

Understanding of General People about COVID-19: A Cross-Sectional Online Survey and Qualitative Presentation

Genel Halkın COVID-19 Anlayışı: İnternet Üzerinden Kesitsel Bir Araştırma ve Nitel Sunum

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ABSTRACT Objective: To identify general people's actual knowledge, awareness, and perception about COVID-19 and to facilitate healthcare organizations, responsible authority, and general people. **Material and Methods:** Cross sectional online survey. Necessary data have been collected from the responses of questionnaires and the questionnaires have been developed utilizing Google form. The study covered 50 participants from various countries from the author's network. We considered a systematic flow diagram from March 25 to March 31, 2020 including demographic information of participants. **Results:** Almost 74% of the participants clearly describe and explain all the questions and still, 26% of the participants are not clear about their idea regarding COVID-19 disease. Moreover, the perceptions provided by the participants are also close to the guidelines of WHO and National Health Commission of the People's Republic of China regarding COVID-19. Only few participants' understandings are not fully completed compared to their guidelines. The current mental status was also analyzed in this study wherein 51% participants stated that they are suffering from mental stress and depression due to this virus. **Conclusion:** It is necessary to identify and improve the actual knowledge, awareness, and perception to control the spread of COVID-19. More awareness activities from responsible authority are required. Moreover, this survey will facilitate healthcare organizations and responsible authority to design their awareness activities in this critical moment. Additionally, general people will get benefited and prepared themselves to read the perceptions of the individual participant.

Keywords: COVID-19; depression; cross-sectional studies; surveys and questionnaires; outcome assessment; health care

ÖZET Amaç: Genel halkın COVID-19 hakkındaki güncel bilgisini, farkındalığını ve algısını tanımlamak ve sağlık organizasyonlarının, sorumlu otoritenin ve genel halkın işini kolaylaştırmak. **Gereç ve Yöntemler:** İnternet üzerinden kesitsel çalışma. Gerekli veriler anketlere verilen yanıtlardan toplandı ve anketler Google formu kullanılarak geliştirildi. Çalışmaya yazarın iletişim ağındaki çeşitli ülkelerden 50 kişi katıldı. 25 Mart ile 30 Mart 2020 tarihleri arasında katılımcıların demografik bilgilerini içeren sistematik bir akış şeması yapıldı. **Bulgular:** Katılımcıların yaklaşık %74'ü tüm soruları açıkça tanımlayıp açıklayabiliyor ve %26'sı halen COVID-19 hastalığı hakkındaki fikirleri konusunda açık değil. Dahası, katılımcıların algıları DSÖ ve Çin Halk Cumhuriyeti Ulusal Sağlık Komisyonu'nun COVID-19 ile ilgili kılavuzlarına kapalı. Sadece çok az sayıda katılımcının anlayışı kılavuzlara göre tamamen tamamlanmış değil. Katılımcıların mental durumu da incelendi ve %51'i bu virüse bağlı olarak mental stres ve depresyondan yakınmaktaydı. **Sonuç:** COVID-19'un yayılımını kontrol altına almak için mevcut bilgi, farkındalık ve algı durumunu tanımlamak ve iyileştirmek gereklidir. Sorumlu otoritenin daha fazla farkındalık aktivitesi yapması gerekmektedir. Dahası, bu araştırma sağlık bakımı organizasyonlarının ve sorumlu otoritenin bu kritik zamanda farkındalık aktiviteleri yapmalarını kolaylaştıracaktır. Ayrıca, genel halk faydalanacak ve katılımcıların algılarını okumak için hazırlanacaklardır.

Anahtar Kelimeler: COVID-19; depresyon; kesitsel çalışmalar; araştırmalar ve anketler; sonuç değerlendirmesi; sağlık bakımı

Respiratory viruses are emerged by Coronavirus (CoV) infections and the illness which occurs due to the Coronavirus (CoV) infections can be varied from

the common cold to severe acute respiratory syndrome (SARS).¹ Transmission of CoV occurs not only due to the interactions from human-to-human

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but also due to the interactions from animal-to-human and so it is a zoonotic pathogen.² The outbreak of numerous pestilences happened in the past years. Around 800 and 860 people died during 2002 and 2012 due to SARS and Middle East Respiratory Syndrome, MERS-CoV respectively.^{2,3} After eight years from the MERS-CoV pestilences, in recent times, the outbreak of COVID-19 known as novel coronavirus in Wuhan, which is a city of Hubei Province, China has become a global outbreak and causes serious public health concerns.⁴ COVID-19 has been declared to be a public health emergency of international concern (PHEIC) by the World Health Organization (WHO) on January 30, 2020.⁵ Surprisingly, reports related to new COVID-19 cases have become a disastrous number globally from the beginning of March. Total two hundred five countries, areas or territories have been affected and the confirmed cases and death have become 856,386 and 41,956 respectively up to April 2, 2020 (00:00 CET).⁶ The transmission of COVID-19 occurs from human to human through direct contact, fecal-oral and droplet and the incubation period of COVID-19 is around 2-14 days.⁷ Any specific recommendation of vaccine or antiviral treatment has not been found up to date. So, the application of preventive measures is the most crucial intervention for controlling the infection of COVID-19. It can be easily anticipated that healthcare workers (HCWs) are at severe risk of infection because of their direct contact with patients. The recommendations have been published by the Centers for Disease Control and Prevention (CDC) and WHO in order to control and prevent the COVID-19 for healthcare workers (HCWs).^{8,9} Numerous online materials and sessions have been conducted by the WHO in different languages in order to emphasize preventive tricks in preparedness activities such as training the healthcare workers and building up awareness.¹⁰ Sometimes, the responses for controlling outbreak have been delayed because of the misunderstanding raises among healthcare workers and so the infections have been quickly spread among hospitals.¹¹⁻¹³ In this respect, a unique chance for inquiring the level of knowledge and understanding of healthcare workers has been offered from the COVID-19 pestilence. As there is no specific vaccine or medicine of this infected virus,

therefore awareness is the main weapon to control the spread rate. For increasing awareness among general people, it is mandatory to know about the actual knowledge and perceptions of general people which can properly be described through qualitative presentation of survey.

Till now few cross-sectional online survey have been conducted all of which presented qualitative analysis, no quantitative analysis has been reported till date to identify general people's actual knowledge, awareness and perception about COVID-19. In the meantime, more survey study on COVID-19 is still required to increase awareness and control high spread rate through the whole world. Moreover, this survey will facilitate healthcare organizations to design their awareness activities in this critical moment. Additionally the perceptions of different questions provided by participants also compared with the guideline of WHO and National Health Commission of the People's Republic of China regarding COVID-19.

MATERIAL AND METHODS

From March 25 to March 31, 2019, this systematic cross-sectional survey on COVID-19 was conducted by applying systematic flow diagram. Currently, maximum countries of the world are in lockdown condition, therefore, it was not feasible to conduct a community-based national sampling survey during this critical period, we decided to use an online platform to collect necessary data. A focused group of Bangladeshi local people, Bangladeshi citizens living in different counties throughout the world, Malaysian local and international people were considered as a participant. A Google form with questionnaires was created by using a systematic flow diagram and forwarded to target networks through WhatsApp and Messenger account. The questionnaires for this survey are provided in [Table 1](#) and the demographic descriptions of participants are presented in [Table 2](#). In the systematic flow diagram ([Figure 1](#)) the questions for the survey was set in such a way that all questions are related to each other wherein participants need to give answer depend on the previous question. By applying this flow diagram, participants can skip the next question-answer auto-

TABLE 1: Questionnaires for this study.

Questions	Answer criteria
K1 Do you know about Coronavirus?	Yes/No
EK1 If your answer is yes then then share your knowledge about COVID-19 virus?	Explanation
K2 Do you consider this virus highly risky?	Yes/No
EK2 Provide a clearance of your answer for question K2.	Explanation
K3 Do you know how this COVID-19 spread?	Yes/No
EK3 If your answer is yes then share the main reasons for rapidly spread of COVID-19?	Explanation
K4 Do you know what are the symptoms of COVID-19 disease?	Yes/No
EK4 If your answer is yes then mentions the symptoms of COVID-19 disease.	Explanation
K5 Do you know how we keep ourselves safe from COVID-19?	Yes/No
EK5 If your answer is yes then tell us how we keep ourselves safe from COVID-19?	Explanation
K6 Do you take any precautions to keep yourselves safe from COVID-19?	Yes/No
EK6 If your answer is yes then share us about your precautions to keep yourselves safe from COVID-19?	Explanation
K7 Do you suffer any mental pressure/frustration/disturbance due to the spread of COVID-19?	Yes/No

* K refers knowledge and EK refers explanation of knowledge questions.

matically depends on his/her previous question answer. The systematic flow diagram to conduct this survey is presented in [Figure 1](#).

The questionnaire section consisted of three parts: demographics, knowledge, and perception (explanation). Demographic variables included age, occupation, motherland, and place of current residence. According to guidelines for clinical and community management of COVID-19 by the National Health Commission of the People's Republic of China, a COVID-19 knowledge questionnaire was developed by the authors. The perception questionnaires mainly represent the explanation of knowledge questions. Yes/No option was set for knowledge questionnaires wherein participant's short explanation was asked for perception questionnaires. Explanation from perception questionnaires was used for qualitative analysis of people's knowledge and perception about COVID-19. The questionnaires and survey methods are presented in [Table 1](#) and [Figure 1](#).

DEMOGRAPHIC INFORMATION OF PARTICIPANTS

As it is now a global issue therefore we choose 50 participants from the authors' network who are currently living in different countries of the world for qualitative presentation. Age, nationality, current location, and occupation are considered as demo-

graphic variables. Seven different nationalities of people have considered wherein 82% of participants were from Bangladeshi nationality, 8% were from Malaysian and 10% were from other counties. From the participants, 36% currently living in Bangladesh, 42% currently living in Malaysia, and 22% living in other countries. Student, business person, engineer, teaching profession, government service holder and scientist occupations' people have participated wherein 60% of them are students. Individual participants' demographic information is provided in [Table 2](#).

RESULT AND DISCUSSION

PARTICIPANTS' KNOWLEDGE ABOUT COVID-19

This part is discussed regarding K1 and EK1. The responses of the EK1 question of participants are presented in [Table 3](#). All participants stated that they know about COVID-19 and 84% of the participants shared their knowledge and explained about COVID-19 which is provided in [Table 3](#). COVID-19 is a very harmful and dangerous virus that causes infectious disease and can transmit people to people with contact easily, which is the common opinion among all the responses. Few responses said it as a contagious virus, airborne disease, cousin of SARS, pandemic, weapon virus and so on. One response stated

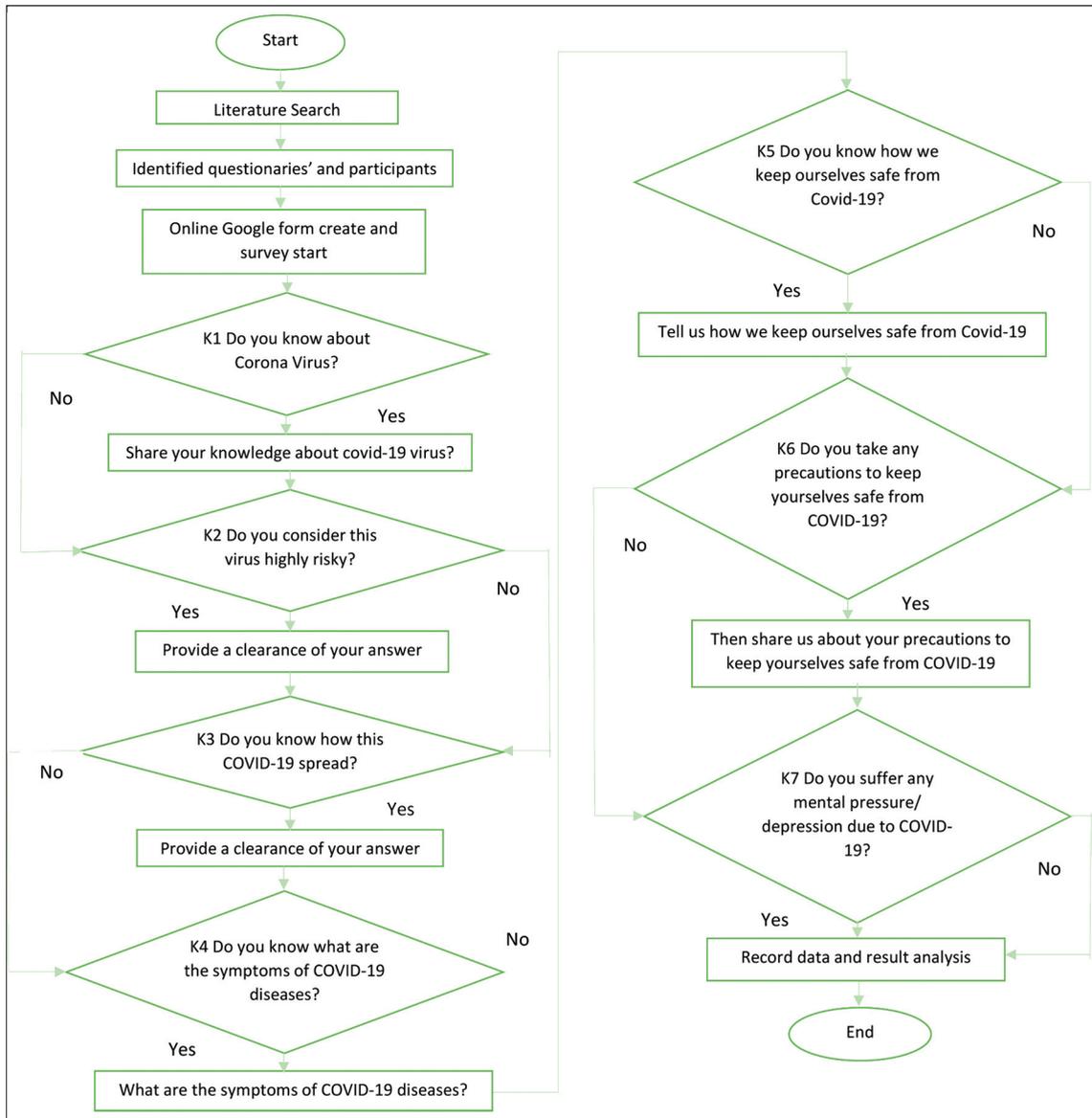


FIGURE 1: Flow diagram for conducting survey.

COVID-19 as “a nature bounce back to human injustice”. Some participants additionally stated that it causes respiratory symptoms; affects the lungs; causes fever, coughs, diarrhea, sore throat, and breathing problem. Few also highlighted that there is no vaccine or remedy for this virus. Two respondents added that “older people and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness” in their response. However, the WHO (World Health Organization) describes COVID-19 as “Coronavirus disease

(COVID-19)” is an infectious disease caused by a newly discovered coronavirus”.⁸ Moreover, National Health Commission of the People’s Republic of China describes as “Coronaviruses (CoV) are a large family of viruses that cause illness ranging from common cold to more several diseases such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV)”.¹⁴ After comparing the statement of WHO and National Health Commission of the People’s Republic of China with the perceptions of participants in this study, it is clear that all respondents have a basic or

TABLE 2: Demographic information of participants.

Participants	Age	Nationality	Current location	Occupation
P1	27	Bangladesh	Bangladesh	Service Holder
P2	33	Bangladesh	Malaysia	Teaching
P3	25	Bangladesh	Malaysia	Student
P4	32	Bangladesh	Malaysia	Business
P5	25	Bangladesh	Bangladesh	Assistant General Manager
P6	26	Bangladesh	Bangladesh	Engineer
P7	25	Bangladesh	Germany	Student
P8	30	Bangladesh	Malaysia	Students
P9	29	Bangladesh	KSA	Student
P10	24	Bangladesh	Australia	Student
P11	42+	Bangladesh	Malaysia	PhD Student & Assistant Professor
P12	22	Bangladesh	Malaysia	Student
P13	26	Bangladesh	Bangladesh	Navy officer of Government of Bangladesh navy
P14	24	Bangladesh	United States	Student
P15	33	Nigeria	Malaysia	Student
P16	27	Bangladesh	Bangladesh	Student
P17	24	Bangladesh	Bangladesh	Student
P18	22	Malaysia	Malaysia	Student
P19	25	Nigeria	Malaysia	Student
P20	23	Bangladesh	Malaysia	Student
P21	25	Bangladesh	Germany	Student
P22	27	Bangladesh	Malaysia	Student
P23	25	Malaysia	Malaysia	Student
P24	24	China	Malaysia	Student
P25	23	China	Malaysia	Student
P26	34	India	Kuwait	Engineer
P27	24	Iraq	Malaysia	Engineer
P28	33	Bangladesh	Malaysia	Student
P29	24	Bangladesh	Bangladesh	Engineer
P30	28	Bangladesh	Bangladesh	Student
P31	46	Bangladesh	Malaysia	Researcher
P32	24	Malaysia	Malaysia	Student
P33	37	Bangladesh	Bangladesh	Teaching
P34	21	Bangladesh	Malaysia	Student
P35	29	Pakistan	Pakistan	Student
P36	33	Bangladesh	India	Scientist
P37	24	Bangladesh	Bangladesh	Engineer
P38	25	Bangladesh	Bangladesh	Service Holder
P39	33	Bangladesh	Belgium	Student
P40	26	Bangladesh	Bangladesh	Engineer
P41	22	Malaysia	Malaysia	Student
P42	29	Bangladesh	Malaysia	Student
P43	29	Bangladesh	China	Lecturer
P44	27	Bangladesh	Bangladesh	Student
P45	26	Bangladesh	Bangladesh	Student
P46	26	Bangladesh	Bangladesh	Student
P47	27	Bangladesh	Bangladesh	Student
P48	29	Bangladesh	Belgium	Teaching
P49	25	Bangladesh	Bangladesh	Student
P50	30	Bangladesh	Bangladesh	Student

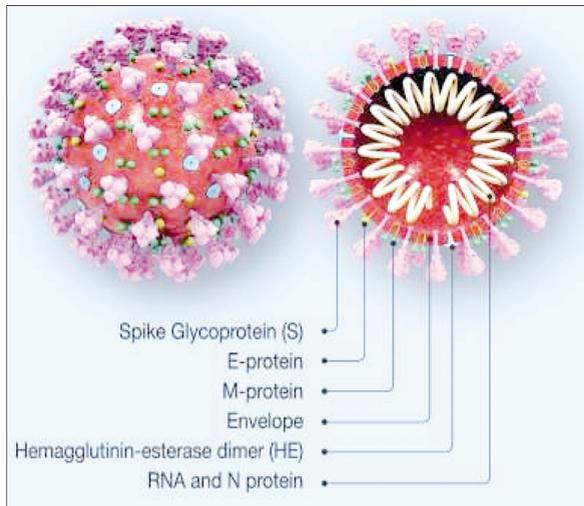


FIGURE 2: COVID-19 virus.¹⁴

general idea about COVID-19 but only 68% respond have a clear and strong idea regarding this virus. Therefore, we can say from this survey that 34 out of 50 people have a clear understanding of COVID-19. COVID-19 virus is presented by National Health Commission of the People's Republic of China which is shown in Figure 2.¹⁴

PARTICIPANTS' CONSIDERATION ABOUT TAKING THIS VIRUS RISKY

This part is discussed regarding K2 and EK2. The responses of the EK2 question of participants are presented in Table 4. Of them, 92% consider COVID-19 as a highly risky virus whereas 82% of the participants provide the reason for their consideration. No vaccine or medicine, a high death rate, rapidly spread from people to people is the common response among the participants. One participant considers COVID-19 risky because this disease causes respiratory illness (like the flu) with symptoms such as cough, fever, and in more severe cases, difficulty breathing. Another participant mentioned "We don't know much about the virus much as scientists are saying that it can change its pattern very easily" as his/her consideration. Moreover, another participant considers it is risky because the government of his/her country has not placed any restrictions on social gatherings or travel within affected countries and has not advised people without symptoms to isolate

themselves to curb the coronavirus outbreak. However WHO considers this virus risky because of its high spread rate, no significant medicine or vaccine and high death rate. Comparing with WHO's consideration 72% of participants provide clear consideration to take this virus risky.⁸

PARTICIPANTS' KNOWLEDGE ON THE MAIN REASONS FOR RAPIDLY SPREAD OF COVID-19

This part is discussed regarding K3 and EK3. The responses of the EK3 question of participants are presented in Table 5. Of the participants, 94% claimed that they know the main reasons for the rapid spread of COVID-19 wherein 72% of participants provide an explanation. Coming to contact with affected people; cough or sneeze of affected people; lack of personal hygiene; lack of awareness; aerosol transmission, respiratory transmission; crew, gathering, meeting in the infected area; social contact are the primarily identified reasons from the response of participants. However, WHO also considered these are the main reasons for the rapid spread of COVID-19.⁸ A common feature of spreading this virus through hand is presented by National Health Commission of the People's Republic of China which is shown in Figure 3.¹⁴ However, by analyzing the responses it can be said that 72% of the participants have a basic idea about the main reason for spread but few don't have complete knowledge about it. Therefore health organizations and responsible authorities need to spread their awareness activities more.

PARTICIPANTS' KNOWLEDGE ABOUT THE MAJOR SYMPTOM OF COVID-19

This part is discussed regarding K4 and EK4. The responses of the EK4 question of participants are presented in Table 6. Of them, 94% have knowledge about the major symptom of COVID-19 wherein 80% of participants provide details of their knowledge. Coughs, fever, tiredness, problem in breathing, sneezing, respiratory distress, pneumonia, chest pain, fatigue are the identified symptom from the participant's response. However, the major symptom reported by WHO included common symptoms: Fever, tiredness, dry cough; other symptoms: shortness of

TABLE 3: Participants' knowledge about COVID-19.

Participants	Response of EK1 (Participants knowledge about COVID-19)
P1	"COVID-19 is an infectious disease caused by a new virus"
P2	"The virus which is born from others virus like SARS, Ebola, Malaria etc. and more stronger in spreading out from other"
P3	"Coronavirus disease (COVID-19) is an infectious disease caused by a new virus"
P4	"Have to safe yourself"
P5	"It is very much infectious virus"
P6	"It's a highly contagious virus, when enters human body causes respiratory symptoms"
P7	"It a virus that can spread very fast"
P8	"Coronavirus disease (COVID-19) is an infectious disease caused by a new virus"
P9	"Dangerous disease"
P10	" "
P11	"A natural bounce back to human injustice"
P12	"A harmful virus that can easily spread from people to people"
P13	"It is a very serious virus"
P14	"Contagious disease which is transmitted through droplet contact"
P15	"It's an airborne disease that affects the lungs"
P16	"Coronavirus disease (COVID-19) is an infectious disease caused by a new virus"
P17	"COVID-19 is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)"
P18	"It's a new virus which is contagious and people have still not found a vaccine to it"
P19	"It's a respiratory disease that causes fever, dry cough"
P20	It's dangerous
P21	"It's a virus spread by air and contamination with an affected person. It may cause death for people with respiratory disease. Old person are more fatal to this virus"
P22	"It's a contagious virus"
P23	" "
P24	"The symptoms of this virus are cough, fever and diarrhea. Can be sterilized at high temperatures. Everyone should wear N95 masks, wash your hands frequently, ventilate, and keep away from the crowd"
P25	"It is a virus transmitted through air and contact. Some people who have the virus will develop fever, sore throat, and diarrhea"
P26	" "
P27	"Face masks do not work against it and it is the cousin of SARS"
P28	" "
P29	" "
P30	"Pandemic"
P31	"COVID 19 symptoms are, fever, cough, sore throat and breathing problem"
P32	"A virus that spreads easily and infects the lungs"
P33	"I think it's a weapon virus"
P34	"Infectious disease caused by a new virus"
P35	"It is a highly spreading virus which causes serious respiratory problems"
P36	"It is an infectious disease caused by a new virus"
P37	" "
P38	" "
P39	" "
P40	"Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness"
P41	"It is a virus that can easily spread and affect people badly which also can lead to death"
P42	"This virus almost spread every country. It's can be affected one people to many people. Should use mask, gloves and wash hands with soap or hand sanitizer at least 20 sec when you feel, should maintain social distance and avoid gather"
P43	"It's a virus which is now become epidemic"
P44	"Coronavirus is a dangerous disease that has been spreading all over the world"
P45	"Coronavirus is an infectious disease that has no vaccine"
P46	"It is a harmful disease which has no remedy"
P47	"Coronavirus known as COVID-19 is an infectious disease caused by a new virus"
P48	"It's a flu and it creates respiratory problems"
P49	"COVID-19 virus is a new virus linked to the same family of viruses as Severe Acute Respiratory Syndrome (SARS) and some types of common cold"
P50	"COVID-19 virus also known as novel coronavirus is a new type of virus that can transfer from person to person"

TABLE 4: Participants' consideration about taking this virus risky.

Participants	Response of EK2 (Participants' consideration about taking this virus risky)
P1	"Because it is coming to a contact of an affected person directly or indirectly"
P2	"Still now no vaccines or medicines can be invented to mitigate it besides its death rate is so high"
P3	"The disease causes respiratory illness (like the flu) with symptoms such as a cough, fever, and in more severe cases, difficulty breathing"
P4	"It's really highly risk..."
P5	" "
P6	"It's a very risky virus because of its unprecedented contagiousness"
P7	"Because we don't know much about the virus much as scientists are saying that it can change its pattern very easily"
P8	"The government has not placed any restrictions on social gatherings or travels within effected countries and has not advised people without symptoms to isolate themselves to curb the coronavirus outbreak. However, some experts say that "social distancing" can play a role. So which weekend activities are most risky?"
P9	"Dangerous disease"
P10	" "
P11	"Plague"
P12	"The virus came from China and now spread all over the world, all most 170 countries are affected"
P13	" "
P14	"Highly contagious and fatal"
P15	"Yes because, without taking adequate care and protective coverage, one might lose his life"
P16	"Yes, because it kills people. And if the infected persons have weak immune system they have higher chance of mortality"
P17	"Yes, it's highly risky. It spreads from person to person very fast"
P18	"Because it effects lungs"
P19	"The mortality rate is very low. A large percentage of people recovered"
P20	"It's affected many people"
P21	"As it is a deadly virus and can spread very easily if someone get in touch with an affected person so it's a dangerous virus"
P22	"It's contagious, still there is no medicine for it"
P23	" "
P24	" "
P25	"There is currently no medicine to treat it, but only through auxiliary equipment and own immunity"
P26	" "
P27	"Death rate of 0.02% in people who are less than 50 years old is pretty mild"
P28	" "
P29	" "
P30	"Spread through surface and quickly"
P31	"Because it is effect in lung"
P32	" "
P33	"Because its nature is not always same in human body"
P34	"It spreads very quickly"
P35	"Take precautionary measures and use hot water"
P36	"Because it's contagious"
P37	" "
P38	"Since this COVID-19 virus is a spreading virus and also life threatening. In the whole world thousands of people are dying because of this virus"
P39	"Due to any cure invented yet"
P40	"Biologically, it behaves differently than the flu, although some symptoms are similar. It also has a higher potential to overwhelm our health care system and hurt people with other illnesses. At present, there is also no vaccine to combat it, nor any approved therapeutics to slow the course of its toll on the human body"
P41	"It can affect the whole nation"
P42	"Because it can be spread other people without touching"
P43	"Lot of deaths and still does not have any vaccine"
P44	"It can spread from person to person very easily"
P45	"It is risky because it has no vaccine and it spreads easily"
P46	"Because we don't know clearly how it spreads and it has no vaccine"
P47	"It is risky because any one can easily be affected and it has no known treatment"
P48	"A lot of people are dying in the world due to attack of this virus"
P49	"The virus can be easily spread, it has no vaccine. Sometimes, a person can carry this virus without showing any symptoms"
P50	"No vaccine is known for this virus that's why it is risky"

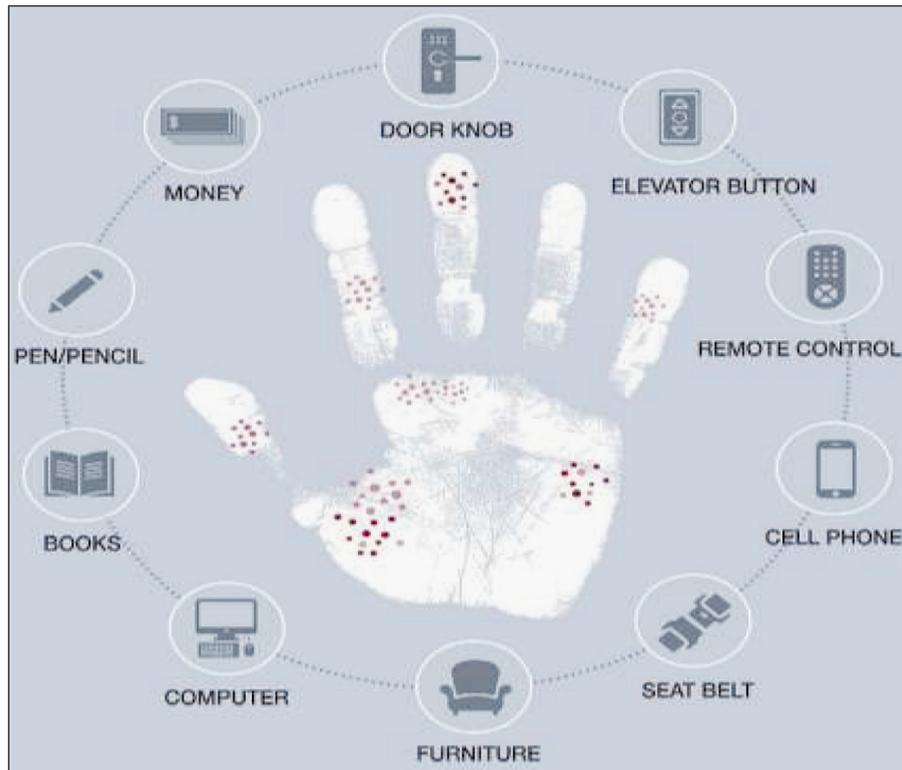


FIGURE 3: Spread of COVID-19 through hand.¹⁴

breath, aches and pains sore throat and very few people will report diarrhea, nausea or a runny nose.⁸ National Health Commission of the People's Republic of China also referred these symptoms. They also provided a percentage of the main symptoms based on the observation of several infected patients which is presented in Figure 4.¹⁴ Compared to the WHO and National Health Commission of the People's Republic of China's statement, the overall perceptions shared by participants are similar and also few participants required more knowledge.

PARTICIPANTS' KNOWLEDGE ABOUT THE SAFETY PROCEDURE AGAINST COVID-19

This part is discussed regarding K5 and EK5. The responses of the EK5 question of participants are presented in Table 7. Of the participants 92% have knowledge about safety procedures against COVID-19 infection whereas 78% provide an explanation of their knowledge. Washing hands repeatedly using soap, stay away from affected people, avoid mass gathering, avoid touching face, nose, and eyes without washing hand, use of face mask at outside of the

home, use tissues during a sneeze, maintenance social distance, use hand sanitizer and stay home or self-quarantine are the identified safety procedure from participant's response. The WHO also recommended these safety procedures against COVID-19. Similar safety procedure also provided by National Health Commission of the People's Republic of China which is presented in Figure 5.¹⁴ However, 74% have a clear idea about these issues.⁸

PARTICIPANTS' PRECAUTION AGAINST COVID-19

This part is discussed regarding K6 and EK6. The responses of the EK6 question of the participants are presented in Table 8. Of them, 96% said they have taken precaution against COVID-19 infection. Participants said they use a mask, wash their hands repeatedly by using soap and sanitizer, keep themselves in a hygienic environment, are staying at home, avoid going outside without any emergency, avoid handshakes, are keeping social distance, are maintaining home quarantine, pray to God, are avoiding touching metal, are wearing hand gloves as precautions against COVID-19. One participant stated to wear a medical

TABLE 5: Participants' knowledge on the main reasons for rapidly spread of COVID-19.

Participants	Response of EK3 (Participants knowledge on the main reasons for rapidly spread of COVID-19)
P1	"Coming to a contact of a affected person directly or indirectly"
P2	"From the contact of affected people and after a certain time second affected people affects others. That means a chain network follows"
P3	"Coronavirus disease spreads primarily through contact with an infected person when they cough or sneeze"
P4	"Man to man"
P5	" "
P6	"Human contact and untimely action to contain the spread"
P7	"People are not careful and a lot of people don't know the consequences"
P8	"COVID-19 is a respiratory virus, and, much like influenza and others in this category, it spreads when humans cough or sneeze out tiny droplets of mucus and saliva. If it lands on a hard surface like a doorknob or countertop, the virus can survive anywhere from a few hours to a few days. New research suggests that coronavirus particles may also be able to survive for a few hours in aerosol form, contained in smaller droplets suspended in the air. When you come into contact with a droplet, either by being in close proximity to a forceful sneezer or by touching a surface that said sneezer has touched with their sneezy hands, you can become infected. Though coronavirus can't be absorbed through your skin, it can enter your system when you touch your mouth, nose or eyes, or through a cut"
P9	"Touch"
P10	" "
P11	"Contaminated easily"
P12	"If we go near to the affected person or if we use something that was already used by the affected person, then it can spread"
P13	"Touch"
P14	" "
P15	"Lack of personal hygiene"
P16	"It is contagious and might spread by touching the surface where the virus is present. It might also spread by touching eyes, nose and mouth"
P17	"The best explanation for this rapid spread is that the virus is being passed through droplets from coughing or sneezing"
P18	"Because it is an airborne disease and it is through human contact"
P19	" "
P20	"Lack of awareness"
P21	" "
P22	" "
P23	" "
P24	"Contact spread. Aerosol transmission. Respiratory transmission"
P25	"Transmission of virus through aerosols and exposure"
P26	" "
P27	"People unaware of their hygiene"
P28	" "
P29	" "
P30	" "
P31	"Human to human by touch or upper respiratory fluid"
P32	"It spreads through contact with the person"
P33	"It's not a same position in human body"
P34	"The virus mainly spread from person to person who are close to one another"
P35	"Crew, gathering, meeting with other people"
P36	"Close contact"
P37	" "
P38	" "
P39	" "
P40	"The virus is passed through droplets from coughing or sneezing. When these virus-laden droplets from an infected person reach the nose, eyes, or mouth of another, they can transmit the disease"
P41	"The spread of water from the affected ones like cough, speak etc."
P42	" "
P43	"Social contact"
P44	"It can spread rapidly from direct contact of person with another person"
P45	"Close contact with a person who carry this virus"
P46	"Mainly direct contact with an infected person"
P47	"Coronavirus disease spreads primarily through contact with an infected person when they cough or sneeze. It also spreads when a person touches a surface or object that has the virus on it, then touches their eyes, nose, or mouth"
P48	"Not keeping the social distance and not maintaining personal hygiene"
P49	"The virus is transmitted through direct contact with respiratory droplets of an infected person (generated through coughing and sneezing), and touching surfaces contaminated with the virus. The COVID-19 virus may survive on surfaces for several hours, but simple disinfectants can kill it"
P50	"Whenever a person is in direct contact with an infected person, it can spread rapidly"

TABLE 6: Participants' knowledge about the major symptom of COVID-19.

Participants	Knowledge about the major symptom of COVID-19
P1	"Cough, fever, tiredness etc."
P2	"Main symptoms are cough and fever"
P3	"High temperature and continuous cough are the symptoms of COVID-19"
P4	"The symptoms are dry cough, problem in breathing, fever"
P5	" "
P6	"Cough, cold, fever, sneezing, respiratory distress"
P7	"Symptoms can include fever, cough and shortness of breath. In more severe cases, infection can cause pneumonia or breathing difficulties. More rarely, the disease can be fatal"
P8	"Symptoms vary from person to person but mainly high temperature and continuous cough"
P9	"Flue and cold symptoms, shortness of breath"
P10	" "
P11	"Mainly cough and fever. Sometimes tiredness and runny nose"
P12	"Cough and fever"
P13	"You will feel trouble in breathing"
P14	"Chest pain, breathing problem"
P15	"Pneumonia, fever, breathing difficulty"
P16	"Dry cough, breathing problem"
P17	"Pneumonia and flue like symptoms"
P18	"High temperature, shortness of breath"
P19	"First five days, difficulty in breathing and cough with fever. Hospitalization is not necessary up to five days"
P20	"Fever"
P21	"Continuous cough with fever"
P22	"Dry cough"
P23	" "
P24	"Fatigue, fever, cough, pneumonia"
P25	"High fever"
P26	"Fever, throat pain, cough running nose"
P27	"Tiredness and fever "
P28	" "
P29	" "
P30	"Fever, cough, breathing problem"
P31	" "
P32	"High temperature"
P33	" "
P34	"High temperature, cough"
P35	"Fever, fatigue, cough"
P36	"Cough"
P37	" "
P38	"Fever, chest pain"
P39	" "
P40	"Fever, pain, diarrhea"
P41	"Having a cough that gets more severe over time"
P42	"Fever"
P43	"Pain in the chest, mild fever, breathing problem"
P44	"Temperature above normal range"
P45	"Shortness of breath, fever"
P46	" "
P47	"Fever, fatigue"
P48	"Tiredness, cough, fever"
P49	"Low grade fever, pressure feeling, chest pain, cough"
P50	"Dry or any kind of cough"

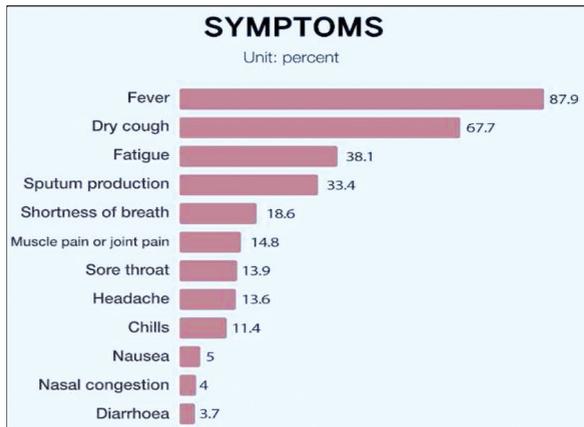


FIGURE 4: Main symptoms of COVID-19 by National Health Commission of the People's Republic of China.¹⁴

mask or N95 mask, wear disposable gloves, always wash hands and wash hands with alcohol, sterilize with alcohol spray, wash clothes, take a bath when returning from the outside. By doing these, he is taking precautions. Another participant stated, "I daily remind myself of the body and blood of Jesus which exempts me from any disease, I rest daily on God's promise of protection in times like this, and I minimized my listening to the news and sanitize my hands". Another participant mentioned "I wash my hands with the sanitizer after touching anything. I stay indoors so as to avoid crowded areas. I put on a face mask". However, by examining the response from participants, it is clear that the mentioned 96% of participants properly following the own safety procedure given by WHO to make them not affected by COVID-19.⁸ Additionally National Health Commission of the People's Republic of China recommended to consume supplements in the form of immune nutrients such as vitamin A, vitamin B- complex, vitamin C, vitamin E, vitamin D, zinc, selenium and copper that will support our body to fight against pathogens.¹⁴ The food chart by National Health Commission of the People's Republic of China for general people to fight against the spread of COVID-19 is presented in Figure 6.¹⁴ No participants mentioned about these vitamin or food items in their precautions list to make their immune system strong. Therefore, general people along with the participants of this study also need to follow this food chart to fight with this virus in initial stage.

PARTICIPANTS' MENTAL HEALTH CONDITION DUE TO COVID-19 OUTBREAKS

This part is discussed regarding K7. The responses of the K7 question of participants are presented in below Table 9. At the current COVID-19 breakdown situation, it is a simple matter that people get panic, depress and mentally weak. Therefore we set this question to our participants to know about the current mental situation. However, 90% of the participants responded regarding this issue wherein 51% stated that they feel depression and mental stress and 49% stated that they are feeling any depression or mental stress due to the COVID-19 outbreak. As a big group of people faces depression and mental illness, so, health organizations, responsible authority, and the government should take necessary steps to assist this group to fit mentally and depression-free in this critical situation.

In general, the questions of this study are chosen very common and simple basic questions about COVID-19 which assist general people to be more aware to study other people's perception and preparation in this current situation. As currently there is no significant vaccine or medicine of COVID-19 disease therefore awareness and self-safety are the main weapon against this virus. Authors believe that the perceptions of general people discussed in this study will be able to assist general people, health organization and concern authorities to minimize the spread rate of COVID-19. However, from the analysis, it is shown that almost 74% of the participants clearly describe and explain all the questions and still, 26% of the participants are not clear about their idea regarding COVID-19 disease. As this study identified few people who still are not properly aware and knowledgeable about the COVID-19 virus, therefore, health organization, government, responsible authority, media need to increase their awareness activities to minimize the spread rate of COVID-19 infection especially to those countries where this virus just start spreading. Additionally, a good number of participant's reported that they are suffering from mental stress and depression due to this outbreak, so health organizations and responsible authority should also focus on providing sufficient counseling to the general people to recover mental stress and depression.

TABLE 7: Participants' knowledge about the safety procedure against COVID-19.

Participants	Response of EK4 (Participants knowledge about the safety procedure against COVID-19)
P1	"Wash our hands repeatedly and stay little bit isolated"
P2	"To stay away from the affected people and since it is unseen so we should avoid mass gathering"
P3	"You can protect yourself by washing your hands frequently, avoiding touching your face, and avoiding close contact (1 meter or 3 feet) with people who are unwell"
P4	"Be cleaned, when u go out from home use face mask, hand groves, stay at home its more safe..."
P5	" "
P6	"Avoid human contact, gatherings, washing hands regularly, avoid touching face, use of tissues when sneeze, etc."
P7	"Maintenance of social distance, be neat and clean, washing hands with soap and wearing mask when go outside"
P8	"Though coronavirus can't be absorbed through your skin, it can enter your system when you touch your mouth, nose or eyes, or through a cut. We don't touch these kinds of part before we will wash our hands. Always need to use mask also need to clear. Stay at home. If you follow nobody will be affected or suffer"
P9	"Quarantine"
P10	" "
P11	" "
P12	"We have to make sure that we don't go around the affected people. We can protect ourselves by using mask, hand sanitation, also we don't have to go outside if not necessary"
P13	"Stay at your home and clean your hands. Don't touch your face. Use mask"
P14	"Social distancing and frequently washing hand"
P15	"Wash your hands with a sanitizer, put on a face mask and hand gloves afterwards, stay away from the crowd"
P16	"If we see any symptoms, we should self-quarantine ourselves for minimum 14 days. And also avoid crowded places. If possible we should be locked down"
P17	"Step-1. Clean hand with hand wash with alcohol based hand rub Step-2. Cover nose and mouth when coughing and sneezing with tissue or flexed elbow"
P18	"Have a strong immune system and keep a distance from people especially when you go outside"
P19	"Stay indoors, wash your hands regularly and observe social distancing"
P20	"Raise public awareness and clean"
P21	"Cleanliness and protection from contamination"
P22	"By keeping ourselves hygienic"
P23	" "
P24	"With mask. Stay away from the crowd. Wash your hands frequently. Frequent disinfection. Stay at home"
P25	"Wear a medical mask or N95 mask. Wear disposable gloves. Always wash your hands and wash your hands with alcohol. Best way is stay at home"
P26	" "
P27	" "
P28	" "
P29	" "
P30	"Wash your hands and keep social distance from others"
P31	"Wash hands often and properly hygiene maintain"
P32	"Stay home"
P33	"Only God save this matter"
P34	"Wash our hands frequently and avoid human contact or home quarantine is the possible way to keep ourselves safe"
P35	"Stay at home and keep safe distance and use mask"
P36	"Stay home, avoid crowded places and wash hand with soap, hand wash or sanitizer frequently"
P37	"Through social distancing and hand washing properly"
P38	" "
P39	" "
P40	"By using face mask, hand sanitizer, washing hands using hand wash etc."
P41	"Keep distance and avoid being in touch with the affected ones"
P42	" "
P43	"Avoid all social contacts"
P44	"We have to wash our hands, wear mask"
P45	"Wash hands, stay home, self-isolation, avoid appropriate distance"
P46	"Wash hands, avoid direct contact"
P47	"We have to be alert, avoid gathering, wash our hands"
P48	" "
P49	"We should wash hands properly, wear mask, avoid crowded places"
P50	"Avoid direct contact so that the virus can't attack us and try to remain in self-quarantine"

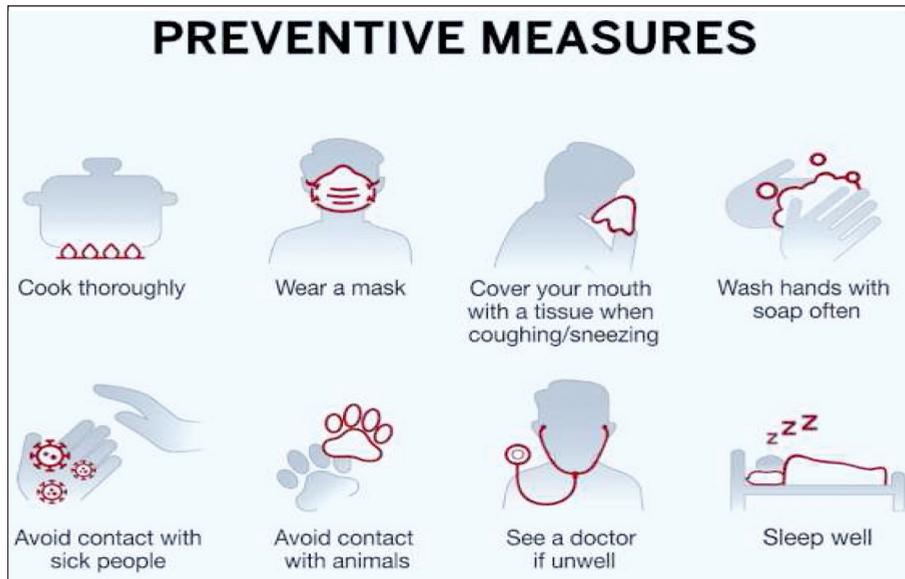


FIGURE 5: Safety procedure by National Health Commission of the People's Republic of China.¹⁴

CONCLUSION

Since the COVID-19 has become a global issue and no remedy, it is necessary to identify and improve the actual knowledge, awareness, and perception to control its spread. Based on the response from participants still few of them have not clear knowledge about COVID-19. Therefore more awareness activities from responsible authority are required. Moreover, this survey will facilitate healthcare organizations and responsible authority to design their awareness activities in this critical moment. Additionally general people also get benefited and prepared themselves to read the perceptions of individual participator.

Limitation of this study

Because of limitation of time we only considered 50 participants. If more participants were considered then more knowledge could be shared. Several disciplines or occupations participants might be more significant for this study. Additionally, face to face interview will be also effective to understand the perceptions of general people but unfortunately there is no such situation to conduct face to face interview.



FIGURE 6: Food chart for strong immune system by National Health Commission of the People's Republic of China.¹⁴

Declarations

The manuscript in part or in full has not been submitted or published anywhere. The manuscript will not be submitted elsewhere until the editorial process is completed.

Acknowledgement

The corresponding author wants to thank all the participants for their valuable responses.

TABLE 8: Participants' precaution against COVID-19.

Participants	Response of EK5 (Participants precaution against COVID-19)
P1	"Use mask & wash my hand repeatedly & avoid crowded place"
P2	"To keep me in a hygienic environment and keep me at home during spreading"
P3	"Staying at home"
P4	"Until make any treatment ...need to stay at home"
P5	" "
P6	"I avoid going outside home, wash my hand regularly, avoid handshakes etc."
P7	"I am remaining at home, don't go outside without any emergency"
P8	"You can protect yourself and help prevent spreading the virus to others if you: Do Wash your hands regularly for 20 seconds, with soap and water or alcohol-based hand rub Cover your nose and mouth with a disposable tissue or flexed elbow when you cough or sneeze Avoid close contact (1 meter or 3 feet) with people who are unwell Stay home and self-isolate from others in the household if you feel unwell Don't Touch your eyes, nose, or mouth if your hands are not clean"
P9	"Stay home"
P10	" "
P11	"Trying to follow the basic awareness; staying at home & keeping social distance"
P12	"Yes, now I'm always staying in my house. I maintain sanitation"
P13	"Washing hands, using mask"
P14	"Social distancing"
P15	"I wash my hands with the sanitizer after touching anything, I stay indoors so as to avoid crowded areas. I put on a face mask"
P16	"I use mask, and I try to maintain proper hygiene. I also use alcohol based sanitizer to prevent from this infection"
P17	"Regularly and thoroughly clean your hands with an alcohol-based hand rub or wash them with soap and water. Maintain at least 1 meter (3 feet) distance between yourself and anyone who is coughing or sneezing"
P18	"Always wash my hands, keep a distance from people and wash my whole body every time I come home from outside"
P19	"I daily remind myself of the body and blood of Jesus which exempts me from any disease, I rest daily on God's promise of protection in times like this, I minimized my listening to the news and sanitize my hands"
P20	"Clean"
P21	"I am keeping myself inside and maintaining a healthy lifestyle"
P22	"Self-quarantine"
P23	" "
P24	"Stay at home. Stay away from the crowd. Wear masks, gloves and goggles when going out"
P25	"Wear a medical mask or n95 mask. Wear disposable gloves. Always wash your hands and wash your hands with alcohol. Sterilize with alcohol spray, wash clothes, take a bath when returning from the outside"
P26	" "
P27	"I don't leave the house and I have a set of alcohol sanitizers ready for when I order groceries"
P28	" "
P29	" "
P30	" "
P31	"Social distance and do not touch metal"
P32	"Stay home"
P33	"Stay at my house"
P34	" "
P35	"Staying at home"
P36	"Staying home"
P37	" "
P38	"Need to wash hand properly. Must need to use mask. Keep a minimum distance from the people around. Try to be neat and clean. Wash food properly. Boiled your food properly."
P39	" "
P40	"By using face mask, hand sanitizer, washing hands using hand wash etc."
P41	"Stay at home"
P42	"Avoid public gather, maintain social distance n wash hand by soap"
P43	"I am maintaining home quarantine since January 2020"
P44	"Always try to neat and clean, try to wash hand frequently"
P45	"Wash hand frequently, wear mask and globe"
P46	"Stay home, avoid gathering places, wash hand"
P47	"I have keep myself in self-isolation"
P48	"I am staying at home and working from home"
P49	"I have tried to keep myself in self-isolation"
P50	"self-quarantine, wash hand"

TABLE 9: Participants' mental health condition due to COVID-19 outbreaks.

Participants	Response of K6 (Participants response on mental health condition)
P1	"No"
P2	"Yes. As it is a world's epidemic and thousands of people are going to die and no medicines have invented yet"
P3	"No"
P4	"Yes"
P5	" "
P6	"Yes"
P7	"No"
P8	"Yes"
P9	"Yes"
P10	" "
P11	"Yes, anxious and stressed"
P12	"No, Alhamdulillah"
P13	"No"
P14	"Sometimes, yes"
P15	"No"
P16	"Yes"
P17	"I'm depressed due to the spread of covid-19"
P18	"Yes"
P19	"No"
P20	"Yes"
P21	"Yeah"
P22	"Yes"
P23	" "
P24	"No. Because it has been felt in advance in China"
P25	"No"
P26	"No"
P27	"Nope it's going well"
P28	" "
P29	" "
P30	"No"
P31	"No, not yet"
P32	"A bit"
P33	"Yes. Always I feel depression"
P34	"Of course"
P35	"No"
P36	"No"
P37	"Yes"
P38	"Currently I am very scared of this Covid-19"
P39	"Yes"
P40	"Yes. I'm concerned for the safety of people"
P41	"Not yet"
P42	"No"
P43	"Yes"
P44	"Yes, a little bit"
P45	"No"
P46	"No"
P47	"No"
P48	"Yes"
P49	"Not at all"
P50	"Yes"

Author Contributions

First and second authors developed the questionnaires and collected responses from the participants. All authors discussed the results and contributed to the final manuscript.

Ethical Considerations

Confidentiality of the study participants' information was maintained throughout the study by making the participants' information anonymous and asking the participants to provide honest answers. Eligible participant's participation in this survey was voluntary and was not compensated. Informed consent was obtained from each participant prior to participation. The study was performed following the Helsinki Declaration as revised in 2013. The study was conducted following the Checklist for Reporting Results of Internet E-Surveys (CHERRIES) guidelines. Moreover, all the collected data through this survey is inserted in result and discussion section.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a com-

pany that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Md Insiat Islam Rabby, Farzad Hossain; **Design:** Md Insiat Islam Rabby, Farzad Hossain; **Control/Supervision:** Farzad Hossain; **Data Collection and/or Processing:** Md Insiat Islam Rabby, Farzad Hossain; **Analysis and/or Interpretation:** Md Insiat Islam Rabby, Farzad Hossain; **Literature Review:** Md Insiat Islam Rabby, Farzad Hossain; **Writing the Article:** Md Insiat Islam Rabby, Farzad Hossain, Israt Jahan Akhi, S.A.M. Shafwat Amin, Ayman Khan; **Critical Review:** Md Insiat Islam Rabby, Farzad Hossain.

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