



Perception and Practices of Rural Community on Biological Disaster (COVID-19) in Bangladesh

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Abstract: COVID-19 pandemic, a biological disaster pervaded in Bangladesh with additional climate-induced disasters i.e. flood and cyclone in 2020, which proliferated the multidimensional vulnerabilities of poor people living in complex settings. The pandemic severely jeopardized the life of community people socially, economically, culturally, and physiologically. The livelihood and economic condition deteriorated severely. Based on the prevailing situation, the study explored the community's knowledge, attitudes, & practices to fight against COVID-19. The results were derived from primary & secondary data and information through questionnaire survey and focus group discussions. Secondary data were scavenged from different articles, books, and newspapers. At the initial stage of pandemic, most of the people relied on electronic and social media to get COVID-19 updates, prevention, and protection messages, while a very few percentages of people received the information from neighbors and community members. Most of the people believed that elder people and children are the most vulnerable group to COVID-19. Large portion of people perceived COVID-19 as a very dangerous disease. In the study area, over 79% people used mask to protect them from COVID-19, while 21% did not use mask during the lockdown period. Remarkably, over 90% people think that mask cannot protect the people from COVID-19. Hand washing, sanitization, and social distancing were prioritized as protective measures by people. A significant portion of people knew about at least two symptoms (fever and cough) of COVID-19. However, over one-fifth of the people visited outdoors and public places during lockdown due to buying daily necessities including foods, medicines, visiting doctor, earning money etc. People in study area adopted traditional practices (taking hot water, tea, leaves of tress etc.) to protect them from COVID-19 due to unavailability and inaccessibility of treatment facilities. The study concluded that people had lack of knowledge & good practices towards COVID-19 as the diseases was new to them. So, awareness raising activities and other hardware supports are essential to protect the rural people of Bangladesh. [Mondal, BK. **Perception and Practices of Rural Community on Biological Disaster (COVID-19) in Bangladesh**. *Nat Sci* 2022,20(11):36-41].ISSN 1545-0740(print);ISSN2375-7167(online).<http://www.sciencepub.net/nature> 06.doi:[10.7537/marsnsj201122.06](https://doi.org/10.7537/marsnsj201122.06).

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1. Introduction

COVID-19, a pandemic originated from China in December 2019 has proliferated across all the countries and territories in the world. Worldwide 114 million people were affected, and 2.52 million people were died as of 27 February 2021 as the worldometer data. Like other countries, Bangladesh has been affected by the COVID-19 pandemic since early 2020. The first case of COVID-19 in Bangladesh was detected on 8 March 2020. Since its inception, COVID-19 pandemic is harming the normal life of urban and rural people of Bangladesh. It is obviously a massive biological disaster like other natural disasters i.e. flood, cyclone, etc. In Bangladesh, a huge number of people are dying, and thousands were infecting everyday as they have limited protection and prevention capacities regarding COVID-19. The people of Bangladesh also have less physical and mental capacity to fight against this Novel Coronavirus Disease. According to the report of

Directorate General of Health Services, 545,831 people were infected with coronavirus disease and 8,400 people were died as of 27 February 2021. Out of the total patient, 495,807 people were recovered from COVID-19.

Bangladesh has started lockdown from 26th March 2020 to contain the spread and restrict community transmission. Social distancing however in Bangladesh was very difficult as numerous people visits public places and have limited knowledge on the protection and prevention aspects of COVID-19. Also, density of population in larger towns (Dhaka, Chittagong, Sylhet, Khulna etc.) and slums are high which created difficulties to ensure social distancing.

During the COVID-19 pandemic, Bangladesh adopted numbers of measures i.e. lockdown in different parts of country, remote office activities, national and internal travel bans, social distancing etc. The law enforcement agencies with non-government organizations were monitoring the public movements,

social distancing norms, hygiene behavior etc. The country also enforces shutdown of education institution from March 2020 to reduce the spread of virus among students. As a response activity, Bangladesh also banned international travel and set thermal scanning at different airports, land ports and maritime ports. All types of political, social, cultural and religious mass gatherings were also banned from the very beginning. All non-essential institutions and organizations were closed except groceries, pharmacies and other essential service providers.

The COVID-19 pandemic has been jeopardizing the life of Bangladesh's population socially, economically as well as culturally. Poor people are the most sufferer segments. In 2020, both flood and COVID-19 pandemic came like a curse to the people in Bangladesh. Specially, poor farmers and low-income populations are struggling hard to survive against those hazards.

Fear and anxiety during the pandemic have increased causing serious stress to the people. Unbalanced distribution of information regarding the virus and traditional practices to protect COVID-19 disease stressed the people at the beginning in 2020. However, electronic and print media, social activities, social workers, religious and political leaders came forward to disseminate the actual information later among the communities, which lessen the stress among the population.

COVID-19 pandemic has brutally affected Bangladesh's economy specially garments sector, banking sector, transport sector, agricultures sector, fisheries sector etc. Low-income people of rural Bangladesh suffered a lot during lockdown period as they depend on the daily earnings. The income of poor people from Dhaka, Rangpur and Barisal dropped to 64%, 53% and 44% in April 2020 compared to March 2020 (lightCastle 2020). During that time, the Transport workers, i.e. Rickshaw pullers, Van, and Truck drivers experienced sharpest drop of their income in April compared to March 2020 as lockdown terminated the vehicle movement."

The rural workers and farmers are economically the most affected segments of the population due to COVID-19 pandemic as they had low savings. Agricultural labor claimed that summer is the prime time of income generation, however they experienced a huge slump of income in 2020 as they did not go their expected destination for earning due to countrywide lockdown and social distancing regulations.

Before starting COVID-19, Bangladesh has remarkable achievement in poverty reduction over the few decades, the poverty rate decreased 20.5% in 2019 from 50.4% in 1990. Then the poverty rate increased to 40.9% in 2020 as the COVID-19

pandemic surprisingly impacted the long-standing macro-economic stability and disrupted people's livelihood. COVID-19 impacted the Bangladeshi's weak health system, education, human development, basic public services delivery and social upliftment (UNDP Report, 2020).

The health and economic impacts of the Coronavirus pandemic were hitting communities hard in Bangladesh. Without urgent action by the government and donors, the impact and risks of COVID-19 will increase the chances of highly transmission among vulnerable populations. Now, the government and donors should do better preparedness among the communities for reducing the compound risks of COVID-19 by activities such as: informing communities about how to prevent COVID transmission, and providing essential items like hand soap, water, and hygiene kits in evacuation sites. Strengthening the capacity of community people and Union Disaster Management Committee (UDMC) including detailed guidance on how to consider COVID-19 in disaster management planning are also essential in this regard. For this, providing support to the most vulnerable populations and starting planning for livelihood programmes that integrate disaster and climate resilience to strengthen communities' abilities to withstand additional shocks and stresses are now essential (Zurich Flood Resilience Alliance, June 2020).

Considering the above causes, this study was designed to understand the people's perceptions and practices including knowledge and attitude regarding COVID-19. It also focused on bringing out the so-called conventional practices among the community people to protect and prevent from the coronavirus disease. The findings and recommendations will be effective for planning and implementing interventions regarding COVID-19 and other pandemics.

2. Material and Methods

The study was done at Shiber Kuthi village under the Sadar Upazilla of Lalmonirhat district in November 2020. Recognizing the objectives of the study, questionnaire survey and three focus groups discussions were conducted to collect primary data. Secondary data were collected reviewing different articles and newspapers. Primary data were collected from 38 households out of 423 households. The household survey questionnaire and FGD checklist were developed in English reviewing different secondary materials. After finalizing the English household survey questionnaire, a Bangla Questionnaire was developed to collect data from the field through Enumerators. Online training was provided to the enumerators on the questionnaire for data collection due to COVID-19 restrictions. During

the training, the Enumerators feedback and suggestion were taken to redesign the questionnaire. After that, the data were collected from the households using random sampling method. Data were then recorded in SPSS database, and different graphs were prepared, and interpretation of those graphs were given accordingly to prepare the draft study report. The draft report was then reviewed thoroughly to articulate the final study report.

3. Results

Among the total sample population, 55% was male and 45% was female. Study found that 29% respondents completed primary education, 26% completed secondary education, 21% completed secondary school certificate level, 13% higher secondary certification, 8% undergraduate level and only 3% had no education level. Out of the total surveyed population, highest 34% were housewife, Secondly, 29% students were surveyed. Thirdly, 16% were farmer. Besides, 6% were day laborer, 5% were businessman, 5% were government and 5% were non-government job holders.

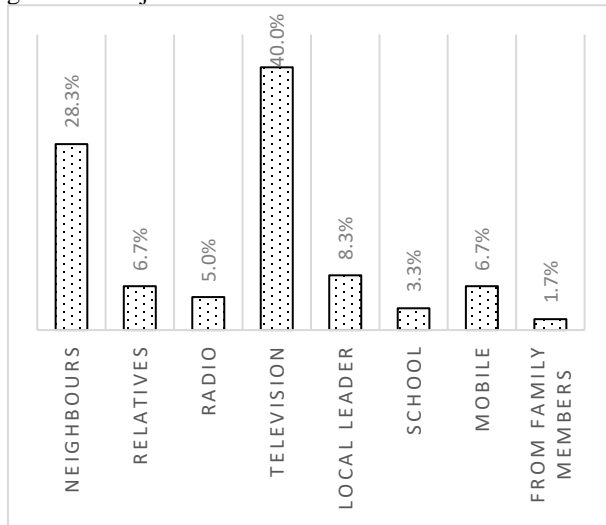


Figure 1. Get COVID-19 information from different sources

The figure 1 describes about the information sources of surveyed people to know about COVID-19. It has revealed that highest 40% respondents knew about COVID-19 from television. Secondly, 28% knew from their neighbors. Thirdly, 8% respondents got COVID-19 information from local leader. Only 2% respondents knew about COVID-19 from their family members.

Among the all respondents, 82% think that COVID-19 disease is very dangerous for people. On the other hand, only 18% respondents think that COVID-19 disease is less dangerous for people. Over 81% respondents said that elderly people are more

vulnerable to COVID-19 disease. Secondly, 39.5% respondents confirmed that children are the next vulnerable group. 36.8% respondents reported that adults are vulnerable after children. Besides, 15.8% respondents confirm that pregnant women are vulnerable after adults. Only 2.6% respondents confirmed that all segments of people are vulnerable to COVID-19. The findings from the figure proved that respondents have limited or mixed knowledge about the vulnerability, where they emphasized that adults are third highest segments of vulnerable population to COVID-19, which is not correct in practical. However, they rightly told that elderly people are more vulnerable.

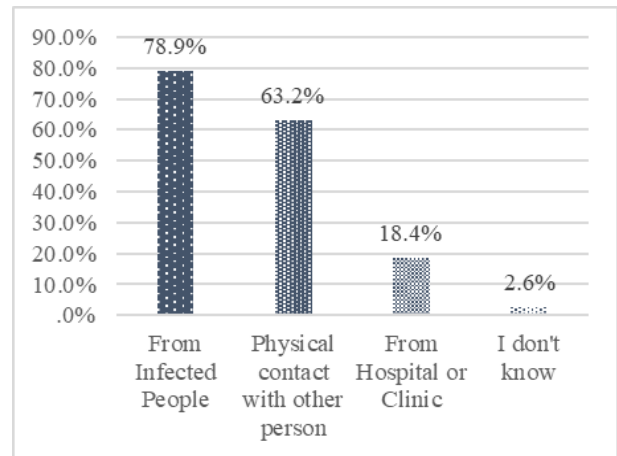


Figure 2. Respondents' knowledge about the transmission ways of COVID-19 to people

The figure 2 demonstrates the information about the respondent's knowledge about the vulnerability to COVID-19 disease. Over 81% respondents said that elderly people are more vulnerable to COVID-19 disease. Secondly, 39.5% respondents confirmed that children are the next vulnerable group. 36.8% respondents reported that adults are vulnerable after children. Besides, 15.8% respondents confirm that pregnant women are vulnerable after adults. Only 2.6% respondents confirmed that all segments of people are vulnerable to COVID-19. The findings from the figure proved that respondents have limited or mixed knowledge about the vulnerability, where they emphasized that adults are third highest segments of vulnerable population to COVID-19, which is not correct in practical. However, they rightly told that elderly people are more vulnerable.

While asking about the transmission ways of COVID-19 diseases, 78.9% respondents replied that COVID-19 was transmitted from infected people. Secondly, 63.2% respondents reported that COVID-19 can be transmitted through physical contact with another person. Besides, 18.4% respondents confirm

that COVID-19 spread from hospital or clinic. Only 2.6% cases, the respondent do not know the transmission sources of COVID-19.

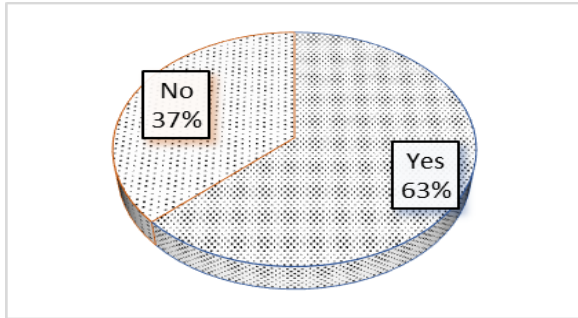


Figure 3. Percentage of people wear mask

The figure 3 describes about the practice of warning mask of the respondents while going outside of home. The pie chart shows that 63% respondents wear mask while going outside. On the other hand, still 36% people do not wear mask while going outside of their home. Out of the mask user, 42% people used surgical mask and 21% use cloth mask.

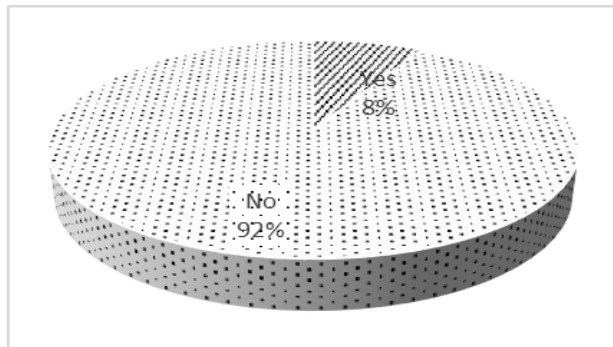


Figure 4. People's perception whether mask can protect COVID-19

The figure 4 depicted that whether mask can protect COVID-19 from the respondents' point of view. Surprisingly, 92% respondents think that mask cannot protect from COVID-19 disease, whereas only 8% respondents think that mask can protect them from COVID-19.

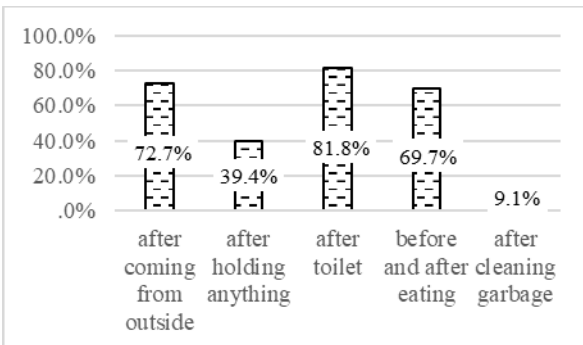
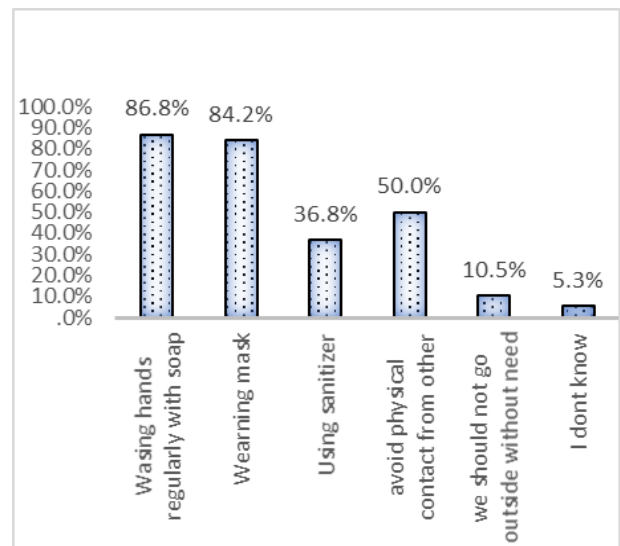


Figure 5. Percentage of responses of people about washing hands after different occasions

The figure 5 illustrates the responses of the surveyed people who washed their hands after different activities. Highest 81.8% respondents washed their hands after toilet. Secondly, 72.7% respondents washed their hands after coming outside which is important for COVID-19 hygiene practices. Thirdly, 69.7% people washed their hands before and after eating which has no connection with COVID-19 hygiene practices. Fourthly, 39.4% respondents washed their hands after holding anything. And, lastly, 9.1% respondents washed their hands after cleaning garbage.

Out the total surveyed population, 100% respondents thought that fever is main symptoms of COVID-19. Secondly 94.7% respondents said that cough is also the symptoms of COVID-19. Thirdly, 39.5% respondents thought that respiratory problem also is the symptoms of COVID-19. Also, 18.4% and 13.2% people thought that throat pain and muscle pain are the symptoms of COVID-19.

Figure 6. People's knowledge on how to prevent



COVID-19 disease

The figure 6 reveals that people's understanding on how to prevent COVID-19 disease. The bar chart depicted that highest 86.8% respondents thought that they can prevent COVID-19 by washing their hands with soap. Secondly, 84.2% respondents reported that wearing mask can also protect COVID-19. Thirdly, half of the surveyed respondents thought that avoiding physical contact from others can prevent COVID-19. Only 5.3% people do not know ways to prevent COVID-19. It can be concluded here that over 50% people know about the three ways to prevent COVID-19.

While exploring movement pattern of people, it was found that 21% people visited outside of home during lockdown period. On the other hand, 79%

people did not go outside of home during the lockdown period.

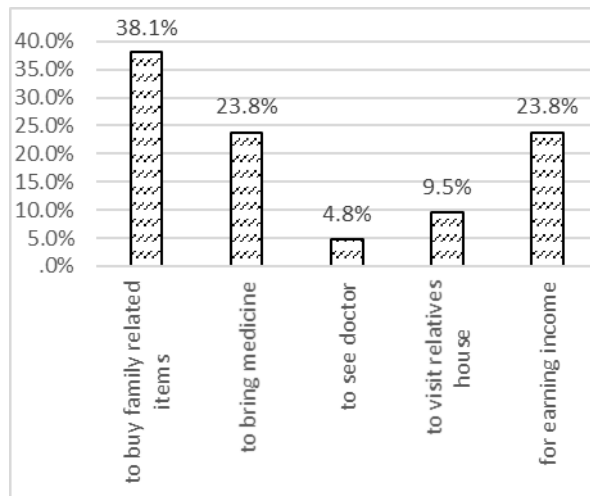


Figure 7. Reasons for going outside of people

The figure 7 reported about the reasons for going outside of home during the lockdown period. Among the total, the highest 38% respondents said that they went outside for buying family related items. Secondly, 24% people said that they went outside for bring medicine and same percentage also told that they went outside for earning income during the lockdown period. Thirdly, 9% people said that they went outside for visiting relative's house. Only 5% people said that they visited outside due to see doctor for medical purpose.

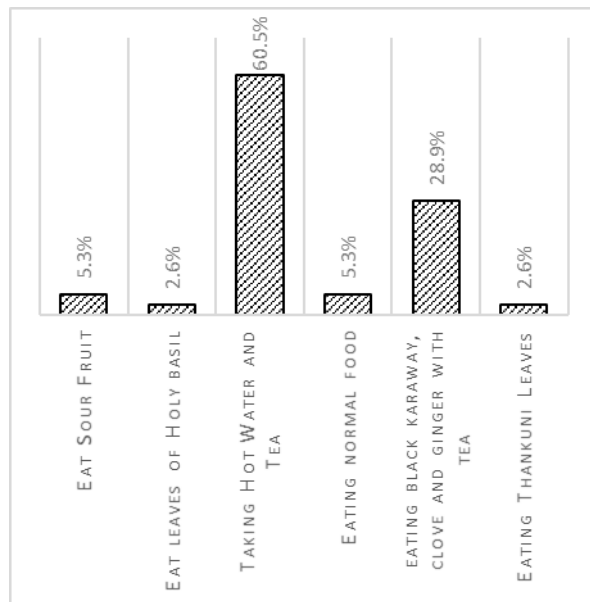


Figure 8. People's traditional practices to prevent from COVID-19

The figure 8 depicted people's traditional practices to prevent from COVID-19 disease. Highest, 60.5% respondents said that they took hot water and tea to

save themselves from COVID-19. Secondly, 28.9% respondents said that they ate black caraway, clove and ginger with tea. Thirdly, 5.3% respondents said that they ate sour fruit to save from COVID-19. Only 2.6% cases, people ate leaves of holy basil and *thankuni* leaves to save themselves from COVID-19.

4. Discussions

COVID-19 impacted the life of community people in Bangladesh very badly. During COVID-19 lockdown, rural people had less opportunity to work. Poor people were the most sufferer section of the community and less savings to spend during crisis period. They suffered extremely to bear the expenses of family needs. Community people took less nutritious food during COVID-19 lockdown period. Socially they have been isolated during the lockdown period. They had less opportunity to visit relatives' house. They did not organize and join the cultural events in the communities. They feel very anxious and stress about the diseases and its impact getting the news from electronic and print media.

Community had less awareness on COVID-19 during the initial stages. They did not know about proper hygiene and social distancing measures. They also did not recognize about the transmission ways and symptoms of COVID-19. Study concluded that 50% respondents identified two ways of transmitting COVID-19 i.e. from infected people and physical contact with other person. Above 90% respondents could know two symptoms (fever and cough) of coronavirus disease. However, less than 40% respondents knew other symptoms like respiratory problem, muscle and throat pain.

Most of surveyed people got COVID-19 prevention and protection messages through electronic media. People attitudes to practice proper hygiene, wearing masks and other requirements were found inadequate. Their traditional practices to prevent COVID-19 was questionable as those methods were not proved to fight against COVID. Considering the situation, it was crucial to build the resilience of the community regarding pandemic enhancing their knowledge, attitudes, and practice as further waves of pandemic might claim more deaths and infections. Relevant government bodies and non-government organizations could come forward to reduce the community's vulnerabilities regarding pandemic and support them to build the capacities. Resilient communities can easily face the pandemic resulting the reduction of risk of such biological disaster. Based on the findings, the study articulated the following recommendations.

- Awareness related activities on COVID-19 protection and prevention should be implemented

- Social distancing and other health hygiene issues should be properly followed by the people during such pandemic.
- Communities should be provided with better knowledge on medical issues regarding COVID-19 so that they take appropriate health services from local hospitals and clinics
- Relief items should be provided to poor households during the lockdown period as they do not have alternative income sources.
- Stock of protective equipment's like mask, PPE, infrared thermometers should be mobilized nationally and locally.
- Public and private hospitals should be equipped with available facilities (ventilators and ICU) for critical patient.
- Print and electronic media should disseminate right information about the pandemic so that the common people trust on the information and do not feel panic and frightened.
- Available sanitation and cleaning materials should be stocked nationally, regionally and locally so that those items could be utilized during the upcoming such pandemic and epidemic.
- A pool of trained volunteers should be formed at national, regional and local level who will work during such pandemic and epidemic in future.
- Psychosocial support services units could be developed nationally, regionally and locally who will provide psychosocial support to frightened people.

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