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COMMUNITY UNDERSTANDING, PERCEPTION AND PRACTICES ON INFECTION PREVENTION FROM THE CORONAVIRUS DISEASE (COVID-19): A QUALITATIVE STUDY IN RURAL BANGLADESH

The current study had tried to assess the rural community's understanding, perception and practices on infection prevention to protect from the COVID-19 pandemic.

It is a qualitative study using eight focus group discussions (FGDs) and 40 in-depth interviews (IDIs). Manual content analysis processes were used.

The respondents had good understanding of COVID-19 but had limited knowledge of its spreading, symptom and prevention. Community health workers and adolescents were found to be more aware of COVID-19 issues. Pregnant women and their guardians had limited knowledge and practices on COVID-19 prevention. Ignorance and negligence were identified as the major causes of lack of perception and lack of practices on COVID-19 among them. The adolescents acquired many ideas from the internet, peer learning and also from their teachers. The community leaders received knowledge from the news on television and the internet and local authority meetings. All the participants emphasized delivering messages through public announcements and leaflet distribution. The community women had very limited knowledge, perception and practices on COVID-19. Conclusion: Policymakers and health care providers should use common man's language to disseminate the COVID-19 related information. Logistic gaps emerge as the main constraint for preventive measures for COVID-19.

Key words: Corona virus, perception, community, rural, health workers.

Introduction

Coronavirus Disease 2019 (COVID-19) is an ongoing pandemic caused by Severe Acute Respiratory Syndrome Coronavirus 2 [SARS-CoV-2] [1]. China reported the first case on December 31, 2019. Later the World Health Organization (WHO) recognized COVID-19 as a pandemic on March 11, 2020 [2]. The report shows that the case fatality of COVID-19 is much lower than that of other similar types of infectious diseases like Ebola, Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS) [3]. From 31 December 2019 to 20 May 2020, COVID-19 confirmed cases are 5036018; related death is 326239, and the number of recovered patients is 1,988,644 [4]. According to WHO, the Global mortality rate of COVID-19 is 3.4% and the average count of days from the appearance of the first symptom to death is 14 days [5]. According to the Directorate General of Health Services (DGHS) of Bangladesh,

the first 3 cases were identified on March 8, 2020. Then the case number has been increasing gradually. The infection rate stayed low until the end of March, but it saw a steep rise in April. According to the last report on May 20, 2020, total confirmed cases were 26738 out of 203852 tests, overall death was 386, and the total recovered patient number was 4993. Among the COVID-19 positive cases, 68% of confirmed COVID-19 cases were male and 50% were found in the age range between 21-40 years. Among the COVID-19 death cases, 73% were male and 69% were found above 50 years of age [6,7]. WHO Recommended preventive measures including hand washing; maintaining physical distance; avoiding going to the crowded places; avoiding touching eyes, nose and mouths; following good respiratory hygiene; and self-isolation for people who suspect that they are infected [8]. The time from exposure to onset of symptoms is typically around five days, but it may range from 2-14 days [9]. Community people need to be aware of COVID-19 and their pre-

ventive practices [10]. The restriction of the movement of people and goods is one of the major steps to prevent the spread of the COVID-19 [11]. Countries all around the world have adopted staying in the home; physical distancing; washing hands with soap for at least 20 seconds at a regular interval; and practicing cough etiquette as keys to control the spreading of the virus [12]. Bangladesh faces a significant challenge in keeping physical distance to prevent spreading the virus, due to its high population density [9]. Bangladesh has taken several initiatives at the earlier stage of the pandemic after confirmation of COVID-19 cases in the country. These include declaring general leave since March 26 which is continuing, closure of all academic institutes, stopping all public transports, and strict lock-down in some of the areas/districts as required [13–18]. The country developed guidelines on infection prevention and control, and messages/posters/leaflets with preventive messages. These are being regularly circulated through print and electronic media [19]. Awareness-raising events are organized through the representatives from the local government, local law and enforcement department. Hotline numbers have been assigned to respond to any questions related to COVID-19[20]. Since Bangladesh is a developing country and over 70% of its population live in rural settings [21], there are difficulties in disseminating correct information and increase their practices. This study had tried to assess the community understanding, perception and practices on infection prevention to protect from the COVID-19 pandemic.

Materials and Methods

A qualitative study was conducted during the period in October 2020 in the Moulvibazar district of Bangladesh. The focus group discussion

(FGDs) and in-depth interviews (IDIs) were conducted with different community groups. A guideline was developed covering community perceptions, knowledge and practices on prevention from COVID-19.

A total of eight FGDs were conducted with different community groups. FGD participants included pregnant women, guardians of pregnant women, community healthcare workers (HCW), community leaders, adolescent girls, adolescent boys and eligible couples. For IDIs, the participants included facility-based health care providers and community women. The FGDs were conducted physically and IDIs were conducted through mobile phone-based interviews.

Six data collectors were recruited for information collection. A guideline was developed by the investigators for conducting the FGDs and IDIs of the study. Online training was provided to data collectors for qualitative data collection. FGDs and IDIs were not intended to be representative of the population under the study; hence the respondents were not selected randomly. They were selected according to the characteristics which are important for this study and according to the participants’ willingness for participation.

The investigators reviewed the documents, finalized the assessment design and tools for the IDIs and FGDs. A research team of six data collectors was recruited and trained for qualitative data collection. The investigators also established field level communication for the conduction of the study. The guidelines were field-tested before data collection. The guidelines contents included perception; knowledge; practices and recommendation on COVID-19 among different stakeholders (community peoples, service providers and service recipients) with different points for discussion (Table 1).

Table 1 – Points for discussion about the qualitative data collection

Tools	Areas	Points for discussions
FGD and IDI	Perception and knowledge of COVID-19	Understanding of Coronavirus and COVID-19
		How did they come to know about COVID-19 the first time
		How COVID-19 spreads
		Knowledge on the symptoms of COVID-19
		Knowledge on prevention of COVID-19
		What to do if anyone has symptoms of COVID-19
	Practices on prevention of COVID-19	Hand washing
		Using face masks
		Practicing social distance
	Recommendation on controlling COVID-19	Ways to disseminate COVID-19 related information in community
		From whom it is best to know further about COVID-19
		Understanding on what suggestive measures can be taken

Eight FGDs were conducted with 67 participants of seven groups of peoples. In FGD sessions each participant was asked a question in turn and all participants reacted to comments made during the conversation. The research team ensured that each FGD session works properly with the discussion of the merits and demerits, good and bad practices, ways of improvement and all other relevant and pertinent issues related to the concerned subject.

Each session consisted of 8-10 participants. FGDs were conducted at a convenient time and place for the participants. The sessions as per the discussion guideline prepared beforehand covering all the concerned issues. One from the research team moderated the session and another took notes of discussion to identify the who-said-what-in-what context.

The audio record of the discussion was also kept with the participants' consent. The discussion was conducted in a neutral setting and the session moderator kept the discussion within the framework of the topics of concern.

IDIs were conducted over the mobile phone with facility-based service providers (family welfare visitors, midwives, community health care providers, and senior staff nurses) and community women in Moulvibazar. IDIs involved not only asking questions over the mobile phone but documenting responses completed with intense probing for deeper meaning and understanding of the responses. The interviewer recorded mobile phone conversations with respondents' permission. A total of 40 IDIs were conducted by the trained research officers with 30 community women and 10 health service providers. Each IDI required 10-15 minutes of conversation (Table 2).

Table 2 – Participant details of the FGD and IDIs

Data Collection Tools	Number of Participants	Age of the respondents	Study Population (No of participants)
Focus Group Discussion (FGD) guideline	Total 8 FGDs, 67 participants	18-54 years	FGD1: Pregnant women (10 participants) FGD2: Guardians of pregnant women (7 participants) FGD3: Community health workers (8 participants) FGD4: Community health workers (9 participants) FGD5: Community leaders (10 participants) FGD6: Adolescent girls (8 participants) FGD7: Adolescent boys (7 participants) FGD8: Eligible couples (8 participants)
In-depth Interview (IDI) guideline	Total 40 IDIs through phone call	18-39 years	Facility based health providers (10) Family Welfare Visitor [FWV] (1) Midwives (5) Community Health Care Providers [CHCP] (2) Senior Staff Nurses [SSN] (2) Community women (30)

The investigators were responsible for overall supervision and monitoring of the research and they also provided feedback during data collection. The field plan with task distribution was done at the beginning of the study. The investigators reviewed all activities and outputs of each day, discussed with the team members about the issues, provided appropriate feedback to ensure quality and solve problems during fieldwork and readjusted the plans accordingly to finish the job in time.

An audio recording of IDIs and FGDs were transcribed independently by the investigators and compared for accuracy. Intellectual transcription was done with back to back translation. Investigators reviewed and analyzed the data through making table and familiarization of the data by reading, re-reading

and developing ideas for codes. Once all data were coded, they were categorized based on themes and sub-themes. Then data were interpreted, analyzed and reported. After sorting and categorizing the responses, excerpts from the transcripts were chosen to be illustrated as summary statements, which were also used to validate the findings. The data were analysed through the manual content analysis process.

Ethical issue

The national ethical review committee of CIPRB has approved (CIPRB/ERC/2020/20) this study. Written and verbal consents were received from each of the respondents before the interview, as applicable for physical and online meetings.

Result

The study revealed that the respondents’ understanding of COVID-19 was found good but had limited knowledge on spread, symptom and prevention of COVID-19. The ignorance and the logistic gaps were found to constrain in hand washing, using the facial mask and practicing social distance persisted in the community for proper practices.

FGD findings showed that Community health workers and adolescents were found to be more aware of COVID-19 issues. Pregnant women and their guardians had limited knowledge and practices on COVID-19 prevention. Ignorance and negligence were identified as the major causes of lack of perception and lack of practices on COVID-19 among them.

The adolescents acquired many ideas from the internet, peer learning and also from their teachers.

The community leaders received knowledge from the news on television and the internet and local authority meetings. All the participants emphasized on delivering messages through public announcements and leaflet distribution.

IDI findings presented that the facility-based providers had good perception and knowledge on COVID-19 including the symptom and prevention of the disease. The logistic gap was raised to hinder the proper practices. The mask, hand gloves, soap, hand sanitizer and tissues need to be available among both the service providers and service recipients. This group also emphasized that the HCWs need to be trained for counseling the general population about the disease. The community women had very limited knowledge, perception and practices on COVID-19 (Table 3).

Table 3 – Summary findings of FGD and IDIs

Areas	Major findings
Perception and Knowledge	<ul style="list-style-type: none"> • Corona is a virus cause disease/ COVID-19 is a viral infection/disease • Ignorance about the disease and negligence on related issues • Lack of knowledge on the COVID-19 symptoms • Knew about necessity of hand washing but did not know the duration and interval of hand washing • Masks are useful to prevent the transmission of germs through air • Social distancing and the information related to it
Hand washing practice	<ul style="list-style-type: none"> • Washing hands with soap or ash • Washing hands more frequently than previous times • Did not practice hand washing for 20 seconds at every 20 minute interval
Practices on using mask	<ul style="list-style-type: none"> • Less use of face masks due to unavailability and inability to buy • Did not practice due to discomfort
Practices on social distance	<ul style="list-style-type: none"> • Maintaining distance from ill people • Didn’t maintain distance to mix with other people/Did not practice social distancing while being among many people
Practices of sneezing and coughing/Cough etiquette	<ul style="list-style-type: none"> • Placing elbow or piece of cloth during coughing or sneezing • Avoid spitting in open places • Knew about cough etiquette but could not remember to practice
Recommendation	<ul style="list-style-type: none"> • Awareness among all community people • Community health workers deliver the awareness message in the best way • Micking/public announcement and leaflet distribution

The results covered each of the areas including perceptions, practices and recommendations from the community people, service providers and service recipients on COVID-19 issues through FGDs and IDIs.

Perception and knowledge on COVID-19

The findings of the perception of COVID-19 include the perception of the community people, service providers and the community women. Among the community women, 90% of the respondents

lacked general ideas on COVID-19. The information mainly came from the young educated respondents in comparison to others.

Understanding on COVID-19

The majority of the respondents from all categories knew that Coronavirus is a virus that causes the disease to a human. The adolescent groups were able to mention that COVID-19 is a viral disease. Though the majority of the respondents of community women heard the term Coronavirus they were

not aware of this issue. Some of the participants found the term new for them. According to them, it may not be a serious disease in Bangladesh, but it is for other countries like China. The majority of the respondents did not consider this issue as a serious concern, where some of the participants expressed their anxiety about this disease.

«COVID is a viral disease. The disease occurred in China. In Bangladesh, there is a low risk to occur in these diseases. So we need not be anxious about this disease» – P3, FGD8, Eligible couple

«I know corona is a virus that causes death to a human. This disease transmitted from the people who came from abroad. The infected people suffer from coughing, fever and throat pain»- P2, FGD6, Adolescent girl

«I heard that corona is a virus. One of my neighbors informed me. I never heard about this disease earlier. But I heard that this disease is very dangerous for human».- P14, IDI, community women

«Corona is a contagious virus that has can infect anyone easily. Elderly people, in particular, suffer from seizures».- P1, IDI, Family welfare visitor (FWV)

How did they come to know about COVID-19 the first time?

The community people including pregnant women, their guardians, community leaders, and adolescents heard the term mostly from television, social media platforms and other community people. The pregnant women were informed of this mostly from their adolescent family members who had heard from their friends. The community leader mentioned getting the information from meetings and television. The HCWs learned from social media, television and the doctors and health managers of their facilities.

«I heard that a new disease came to our country, named CORONAVIRUS from one of my neighbors. He said this disease can kill people. But we had no opportunity to know the detail on this». – P5, FGD1, Pregnant woman

«I heard about the disease from the internet and my friend. This disease can be transmitted from one person to another.» – P7, FGD6, Adolescent girl

«I heard about the disease from my husband. He learned it from the market. We have limited sources to learn as we do not have television or radio. If public announcements were conducted on this issue then we can learn more about it», – P23, IDI, Community woman

«I learned about this from Facebook. This is an interstate problem. Many countries have to go

under lock-down for this. It cannot be said today about what will happen to our country in the next five days.»- P8, IDI, Community Health Care Provider (CHCP)

How COVID-19 spreads

The majority of the community leaders and adolescents mentioned about the sneezing/coughing of infected individuals was the main route of contamination. The community women had very poor knowledge of the transmission/contamination process of this virus. The health care providers had more ideas on the process of contamination than the others. The pregnant women had no ideas on this, but their guardians mentioned that it might occur for misfortune and bad luck.

«I had no clear idea of the process of contamination. I heard that it can be contaminated through the coughing and sneezing of an infected person.»- P2, FGD5, Community leader

«Usually one can be infected by touching and coughing. If he has fever, cold, cough and sore throat, he will assume that he is infected with the virus.»- P6, FGD3, Community health worker

«It might occur if our fate is not good. It is the will of God. We have nothing to do.»- P19, IDI, Community women

«Sneezing and coughing of infected individuals, coming to contact with other people and joining mass crowds/gatherings and public transportation were the main ways of contamination of COVID-19»- P2, IDI, Midwife

Knowledge on the symptoms of COVID-19

According to the adolescents, sneezing, coughing and throat pain was the major symptoms of COVID-19. Pregnant women and their guardians had limited knowledge of the symptom. Community leaders could mention that the sneezing, coughing, common cold, fever were the main symptoms of this disease. The majority of the Community women did not know about COVID-19 symptoms. Mostly facility health workers and community health workers responded that the symptoms included fever more than 1000F, dry cough; respiratory distress and pain in the throat.

«I heard that dry cough with 4 to 5 days duration and then diarrhea is the symptom of COVID-19. It can be spread through sneezing»- P7, FGD2, Guardian of a pregnant woman

«Coughing, sneezing and throat pain are the main symptoms of this disease. If anyone is infected, then he needs to keep himself separated otherwise others may be contaminated as well». – P5, FGD8, Eligible couple

«I heard that coughing and fever occurred in COVID-19, but how these can confirm this disease from the common cold is not known to me. It is confusing with other disease symptoms»- P30, IDI, Community woman

«If one experiences sneezing and coughing with fever, he needs to keep himself in isolation for 14 days for observation. If one holds breathing for 5 seconds, it can be understood either he has respiratory problems. Also, it can be ascertained whether or not it is CORONA infected through IEDCR» – P6, IDI, Midwife

Knowledge on prevention of COVID-19

The community women of Moulvibazar district could not mention any process to prevent COVID-19. Some of them mentioned that cleanliness at all times can prevent any disease. In Habiganj, the community women mentioned that washing hands is one of the ways to prevent COVID-19 but could not say how to wash hands and the ideal duration for washing hands. Pregnant women, their guardians and community leaders mentioned that hand washing needs to be practiced at every 20 minutes for the prevention of COVID-19. Some of the health workers mentioned that repeatedly hand washing, maintaining physical distance, using tissues during coughing and cleaning were important for the prevention of COVID-19.

«Mask can prevent the transmission of germs from one to another through the air. Hand washing is also very important after handshaking with others or handling money»- P6, FGD7, Adolescent boy

«Everybody should use masks, and be alert to prevent COVID-19. Besides, religious bigotry and superstitions need to be abolished. Awareness activities can be strengthened to prevent contamination to some extent»- P3, FGD5, Community leader

I have no idea how to prevent this disease. I think cleanliness can prevent any type of disease. – P28, IDI, Community woman

«The main obstacle to prevent COVID-19 is the continuation of migrations and lack of awareness. It is not possible to prevent the disease unless public gatherings are avoided. We need to obey the government directives to control COVID-19, like staying home without special needs.»- P4, IDI, Midwife

What to do if anyone had symptoms of COVID-19

The majority of the participants mentioned taking the patient immediately to the hospital. Some of the facility health providers mentioned about immediate contact/consultation with physicians and IEDCR, and isolation. Some of the adolescents and

community health workers mentioned that staying home, keeping a distance from other people and using masks while being infected are very important.

«The patient needs to contact the doctors and nurses in the adjacent facilities, in case anyone is infected. The patients need to get admitted in the adjacent hospital»- P8, FGD5, Community leader

«Proper use of the mask must be ensured. In the case of sneezing, we generally follow some rules; so that no one else faces any problem. Following the general rules announced by the government is a way toward safety.»- P7, FGD7, Adolescent boy

«Everyone needs to keep a distance from the infected people and inform our community health workers about the ailment. We advise a suspected individual to remain in isolation for 14 days.» – P16, IDI, Community woman

«In any disease, we would usually send the patients to Upazila Health Complex and District Sadar Hospital. But we have no direction in case of this disease. As it is highly contagious, so it is better to communicate with hotline number and maintain the rules of isolation»- P7, IDI, CHCP

Practices on prevention of COVID-19

Practices of the prevention of COVID-19 include the practices of the community people, the service providers and practices of the community women. The respondents expressed whether they practiced hand washing, wearing face masks, taking precautions during coughing and sneezing, and maintaining the social distance. None of the participants was found to maintain all the precautionary measures of COVID-19. The health workers were found to maintain a limited number of preventive measures. The adolescents were found to practice at least one precautionary measure. None of the community women maintained any precautionary measure. The majority of the community people did not practice due to negligence.

Hand washing

The Adolescent group mentioned that they used to practice washing hands with soap before and after meals. But they did not practice any other specific process of hand washing for COVID-19.

«We washed our hands before meals. This was enough to kill all organisms which cause diseases. Nothing else needs to be practiced for COVID-19»- P5, FGD6, Adolescent girl

I know I need to wash hands for 20 seconds every 20 minutes interval but we did not have enough soap to use for hand washing. We need special support for practicing this important issue»- P9, FGD4, Community health worker

«Although I know that hand washing with soap is essential but I could not practice due to my hectic involvement with other domestic tasks». – P12, IDI, Community woman

«There are 6 steps for hand washing. Another step has recently been added with these to wash hands. These 7 steps are to be followed at a scheduled time. I am following these and I want to disseminate the knowledge with others if I get the chance.»- P6, IDI, Midwife

Using face masks

According to the adolescent group, none should cough or sneeze in an open place and they mentioned using elbow or cloth during sneezing or coughing. They tried to practice it. But according to them, their community did not practice it. The community people heard about using face masks, but it was not available. So, they could not use it. The majority of them did not emphasize on using face masks. Adolescents were very aware, and they practiced using face masks. Some of the community leaders used these and motivating others too. The community women did not practice this.

«We occasionally use the masks as the disease cannot spread if we use masks. We cannot always use it because the mask is not very available in our community.» – P5, FGD3, Community health worker

«I heard that masks need to be used only by infected people. So I do not use this. I also feel uneasy to use the mask.» – P4, FGD2, Guardian of a pregnant women

«The government is unable to supply masks to the Community Clinics. So we have to manage it by ourselves. Health care providers must first ensure PPE supply to prevent Coronavirus disease»-P7, IDI CHCP

«I know the importance of using masks, but we do not have sufficient supply. The main obstacle to prevent COVID-19 is the lack of protective equipment and training. COVID-19 can be prevented if you can ensure the necessary training and supplies for health care providers» – P5, IDI, Midwife

Practicing social distance

Adolescents maintained to keep a distance from an infected individual but did not practice any distancing among themselves. The measurement of distance was not known to them. The actual measurement of physical distance maintenance could not be found from any participant. Some health care providers mentioned that 3 feet distance is essential were some others mentioned the distance to be 3 meters.

«We have to maintain three meters distance from the affected people but there is no need to maintain distance among the healthy people»- P2, FGD1, Pregnant woman

«We know the physical distance needs to be maintained but it is difficult to practice. We have to go to the market for shopping where gathering occurs. If everyone can be made aware of this then it can be practiced in reality». – P4, FGD5, Community leader

«I practiced keeping distance with any infected individual, but I do not know how much distance needs to be maintained»- P11, IDI, Community woman

«It is not possible to keep the distance from patients. Moreover, there is a lack of necessary equipment for our safety. Because of this, we are taking risks in providing health care.»- P1, IDI, FWV

Recommendation on controlling COVID-19

Recommendation part of the result section includes recommendations from the community people, recommendations from the service providers and recommendations from the community women for the prevention of COVID-19.

Ways to disseminate COVID-19 related information in the community.

According to the adolescents, the school programs, awareness meetings, public announcements, distribution of the leaflets/brochures/posters made them and their community awareness about the prevention of COVID-19. Pregnant women and their guardians mentioned that COVID-19 should be discussed on courtyard meetings and brochures/posters can be helpful for easy and clear understanding. The community leaders mentioned that more announcements should be available on TV, radio and also on social media platforms. The Government and NGOs should also have special initiatives on this issue.

«I have limited knowledge of COVID-19. So how can I share with my community people regarding this issue? So, the GoB and NGOs need to be forward to aware us regarding this issue.»- P9, FGD5, Community leader

«Public announcements and leaflet distribution in the rural areas are the best ways to deliver the message among us. The local language during the announcements will make it easier for us to understand.» – P8, FGD1, Pregnant woman

«Public announcements can be done in the area to spread the preventive message among the general population. It is also possible to preach through the mosque's imam.»- P14, IDI, Community woman

«The main obstacle to prevent COVID-19 is the lack of education and awareness. To spread the message to the common people, it is necessary to arrange village-to-village public announcement and, extensive public awareness activities.» - P8, IDI, CHCP

From whom it is best to know further about COVID-19

The majority of the respondents mentioned that the health workers in their community were able to deliver the messages on COVID-19 more comprehensively. They could also share their problems with them easily.

«We, the community people, depend on the community health workers. So, it will be best for us if they can share COVID-19 related information with us according to our own understanding.» - P5, FGD2, Guardian of pregnant women

«If home based services are made available by the government and NGOs, then the community people can be more aware on COVID-19. Video shows could also be helpful»- P10, FGD5, Community leader

«We can learn easily through our peers and from our teachers. If the internet can be made available for us, then we can learn all the information much easily.» - P3, FGD7, Adolescent boy

«We need training from the experts on this disease. Then we can easily share the knowledge with others through counseling or providing care»- P10, IDI, Senior Staff Nurse (SSN)

Understanding what suggestive measures can be taken.

According to the respondents, the follow-up of the government order is very important. The HCWs mentioned that the Government issued the order to wash hands at every 20 minutes interval and to maintain social distance by staying at home. These orders need to be maintained strictly to control COVID-19. Community people and community women could not mention any means to control COVID-19. They emphasized on their own and community awareness for controlling the disease

«Everyone should be aware that during this pandemic, nobody should go outside without any emergency. Everyone needs to use face masks when outside. One should not shake hands with others.»-P5, FGD3, Community health worker

«Cleanliness helps prevent COVID-19. There is no alternative to awareness. Everyone should follow the general rules as his responsibility. We do not need to focus on the resistance of the developed country. We need to take the necessary steps given

our overall situation». – P8, FGD5, Community leader

«The main obstacle to prevent COVID-19 is the lack of awareness among the general population, lack of necessary equipment for healthcare providers, no PPE. Apart from these, it is possible to prevent Corona by announcing the closure of companies and big supermarkets.» -P9, IDI, Senior Staff Nurse (SSN)

«We need to obey the government directives to control COVID-19, and we all should stay at home, unless any special needs.»- P3, IDI, Midwife

Discussion

The perception of community people about the risks, symptoms, management and prevention of COVID-19 was explored in this study. The major findings of the study revealed included limited knowledge on spread, symptom and prevention of COVID-19 among the respondents. Hand washing, using a facial mask and practicing social distance were not found practiced in the community due to ignorance and unavailability of the logistics.

COVID-19 or Coronavirus Disease 2019 is the latest global threat that the world has been encountering, which was recognized in December 2019[22]. The scientists joined in to identify the cause of this contagious disease to be SARS-CoV-2[23]. This novel Coronavirus is structurally related to the virus causing Severe Acute Respiratory Syndrome (SARS) [24], hence the name. Similar to previous two preceding of Coronavirus related infectious diseases as Middle East Respiratory Syndrome (MERS) and SARS [25], COVID-19 also poses a critical challenge for communities all around the world, along with the emergence of newer encounters of public health initiatives, the urgency of researches and curative and preventive modalities [26].

While observing the disease trend at the beginning of the disease outbreak in Hubei province of China, epidemiology shows that the patient's age was averaged for 59 years, with higher morbidity and mortality among the elderly [27]. Most of the patients were male, and there was no patient identified with COVID-19 below 15 years of age [26]. However, as the disease spread to 216 countries of the world until now [28], the patient epidemiology has been altered. Patients, irrespective of their ages, are being diagnosed with COVID-19. Even newborns are getting infected all over the world [29,30].

If the timeline for COVID-19 is reviewed, the China Health Authority alerted the WHO about cases of pneumonia with unknown origin on De-

ember 31, 2019. The earlier cases were reported within the Wuhan city inhabitants living around the Huanan Seafood Wholesale Market, although there were cases who had no exposure to this place [31]. WHO identified a novel Coronavirus, later named as SARS-CoV-2 [32] from the patient sample [33]. The organization declared the disease as a Public Health Emergency of International Concern (PHEIC) on January 30, 2020 [34]. On March 11, 2020, WHO declared COVID-19 as a pandemic [35]. Bangladesh has first identified three patients with COVID-19 on March 8, 2020.

SARS-CoV-2 is a novel human-infecting Beta coronavirus [36]. Bats are likely to be the origin of the virus, however, further research is necessary to confirm whether COVID-19 is transmitted directly from bats or through any intermediary host [37,38]. When the human transmission and sustenance of this virus were confirmed [39,40], it has been observed that respiratory droplets are the main route for it [38]. Newer studies have suggested fecal-oral [41], and possible aerosol transmission [42], although further studies are necessary for confirmation. Additionally, a newborn of a COVID-19 positive mother was diagnosed after 30 hours of her birth [43], thus suggesting vertical transmission of the SARS-CoV-2. These confirm that any individual of any age and sex can be infected with SARS-CoV-2 at any time, so universal precaution is necessary.

Response to COVID-19 outbreak for curative purpose is limited to symptomatic treatment with organ support, including respiratory ventilation in intensive care for seriously ill patients [44], as no vaccine or antiviral treatment for human and animal Coronavirus infection is available [45]. Current treatment modalities for general care is prescribed as bed rest and supportive treatment with antiviral therapy, antibiotics and immunomodulating agents [46-47], multiple organ function and respiratory support, bronchoalveolar lavage (BAL), blood purification, extra corporal membrane oxygenation (ECMO) [48] and convalescent plasma therapy [49]. Treatment is given to the COVID-19 patients based on triage, and all these modalities are expensive, unavailable and relatively time-consuming for the general population.

COVID-19 is a highly contagious communicable disease affecting all population [30]. At present, there is no vaccine available to prevent COVID-19. WHO announced that developing an effective vaccine will take at least 18 months, even after ensuring funding and public interest in this endeavour [50]. So, community prevention is still the best method to stop COVID-19 outbreak.

To observe the effectiveness of disease prevention strategies, cohort studies are important in well-defined settings such as schools, workplaces, or community places [51]. Information on COVID-19 risk, symptoms, burden and attack rate, the severity of the epidemic, hospitalization, death [52] and its prevention can be disseminated among the general population through various measures. Household surveys have proven to be a superior source of data regarding the rate and chances of viral transmission [53]. Considering the importance of such studies, our qualitative assay was conducted to see the community perspective of COVID-19 prevention.

WHO and all other health organizations have emphasized on maintaining hand and respiratory hygiene and adhering to social distancing protocol to prevent COVID-19 transmission [54]. A total of 67 participants from the community and 40 IDIs among healthcare workers (HCW) have shown a fair idea of the disease pathogenesis and signs/symptoms of COVID-19. HCWs have received multiple sessions of training from different local government and private authorities of Bangladesh which ensures relatively higher technical knowledge within this group. Community leaders accessed the knowledge using both news mediums and the local government initiatives. However, pregnant mothers and other community women lacked information about COVID-19.

The effectiveness of electronic media, social media, online platforms, and television to circulate information of a contagious viral disease is observed among the adolescent group. This might be a very informative and appropriate field of study to venture into the scopes of using such platforms for spreading information to the mass population.

Unless the messages are delivered to community people of all ages and sexes, a communicable disease such as COVID-19 prevention gets much harder. Our study has observed that many people do not comprehend the danger of Coronavirus transmission in Bangladesh. They would rather dismiss the probability of infection to foreigners or people coming from abroad. An effective way of communicating about the disease has come up through our IDIs, which are public announcements.

Community-women are mostly in charge of household cleanliness and food preparation in Bangladesh. Unfortunately, this group is the most negligent about the spread and danger of COVID-19. Pregnant mothers are always at risk for communicable diseases. As it is yet to be confirmed whether vertical transmission of SARS-CoV-2 is possible or not, it is much required to take preventive measures for them. Higher effective methods for preparedness

for disease prevention are necessary for pregnant women and their caregivers. Courtyard meetings, in-person visits and counselling can be useful for the dissemination of knowledge among these groups of people.

Except for the HCWs, the majority of the study population lacked proper knowledge on maintaining hand and respiratory hygiene and social distancing. COVID-19 preventive practices also seemed to be very low among the participants; however, the adolescent group was relatively more aware and interested to adhere to the practices of wearing masks, ideal hand washing, maintaining cough etiquette, and social distancing. Unavailability of the masks and training on hand washing practices and cough etiquette might also be a reason for lack of interest in practicing these preventive measures. Technical knowledge regarding social distancing and all preventive measures require to be increased among the community people. Especially about the ideal hand washing practices and cough etiquette.

Community awareness about any communicable disease is very important. It is even more vital in case of a highly contagious disease like COVID-19. Distribution of informative leaflets, stickers and microphone announcements are ideal methods for that.

Religious congregations can also play an imperative role in the dissemination of knowledge and information on COVID-19. However, strict government measures regarding cleanliness practice and social distancing through lock-down are esteemed as essential in the prevention of COVID-19.

Conclusion

The initiatives taken in Bangladesh to prevent the spread of COVID-19 and to reduce its harms seem to be effective. However, technical knowledge regarding preventive measures and proactive participation in protecting others is still disappointing, especially among the women in the community. More in-depth studies from other cultural context require to be conducted on the effectiveness, emergence and usefulness of newer mediums of information dissemination. Effectiveness of the current measures could be observed following the decline of the pandemic through the number of affected individuals and deaths among the rural communities. The study suggested that adolescent involvement can be a very effective measure towards any positive social movement regarding behavior change for betterment.

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