer, District: Cumilla from 01.07.2020 to 01.07. 2021. Where sample group divided into two types. Data those were taken on 01.07.2020 were classified into group-A where 185 respondents were interviewed and information were noted, whereas 175 respondents which were selected for study thereafter. The data collected on 01.07. 2021 were classified into Group-B.* ***Result:*** *During the study, majority of the respondents was belonged to 30-50 years age group, (41.67%) and highest 38.89% were completed only secondary level. In group-A highest 28% had no knowledge about COVID-19 and 33.4% had no knowledge about symptoms of COVID-19, 50% don't know how it spreads whereas in group-B, knowledge regarding COVID-19 improved where 30% had adequate basic knowledge about COVID-19 and higher number of people had knowledge about transmission and prognosis of this COVID-19. Besides that, according to attitude and practice in group-A, 66.7% believed about the rumor of COVID-19 vaccine, 83.33% didn't think of taking vaccine and less awareness regarding wearing mask and social distance were observed where as in group-B, only 9.5% people believe rumor about COVID-19, and awareness regarding mask, hand washing shifting higher number of cases, 98.15% respectively. In addition, popular source regarding COVID-19 information were, friends and neighbour, 56%, Miking and Government announcements 50%, through social media, 48%.* ***Conclusion:*** *Bangladesh is a multi-ethnic nation with dramatically diverse economic income, education levels, and customs; it is assumed that the population's levels of awareness, attitude, and prevention will likewise be considerably different.*

Despite the fact that a positive attitude and awareness were detected in the research population

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the standard and consistent education and dissemination programs need to be developed and implemented.

Keywords: *COVID-19 pandemic, awareness, vaccine. Attitude, behavior*

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INTRODUCTION

The COVID-19 pandemic, also known as the coronavirus pandemic, is a worldwide outbreak of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2. (SARS-CoV-2).The unique virus was discovered during an epidemic in the Chinese city of Wuhan in December 2019, and efforts to contain it there failed, allowing it to spread throughout the world.

On 30 January 2020, the World Health Organization (WHO) declared a Public Health Emergency of International Concern, and on 11 March 2020, it declared a pandemic [1-3].

The pandemic has produced more than 420 million illnesses and 5.86 million fatalities as of 18 February 2022, making it one of the worst in history [1-4].

However, in recent times COVID-19 led the establishment of public health measures to prevent the virus's transmission, many of which involved social distance, hand washing, and lockdown procedures, but it has also caused public pain and widespread dread [5, 6], particularly among the unaffected population.

Bangladesh has never seen outbreaks like SARS or MERS, and it is apparent that the public healthcare services are unprepared for COVID-19.

The extent and fast spread of COVID-19 in Bangladesh through marginally symptomatic or asymptomatic infected persons emphasizes the need to understand community behavioral responses in order to properly address behavioral drivers of pandemic containment.[5]

In this study our main goal is to evaluate the changing pattern of behavior over time towards COVID-19 in rural population of Bangladesh. In addition we also tried to find out the sources of information and their impact on peoples' behavior and attitude.

OBJECTIVE

To assess the changing pattern of behavior towards COVID-19 in rural population of Bangladesh.

METHODOLOGY

This prospective study was carried out at village- sultanpur, upazilla-debidwer, District- cumilla, Bangladesh from 01.07.2020 to 01.07. 2021. Where sample group divided into two types. Data those were taken into 01.07.2020 were classified into Group-A where initially 185 people's information were noted. After 1 year the same population was interviewed. But 4 person of Group-A died within this year and 6 persons had gone abroad. These 10 peoples interview sheets were excluded from the study and the remaining 175 people were interviewed for the second times on 01.07.2021 and classified as Group-B.

Data were collected by using a pre designed questionnaire. The questionnaire was prepared reviewing literature and consulting with medical research experts.

All collected data were coding and input in SPSS-25 for further analysis. Both descriptive and inferential statistics

done. Descriptive statistics included frequency distribution, percent, mean, standard deviation; graph, tables, figures and inferential statistics.

RESULT

In table-1 shows age distribution of the respondents where majority respondents were belonged to 30-50 years age group 41.67%. Followed by 36.11% belong to <30 years group and 22.22% belong to >50 years age group. The following table is given below in detail:

Table-1: Age distribution of the respondents

Age group	N	%
<30 years	130	36.11%
30-50 years	150	41.67%
>50 years	80	22.22%
Total	360	100

In figure-1 shows gender distribution of the study group where majority respondents were male, 69.44%. The following figure is given below in detail:

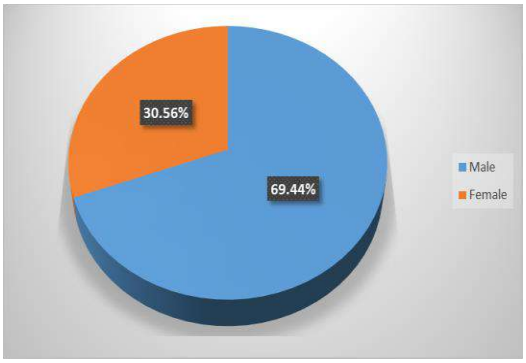

Figure-1: Gender distribution of the respondents

In table-2 shows educational level of the study group where 38.89% were completed only secondary level followed by 33.33% passed primary, 19.45% were graduate and 8.33% were illiterate. The following table is given below in detail:

Table-2: Educational level of the respondents

Educational Level	N	%
Illiterate	30	8.33%
Primary	120	33.33%
Secondary	140	38.89%
Graduate and above	70	19.45%
Total	360	100

In table-3 shows knowledge about COVID-19 where in group-A, majority respondents had no knowledge about COVID-19 followed by 33.4% had known about symptoms of COVID-19, 50% don't know how its spreads. Whereas days passed in Group-B, knowledge regarding COVID-19 improved where 31.48% had adequate basic knowledge about COVID-19 and higher number of people had knowledge about transmission and prognosis of this COVID-19. The following table is given below in detail:

Table-3: Knowledge about COVID-19

Knowledge about what is Covid-19	Group-A	Group-B
No basic knowledge	28.00%	3.33%
Minimum basic knowledge	22.00%	26.67%
Average basic knowledge	25.00%	40.00%
Adequate basic	25.00%	30.00%

knowledge		
Knowledge about symptoms		
Fever	11.67%	58.33%
Cough	20.83%	16.67%
Body pain	22.50%	7.50%
Diarrhea	4.17%	5.00%
Loss of smell	7.50%	6.67%
Don't know	33.40%	5.83%
Knowledge about how its spreads		
Crowded place among affected people	20.83%	30.00%
Close-contact settings among affected people	16.67%	25.00%
From hospital	12.50%	20.00%
Don't know	50%	25%

In table-4 shows distribution of the study group according to attitude and practice in Group-A, 66.7% believed about the rumor of COVID-19 vaccine, 33.33% didn't know think they should take vaccine and less awareness regarding wearing mask and social distance were observed whereas in group-B none of people didn't believe any rumor about COVID-19, awareness regarding mask, hand washing shifting higher number of cases, 90.5%. The following table is given below in detail:

Table-4: Distribution of the respondents according to attitude and practice

Description	Group-A	Group-B
There are so many rumors about corona vaccine, do you believe those? • **Yes** • **No**	 66.67% 33.33%	 9.5% 90.5%
Are you tensed about the side effect of corona vaccine? • **Yes** • **No**	 96.60% 3.70%	 10.19% 89.81%
Do you think the related person should take corona vaccine? • **Yes**	 16.67%	 96%

• **No**	83.33%	4%
Are You wearing mask when you are outside: • **Yes** • **No**	16,67% 83.33%	98.15% 1.85%
In outside or your work place do you wash your hand? • **Yes** • **No**	8.33% 91.67%	98.15% 1.85%
After entering your home from outside do you wash your hand? • **Yes** • **No**	9.17% 90.83%	98.15% 1.85
How can you save yourselves from Covid-19 • **Avoiding crowed** • **Washing hand** • **Wearing mask** • **Taking vaccine** • **Don't know**	34% 12% 24% 14% 16%	18.50% 12.25% 12.25% 17.30% 30.70%

In figure-2 shows source of COVID-19 vaccine information, according to respondents popular source regarding COVID-19 information were, friends and neighbor, 56%, miking and government announcements 50%, through social media, 48%. The following figure is given below in detail:

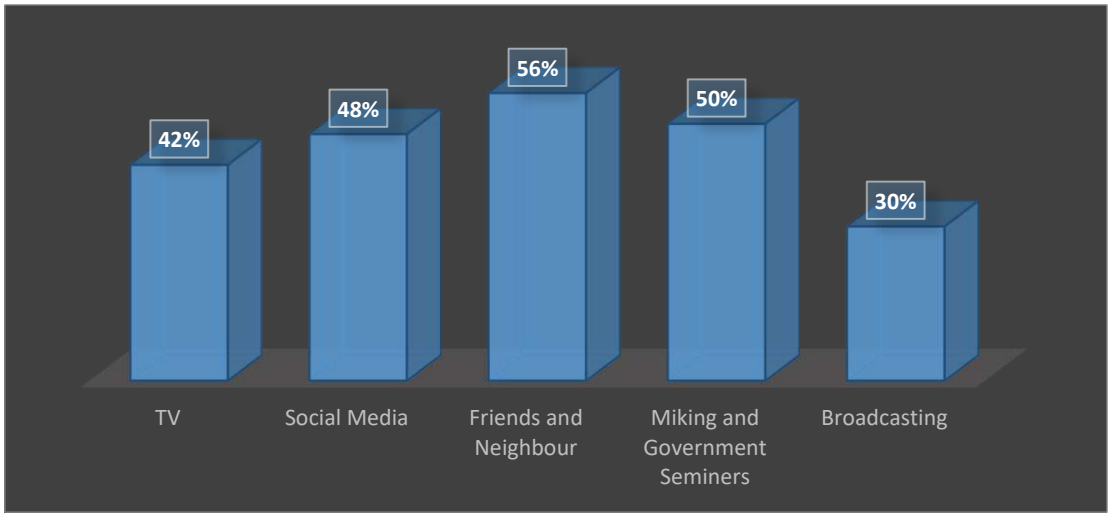

Figure-2: Source of information regarding COVID-19 (multiple responses)

DISCUSSION

During our study, as day passed most of the study populations having the appropriate knowledge about the availability of the treatment, vaccine, mode of transmission and importance period of the disease. These findings are consistent with the studies of Zhong BL et al conducted among the Chinese residents and of Alzoubi H et al conducted among the students in Jordan.[6-7] Their knowledge regarding the availability of vaccines and treatment are also similar with other studies.[3-4]

The findings of this study are the reflection of the effectiveness of the different awareness campaign conducted by the different agencies both in private and public sectors specially the health authorities in Bangladesh. This also supported by the positive attitude of the study population towards the measures including use of face mask, hand washing, use of hand sanitizer and social distancing.

According to respondents, popular source regarding COVID-19 information were, friends and neighbor, 56%, miking and government announcements 50%, through social media, 48%. Alzoubi H et al mentioned that the commonest source of knowledge of their participants was social media [7].

However, before getting sufficient information in our study in group-A highest 28% had no knowledge about COVID-19 and 33.4% had no knowledge about symptoms of COVID-19, 50% don't know how its spreads whereas in group-B, knowledge regarding COVID-19 improved where 30% had adequate basic knowledge about COVID-19 and higher number of people had knowledge about transmission and prognosis of this COVID-19. Besides that, according to attitude and practice in group-A, 66.7% believed about the rumor of COVID-19 vaccine, 83.33% didn't think of taking vaccine and less awareness regarding wearing mask and social distance were observed where as in group-B, only 9.5% people believe rumor about COVID-19, and awareness regarding mask, hand washing shifting higher number of cases, 98.15% respectively which was supported by another study where despite their knowledge, importantly, some 74.0% respondents thought that COVID-19 is a grave disease. This misconception actually leads them for the stigma reflected in misbehave towards the COVID-19 affected neighbors even towards the frontline fighters including physicians, members of the law enforcing agencies and others who are engaged with prevention and control measures of COVID-19 [8].

In our study, in GROUP-A respondents assumed that the recently discovered COVID-19 vaccine (the vaccine currently being used in Bangladesh) could have some side-effect, where in group-B, These types of attitude has been changed, which is similar to a study in the US [9]. 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 [10]. Stigmatization of people with symptoms of COVID-19 was witnessed initially due to widespread fear about the disease. Although the situation improved over time but still miserable and consistent with some other studies [11].

CONCLUSION

Given that Bangladesh is a multi-ethnic nation with dramatically diverse economic income, education levels, and customs, it is assumed that the population's levels of awareness, attitude, and prevention will likewise be considerably different. Apart from the

urban population, provision of knowledge and access to the media is significantly less in rural area overwhelmed with superstition. Despite the fact, a positive attitude and awareness were detected in the research population that evolved over time. This means that standard and consistent education and dissemination programs has been developed and implemented and government strategy towards COVID-19 is correctly reaching the lighthouse.

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