Jagannath University Journal of Arts ISSN 2519-5816
Volume 15, No. 01 DOI : https://doi.org/10.3329/jnujarts.v15i1.85336
January-June 2025 Page: 131-143

Emerging Infectious Diseases and COVID-19 Outbreak: Community Response to Mobility Restriction in the Early Days of Pandemic Situation in Bangladesh

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Abstract

Bangladesh is one of the highly impacted countries of the world by the emerging infectious disease COVID-19 outbreak in 2020. As a fresh kind of disease the method of its prevention and cure even the symptoms were less discovered area and the mobility restriction protocol was imposed as the primary strategy to combat the emerging pandemic situation at least until the introduction of vaccine. This research has aimed to explore people's perception about COVID-19 and their behavioral response to its preventive measure in the context of Bangladesh and contribute to the literature and also future policymaking regarding infectious disease control intervention. The core research question was "How did people perceive COVID-19 outbreak and respond to mobility restriction protocol as the primary preventive measure against its transmission? Both qualitative and quantitative data were collected through a web-based anonymous survey among the Bangladeshi general people via distribution of electronic questionnaire as google forms as well as different published literature as source of secondary data. The primary quantitative data was analysed following descriptive statistics mainly through frequency distribution and the qualitative data were analysed through thematic analysis. A total of 253 respondents took part in this research. Analysis of the data shows that without some exception respondents has basic to deep knowledge about COVID-19 as an emerging infectious disease as well as about different dimensions of mobility restrictions protocol such as lockdown, social distancing, stay home, quarantine and isolation. It is obvious that the pandemic and mobility restriction as the primary preventive measure requires a high degree of adaption and it has brought massive changes in human mobility and contact patterns.

Keywords : Emerging infectious disease, COVID-19, Mobility restriction, Community response

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Introduction

Humanity has experienced a recurrent wave of emerging infectious diseases (EIDs) over the past few decades and its resulting threat to human health, society and economy both locally and globally is also increasing. Though these diseases are largely preventable, lack of timely and effective countermeasures can deepen its profound impact and prevalence and making it a peril to global health situation (Wang et al. 1; Antabe and Ziegler 389). Recently the whole world has witnessed an outbreak of novel coronavirus-2 (nCoV-2) infection, one of the most contagious in history, first reported in Wuhan, Hubei province in China. The World Health Organization (WHO) named the cause of the disease as COVID-19 and declared it as a pandemic as well as international public health emergency due to its rapid spread throughout the whole world (Anwar and Hosen 1; Paho cited in Suryasa et al. vi). In Bangladesh, the first confirmed case of COVID-19 was identified on March 7 on the other opinion on March 8, 2020, though it is speculated that there might be earlier cases of infection which has not been detected before this (Anwar et al. 2; Siam et al. 2). To respond to sudden infectious disease outbreak, isolation has been accepted as a very old but an extremely effective way. In combating the COVID-19 outbreak and to control the spread of SARS-COV-2 mobility restriction measure was adopted as the primary strategy (Qian and Jiang 259-260). In reducing the pace and extent of infections, unprecedented policies and guidelines to increase social distance were issued by the governments across the globe (Linda Thunström et al. 180) and also in Bangladesh (Islam et al. 2). In this context the current research was conducted in the very early days of COVID-19 outbreak to explore people perception about this emerging disease, its prevention measure and their response to it.

Objective and research questions

The outbreak of COVID-19 and the imposition of mobility restriction as the prime preventive measure dramatically impacted people's lives in Bangladesh and also all over the world. To facilitate future epidemic or pandemic situation it is important to understand how people respond to such outbreak. This study aims to explore people's perception about COVID-19 and their behavioral response to its preventive measure in the context of Bangladesh. The necessary data have been collected based on the following research question:

How did people perceive COVID-19 outbreak and respond to mobility restriction protocol as the primary preventive measure against its transmission?

Sub-questions

1. How did people perceive COVID-19 as an emerging infectious disease?
2. What was people's perception about prevention and cure of COVID-19?
3. How did people respond to mobility restriction as the non-pharmaceutical measure of preventing transmission?

Methodology

The COVID-19 did not only disrupt the usual socio-economic activity in local and global context, it also deterred the regular research activity specifically its data collection practice (Torrentira 78). In this regard researches that are conducted

through bringing people in close proximity had been highly affected and so the American Psychological Association (APA pap. 2; par. 6) suggests the researchers who conduct research rely on face-to-face interview to go online and work remotely. In the context of various restrictive measures (social distancing and quarantine protocol) during COVID-19, online survey with closed or open ended questions sent to the target respondents can be used as a very feasible adaptation to the emerging situation (Sy, et al. 3). Using social media platform particularly Facebook to recruit participants and distribution of the questionnaire through employing google forms (Torrentira 81) can be very effective in such situation (Glazier and Topping 254).

In this context the current research has been conducted online. The study sample is consisted of 253 respondents recruited through snowball sampling from various locations of Bangladesh via distribution of electronic questionnaire as google forms during the timeframe of the end of May 2020 to early July 2020. The first part of the google form comprised of a brief description about the research intent, assurance of anonymity, the types of questions they are required to answer. The respondents were informed about the study's voluntary nature and access to the main part of the questionnaire was approved on their submission of consent of participation. Data acquired through open ended questions were carefully analyzed thematically based on the specific research questions and the broader objective. The responses from closed ended questions were analyzed through following descriptive statistics mainly frequency distribution using google forms tools such as describing the responses represented in different charts, histograms and pie charts. The discussions of the research findings were elaborated based on the existing theories in the literature.

Theoretical Framework

Disease refers to a physiological alteration that impairs or has the potential to impair function in some way. Infectious disease is derived from microorganisms and generally caused by biological agents such as bacteria, viruses, parasites, fungi, protozoa and multicellular organisms. The infectious agents are diversified regarding their biological characteristics and reproductive strategies as well as can cause different levels of impact from little harm to permanent disability or being potentially fatal (Wiley & Allen 11; Brown & Inhorn 32). However, the predominant view that biology determines health, behavior, and intergroup differences has been challenged by the cultural concept that affects health through risk and protective factors (Winkelman 20). Brown and Inhorn (32) as well as Singer and Erickson (225) have argued that possibility of causing an infection with a specific agent into disease depends on several factors, importantly pathogenicity of the agent, transmission route to host and the host's response. The social and natural environment can promote or limit or even prevent the transmission of the agent. The prevalence of the disease is affected by the social, cultural, ecological and historical context in which the agent and host are juxtaposed.

However not all human behaviour is adaptive and many culturally prescribed patterns of behavior may promote infectious disease spread and Roundy has identified four ways in this regard. Firstly, the act of exposure meaning human behaviour can impact the chances of a new individual becoming infected with the

disease agent. Secondly, the act of shedding, the behaviour determined circumstances under which a disease agent can be passed from an infected host. Thirdly, a man-made habitat (physical, biological, or social environment) created by human behaviour where the transmission cycle can be completed. Finally, the act of diffusion meaning human behaviour may promote the spread of the transmission system from one place to another (122). Dunn has also advocated for four major divisions of health related human behaviour: "(i) those deliberate, consciously health-related kinds of behaviour by individuals or groups that serve to promote or maintain health; (ii) deliberate behaviour that contributes to ill-health or mortality; (iii) non-deliberate behaviour, i.e., behaviour not perceived to be health-related, that nevertheless influences the health of individuals, groups, or populations favourably, either by enhancing or maintaining the level of health; and (iv) non-deliberate behaviour that contributes to ill-health or mortality" (502-503).

In this regard this research has adopted the biocultural approach that contemplates biological as well as sociocultural aspects in understanding disease, health and wellbeing. Biocultural approach has a significant juncture with biomedicine, both having focus on human body as cause or locus of disease but diverge on making a distinction between the proximate and ultimate reason of disease causation. Proximate cause resonating more to biomedicine identifies the immediate cause of some physiological disruption such as microorganism (virus) causing infection, hormone imbalance or dangerous growth of malignant cell in a body. On the other hand biocultural approach goes further and search for the more "ultimate" causes of the disease through asking "why—why this individual, in this population, living under a set of household, community, regional, national, or global conditions, each of which has been shaped by historical and evolutionary forces. Ultimate factors can also be locally defined and include supernatural forces that are believed to cause disease, such as witchcraft, sorcery, or some other form of divine intervention (Wiley and Allen 18)." Biocultural analysis differs from biomedicine's sole focus on individual as responsible for disease causation and human body as the only 'environment' to understand disease through acknowledging and employing local cultural model in understanding disease and health (Wiley and Allen 7). In biocultural analysis two dimensions of investigation is followed: one considers the pattern of specific health challenges and the way they became threats for specific group of population and another ponders on local adaptive (genetic, physiological or behavioral) responses to these challenges (Wiley and Allen 24).

This research adopting the above mentioned theoretical framework will shed light on the respondents' perception of COVID-19, its causes, prevention measures and their overall response to the emerging situation.

COVID-19 Outbreak and Mobility Restriction: An overview in local and global context

The first outbreak of coronavirus disease (COVID-19) triggered by Severe Acute Respiratory Syndrome Coronavirus 2 (SARSCOV-2) was reported in December 2019 in Wuhan, Hubei Province, China. Since then, the virus has rapidly spread all over the world (Ciotti et al. 1) and the World Health Organization (WHO) declared it

as an international public health emergency (Anwar et al. 1). The first confirmed case of COVID-19 in Bangladesh was identified in 8th March, 2020 (Siam et al. 2) and in comparison to other countries of the world Bangladesh is specifically vulnerable to its rapid spread due to its high population density (Islam et al. 1).

The most common symptoms of COVID-19 were fever, dry cough, fatigue, dyspnoea, myalgia etc. that usually developed within 2–14 days of infection (Wang et al. 15). Air droplet produced by sneezing, coughing or forced speaking and oral-fecal route is the two significant transmission routes of the virus. SARS-CoV-2 has been detected in the saliva as well as inanimate surfaces in the residential sites of COVID-19 infected persons (Qian and Jiang 260; Ciotti et al. 3). Human to human SARS-CoV-2 transmission mainly occurs through the respiratory route and also through eyes.

Isolation has been recognized as a very old but enormously effective way to tackle abrupt infectious disease outbreaks. To respond to the widespread transmission of COVID-19 diversified measures were applied among which social distancing protocols (keeping 1.5 m distance between People) were imposed as one of the most effective measures in reducing the transmission of virus (Bodrud-Doza et al. 2). As part of this the most vital policy response was impositions of large scale restriction on mobility that impose sanctions with positive encouragement to stay at home and avoiding outside movement with shutdown of all offices, educational institutions, shops and also public transport (Oh et al. par. 1). Strict administrative action and raising awareness among the mass people regarding lockdown, isolation and quarantine as well as restrictions on social gathering in public places and different institutional settings were taken as the preventive measures in managing the spread of the disease. Moreover, wearing masks, frequent disinfecting or washing hands were also suggested as effective preventive measure against the transmission of virus (Qian and Jiang 259-260).

In Bangladesh from 23 March, 2020 a nation-wide lockdown was declared as the non-pharmaceutical interventions in combating the emerging outbreak situation. Mandatory stay-at-home order was enforced and strong restrictions were imposed on any kind of public gathering with shutting down all the offices, educational institutions, public transportation even attending the places of worship were suspended. All these measures severely impacted the human mobility trend causing a steady decrease until August 2020 with a positive percentage increase demonstrating a weakening drift in the efficacy of lockdown in Bangladesh (Siam et al. 2).

Results and Discussion

Participants' Profile

A total of 253 participants attended the online survey which is broadly representative of Bangladesh's general population. The required age for participation in the research was 18 and the data shows that the age of the youngest participant was 19 and the eldest one was 67 years old. Among the total of 253 respondents 136 (53.8%) identified themselves as male, 115 (45.5%) as female and 2 (0.8%) as belonged to other gender category. Socioeconomic status varied among participants,

6 (2.4%) belongs to the category "poor", 63 (24.9%) lower middle class, 161 (63.6%) middle class and 23 (9.1%) higher middle class. In terms of occupation, 157 (62.1%) were students, 16 (6.3%) employed in government service, 45 (17.8%) in non-government service, 12 (4.7%) in autonomous institutions, 11 (4.3%) in small business, 1 (0.4%) in agriculture, 20 (7.9%) in home management, 2 (0.8%) daily wage labour, 16 (6.3%) others and 30 (11.9%) not involved in any occupation. Most of the participants 220 (87%) were living in full residential area and the rest 30 (11.9%) in industrial and business area and 3 (1.2%) in slum area respectively.

Perceptions of Covid-19: Disease Causation and Transmission Route

Participants were asked a series of questions regarding their understanding about COVID-19 as an emerging infectious disease, its cause, risk factors and its transmission route. They answered questions like "what is COVID-19?", "how does it transmit?", "is it possible to prevent its transmission?" and "what is the possibility of death or recovery of an infected person?" Research participants have identified both natural and supernatural causes behind COVID-19 outbreak. Their overall perception can be illustrated as "COVID-19 is an 'infectious disease' caused by 'virus' or 'microbe' or 'as revenge of the nature' or 'curse from the creator God as punishment for the human sin' which is 'transmitted through phlegm, spit or saliva of an infected person', or 'birds, animals, insects' and 'causes respiratory tract infection', that can be resulted into 'incurable lethal disease'. It 'attacks human not only physically rather mentally, socially and economically', and as a 'pandemic' it has caused 'health disaster' globally".

A biocultural analysis of the respondents' information manifests that their responses reflect both biological and cultural explanation regarding disease causation and its transmission route. Biological consideration of respondents' explanation that COVID-19 is primarily caused by virus (96%) reflects the "proximate" cause of COVID-19 infection. It affirms Brown and Inhorn's (32) definition that "infectious diseases are those caused by biological agents ranging from microscopic, intracellular viruses to large, structurally complex helminthic parasites". Wiley and Allen also demonstrate that infectious diseases can be caused by viruses or bacteria capable of creating almost no or little harm (rhinoviruses causing the common cold) to life-threatening diseases such as COVID-19 (11). On the contrary a cultural consideration of respondents' explanation may discover the "ultimate" cause of the infection. A part of the participants expressed their belief that some supernatural conditions may cause COVID-19 such as revenge of the nature or curse from the creator God as punishment for the human sin in their worldly life. Such local belief of disease causation resonates with Wiley and Allen who has demonstrated that supernatural forces such as witchcraft, sorcery, or some other form of divine intervention can be responsible for disease causation (18)

Trout and Kleinman (2020) have called COVID-19 a social disease identifying social networks such as family, community and global commerce as the basic transmission route of infection. Almost all of the participants' (91.7%) assume that coming in contact with the infected person and entering his/her phlegm, spit or saliva into a healthy person's body can cause further infection. Infection can be

transmitted through coming in contact with anything that carries the virus (73.5%), even if from animals, birds and insects (7.5%). Movement in crowded places has been identified as a source of infection by 34.8% of the respondents. Though not significant in number, 2% of the respondents believe in supernatural causes of transmission mentioning that transmission of infection can be happened anyway through any form of divine intervention (Wiley and Allen 18). This reflects Brown and Inhorn's (33) view that the prevalence of the disease is affected by the social, cultural, ecological and historical context in which the agent and host are juxtaposed. Roundy also postulated that human behaviour such as the act of exposure, shedding, creation of man-made habitat and finally act of diffusion can cause disease transmission (122). In Bangladesh among the three first identified COVID-19 positive cases on March 8, 2020 two were returnee migrants and in the next eight weeks it was spread all over the country. Even after the imposition of lockdown till May 2020, Bangladesh experienced the highest number of infection in the month of June and highest number of death in July 2020 making it the second most affected country in the Southeast Asia (Tabassum et al. 4).

Preventive Measures: Mobility Restriction and other Protocol

Participants' perceptions about how to prevent COVID-19 largely varied. Almost all of the respondents (95.6%) think that maintaining social distance can be a very effective way to avoid contagion. Furthermore proper food intake to increase immunity, maintaining proper hygiene (using masks, covering face during coughing, frequent hand wash and disinfecting stuffs before use) have also been testified as preventive measures against infection. These precautionary opinions are resonant with Dunn's (502) proposal that individuals' or groups' deliberate and conscious health-related kinds of behaviour may serve to promote or maintain health and prevent ailment. Islam's (396) study also suggests strong personal hygiene and awareness can be very effective to fight against COVID-19.

With the WHO declaration of COVID-19 a global pandemic, Bangladesh along with other countries of the world started working to address it. As until 2021 no vaccines or drugs were introduced for treatment or prevention of COVID-19, non-therapeutic measures were taken as the only measure to avoid infection (Anwar et al.1). Some significant steps taken by the Government of Bangladesh were strict ban on any public gathering, closure of government and private offices and educational institutions, closure of public transports including domestic and international flights, cancellation of celebration of national days and strong law enforcement trough deploying army in addition to police (Islam 391-392). The following table depicts the thematic analysis of the respondents' perception about different forms of mobility restriction measures.

Forms of mobility restriction	Number of respondents	%	Summary of thematic analysis
Social distancing	245	97.2	'Social distancing' is 'maintaining distance from others' for at least '3-6 feet', 'avoiding social gathering' and if possible 'stay at home' unless emergency outside visit
Lockdown	245	97.2	"Lockdown is an emergency condition in which people are temporarily prevented from entering or leaving an area during a threat of danger", "in order to stopping community transmission this measure is taken by concerned authority" "that basically implies that everyone should be where they are and stop moving from one place to another" when "any public gatherings and communication will not be allowed for a certain period".
Stay home	240	95.2%	"Stay home" is mainly a term used during lockdown imposed by the government that requires staying at home to avoid contamination risk and refrain from visiting outside unless emergency arises.
Quarantine	244	96.9	Quarantine is 'separation of a person' who 'tested positive for COVID-19' or 'reasonably believed to have been exposed to an infected person' or 'have returned from an area under risk of contagion' and 'staying confined or isolated in a certain place usually a room' for 'at least fourteen days'

The responses of research participants reflect their knowledge and awareness regarding different preventive measures against COVID-19 which can stem from their average socioeconomic conditions such as occupation and social class which can influence the production and interpretation of disease categories, its symptoms and treatments (Wiley and Allen 30). According to the profile of the research participants, except a very few (2.4%) all of the respondents belonged to the category "middle class" and in terms of occupation 62.1% were students and more than 30% were engaged in different categories of service with regular income. They affirmed that they had a high degree of reliance on technology based information source (92.5% confirmed that they stemmed large stock of information from social media sites and also from radio and television (77.5%). However, they also gathered information from family members (29.6%), friends (24.9%), neighbours (6.7%) and others (6.3%). Besides collecting information from random sources they (40.5%)

regularly watched the health bulletin in television to get all the updates about COVID-19.

Response to Mobility Restriction: Changing Pattern of Mobility Behaviour

The global imposition of widespread mobility restriction as the primary policy prescription throughout the coronavirus disease 2019 (COVID-19) pandemic may have basic uniformity in nature, yet the community response to this measure may vary across and within countries. This research has found that declaration of general lockdown in Bangladesh brought remarkable changes in the pattern of human mobility behaviour. Only 49 (19.4%) persons among the total participants reported about their daily outer movement after the announcement of different mobility restrictions measures. About 17.4% never visited outside while a significant number of the respondents (42.3%) went outside once in a week. The nature of places and purposes of people's outer movement during this period indicates that they rarely visited outside except emergency need. Their response shows that they mainly went outside for buying groceries (69%), buying medicine (58.9%), banking purposes (32.8%), to buy necessary household goods (32%), to attend daily prayer (26.1%), hospital (19%) for emergency treatment and working places (19%). A very small portion (4% or below) visited tea stall, shopping mall, restaurant, parlour or saloon and entertainment centers. Even there was a very limited interaction among neighbours, as 75% reported that they never visited their neighbours house, 15.8% visited once in a week, 4.3% visited daily and 4.7% visited once in a month. These changed behaviour pattern resonates with Dunn's view that individuals' or groups' deliberate, consciously health-related kinds of behaviour may serve to promote or maintain health (502).

A significant adaptive measure to emerging infectious disease reality was adoption of internet based communication and service to avoid social contact. Though a significant number of respondents (39.1%) reported that they did not conduct any kind of transactions or service online, others reported about their online reliance for different purposes such as healthcare services (17.8%), banking (37.9%), buying food (17.8%), buying clothes (13.8%), buying home accessories (17.1%) and others (9.5%). Another important adoption to new situation was maintaining certain kinds of deliberate, consciously health-related kinds of behaviour (Dunn, 502) such as maintaining queue during entry, exit and service receive 93 (36.8%), maintaining at least 1 mitre distance 116 (45.9%), hand washing (49%), disinfecting (46.2%) and touchless payment 35 (13.8%).

According to Roundy, human behaviour may promote the spread of the transmission system from one place to another through the act of diffusion (122). As the human contact was identified as the primary transmission route for COVID, the mobility restriction was imposed as preventive measure. This research has found how people followed a very low level of long distance mobility to reduce the chances of disease spread. They rarely travelled to faraway places specially that requires travelling through bus, train, launch or air. Almost all of the participants (90.9%) reported that they did not travel to anywhere using these vehicles after the declaration of mobility restriction protocol. In most cases (75%) the maximum visited distance was to the

surrounding neighbourhood and they (70%) preferably commuted by walking or rickshaw to avoid direct human contact. There was also a remarkable drop of attendance in different social and religious gathering as 66% reported that they did not attend any kind of social gathering in recent time. There were only a few who attended some social and religious gathering such as wedding (1.6%), birth or death anniversary (0.8%), neighbors' or relatives' invitation (5.5%), religious meeting or gathering (7.5%), funeral (12.6%) as well as some undefined gathering (8.7%) such as for distributing or receiving aid.

Dunn (503) has claimed that human behaviour not perceived to be health-related, that nevertheless may influence the health of individuals, groups, or populations favourably. It may be found relevant in the context of people's adoption of diversified activities to face the challenges of the long term unanticipated leisure period resulting from the imposition of mobility restriction. The most extensive coping strategy was spending time through browsing social media platforms, testified by 92.7% of the participants. Other popular measures were watching television (64%), oversleeping (53%), working out (42.3%), visiting rooftop (35.2%) or nearby open spaces for fresh air (19%), gardening (20.2%), reading books (53.2%), meeting family and friends (2.8%), doing nothing specific (0.8%) and others (23.8%).

However through imposing mobility restriction a reduced risk of transmission can be expected but it is not certain that exactly who will be benefited. The complex relationship between lockdown measures and people's mobility behaviors can be influenced by the socioeconomic makeup and institutional structure of the country. The interaction between the biological and social is complexly entangled where some groups can become more vulnerable than others regarding age, sex or social class. Epidemic and mobility restriction can exact a heavy toll on the poor and most vulnerable group, especially those involved in low income and informal sector activity. Around 172 respondents reported about financial vulnerability in their own family or among surrounding people during lockdown days. Reasons varied ranging from losing job or irregular payment of salary or failure to manage daily wage labour, profit drop in business, barriers in harvesting and marketing agricultural produce and other diversified reasons.

Gender dynamics also play role regarding vulnerability. It was found that in most cases (87.7%) male member of the family goes outside for essentials while the rest is done by either the female members or through online. This reflects how social norms and practices constitute gendered categories of biological difference that makes male members more vulnerable to infection. That resonates with Roundy's speculation that many culturally prescribed patterns of behavior may promote infectious disease spread through the act of exposure meaning human behaviour can impact the chances of a new individual becoming infected with the disease agent (122).

The demographic profile of the respondents of this research shows that almost all of them belong to middle class and occupationally there are either student or employed in regular income generating activities. Furthermore their household patterns also shows that about two-thirds of the participants were living in full residential area

while the rest were living in industrial and business area except only three persons who reported their stay in the slum area. From their profile it can be assumed that they were aware as well as capable of facing the first wave of COVID-19 challenges both physical and socio-economic.

Conclusion

Prevention of emerging infectious disease is a complex one as it combines varied circumstances from structural to behavioral. In the context of diversified threats posed by the emergence of COVID-19, mobility restriction was introduced as the most effective measure to prevent the transmission and control the disease outbreak in both Bangladesh and global context. Mobility restriction requires a wide range of behavioral adaptation with the new condition that restricts not only mobility freedom rather presents a huge challenge for the community in conducting their all kinds of daily activities. This research has presented the complex dynamics of community perception and response to COVID-19 and mobility restriction as part of the "new normal" way of life during the early days of the pandemic in the Bangladesh context. Analysis of the data shows that without some exception respondents has basic to deep knowledge about COVID-19 as an emerging infectious disease as well as about different dimensions of mobility restrictions protocol such as lockdown, social distancing, stay home, quarantine and isolation. It is obvious that the pandemic and mobility restrictions as the primary preventive measure in combating the outbreak have brought enormous changes to the life and livelihood of the people that requires a high degree of adaption. Though it is critical to measure the quantitative impact of mobility restriction on the disease control, apparently it has led to a massive change in human mobility and contact patterns that can play significant role in future policymaking regarding infectious disease control intervention. This research has some limitations such as sole dependence on online method to select and contact respondents may have caused sampling bias as only respondents with certain traits and characteristics were selected for participation. This has limited the possibility of getting information from diverse socio-demographic categories specially those belong to low income or poorer category as they rarely have access to internet. Furthermore drawing conclusion from a small number of respondents may cause less representation of larger community perception and response. These limitations need to be addressed in future research on this issue.

References

American Psychological Association (APA). "Conducting research during the COVID-19 pandemic: Advice from psychological researchers on protecting participants, animals, and research plans." American Psychological Association, 2020, https://www.apa.org/news/apa/2020/03/conducting-research-covid-19

Antabe, Roger, and Bianca Rosa Ziegler. "Diseases, Emerging and Infectious." *International Encyclopedia of Human Geography* (2020): 389–391. doi:10.1016/B978-0-08-102295-5.10439-1.

Anwar, Saeed, et al. "COVID-19 and Bangladesh: Challenges and How to Address Them." *Frontiers in Public Health*, vol. 8, Apr. 2020, p. 154. *DOI.org (Crossref)*, https://doi.org/10.3389/fpubh.2020.00154.

Bodrud-Doza, Md., et al. “Psychosocial and Socio-Economic Crisis in Bangladesh Due to COVID-19 Pandemic: A Perception-Based Assessment.” *Frontiers in Public Health*, vol. 8, June 2020, p. 341. *DOI.org (Crossref)*, https://doi.org/10.3389/fpubh.2020.00341.

Brown, Peter J., and Svea Closser, editors. *Understanding and Applying Medical Anthropology: Biosocial and Cultural Approaches*. Third edition., Routledge, 2016.

Brown, Peter J., and Marcia C. Inhorn. *The Anthropology of Infectious Disease: International Health Perspectives*. Taylor and Francis, 2013.

Ciotti, Marco, et al. "The COVID-19 pandemic." *Critical reviews in clinical laboratory sciences* 57.6 (2020): 365-388.

Dunn, Frederick L. "Behavioural aspects of the control of parasitic diseases." *Bulletin of the World Health Organization* 57.4 (1979): 499.

Glazier, Rebecca A., and Morgan Paige Topping. “Using Social Media to Advance Community-Based Research.” *PS: Political Science & Politics*, vol. 54, no. 2, Apr. 2021, pp. 254–58. *DOI.org (Crossref)*, https://doi.org/10.1017/S1049096520001705.

Islam, Sufia, et al. “COVID-19 Pandemic: An Analysis of the Healthcare, Social and Economic Challenges in Bangladesh.” *Progress in Disaster Science*, vol. 8, Dec. 2020, p. 100135. *DOI.org (Crossref)*, https://doi.org/10.1016/j.pdisas.2020.100135.

Linda, Thunström, et al. "The benefits and costs of using social distancing to flatten the curve for COVID-19." *Journal of Benefit-Cost Analysis* 11.2 (2020): 179-195.

Oh, Juhwan, et al. "Mobility restrictions were associated with reductions in COVID-19 incidence early in the pandemic: evidence from a real-time evaluation in 34 countries." *Scientific reports* 11.1 (2021): 13717.

Qian, Meirui, and Jianli Jiang. “COVID-19 and Social Distancing.” *Journal of Public Health*, vol. 30, no. 1, Jan. 2022, pp. 259–61. *DOI.org (Crossref)*, https://doi.org/10.1007/s10389-020-01321-z.

Roundy, Robert W. "A model for combining human behavior and disease ecology to assess disease hazard in a community: rural Ethiopia as a model." *Social Science & Medicine. Part D: Medical Geography* 12.2 (1978): 121-130.

Siam, Md. Hasanul Banna, et al. “Insights into the First Seven-Months of COVID-19 Pandemic in Bangladesh: Lessons Learned from a High-Risk Country.” *Heliyon*, vol. 7, no. 6, June 2021, p. e07385. *DOI.org (Crossref)*, https://doi.org/10.1016/j.heliyon.2021.e07385.

Singer, Merrill. *A Companion to Medical Anthropology*. 1st ed, John Wiley & Sons, Incorporated, 2011.

Suryasa, I. Wayan, María Rodríguez-Gámez, and Tihnov Koldoris. "The COVID-19 pandemic." *International Journal of Health Sciences* 5.2 (2021): 572194.

Sy, Michael, et al. “Doing Interprofessional Research in the COVID-19 Era: A Discussion Paper.” *Journal of Interprofessional Care*, vol. 34, no. 5, Sept. 2020, pp. 600–06. *DOI.org (Crossref)*, https://doi.org/10.1080/13561820.2020.1791808.

Tabassum, Tahani, et al. "COVID-19 in Bangladesh: wave-centric assessments and mitigation measures for future pandemics." *Heliyon* 9.10 (2023).

Thunström, Linda, et al. “The Benefits and Costs of Using Social Distancing to Flatten the Curve for COVID-19.” *Journal of Benefit-Cost Analysis*, vol. 11, no. 2, 2020, pp. 179–95. *DOI.org (Crossref)*, https://doi.org/10.1017/bca.2020.12.

Torrentira, Moises C., Jr. “Online data collection as adaptation in conducting quatitative and qualitative research during the COVID-19 pandemic.” *European Journal of Education Studies*, vol. 7, no. 11, Sept. 2020. *DOI.org (Crossref)*, https://doi.org/10.46827/ejes.v7i11.3336.

Trout, Lucas Jacob, and Arthur Kleinman. "Covid-19 requires a social medicine response." *Frontiers in Sociology* 5 (2020): 579991.

Wang, Shen, et al. “Emerging and Reemerging Infectious Diseases: Global Trends and New Strategies for Their Prevention and Control.” *Signal Transduction and Targeted Therapy*, vol. 9, no. 1, Sept. 2024, p. 223. *DOI.org (Crossref)*, https://doi.org/10.1038/s41392-024-01917-x.

Wiley, Andrea S., and John S. Allen. *Medical Anthropology: A Biocultural Approach*. 2nd ed, Oxford University Press, 2013.

Winkelman, Michael J. *Culture and Health: Applying Medical Anthropology*. 1. ed, Jossey-Bass, 2009.