ORIGINAL ARTICLE

Assessment of the Level of Awareness and Knowledge of Covid-19 among rural population in Khulna, Bangladesh

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Abstract

Objective: The objective of the study was to find out level of Awareness and knowledge about covid-19 among rural population in Bangladesh. **Methods:** A cross-sectional descriptive type of study was carried out in Bathiaghata Upazilla, Khulna from 25.11.21 to 25.12.2021. Adult persons, 455 (male 181 and female 274) with mean age ± SD was 24 ±1.5 years, selected purposively from the households in the adjacent villages were included in the study as respondents. **Results:** Among the respondents, 97.4% heard about covid-19. Of them, 292 (71.6%) had knowledge that the disease is transmitted by cough, sneezing, direct contact and the proportion of the respondents who knew about symptoms like high fever, headache, cough, loss of taste and loss of smell were 50.1%, 16.7%,16% and 7.4%, respectively. Most of the respondents received health care services from MBBS doctors (87.3%). The majority of the respondent (76.5%) identified who heard about prevention of covid-19 by wearing mask, as a good preventive practice against covid-19 infection, followed by frequent hand washing (18.4%) which is eventually important for the prevention of covid-19. **Conclusion:** It was a unique study that describing adult heath related knowledge on covid-19 among adult population in a rural area. The study results suggest a further need to strengthen health education about covid-19 among rural population in Bangladesh.

Keywords: Covid-19, Knowledge, Awareness, Population.

Introduction

Coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), was first reported in Wuhan, China, 1st December in 2019.[1] The disease spread quickly in epic proportions to over 26 countries within 8 weeks, prompting the WHO to declare it a pandemic on 11 March 2020.[2] Most coronaviruses infect animals, such as bats, cats, and birds. Only seven, including Covid-19, SARS, and MERS, are known to infect humans. The methods of transmission of COVID 19 viruses are transmitted from person-to-person and similar to seasonal influenza and may cause the same symptoms. There is no specific treatment for this virus so far and because it is a new virus, nobody has prior immunity which in theory means that the entire human population is potentially susceptible to COVID-19 infection.[3] There is not enough epidemiological information at this time to determine how easily and

sustainably this virus spreads between people, but it is currently estimated that, on average, one infected person will infect between two and three more.[4] The virus seems to be transmitted mainly via respiratory droplets that people sneeze, cough, or exhale. The virus can also survive for several hours on surfaces such as tables and door handles.[5] The symptoms are fever, cough, difficulty breathing, muscle pain and tiredness. More serious cases develop severe pneumonia, acute respiratory distress syndrome, sepsis and septic shock that can lead to death.[6] The local population must have reasonable knowledge of what covid-19 is, since wrong concepts would be harmful, every effort should be directed towards educating the population about these wrong ideas whenever they are detected. By wearing mask, hand wash, social distancing, avoid crowding etc. and by avoiding social gathering around the, covid-19 can be prevented.

The aim of the study was to assess the knowledge

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about covid-19 among rural adult population in the area. Such information provides baseline data for the prevention and control of these diseases through estimation of the impact of previous prevention efforts made by the government and guiding the need for further interventions.

Materials and methods

A descriptive type of cross-sectional study was performed among adult population of Bathiaghata Upazilla of from 25.11.21 to 25.12.2021. A pretested mixed type of questionnaire was used to collect and record the necessary information. Compilation of data was performed after data collection. Compiled data were presented with tables and figures. Results were calculated according to study objectives with the help of scientific calculator and data analysis program in computer. Data were presented by tables and pie chart. All adults were interviewed for study purpose, those who were available at that time of data collection. Informed written consent was taken from respondents in this study and participation was ensured by them that it did not do any physical, mental, social and economic harm to them. Information was dealt with confidentiality and was used for this study only.

Results

A total of 455 adult populations were included in the study. It was observed that 60.9% of the respondents were in the age group of 20-40years. The mean age ±SD of the respondents was 24±1.5years.

Table 01 shows the distribution of respondents according to their sociodemographic characteristics in this study.

Table 01: Distribution of respondents according to their sociodemographic characteristics

| Age group (years)	Frequency (%)
20-40	277(60.9)
41-60	125(27.5)
61-80	53(11.6)
Income (Taka)	**Frequency (%)**
<5000	63(13.8)
>5000-10000	127(28)
>10000-15000	92(20.2)
>15000-20000	71(15.6)
>20000	102(22.4)
Housing Type	**Number (%)**
Pucca (Building)	132 (29)
Tinned Roof	292(64.2)
Thatched	31(6.8)
Sanitation	**Frequency (%)**
Sanitary	412(90.5)
Unsanitary	43(9.5)
Occupation	**Frequency (%)**
Service holder	55( )
Business	65(14.3)
Agriculture worker	58(12.7)
Housewife	212(46.6)
None	65(14.3)
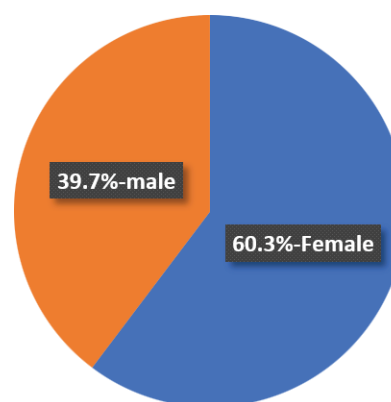
Figure 01: Gender of respondents, n=455. Male=181(39.7%), Female=274(60.3%).

Table 02: Distribution according to knowledge on symptoms of Covid-19, n=408*

Symptoms	Number	%
High fever	68	16.7
Headache	30	7.4
Cough	65	16
Loss of taste	15	3.6
Loss of smell	17	4.2
High fever, headache, cough, loss of taste, loss of smell	208	50.1
Don't know	5	1.3

The proportion of the respondents who knew about symptom like High fever, headache, cough, loss of taste, loss of smell was 50.1%, 16.7%, 16%, 7.4%, 4.2% respectively as shown in table 02.

*408 respondents only knew about symptom of Covid-19, rest of the respondents (47) didn't know about the symptom of Covid-19.
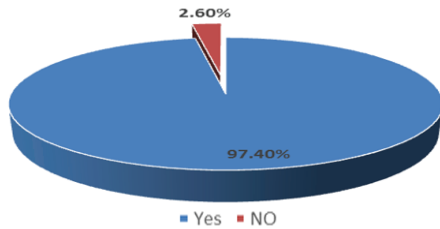
Figure 02: Distribution according to knowledge on Covid-19, n=455

Figure 02 shows the distribution of respondents according to knowledge on Covid-19 and 97.4% of the respondents heard about Covid-19.

Table 03: Distribution of the respondents according to knowledge on covid-19 transmission, n=408*

Mode of transmission	Number	%
Cough	50	11
Sneezing	16	3.5
Direct contact	30	7.3
Air	15	3.6
Cough and sneezing	143	31.5
Sneezing and direct contact	108	23.7
Cough, sneezing and direct contact	41	10
Don't know	5	1.3

Most of the respondents could correctly identify transmission modes of Covid-19 such as cough, sneezing (31.5%) and direct contact (7.3%) respectively as shown in table 03.
*408 respondents have knowledge about transmission of Covid-19, rest of the respondents (47) didn't know about the transmission of Covid-19.

Table 04: Distribution of the respondents according to the source of information, n=408*

Source	Number	%
Contracted the disease	22	5.4
Family member	35	8.6
Friend	50	12.3
Television	215	52.7
Internet	52	12.7
Radio	22	5.4
Book	7	1.8
Don' know	5	1.3

Table 04 shows the distribution of the respondents according to source of information and 52.7% of the respondents got information through television. *=408 respondents knew about the source of information of Covid-19, rest of the respondents (47) didn't know about the source of information of Covid-19.

Table 05: Distribution of respondents according to knowledge of preventing covid-19, n=455

Preventive measures	Number	%
Wearing mask	312	76.5
Hand washing	75	18.4
Social distancing	17	4.2
Don't know	4	1

Table 5 shows distribution of respondents according to knowledge preventing covid-19, 76.5% of those who know the measures of prevention of covid-19.
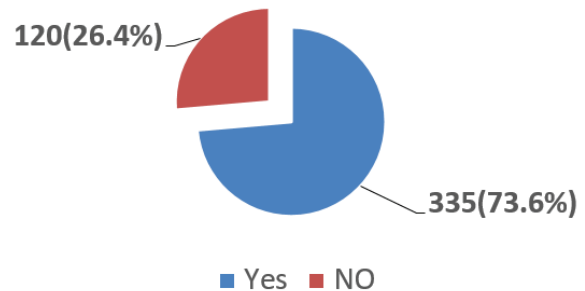

Figure 03: Distribution according to respondents get Covid-19 vaccine, n=455

The respondents 335(73.6%) get the covid-19 vaccine shows in fig 3. Rest (120) respondents didn't get the vaccine.

Table 06: Distribution of the respondents from where they received of Covid-19 treatment

Treatment	Number	%
MBBS doctor	356	87.3
Homeopath	22	5.3
Hakim(kabiraj)	15	3.6
Medicine shop keeper	12	3
Self-treatment	03	0.7

Table 06 shows the distribution of respondents according to persons from whom they received treatment. Most of the respondents received health care services from MBBS doctors (87.3%).

Table 07: Distribution of respondents according to adverse effect after vaccination, n=335*

Adverse effect	Number	%
Fever	234	69.9
Body pain	43	12.9
Diarrhoea	24	7
Vomiting	12	3.5
Joint pain	18	5.4
Other specific	14	4.2

Table 07 shows that 69.9% respondents suffered adverse effect after vaccination.

*335 respondents suffered adverse effect after vaccination, rest of the respondents (120) didn't have any adverse effect.
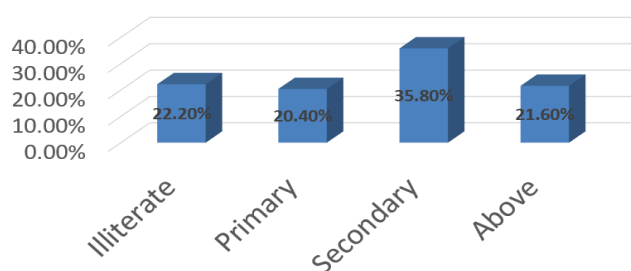

Figure 04: Distribution of respondents according to education level, n=455

Regarding educational status, fig 4shows that 20.4% respondents completed primary level, 35.8% secondary, 21.6% studied beyond secondary level and 22% were are uneducated.

Discussion

The emerging COVID-19 pandemic is a distinct period that is infested with a variety of social, economic and health challenges. The affected populations need to have an adequate level of COVID-19 related awareness, in order to meet the aforementioned challenges and form realistic expectations regarding the disease's future course. The health-related and socioeconomic burden of the pandemic might prove to be disastrous, especially it is to be mishandled by the public and disregarded by concerned authorities. Since the entirety of any population that is contact with COVID is vulnerable to its consequences. The study intended to explore the Awareness and Knowledge about Covid 19 of rural population in Batiaghata Upazilla of Khulna in Bangladesh.

The number of respondents were 455 (male 181 and female 274) with mean age ± SD was 24±1.5 years. Regarding educational status, 20.4% respondents completed primary level, 35.8% secondary, 21.6% studied beyond secondary level and 22.2% were uneducated.

Maximum respondents were housewife, 46.6%. Of the respondents, 28% had their monthly family income >5000-<10000 Taka. Maximum of the respondents (90.2%) used sanitary latrine. Maximum of the respondents heard about covid-19 getting information mainly (52.7%) through television. Most of the participants said they had heard about COVID-19 by January, and most of them looked for information on social media (Sina Weibo, 84.7%), and WeChat and QQ groups (74.2%).[7]

The results of another survey showed that both medical staff and social media platforms are the main sources of information, from which participants seek COVID-19 related knowledge. This highlights the vital role of health care workers in providing accurate and reliable information regarding the virus. Not surprisingly, social media is an important source of information due to its easy accessibility and widespread.[7]

Of the 443(97.4%) respondents who heard about covid-19, 143(31.5%) had knowledge that the disease is transmitted by cough, sneezing. Only 80% of the participants were aware that COVID-19 can be transmitted by droplets, despite the fact that droplet transmission is already established as its main transmission route.[8] The proportion of the respondents who knew about symptoms like high fever, headache, cough, loss of taste and loss of smell were 50.1%, 16.7%, 16%, and 7.4%, respectively.

Twenty-nine percent (28.69%) of the respondents (n = 619) reported one or more symptoms related to COVID-19 in the last 14 days, including cough 19.5% (n = 121), cough with sputum (14.2%), sore throat, (10%), fever (4.7%), anosmia or loss of taste (4.5%), and shortness of breath (3.7%).

The symptoms were related to COVID-19, as per the CDC.[9] In order to identify any disease, it is vital to have a proper understanding of the symptoms in order to seek early medical help and increase chances of better recovery and minimize the high risk of spread. However, it is alarming to find that only 39% of the participants identified all significant symptoms of the coronavirus, i.e. fever, cough and difficulty in respiration.[10]

Maximum (92.4%) of those who heard about prevention of covid-19. Most (76.5%) of them wear mask to avoid covid-19. The findings showed virtually universal

agreement among the participants towards reporting to health authorities suspected cases of COVID-19, on the issue wearing a face mask before going to a crowded place, and in following other recommendations. These findings were similar to a very recent study conducted in China, during the rapid rise of COVID-19 outbreak.[11] Saqlain et al. also reported positive attitudes among the vast majority of healthcare professionals towards wearing protective gear. Similarly, the overall attitude towards actions such 'wash hands and face after coming from outside' and 'health education can play an important role for COVID-19 prevention' was universally favorable. Like in this study, Saqlain et al. reported that more than 80% participants strongly agreed that transmission of COVID-19 could be prevented by following universal precautions given by WHO or CDC.[12] Accessibility to information, dissemination and illustration of preventive behaviors, and sanitary educational measures are essential, especially in rural areas, among old people, poorer neighborhoods or communities, since these may have difficulties in getting access to novel information or encounter financial or resource barriers to implementation of preventive measures.[13] It is common consensus that a more educated population about any given disease will comply better with the preventive and treatment measures.[14]

Participants exhibited an excellent understanding of preventive measures, particularly in relation to washing hands and covering the mouth and nose while coughing or sneezing.[15] In Uganda, conducted an nationwide online survey on awareness, knowledge, attitudes and practice towards measures for prevention of the spread of covid-19 among Ugandan population, found that the overall participant had 80.7% on knowledge towards measures for prevention of the spread of Covid-19 in the Ugandans.[16] In this study,335(73.6%) get the covid-19 vaccine. Another study showed that 34.9% of the participants received a COVID-19 vaccine, 93.9% expressed willingness to accept the vaccine, and that the rate of correct answers on COVID-19 vaccine knowledge questions was 89.2%.[17]

In this study, 69.9% respondents suffered adverse effect after vaccination. Another study shows that when deciding whether to take vaccination, the American adults have more concern about the probability of contracting side effects of COVID-19 vaccines than the severity of these side effects. One possible explanation could be that the side effects are reported to be mild symptoms such as pain and mild fever after injection, which are acceptable for those supporting

vaccination.[18] Another study found that the overall percentage of participants having adverse effects was 82.7%, which is higher than 64.7% reported in the phase III trial. Also, in comparison to post authorization studies, it is very close to Zare's study which reported 81.9% of participants having symptoms, whereas Pagotto reported this number to be 71.3%.[19,20]

In Bangladesh, the Covid 19 is an emerging concern of public health. Pragmatic approach to control covid-19 can be aided by providing adequate knowledge about covid-19. But it is obvious that making change in current health status involving covid-19, proper knowledge on covid-19is a must. Social factors like poverty, illiteracy, traditional unhygienic customs and habits are the main impediments in improved health status. It was a unique study describing adult health related knowledge about covid-19 in a rural area. The study results suggest a further need to strengthen health education about Covid-19 among rural population in Bangladesh.

Conclusion

A cross-sectional descriptive type of study was carried out in Bathiaghata Upazilla under Khulna district to find out knowledge about covid-19 among rural population. Among the respondents, 92.4% heard about covid-19, but the knowledge and preventive practices related to COVID-19 need to be improved. There is an urgent need for building awareness programs targeting the unhealthy behaviors of rural residents in Bangladesh. For this, social mobilization and communication programs should be developed. Since most of the respondents use social media and electronic media, rigorous and targeted campaigns by public health authorities through social, electronic, and print media can ultimately play a role in improving knowledge and control measures regarding COVID-19 by disseminating validated health information. As the global threat of COVID-19 continues to escalate, greater efforts through an interdisciplinary approach involving community participation, media, government, and educational programs regarding COVID-19 should be advocated to control the pandemic. The study results suggest a further need to provides useful information for COVID-19 control and prevention which is specific to Bangladesh.

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