Original Article

A Cross-Sectional Study on Knowledge, Attitude and Practice Towards COVID-19 of the Residents of Nagarkanda Upazila, Faridpur District

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Abstract:

Bangladesh experienced four major waves of COVID-19, the first one of which transpired in March of 2020. From its early onset the government of Bangladesh has taken several precautionary measures which include generating public awareness and adherence to appropriate knowledge, attitude and practice towards the global pandemic. The study, conducted in October 2022 attempted to explore the level of knowledge, attitude and practice towards COVID-19 among the residents of Nagarkanda upazila of Faridpur district.

Most of the participants learned about COVID-19 through mass media (49.50%), with 87% believing in its preventability and 80% being aware of the minimum distance requirements. They believed the virus spreads through direct transmission during coughing (93%), contact with infected individuals (86%), touching contaminated surfaces (79.5%), and contact with infected animals (49.5%). They identified elderly individuals (95.3%), migrants (78%), pregnant women (66.7%), those with underlying health conditions (60%), and children (59%) as the most vulnerable groups. However, the majority did not dismiss the pandemic as a myth, with 90.70% understanding the importance of isolation. Treatment options mentioned included vaccination (65%), specific medications (41%), supportive care (39.30%), and herbal remedies (25.70%). A large majority (91.70%) had already received the COVID-19 vaccine, while 8% had not been immunized, and 0.30% were unaware of vaccination efforts. The findings suggest that an adequate amount of health education interventions should be directed to the particularly vulnerable rural populations at high risk of contracting COVID-19.

Keywords: COVID-19, Knowledge, Attitude, Practice, Nagarkanda, Faridpur.

Introduction:

Corona Virus disease 2019 (COVID -19), is a global public health emergency that was first detected in Wuhan, China in December 2019 which then evolved to become a pandemic crisis around the world. It is caused by a novel Corona virus known as severe acute respiratory syndrome corona virus 2 (SARS-CoV-2)[1]. It belongs to a family of RNA virus causing respiratory illness ranging from flu-like symptoms to more serious diseases including death[2]. On January 30, 2020, the World Health Organization (WHO) declared COVID-19 as a public health emergency, which then turned into a declaration of a global pandemic on March 11, 2020[3]. Following the confirmation of the first case in Bangladesh on 8 March, 2020, the government of

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Bangladesh initiated drastic measures including a nationwide lockdown to contain the spread of the disease[4]. Official measures such as the closure of schools and offices for an initial 30-day duration, restrictions on leaving home after 6.00 pm, and restrictions on gathering in mosques had rapidly been imposed in many regions of the country[5]. However, these measures faced challenges in Bangladesh, a lower middle-income economy with one of the world's densest populations[5].

Over the next two years, the country confronted four major waves of COVID-19 which affected a large sum of its population6. From the inexperience of Bangladesh in handling any pandemic-like situation in the past it was quite apparent that the public healthcare systems were not fully prepared to confront COVID-19. Therefore, in the next two years the rapid proliferation of COVID-19 through both symptomatic and asymptomatic cases stressed the need to identify behavioral responses of the population towards the prevention of this highly infectious disease[6].

The rapid surge in COVID-19 cases in Bangladesh was largely attributed to its densely populated areas, where a significant portion of the population lives below the poverty line, and nearly half are exposed to various socio-economic vulnerabilities[7,8]. Additionally, the low literacy rate among citizens contributed to insufficient Knowledge, Attitude, and Practice (KAP) regarding the ongoing pandemic[7]. Despite these challenges, the government faced the daunting task of vaccinating a large portion of the population after the development of vaccines. By January 3rd, 2023, the government had managed to vaccinate 70.4% of the population with two full doses[6]. However, during the initial stages of vaccination, a global survey revealed that 48% of respondents were uncertain about receiving the vaccine, particularly in rural areas of Bangladesh where illiteracy rates are higher[8].

According to a study conducted in China (Hubei), the attitude of the citizens towards adherence to government measures to contain the epidemic was associated significantly with the level of knowledge about COVID-19[9]. As an example, in a study conducted in Senegal, men, compared with women, had lower odds of reporting prevention behavior[10]. This behavioral pattern can be used while dealing with them particularly. A study published in science magazine says about the impact of the intervention on mask usage by residents of a particular area tripled and maintained afterward after a successful intervention[11]. Research shows that our countrymen have a knowledge deficiency regarding COVID-19[12]. Higher levels of information and education were associated with more positive attitudes regarding preventive practices towards COVID-19[13]. That being the case, it is presumable that the preventive methods such as washing hands, limiting touch of mouth and nose, wearing mask along with a minimal basic knowledge and good practice can create a significant difference in the overall scenario of the pandemic.

As an important cognitive tool in public health regarding disease prevention and health promotion, Knowledge, Attitude, and Practice (KAP) involve a range of beliefs about the causation of disease and exacerbating factors like identification of symptoms along with available methods of treatment[14]. KAP surveys can identify knowledge gaps, cultural beliefs or behavioral patterns that may facilitate understanding a disease outcome and action for its prevention. Therefore, it serves as an important source of information for policymakers to design educational materials suited for specific knowledge gaps among the public[15]. In order to implement the highest utilization of limited resources in Bangladesh study regarding the Knowledge, Attitude and Practice towards COVID-19 among the people is necessary[16]. Considering limited research at the rural context, we aimed to carry out a study about the knowledge, attitude, and practice towards COVID-19 in people of a selected rural area of Bangladesh.

Materials and Methods:

Individuals aged 18-75 years who were permanent residents of Nagarkanda Upazila, Faridpur district comprised of the study population. Participation in this survey was consensual and voluntary with informed consent given by all respondents. The exclusion criteria included elderly people with dementia, bedridden patients and insane people. Responder from the study population was chosen using a convenient sampling strategy. The convenience of the data collector was prioritized whilst selecting the respondents from the study population.

Data was collected by face-to-face interviews using an in-house questionnaire. A semi-structured questionnaire was developed. The respondent-friendly questionnaire was designed for the study containing questions assessing socio-demographics, knowledge, attitude and practice (KAP) toward COVID-19. The sociodemographic variables included age, gender, occupation, level of education, marital status, type of the family, number of earning persons in the family, and the economic status of the respondent.

The components of the knowledge section included the awareness of COVID-19 and the source of information, symptoms, modes of transmission, routes of spreading, individuals at risk, preventive measures, and treatment of COVID-19. A sum of 20 items was prepared to assess knowledge.

The attitude section comprised 11 items including attitudes towards COVID-19 preventive measures, COVID test, perception towards government responses, feelings and adaptive measures towards the pandemic.

The practice section constitutes 7 items including wearing a mask, washing hands frequently, isolation, social distance, and vaccination against COVID -19.

Students as data collectors went to the selected villages of Nagarkanda upazila, Faridpur (study area) and each student visited the houses to select respondents. The total number of student data collectors was 160 for the RFST program. At first, the interview schedules (Questio nnaires) were rechecked for data checking and cleaning. Data that was erroneous or incomplete was omitted. Then the responses were recorded as per need. After that, a sheet was prepared by using SPSS (Statistical Package for the Social Sciences) version 24 based on variables used in the study. Finally, necessary distribution tables were prepared from the sheet.

The data analysis was performed using SPSS version 25 and Microsoft Excel 2019. Data were extracted in SPSS (Statistical Package for the Social Sciences) from the questionnaires. The descriptive statistics (frequency distribution, mean, median and standard deviation) were performed. Different analyses were done to describe the characteristics of the study population.

Microsoft Excel was used for presentation of data.

Formal ethical approval was granted by the Ethical Review Committee, Bangabandhu Sheikh Mujib Medical College, Faridpur. Bangladesh. The consent form which was attached to the beginning of the questionnaire documented the aims, nature and procedure of the study. Confidentiality was strictly maintained.

Results:

The average age of those surveyed was 37.31 years, with a standard deviation of 13.31. A significant portion of respondents (40%) had education up to the secondary level (Table I). About 56.70% were close to the poverty line, 35% above it, and only 5% below it. The primary source of information for most respondents about COVID-19 was mass media (49.50%), followed by relatives (32.00%).

Table-I: Distribution of patients according to Level of education of the respondents n=300

Educational status	Number of respondents (%)
Illiterate	66 (22)
Primary (1-5)	80 (26.7)
Secondary (6-10)	120(40)
Higher Secondary (11-12)	18(6)
Bachelor's degree and above	16 (5.3)

A large majority (87%) believed that COVID-19 is preventable. A significant portion (80%) found to be aware of the recommended minimum distance from an infected person. Regarding the transmission of the virus, respondents believed in direct transmission during coughing (93%), close contact with an infected person (86%), touching contaminated surfaces (79.5%), and contact with infected animals (49.5%) (Figure 1). The majority (81.3%) did not consider the pandemic a myth.
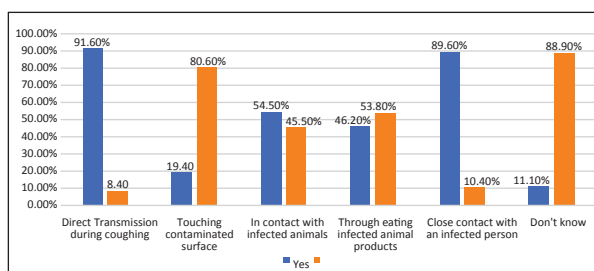

Figure 1: Distribution of participants according to knowledge toward mode of transmission of corona virus

Regarding preventive actions, a majority agreed that avoiding crowded places and mandatory mask-wearing were effective in limiting the virus's spread (56.3% and 85.0%, respectively). Additionally, 78.70% believed in the effectiveness of media awareness, and 60.30% acknowledged the efficacy of vaccination.
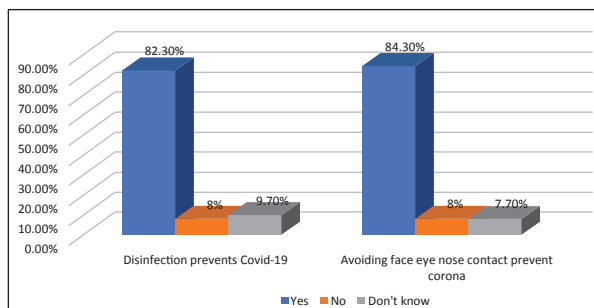

Figure 2: Distribution of participants regarding knowledge towards effective preventive strategies

In terms of practices, a significant percentage reported wearing masks (86.3%) and proper hand-washing

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(88.70%). A majority (66.7%) followed government rules related to COVID-19, and 90.70% understood the necessity of isolation with any symptom. Since the pandemic emerged, 71.30% avoided social gatherings, and a large majority (91.70%) had already been vaccinated against COVID-19 (Figure 3).In terms of practices, a significant percentage reported wearing masks (86.3%) and proper hand-washing (88.70%). A majority (66.7%) followed government rules related to COVID-19, and 90.70% understood the necessity of isolation with any symptom. Since the pandemic emerged, 71.30% avoided social gatherings, and a large majority (91.70%) had already been vaccinated against COVID-19 (Figure 3).
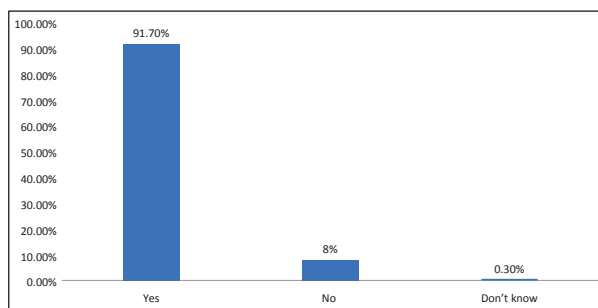

Figure 3: Distribution of participants according to vaccination status.

Discussion

In the present study, we assessed the existing knowledge, attitude, and practice towards COVID-19 among selected rural people. Our study explored the way of thinking and the level of understanding about COVID-19 which is moderately consistent with related research conducted around the world.

Our study findings indicate that around 69% of the study populations are adequately knowledgeable about COVID-19 which is much higher than a 2020 study conducted in Bangladesh where the percentage showed 48% of the participants showed adequate knowledge of the virus[7]. This variation in results could be because the first study was conducted almost 2 years ago and at present people are more knowledgeable and self-aware of the pandemic. A review conducted on knowledge, attitude and practice revealed that most of the respondents in six different studies have good knowledge in COVID-19[17].

The satisfactory rate of correct answers about knowledge-related questions is largely due to mass media influence as 50% of the participants received information directly from it and a lesser percentage

(32%) learned from relatives and social media (15%). A study conducted in Saudi Arabia also supports a nearly similar rate of mass media influence in the awareness generation since the beginning of the pandemic[2].

A significant number of respondents (87%) showed positive attitude towards the preventive measures taken to control COVID-19. According to a systematic review and meta-analysis conducted in 2020, 80.92% respondents showed positive attitude when a self-administered questionnaire was applied for the survey[18]. Most of the respondents (86%) were aware of the true route of transmission of COVID-19 and majority (85%) was agreed on the protocol of wearing a mask, a trend that is a little lower than the trend seen in another study conducted during the first outbreak of COVID-19 in Bangladesh which implies the fact that with time people are being more relaxed about precautionary practices[7]. In accordance, majority know about the transmission (79%), symptoms, safety measures and terms like isolation, lockdown, severity, and vaccination.

Concerning prevention, nearly half of the study population (42%) believed that COVID-19 is preventable. Again, half of the respondents (60%) agreed on the effectiveness of vaccination whereas 29% do not support the efficacy of vaccines which is very close in comparison with a study conducted in USA on vaccine acceptability among US citizens[19]. Regarding the belief in common myth about COVID-19, 25.7% thought it can be cured by Ayurveda treatment which is significantly lower than the trend of receiving herbal remedy showed in another study conducted in Vietnam[20]. However, nearly one-third (63%) thought that a cure at home is possible.

However, as a matter of fact, practice is less than expected while comparing with a similar study conducted in Saudi Arabia[2]. They show a positive attitude towards prevention (42%) but apparently a negative attitude towards practicing the measures necessary for it. A large number of respondents are vaccinated (60%) but the percentage still needs to be improved. Data were collected simultaneously for understanding the knowledge, practice, and attitude towards COVID-19 along with the barriers and limitations.

We did not rely on what was already known in the country but tried to add to this knowledge by exploring in depth the gaps in the existing information. The findings suggest that an adequate amount of health education interventions should be directed to the

particularly vulnerable rural populations at high risk of contracting COVID-19. The study also supports that if health education programs are specifically targeted at rural areas it would improve the overall scenario of prevention of the pandemic in Bangladesh as a whole.

The study has some limitations which are worth to be mentioned. The findings of the study may not reflect the actual scenario of the whole country due to the location of the study site in a selected community of the Nagarkanda upazila. The study area was a pre-selected one for the convenience of the data collector. So, the findings cannot be generalized due to selection bias. The selection procedure of the sample unit was convenient. This might influence the result of the study. Moreover, the sample size was purposively taken so the study finding may not be fully representative. The study period was relatively short for the collection, organization, analysis, presentation and interpretation of obtained data. The communication and transport facilities to the study area were remote, and hard to reach. So, some data from the more remote areas were not able to be collected.

This study was carried out with the aim of providing an opportunity for the students to be exposed to research works, particularly in community-based health research. It acted as an educational tool for the students that helped them to acquire knowledge and skill about conducting field-based epidemiological studies. Therefore, it contains lacking in designing, data collection, analysis, and presentation of the findings which are very much required to accomplish good research.

Conclusion:

Our study aims to assess the knowledge, attitude, and practice toward COVID-19 among people in a selective rural area of Bangladesh. The findings indicate that there is a substantial difference in KAP among residents of Nagarkanda upazila regarding the pandemic. Our research ascertains that the general people had moderate knowledge regarding COVID-19. Media awareness contributed significantly to generation of awareness regarding COVID-19. The majority of the population showed a positive attitude towards the pandemic. If we can improve the knowledge, attitude, and practice toward COVID-19 by the individual as well as government approach it will play a significant role in the effective management of this situation with the minimal resources available along with minimal loss.

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