Faculty of Medicine

University of Dhaka

LEVEL OF DEPRESSION, ANXIETY AND STRESS AMONG COVID-19 PATIENTS AT SAVAR

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We the undersigned certify that we have carefully read and recommended to the Faculty of Medicine, University of Dhaka, for acceptance this dissertation entitled

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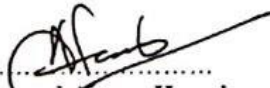
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DECLARATION

This work has not previously been accepted in substance for any degree and isn't concurrently submitted in candidature for any degree. This dissertation is being submitted in partial fulfillment of the requirements for the degree of B.Sc. in Physiotherapy.

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Acknowledgment

Acronyms

AR	Attack Rate
ARDS	Acute Respiratory Distress Syndrome
BHPI	Bangladesh Health Professions Institute
BMRC	Bangladesh Medical Research Council
COVID-19	Coronavirus Disease - 2019
CPS	Clicks Per Second
CRP	Centre for the Rehabilitation of the Paralysed
DASS	The Depression, Anxiety and Stress Scale
DSM	Diagnostic and Statistical Manual
DU	University of Dhaka
HADS	Hospital Anxiety and Depression Scale
ICD	International Classification of Diseases
ICU	Intensive Care Unit
IRB	Institution Review Board
MERS	Middle East Respiratory Disease
PTSD	Post-Traumatic Stress Disorder
Sars-Cov-2	Severe Acute Respiratory Syndrome Coronavirus 2
SD	Standard Deviation
SPSS	Statistical Package for the Social Sciences
VOC	Variants of Concern
WHO	World Health Organization

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Abstract

Purpose: The purpose of this study was to explore the level of depression, anxiety, and stress and determine their association with sociodemographic among COVID-19 patients at Savar. **Objectives:** To identify the level of depression, anxiety, and stress among COVID-19 patients at Savar. **Method:** The study design was cross-sectional. A total of 102 samples were selected conveniently for this study from the Savar Upazila, Savar, and Dhaka. Data was collected by using a questionnaire, and the DASS 21 Scale. Descriptive statistics using SPSS software version 22.0 were used for data analysis. **Result:** In this study, the mean age of the participants was (33.07 ± 11.33) years. Females were about 37.3% (n = 38) and males were about 63% (n = 62.7). Among the participants, 35.3% had moderate depression, 18.6% had mild depression, and 17.6% had severe level of depression. Among the participants, 33.3% had severe anxiety, 30.4% had moderate anxiety, and 16.7% had extremely severe anxiety. Among the participants, 35.3% had mild stress, 22.5% had moderate stress, and 22.5% had less mild stress. The researcher found P-Value of age , education, family member, isolation, how long in isolation, admitted to the hospital, diagnosed COVID 19 in the family, admit in ICU are less than 0.05 which means this are significant with depression. The researchers discovered a link between occupations, admitted to the hospital are correlated with anxiety. And get association between monthly-income, received treatments with stress.**Conclusion:** This study provides a snapshot for level of depression, anxiety, and stress among COVID-19 patients. Here, researchers tried to find out the relation between depression, anxiety, and stress with some sociodemographic factors, and the result was that there were some relations between them, which were supported by some other studies.

Key words: COVID-19, Depression, Anxiety, Stress.

Word count: 10107

1.1 Background

COVID-19, formerly known as severe acute respiratory syndrome coronavirus 2, is a novel coronavirus illness (SARS-CoV-2). COVID-19, a novel coronavirus disease, is linked to a respiratory infection that can develop to severe pneumonia and acute respiratory distress syndrome (ARDS). COVID-19, while linked to SARS and the Middle East respiratory disease (MERS), has several unique pathogeneses, epidemiological, and clinical characteristics that are still unknown (Petrosillo et al., 2020). The first cases of Corona Virus Disease 2019 (COVID-19) were discovered in late December 2019 in Wuhan, China (Li et al., 2020). It emerged as a cluster of inexplicable pneumonia cases. The prevalence of this illness was labeled a public health emergency of worldwide significance by the World Health Organization's(WHO) general director a month later (Speth et al., 2020).

The WHO (WHO, 2020) reported a total of 3,090,445 COVID-19 confirmed cases and 217,769 confirmed fatalities as of April 30, 2020. By that time, the COVID-19 has touched 213 countries, regions, or territories. The virus's fast spread throughout the world has compelled local and national governments to adopt extraordinary efforts to mitigate the pandemic's impact (Prem et al., 2020). Active surveillance for suspected cases, self-isolation or social distance, travel and transit limitations, and even border closures were among the measures (Anderson et al., 2020). The Chinese government was quick to respond to the outbreak, and three weeks into it, it took an extraordinary step to slow the spread of the virus by imposing a lockdown on Wuhan on January 23rd, as well as travel restrictions (Nie et al., 2021).

Anxiety and depression symptoms were observed to be prevalent among COVID-19 hospital patients. Anxiety feelings were more prevalent in those with greater somatic symptoms and poor sleep quality (Mukherjee et al., 2021). Females, patients with COVID-19 in their family, and patients with higher present physical complaints were all more susceptible to depressive symptoms. The worse the sleep quality, the more severe the anxiety and depression symptoms (Dai et al., 2020).The novel coronavirus disease 2019

(COVID-19) pandemic is quickly spreading across Bangladesh. On March 8, 2020, the first case of COVID-19 in Bangladesh was verified. In the first two months, Bangladesh's total COVID-19 attack rate (AR) increased slowly but steadily (Banna et al., 2021). However, since the beginning of the third month, the virus's propagation has been significantly expanding. The average AR for the first month (7th April) was just 1.0 per million people, rising to 73.6 in the second month (7th May), 389.5 in the third month (7th June), and 998.8 in the fourth month (7th July) (DGHS, 2020).

As of November 13, 2020, there were 4, 28,965 COVID-19 positive cases. In these documented cases, fatality rates have been reported to be as high as 1.3 percent of those affected. (Hossain et al., 2021). As the report of WHO weekly update the 1,578,550 confirmed cases; 28,016 death at Bangladesh, 34,648,383 Confirmed Cases; 473,757 Total Deaths at India, 1,287,703 confirmed cases; 28,793 death at Pakistan and Whole World 265,713,467 Confirmed Cases; 5,260,888 Deaths as up to 8 December 2021 (WHO, COVID-19 Situation Update ED- 97, 2021). Following the classification of the Alpha, Beta, Gamma, and Delta variations as Variants of Concern (VOC) by WHO, Omicron is the fifth SARS-CoV-2 variant to be identified as a VOC. The first laboratory-confirmed case of Omicron was discovered in a sample collected in South Africa on November 9, 2021, with the variation being reported to WHO on November 24 (WHO, COVID-19 Situation Update ED- 97, 2021).

Infectious disease epidemics, such as Ebola virus disease and severe acute respiratory syndrome, are linked to not just physical sickness but also psychological discomfort and mental illness symptoms (James etal., 2019). While much clinical and academic attention has been paid to the physiological consequences of the new coronavirus, the virus's psychological repercussions on infected individuals should also be examined (Li et al., 2020). As the earlier SARS and MERS epidemics shown, viral infections and subsequent isolation and quarantine can swiftly result in sleep problems, anxiety, and depressive episodes. 11 For example, 70.8 percent of MERS patients had mental symptoms, and 41.7 percent obtained a definite psychiatric diagnosis and treatment during their hospital stay (Kim et al., 2018).

However, the psychological impact of the COVID-19 pandemic may exceed that of previous coronavirus outbreaks due to the rampant spread of misinformation enabled by social media, as well as its colossal scale, which overextended healthcare workers and resulted in a shortage of critical supplies such as ventilators. 15 Additionally, prior research has established that hospitalization in intensive care units (ICUs) and the use of mechanical ventilation are both associated with the development of acute mental symptoms (Sommer et al., 2020). According to the Turner AI, 2020 prospective research, and psychological distress is a predictor of future health and illness outcomes (Turner et al., 2020).

Preliminary research shows that COVID-19, like other infectious illnesses, produces widespread fear and mental health stress; anxiety and depression are prevalent psychological reactions to the COVID-19 pandemic and may be linked to sociodemographic characteristics and sleep quality (Zhou et al.,, 2020). COVID-19 has wreaked havoc on health-care systems and economic growth, as well as having a substantial influence on people's physical and mental wellbeing. Isolation, economic distress, pressure on health professionals, inequities in access to care, and discrepancies in results based on socioeconomic position have all contributed to reactive anxiety, depression, and even suicide attempts among the general public in this scenario (Rajkumar , 2020).

The Depression, Anxiety, and Stress Scale was used to assess mental health (DASS-21). With 21 items, Lovibond devised and validated this questionnaire in 1995 to evaluate psychological distress in a community (Lovibond et al., 1998). DASS-21 is a one-of-a-kind, easy-to-use, and certified device. Both for evaluating depression, anxiety, and stress in both clinical and community settings. The DASS is a quick screening tool that uses a 21-item self-report questionnaire to assess depression, anxiety, and stress.

Seven questions are evaluated for each disease, and the cumulative score of the questions connected to it determines the final score. Each question was graded on a Likert scale ranging from 0 (did not apply to me at all/never) to 3 (applied to me frequently/almost

usually). Based on a unique categorization scoring method, higher scores indicated a higher level of dysfunction. Based on their replies, people were classified as normal, mild, moderate, severe, or extremely severe (Beaufort et al., 2017).

1.2 Rationale

The pandemic of COVID-19 has had far-reaching repercussions. Anxiety sensitivity, for example, might be a key aspect in understanding how people feel COVID-19-related dread, despair, and anxiety. The emergence of a new coronavirus (COVID-19) at the end of December 2019 has impacted the entire planet. The present epidemic has also resulted in several psychological effects. Changes in people's lives have a major influence on anxiety as well as sadness. When it comes to children, though, the situation may be different. Comparison between various patient groups and healthy people persons owing to the pandemic's unknowns. During the epidemic, on the other hand, healthcare systems were in danger of failing. Patients were divided into groups and assigned a priority for urgent or delayed hospitalization. These measurements heightened the patients' anxiety, which was already high due to their anxieties about the COVID. There is no study to identify the level of depression, anxiety, and stress among COVID-19 patients at Savar. The intend of the study is to know about the level of depression, anxiety, and stress among COVID-19 by the use of the "Depression, Anxiety, and Stress Scale - 21 Items (DASS-21)". Finally, as a result of this study, responsiveness will be improved, and the ability to offer appropriate advice or suggestions, which will be beneficial to COVID-19 patients, will be enhanced.

1.3 Research Question

What are the level of depression, anxiety, and stress among COVID-19 patients at Savar?

1.4 Aim of the study

To explore the level of depression, anxiety, and stress among COVID-19 patients at Savar.

1.5 Objectives

1.5.1 General Objective

To identify the level of depression, anxiety, and stress among COVID-19 patients at Savar.

1.5.2 Specific Objective

1. To determine the socio-demographic characteristics of the COVID-19 patients.
2. To identify the level of depression among COVID-19 patients.
3. To generate the level of anxiety among COVID-19 patients.
4. To epistle the level of stress among COVID-19 patients.

1.6 Conceptual framework

| Independent variable |

| Dependent variable |

Sociodemographic

Name
Age
Sex
Marital status etc…

Covid-19 related

information

The Depression,

Anxiety and Stress

Scale (DASS-21)

Level of Depression, Anxiety and Stress
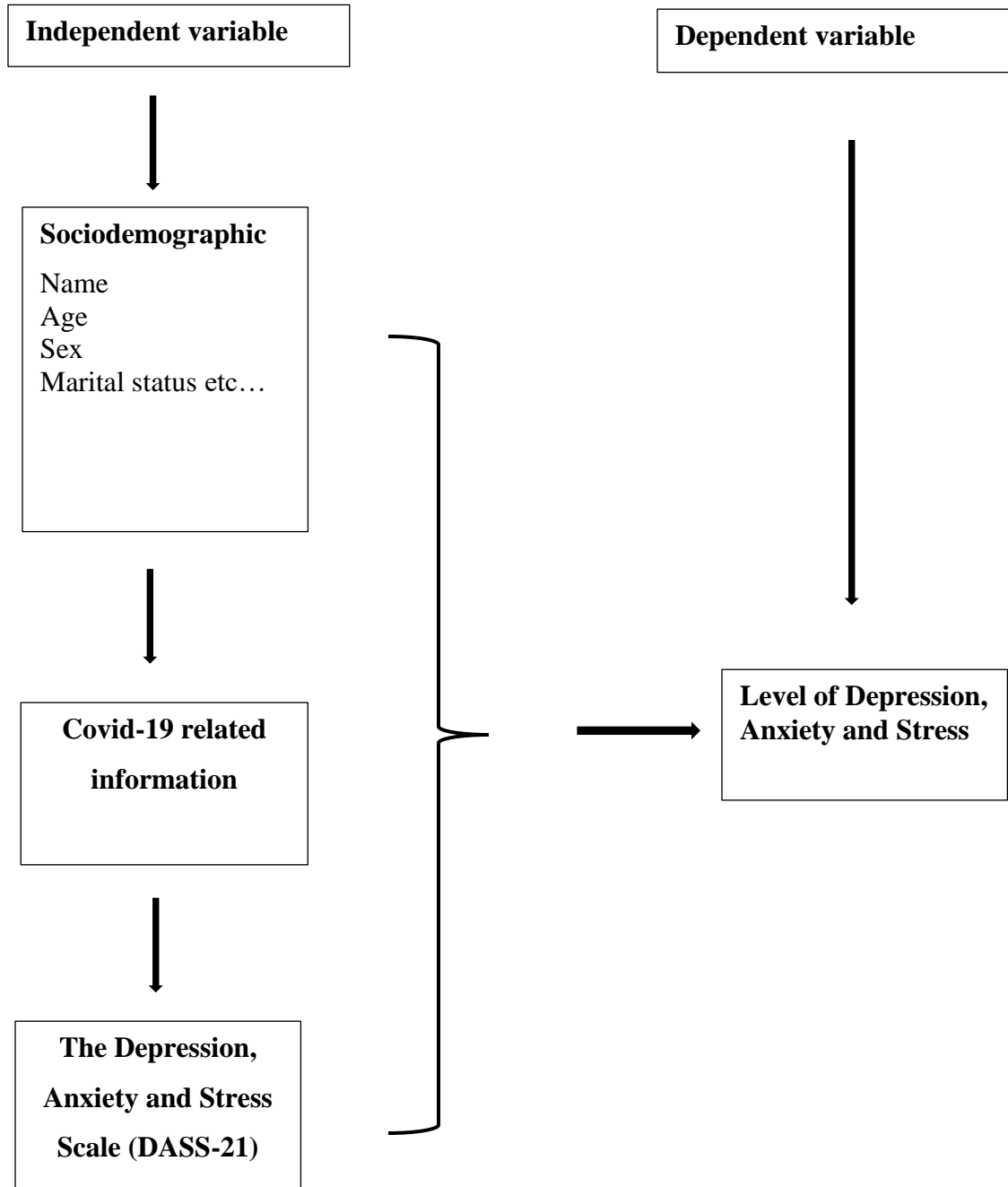
1.7 Operational Definition

COVID-19

The disease COVID-19 is caused by SARS-CoV-2, a coronavirus that first appeared in December of this year.

Depression

Depression (major depressive disorder) is a widespread and significant medical condition that harms how you feel, think, and behave. It is also, thankfully, curable. Depression produces unhappiness and/or a loss of interest in previously appreciated activities.

Anxiety

Anxiety is a state of mind marked by tense sensations, concerned thoughts, and physical changes such as elevated blood pressure. Anxiety disorders are characterized by recurrent intrusive thoughts or concerns.

Stress

The sensation of being overwhelmed or unable to deal with mental or emotional strain is known as stress.

DASS 21

The Depression, Anxiety, and Stress Scale - 21 Items (DASS-21) is a collection of three self-report measures that assess depression, anxiety, and stress. Each of the three DASS-21 scales has seven items that are grouped into subscales that have comparable content. Dysphoria, despair, devaluation of life, self-deprecation, and lack of interest/participation, anhedonia, and lethargy are all assessed on the depression scales.

Coronavirus disease-2019 (COVID-19) is a novel virus that causes a respiratory infection. The World Health Organization designated the COVID-19 outbreak a public health emergency on January 30, 2020. The World Health Organization labeled the COVID-19 outbreak a pandemic on March 12, 2020 (Rogers et al., 2020). There have been roughly 2,954,222 confirmed cases and 202,597 COVID-19-related fatalities worldwide, according to the WHO. An international health emergency has arisen. By June 6, 2020, COVID-19 had infected almost 7 million individuals throughout the world. More than 400,857 people died in 213 nations (Mahase , 2020). COVID-19 has been studied in a number of trials to see how it affects individuals with chronic conditions. The CFR for cardiovascular disease patients was 10.5 %, 7.3 % for diabetes, 6.3 % for chronic respiratory syndrome, and 6 percent for hypertension, according to a review of 72.314 cases in China, while the CFR for the general population was 2.3 percent (Wu et al., 2020).

The COVID-19 situation in Bangladesh is rapidly deteriorating. In an effort to prevent the epidemic, the Bangladeshi government shuttered all educational institutions and governmental and commercial workplaces on March 16, 2020. Public gatherings were also prohibited (WHO 2020c), as was travel from countries with a high risk of transmission, such as China, Iran, and Italy. Despite these efforts, COVID-19 is expected to reach all 64 administrative districts in Bangladesh by July 1, 2020, resulting in around 145,000 illnesses and 1,874 fatalities (IEDCR, 2020).

SARS-CoV-2 has a lot in common with earlier coronaviruses that can infect humans, like SARS-CoV and MERS-CoV, which were responsible for the SARS and MERS outbreaks in 2003 and 2012, respectively. However, preliminary research suggests that SARS-CoV-2 may be more transmissible than prior coronaviruses (Wang et al., 2020). SARS-CoV-2 has a lot in common with earlier coronaviruses that can infect humans, like SARS-CoV and MERS-CoV, which were responsible for the SARS and MERS outbreaks in 2003 and 2012, respectively. However, preliminary research suggests that SARS-CoV-2 may be

more transmissible than prior coronaviruses (Petersen et al., 2020).As a result, COVID-19 has swiftly become a global pandemic, as the World Health Organization stated on March 11, 2020. There have been almost 25 million confirmed cases and 800,000 deaths in over 200 countries since its discovery (Dykes et al., 2020).

Man is a social species, and his survival depends on his ability to form and maintain social bonds. The unique Corona virus and containment efforts offered such a barrier to interpersonal and communal connections that social relations were significantly disrupted as a result of social alienation and isolation. These social ties, interactions, and relationships have formed an important part of our lives since the dawn of humanity (Kang et al., 2020). So, if there isn't such a connection, it may lead to stressful states of loneliness, anxiety, despair, mental diseases, health risks, and a slew of other concerns that affect both the person and society as a whole. COVID-19-related public health issues are wreaking havoc on the population's mental health and causing an increase in psychological crises. COVID-19-related public health problems are wreaking havoc on people's mental health and leading to an upsurge in psychological crises (Liu et al., 2020).

While much clinical attention and study has been focused on treating the physiological consequences of the new coronavirus, affected individuals' psychological affects should also be considered (Prem et al., 2020). As the previous SARS and MERS outbreaks demonstrated, viral infections and subsequent isolation and quarantine can quickly result in sleep disturbances, anxiety, and other psychiatric symptoms. For example, 70.8 percent of patients had psychiatric symptoms, and 41.7 percent received a definitive psychiatric diagnosis and medication during their hospital stay (Kim et al., 2020).

Despite the necessity of treating COVID-19 patients with psychiatric illnesses, existing research on the incidence of psychiatric disorders in infected patients is inadequate and uncertain (Speth et al., 2020). Delirium was observed to be prevalent in patients with acute stages of COVID-19, according to an early review paper published by Rogers et al. synthesizing mental and neuropsychiatric symptoms related with SARS, MERS, and the COVID-19 outbreaks. However, due to a paucity of published data, the prevalence of other

psychiatric diseases such depression, anxiety, and sleep problems was not assessed (Rogers wt al., 2020).

COVID-19 patients are likely to develop depression, anxiety, and sleep disturbances, according to recent case reports and observational studies, and these disorders should be properly diagnosed and treated by clinicians to improve prognosis, reduce length of stay, and avoid long-term mental health issues (Hossain et al., 2020). We conducted a systematic review and meta-analysis to assess the prevalence of depression, anxiety, and sleep disturbances in COVID-19 patients in order to build a comprehensive picture of the pandemic's impact on COVID-19 patients' mental health, as well as to raise awareness for the importance of psychiatric screening and treatment in COVID-19 patients (Fu et al., 2020).

People's lives, as well as many elements of the global, public, and private economies, have been significantly impacted by the swiftly changing scenario. Massive cutbacks in both supply and demand parts of the economy were ordered by governments throughout the world as a result of the COVID-19 pandemic, causing declines in tourism, aviation, agriculture, and the financial industry (Nicola et al., 2020). Suicide and mental illnesses linked to suicide are expected to rise as a result of the viral outbreak's uncertainties and concerns, as well as widespread lockdowns and the economic downturn. According to McIntyre et al., (2020b), the number of suicide cases in Canada connected with joblessness is expected to rise from 418 to 2,114. In addition to the United States, Pakistan, India, France, Germany, and Italy, the above finding (i.e., growing suicide trajectory) was also recorded in the United States, Pakistan, India, France, Germany, and Italy (Mamun et al., 2020). Separate studies have found an increase in psychological discomfort in the general population, those with mental illnesses, and healthcare staff (Huang et al., 2020). Taken together, there is an urgent need for more public mental health attention and policy to help individuals get through this difficult period.

According to a pilot investigation, patients who had COVID-19 infection had a higher incidence of depression (29.2%), whereas the prevalence of anxiety was not significantly

different amongst the three groups (Li et al., 2020). When compared to those in quarantine, there were trends for a greater incidence of depression coupled with anxiety in both COVID-19 infected individuals (21.1%) and the general population (22.4%). Both COVID-19 infected patients (19.3%) and the general population (14.3%) exhibited a higher proportion of severe depression symptoms. Anxiety-like behavior, such as getting quickly upset or irritated, was seen in the general population and COVID-19 patients (Zhang et al., 2020).

The COVID-19 situation in Bangladesh is rapidly deteriorating. In an effort to prevent the epidemic, the Bangladeshi government shuttered all educational institutions and governmental and commercial workplaces on March 16, 2020 (Banna et al., 2021). Public gatherings were also prohibited (WHO 2020c), as was travel from countries with a high risk of transmission, such as China, Iran, and Italy. Despite these efforts, COVID-19 is expected to reach all 64 administrative districts in Bangladesh by July 1, 2020, resulting in around 145,000 illnesses and 1,874 fatalities (IEDCR 2020).

As of midnight on May 3rd, there were 37,776 cases on file. Approximately 37,000 additional instances have been registered throughout the lockdown period. There have been 1,223 fatalities and 10,017 recoveries thus far (Mohfw, 2020). According to a study conducted by a group of Chennai-based researchers, one COVID-infected patient in the second week of April infected on average of 1.58 individuals, compared to 1.83 the previous month. COVID 19 has an estimated R0 of 2.4 in the absence of any containment measures (Mukherjee et al., 2021).

A total of 1,427 people were surveyed in a cross-sectional research, and their mental health was measured using the DASS-21 scale. Anxiety and depressed symptoms were recorded by 33.7 percent and 57.9% of respondents, respectively, while 59.7% expressed medium to extremely severe stress levels. Poor mental health outcomes were substantially connected with perceptions that the pandemic interrupted life events, impacted mental health, jobs, the economy, and education, projections of a deteriorating situation, and uncertainty about the health-care system's capacity (Banna et al., 2020).

One of the most difficult obstacles for specialists working to mend patients who are afraid of the sickness is the lack of an appropriate therapy. Anxiety, sleeplessness, despair, irritability, and hysteria are all common side effects of this dread (Shigemura et al., 2020). The insecurity of a safe workplace, irritation, sleeplessness, depression, demoralization and a lack of time to relax, in addition to tiredness due to a growing number of cases, may all contribute to the psychological suffering of health professionals. Many studies have found that front-line healthcare workers who are exposed to and involved in the diagnosis and treatment of COVID-19 patients are more vulnerable than those who are not (Lu et al., 2020).During the COVID-19 pandemic, health care workers noticed various mental issues, as well as increased risk factors for acquiring those (Zhang et al., 2020a).

Thais had the highest mean IES-R and DASS-21 anxiety, depression, and stress levels, according to a multi-national survey among seven Asian MICs. Şenışık et al., (2021) estimate that in the IES-R and DASS-21 anxiety, depression, and stress measures, however, the Vietnamese had the lowest mean scores. Age under 30, a strong educational background, being single or separated, prejudice by other nations, interaction with persons who have COVID-19, and concerns about COVID-19 are all risk factors for poor mental health. Male gender, staying with children, staying with 6 or more people, employment, trust in one's doctor diagnosing COVID-19, high perceived likelihood of surviving COVID-19, spending less time on health information, hand hygiene practice, and wearing a face mask are all protective factors for mental health (Wang et al., 2021).

Through one research, women had higher levels of melancholy, anxiety, and health anxiety, indicating that the psychological impact of the COVID-19 pandemic may be stronger on women. Anxiety disorders and depressive disorders are more common in women, according to several previous studies. Following pandemics, female gender has been found to be the most powerful predictor of PTSD symptoms (Liu et al., 2020).6 percent of the population scored over the depression cut-off point, and 45.1 percent scored above the anxiety cut-off point on the HADS. Female gender, living in cities, and previous psychiatric illness history were found to be risk factors for anxiety; living in cities was

found to be a risk factor for depression; and female gender, accompanying chronic disease, and previous psychiatric history were found to be risk factors for health anxiety in regression analysis (Özdin et al., 2020).

In China, Spain, Italy, Iran, the United States, Turkey, Nepal, and Denmark, relatively high rates of anxiety (6.33 percent to 50.9 percent), depression (14.6 percent to 48.3 percent), post-traumatic stress disorder (7 percent to 53.8 percent), psychological distress (34.43 percent to 38 percent), and stress (8.1 percent to 81.9 percent) were reported in the general population during the COVID-19 pandemic. Female gender, younger age group (under 40 years), presence of chronic/psychiatric disorders, unemployment, student status, and frequent exposure to COVID-19-related social media/news are all risk variables linked with distress measures (Xiong et al., 2020).

COVID-19 is likely to have had a major negative influence on the psychological well-being of critical care personnel, with almost a third (29.8%) indicating a significant or serious mental health impact. According to a research, 27.5 percent of critical care employees experienced mild to moderate symptoms. COVID-19 is likely to have had a major negative influence on the mental health of intensive care professionals, with nearly a third (29.8%) indicating a significant or extreme effect on their mental health (Kang et al., 2020). According to a research, 27.5 percent of critical care professionals reported moderate or fairly severe depressive symptoms, with 6.1 percent having severe depression. These findings are similar to those of a Wuhan research that indicated 22.4 percent of nurses and doctors had moderate depression symptoms and 6.2 percent had severe symptoms. In a survey of Chinese healthcare professionals, 18 percent of those working 'on the frontlines' experienced at least significant depression, compared to 33.6 percent in the previous research (Dykes et al., 2021).

CHAPTER-III	METHODOLOGY

3.1. Study Design

A cross-sectional descriptive study was performed with structured questionnaires and interviews were conducted with persons having COVID-19 positive. This study design was appropriate to find out the objectives. The data was collected all at the same time or within a short time frame. This study aimed to find out the relationship between socio-demographic status and level of depression, anxiety and stress among COVID-19 patient. For this reason, the type study was chosen Cross-sectional study. In the case of the cross-sectional study, the most important advantage was it needs less time and it is also cheap as there was no follow up, fewer resources required running the study (Nagendrababu et al., 2020).

The defining characteristics of a cross-sectional study are that it can evaluate different population groups at a single point in time and the findings are drawn from whatever fits into the frame. It allows researchers to compare many different variables at the same time for example, we can look at age, gender, income, and educational status about walking.

The researcher was choose the quantitative survey method to carry out the research aim and objectives because the quantitative methods are appropriate if the issue is known about, relatively simple and unambiguous. The purpose of quantitative research is theory testing to establish facts, show causal explanations and relationships between variables, allow prediction. Quantitative research designs are predetermined and structured and do not change during the study. Quantitative research studies answered specific research questions by producing statistical evidence to prove a point. A Quantitative design, a cross sectional study was conducted for identify the level of depression, anxiety, and stress among COVID-19 patients at Savar in-between. The researcher will try to identify the correlation between the dependent variable and independent variable. To find these questions answer cross sectional study is the best to collect information from large data.

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3.2. Study site

The researcher was collected data from the Savar Upazila, Savar, and Dhaka. Researcher calls the participants by mobile phoning and meet with them in selected areas. All the people with COVID-19 which were selected for this study and that fulfilled the inclusion criteria. Researcher was explained every participant about the research aim and objectives. Researcher was take sampling from those who willingly participated in this research.

3.3. Study Population

A population refers to the members of a clearly defined set or class of people, objects or events that are the focus of the investigation. The criteria of study populations were determined from a literature review and the goals for the study. Selection criteria were established gradually, as the assumptions and theoretical base of the study unfold. The study populations were the patients who were affected in COVID-19.

3.4. Sample size

It is very difficult to establishing the best size of sample since this decision depends very largely on the investigator which is being undertaken. Statistical studies are always better when they are carefully planned. In the study, sample must be adequate in size, relative to the goals of the study. Study sample must be "big enough" that an effect of such magnitude as to be of scientific significance will also be statistically significant.

$$n = \frac{z^2 pq}{d^2}$$

$$= \frac{(1.96)^2 \; x \; 0.56 \; x \; 0.6}{(0.05)^2}$$

$$= \frac{3.841 \; x \; 0.56 x \; 0.5}{0.0025}$$

$$= 384.5$$

Here, Z (confidence interval) = 1.96

P (prevalence) =0.56 (Raquib, 2022)

And, q = (1-p)

= (1-0.5)

= 0.5

d= 0.05

The actual sample size was, n= 384(384.5)

The actual sample size for this study is calculated as 384. As this study performs as a part of the academic research project and there are time frame limitations, the higher number of samples is difficult to achieve. So, 102 COVID-19 positive patients were taken as the sample for this study.

3.5 . Sampling technique

Convenience sampling technique is used for easy to access a particular subset of people from large population. Researcher chooses this sampling method as it is the ability to gather large amounts of information by using a range of different techniques. This variety will, in turn, give a better cross-section of information. Beside this it is less time consuming compared to many other sampling methods because suitable candidates are targeted. And results of convenience sampling technique are usually more representative of target population compared to other sampling methods. Participants were selected from Savar Upazila because they were easily accessible for the researcher. Convenience sampling technique targets a particular group of people. The samples were collected based on some inclusion and exclusion criteria.

3.6 . Inclusion criteria

1. COVID-19 positive patient (Özdin et al., 2020).

2. Both male and female (Bertuzzi et al., 2021).

3. Patients' ages range between 20-60 years (Nie et al., 2020).

3. Patients who were affected COVID-19 after 20th December 2021.

3.7. Exclusion criteria

1. Medically unstable (Gardashkhani et al., 2021).

2. Inability to give informed consent. (Nie et al., 2020).

3. Medical history of dementia (Özdin et al., 2020)

4. Patient and caregiver who are not voluntarily agreed to participate in the study (Bertuzzi et al., 2021).

3.8. Data collection tools

The tools that were needed for the study were the Bengali Consent form and questionnaire and other necessary materials that were pen, pencil, eraser, clipboard, white paper, and notebook.

3.9 Measurement tool

DASS-21

Please read each statement and circle a number 0, 1, 2, or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

  0   Did not apply to me at all

  1   Applied to me to some degree, or some of the time

  2   Applied to me to a considerable degree or a good part of the time

  3   Applied to me very much or most of the time

1(s)	I found it hard to wind down	0	1	2	3
2(a)	I was aware of dryness of my mouth	0	1	2	3
3(d)	I couldn't seem to experience any positive feeling at all	0	1	2	3
4(a)	I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5(d)	I found it difficult to work up the initiative to do things	0	1	2	3
6(s)	I tended to over-react to situations	0	1	2	3
7(a)	I experienced trembling (e.g. in the hands)	0	1	2	3
8(d)	I felt that I was using a lot of nervous energy	0	1	2	3
9(a)	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10(d)	I felt that I had nothing to look forward to	0	1	2	3
11(s)	I found myself getting agitated	0	1	2	3
12(s)	I found it difficult to relax	0	1	2	3
13(d)	I felt down-hearted and blue	0	1	2	3
14(s)	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
15(a)	I felt I was close to panic	0	1	2	3
16(d)	I was unable to become enthusiastic about anything	0	1	2	3
17(d)	I felt I wasn't worth much as a person	0	1	2	3
18(d)	I felt that I was rather touchy	0	1	2	3
19(a)	I was aware of the action of my heart in the absence of physical exertion	0	1	2	3
20(a)	I felt scared without any good reason	0	1	2	3
21(d)	I felt that life was meaningless	0	1	2	3

Table 1 : DASS 21

DASS-21 Scoring Instructions

The DASS-21 should not be used to replace a face-to-face clinical interview. If you are experiencing significant emotional difficulties you should contact your GP for a referral to a qualified professional.

Depression, Anxiety and Stress Scale - 21 Items (DASS-21)

The Depression, Anxiety and Stress Scale - 21 Items (DASS-21) is a set of three self-report scales designed to measure the emotional states of depression, anxiety, and stress.

Each of the three DASS-21 scales contains 7 items, divided into subscales with similar content. The depression scale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, and lack of interest/involvement, anhedonia, and inertia. The anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The stress scale is sensitive to levels of chronic non-specific arousal. It assesses difficulty relaxing, nervous arousal, and being easily upset/agitated, irritable / over-reactive, and impatient. Scores for depression, anxiety, and stress are calculated by summing the scores for the relevant items.

The DASS-21 is based on a dimensional rather than a categorical conception of psychological disorder. The assumption on which the DASS-21 development was based (and which was confirmed by the research data) is that the differences between the depression, anxiety, and the stress experienced by normal subjects and clinical populations are essentially differences of degree. The DASS-21, therefore, has no direct implications for the allocation of patients to discrete diagnostic categories postulated in classificatory systems such as the DSM and ICD.

Recommended cut-off scores for conventional severity labels (normal, moderate, severe) are as follows:

	Depression	**Anxiety**	**Stress**
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely Severe	28+	20+	34+

Table 2: Level of DASS 21

3.10 Data analysis procedure

Data were analyzed with the software named Statistical Package for Social Science (SPSS) version 22.0 and Microsoft Excel 2016. Every questionnaire was rechecked for missing information or unclear information. First put the name of variables in the variable view of SPSS and the types, values, decimal, label alignment, and measurement level of data. The next step was to input the data view of SPSS. After inputting all data researcher checked the inputted data to ensure that all data had been accurately transcribed from the questionnaire sheet to the SPSS data view. Then the raw data was ready for analysis in SPSS.

3.11 Level of Significance

To find out the significance of the study, the "p" value was calculated. A p-value of <0.05 was accepted as the significant result for health service research. If the p-value is equal to or smaller than the significant level, the results are said to be significant.

3.12 Ethical consideration

The whole process of this research project was done by following the Bangladesh Medical Research Council (BMRC) guidelines, Institution Review Board (IRB), Health and Family officer, Savar Upazila, Savar, Dhaka, and World Health Organization (WHO) Research guidelines. The proposal of the dissertation including methodology was approved by Institutional Review Board and obtained permission from the concerned authority of the ethical committee of Bangladesh Health Professions Institute (BHPI). Informed consent was used to take permission from all participants. Participants' rights and privileges were ensured. All the participants were aware of the aim and objectives of the study. Findings of the study were disseminated with the approval of regarding authority. The researcher strictly maintained the confidentiality regarding participant's condition and treatment.

For the purpose of this research, a total of 102 participants who had COVID-19 positive patients were questioned. The results of this investigation are summarized in the following paragraphs.

4.1 Age group of the participants

Out of the 102 participants, the minimum age 20 years, maximum age 74 years, the mean and the standard deviation is 33.07±11.33.

	Minimum	Maximum	Mean	Std. Deviation
Age	20	74	33.07	11.33

Table 3: Age of the participants
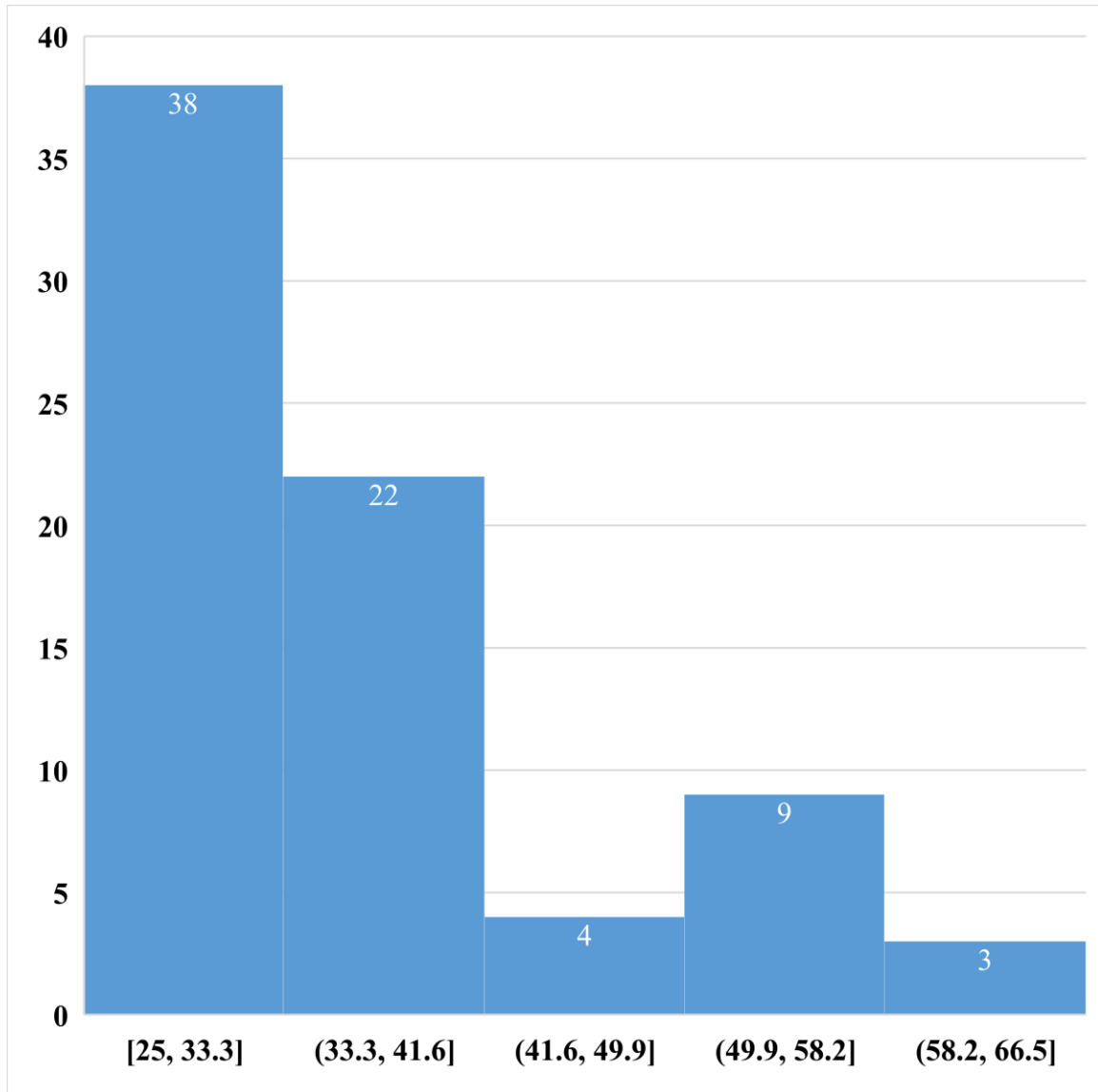
Figure 1: Age group of the participant

Among the 102 participants, maximum patient was between the 20-30 and 31-40 age range. In the age group 20-30 were 49%(n=50),age group 31-40 were 33.3 %(n=34);age group 41-50 were 5.9%(n=6);age group 51-60 were 7.8%(n=8);age group more than 60 were 3.9%(n=4).

4.2 Gender of the participants
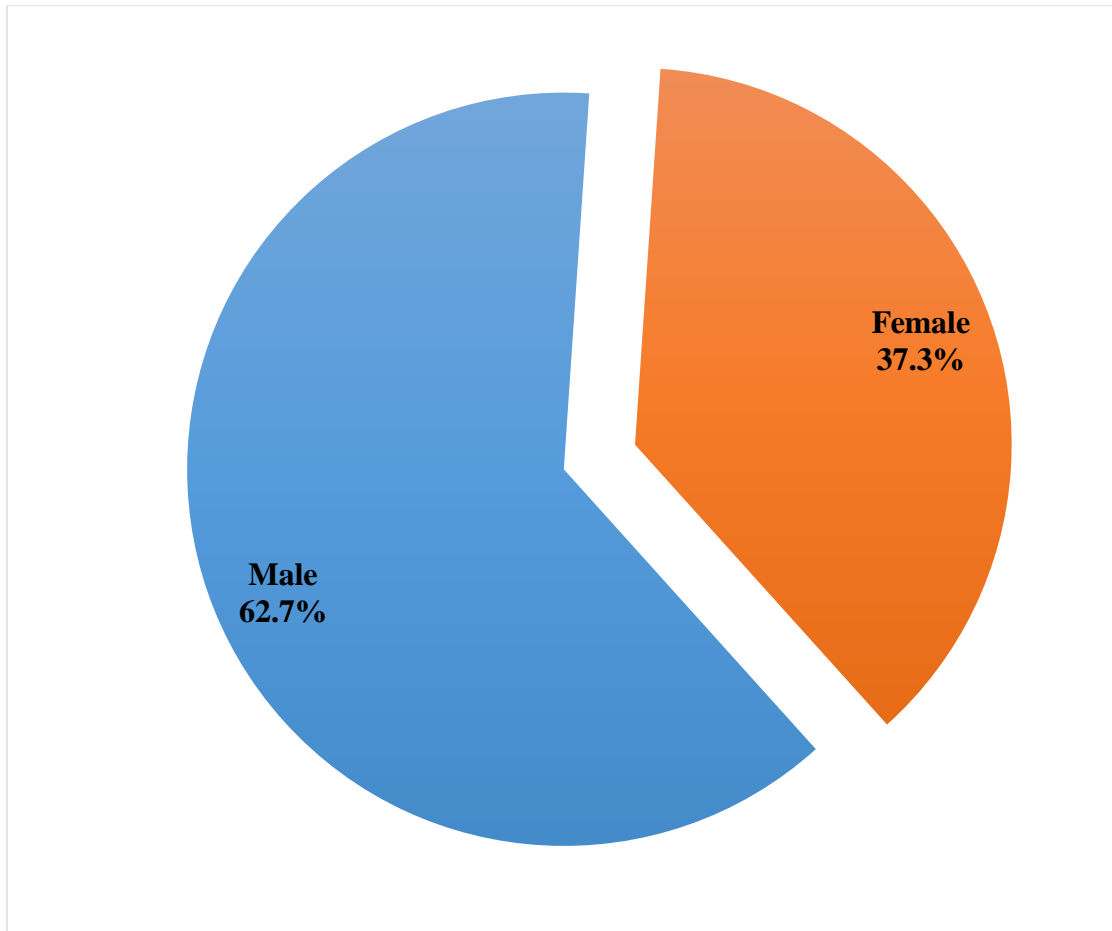
Figure 2: Gender of the participants

Among the 102 participants, females are about 37.3% (n = 38) and the rest of the participants were males, which was about 63% (n = 62.7).

4.3 Educational level of the participants
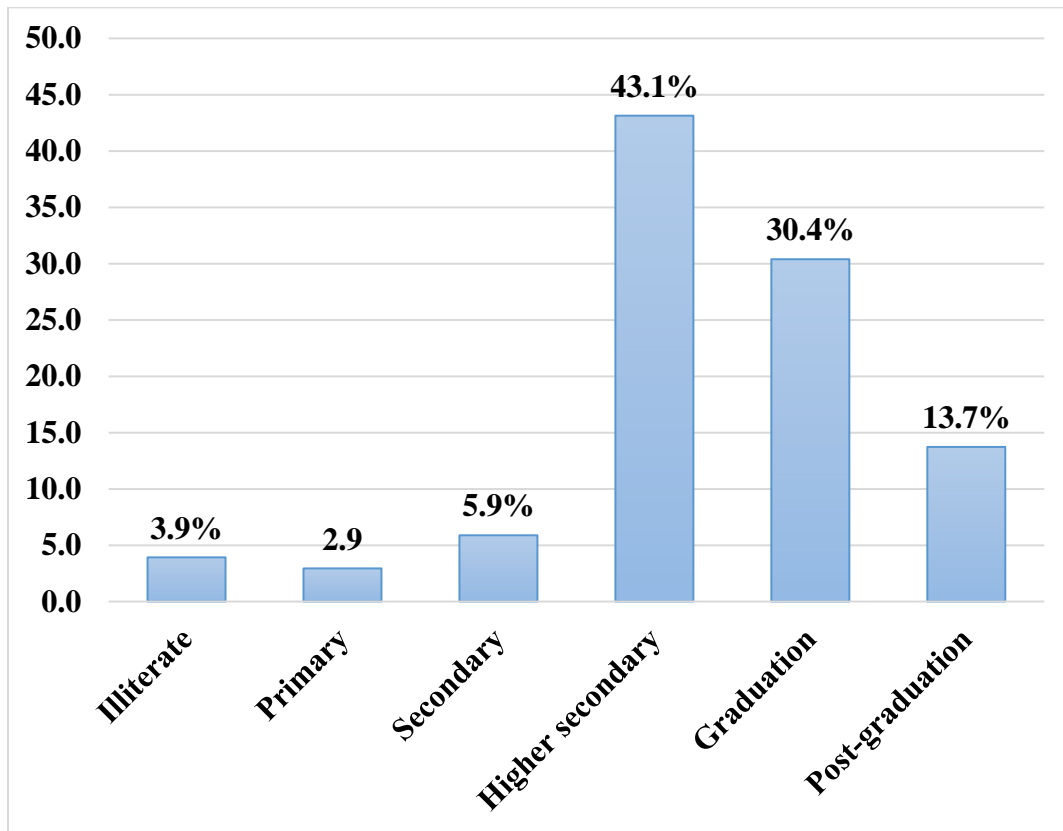
Figure 3: Educational level of the participants

This figure-4 showed that Higher secondary passed participants were the highest rate, at 43.1% (n = 44). Honors passed participants had the second-highest rate, which was 30.4% (n = 31). Among the Masters passed participants, third position was 13.7% (n = 14), Primary passed was 2.9% (n = 3), Secondary passed was 5.9% (n = 6) and 3.9% (n = 4) was illiterate.

4.4 Marital status of the participants
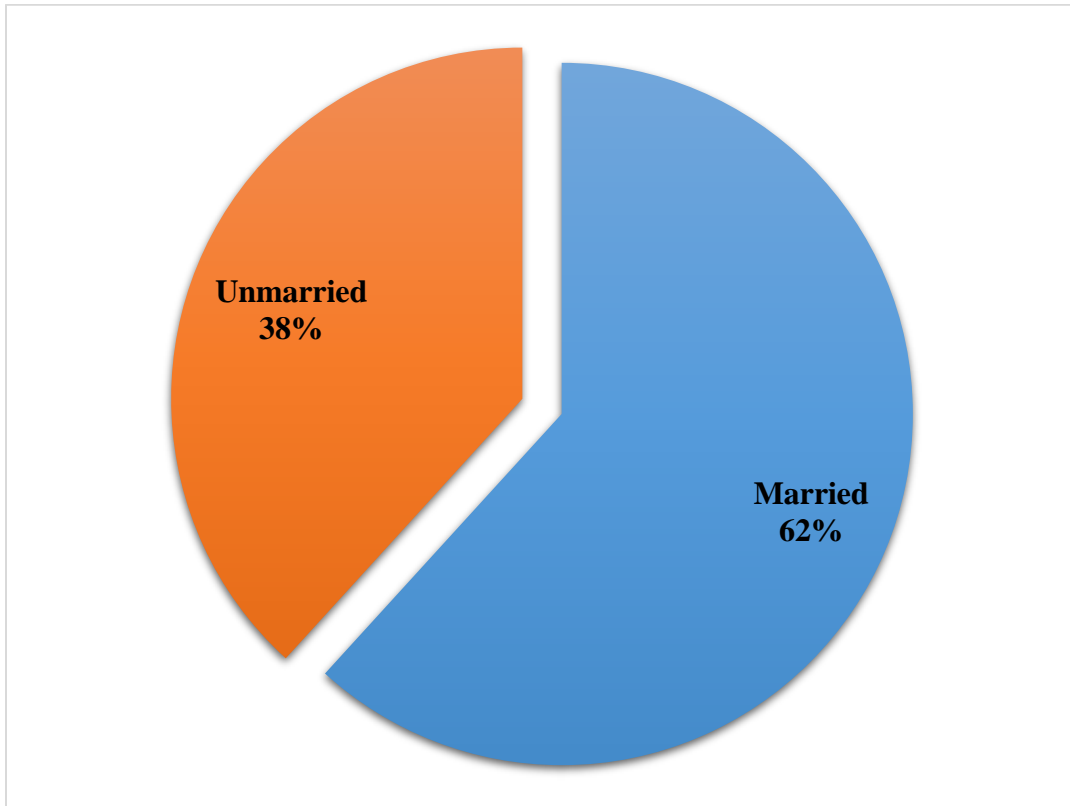
Figure 4: Marital status of the participants

Among the 102 participants, 61.8% (n=63) were married and 38.2 %(n=39) were unmarried.

4.6 Occupation of the participants

Among the 102 participants, the majority of participants 24.5% (n = 25) were student, 15.7% (n=16) were Businessman, 11.8% (n=12) were involved in Privet & Government Job, 2% (n=2) were retired from their work, 8.8% (n= 9) were garments worker, 2% (n= 2) were day laborer, 4.9% (n= 5) were house wife , 4.9% (n= 5) were Banker , 4.9% (n= 5) were Doctor and 20.6% (n=21)were in other professionals.

Occupation	n	Percentage
Garments workers	9	8.8
Day Laborer	2	2.0
Privet & Govt. Employee	12	11.8
Businessman	16	15.7
Retired	2	2.0
Student	25	24.5
House Wife	5	4.9
Other	21	20.6
Banker	5	4.9
Doctor	5	4.9

Table 4: Occupation of the participants

4.7 Monthly income of the participants
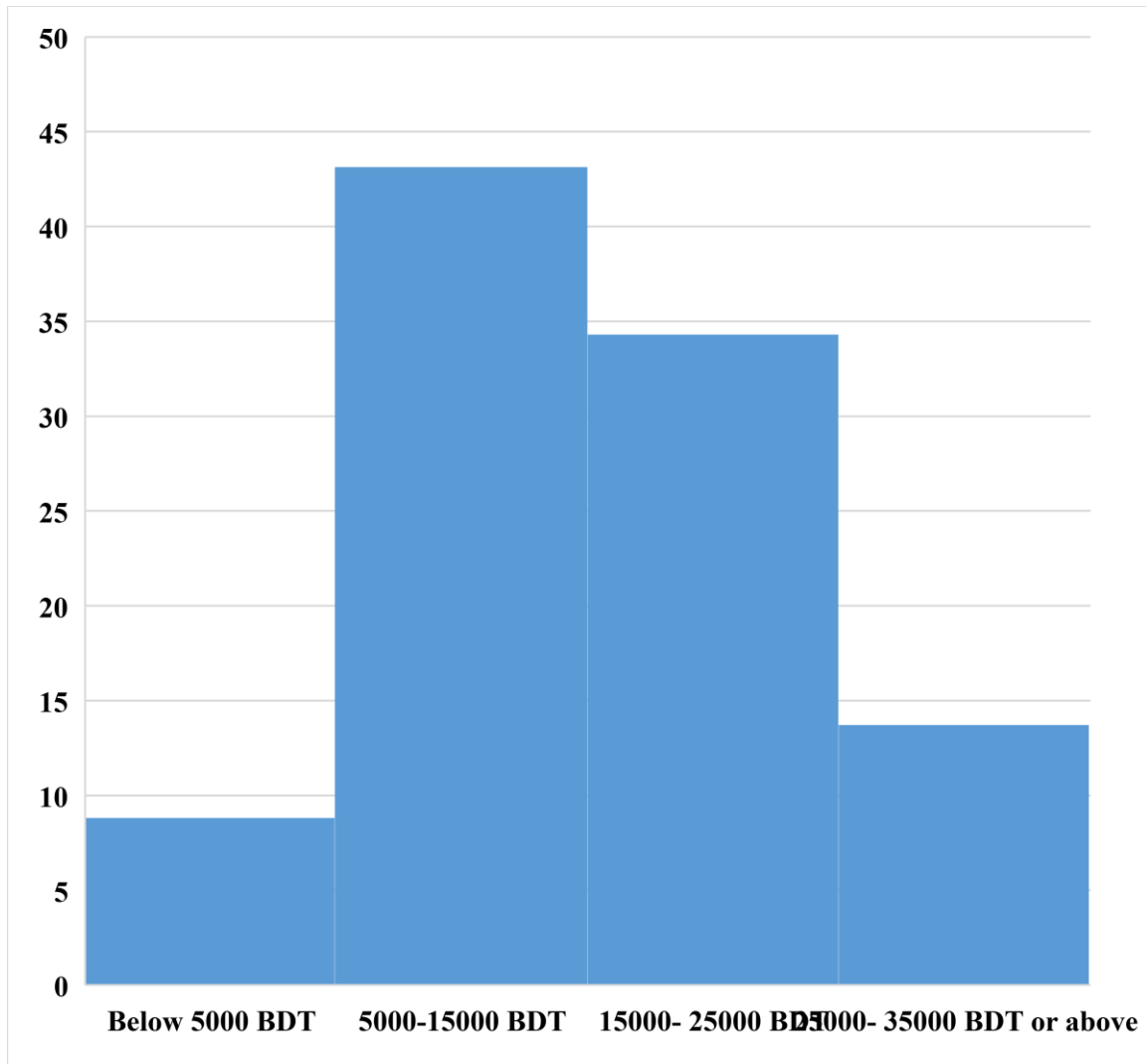
Figure 5: Monthly income of the participants

Among the 102 participants, 8.8%(n=9) had monthly income rate <5k,another 43.1%(n=44) had 5k-15k, 34.3%(n=35) had 15k-25k,13.7%(n=14) had 26k-35k,13.7% (n=14) had >35k monthly income rate.

4.8 Family member of the participants

Among the 102 participants, 28.4% (n=29) had 4 family person, 50% (n=51) had 5 family person, 10.3% (n=11) had 6 family person, 2.9% (n=3) had 7 family person, 6.9% (n=7) had 3 family person and 1% (n=1) had 2 family person.

Family member	n	Percentage (%)
2	1	1.0
3	7	6.9
4	29	28.4
5	51	50.0
6	11	10.8
7	3	2.9

Table 5: Family member of the participants

4.9 Isolated member of the participants
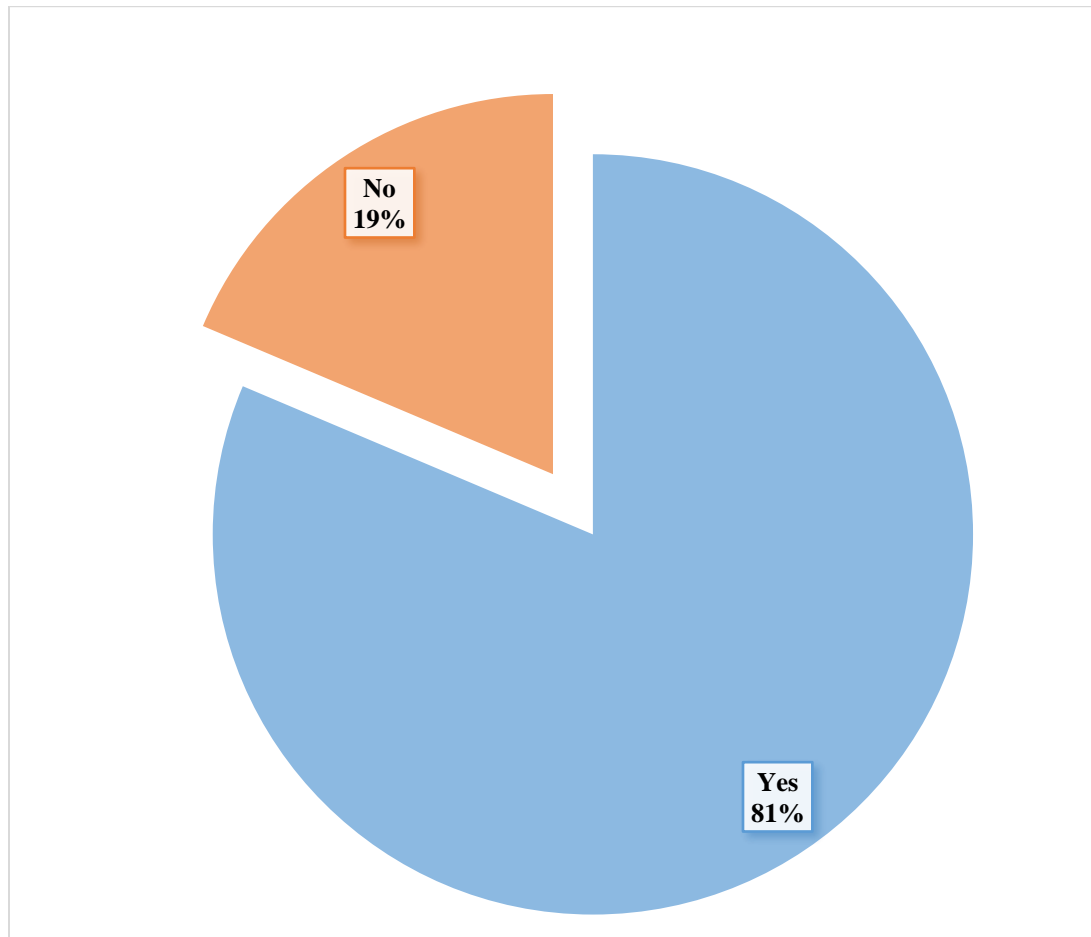
Figure 6: Isolated member of the participants

Among the 102 participants, 81.4% (n=83) person are isolated and 18.6% (n=19) person are not isolated.

4.10 Isolation days of the participants
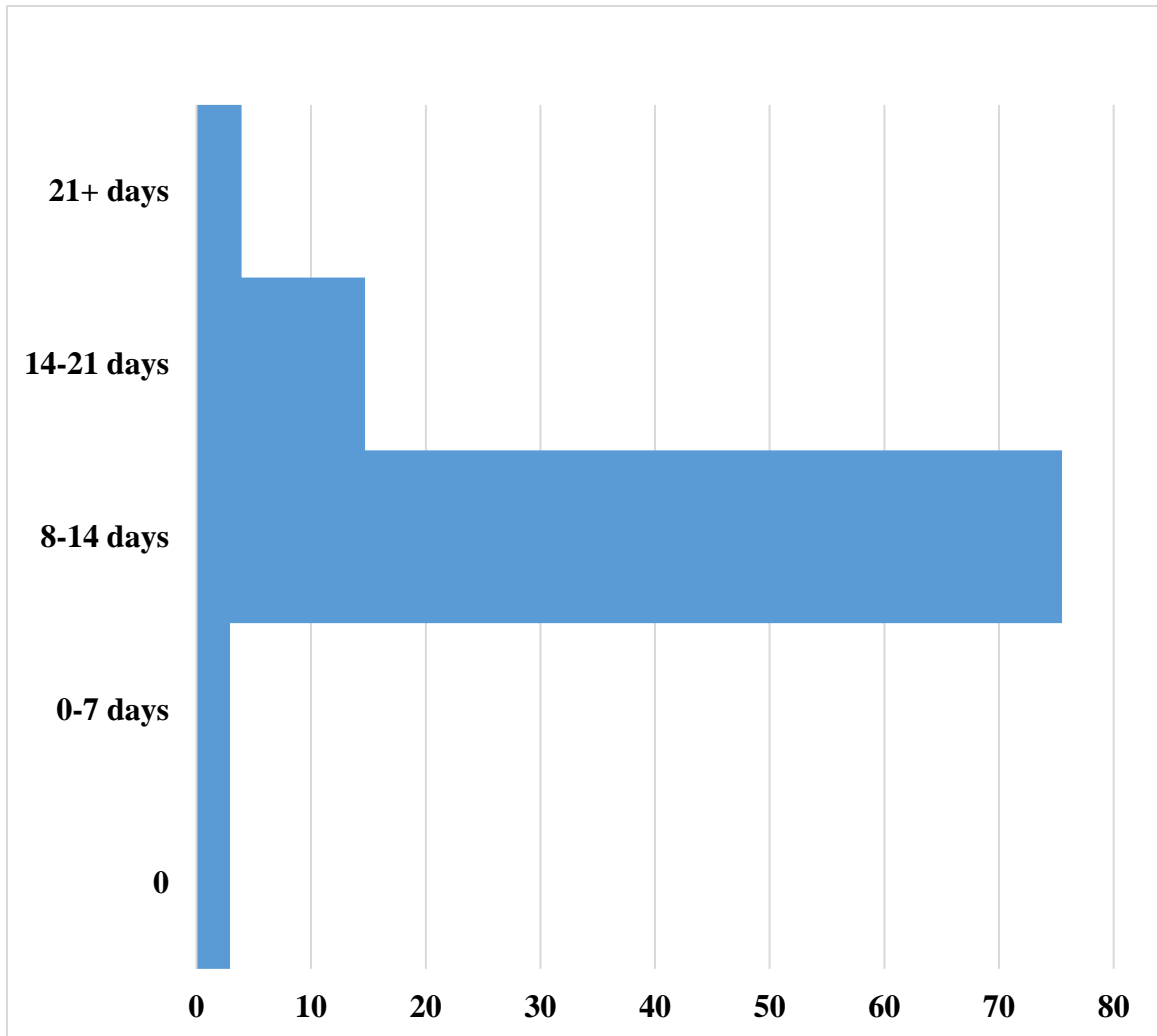
Figure 7: Isolation days of the participants

Among the 102 participants, 75.5% (n=77) person was 8-14 days for isolation, 14.7% (n=15) person was 15-21 days for isolation, 3.9% (n=4) person was 21+ days for isolation, 2.9% (n=3) person was 0-7 days for isolation and 2.9% (n=3) person was 0 days for isolation.

4.11 Admitted to the hospital of the participants

Figure showing donut chart:
- Yes 13%
- No 87%
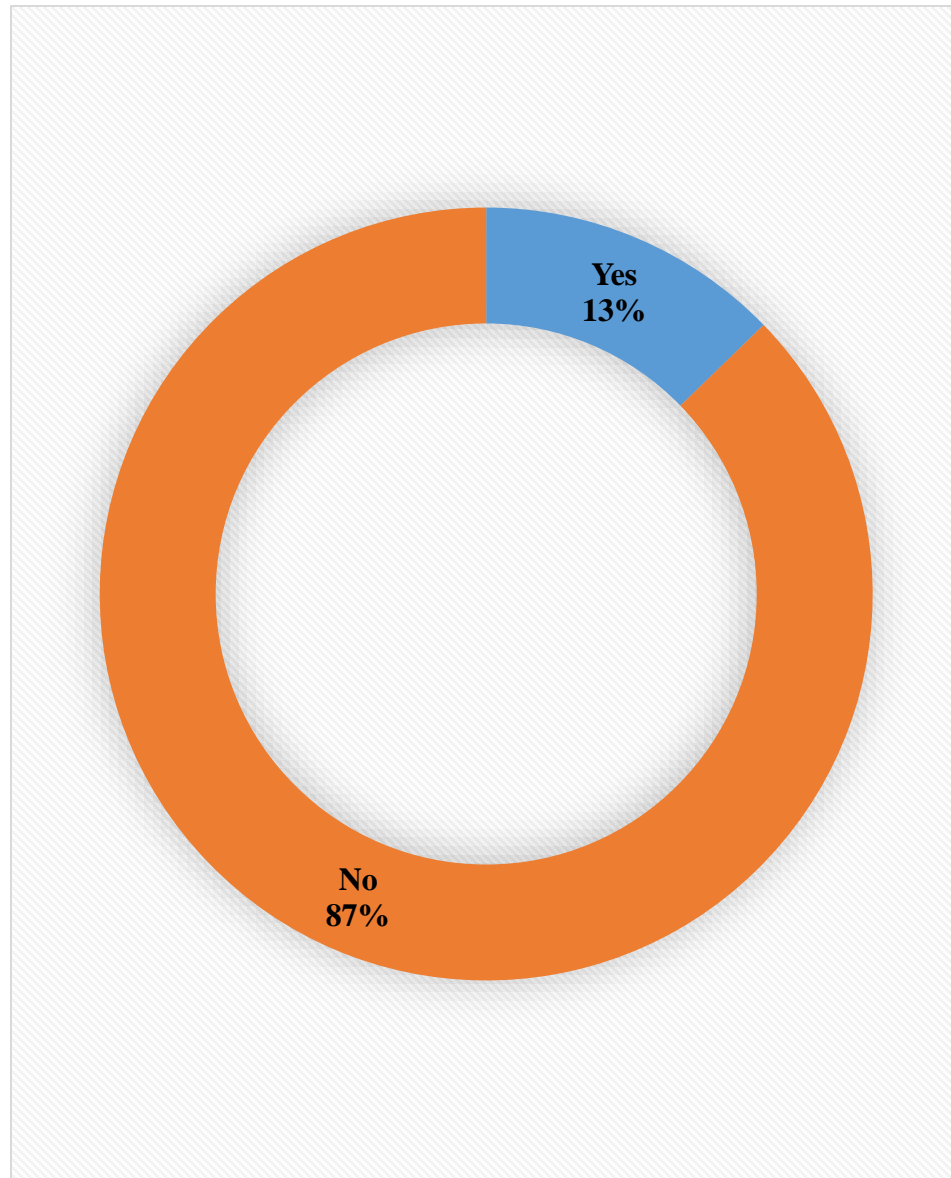
Figure 8: Admitted to the hospital of the participants

Among the 102 participants, 87.3% (n=89) participants are not admitted to hospital and 12.7% (n=13) participants are admitted to hospital.

4.12 Diagnosed COVID 19 in the family of the participants
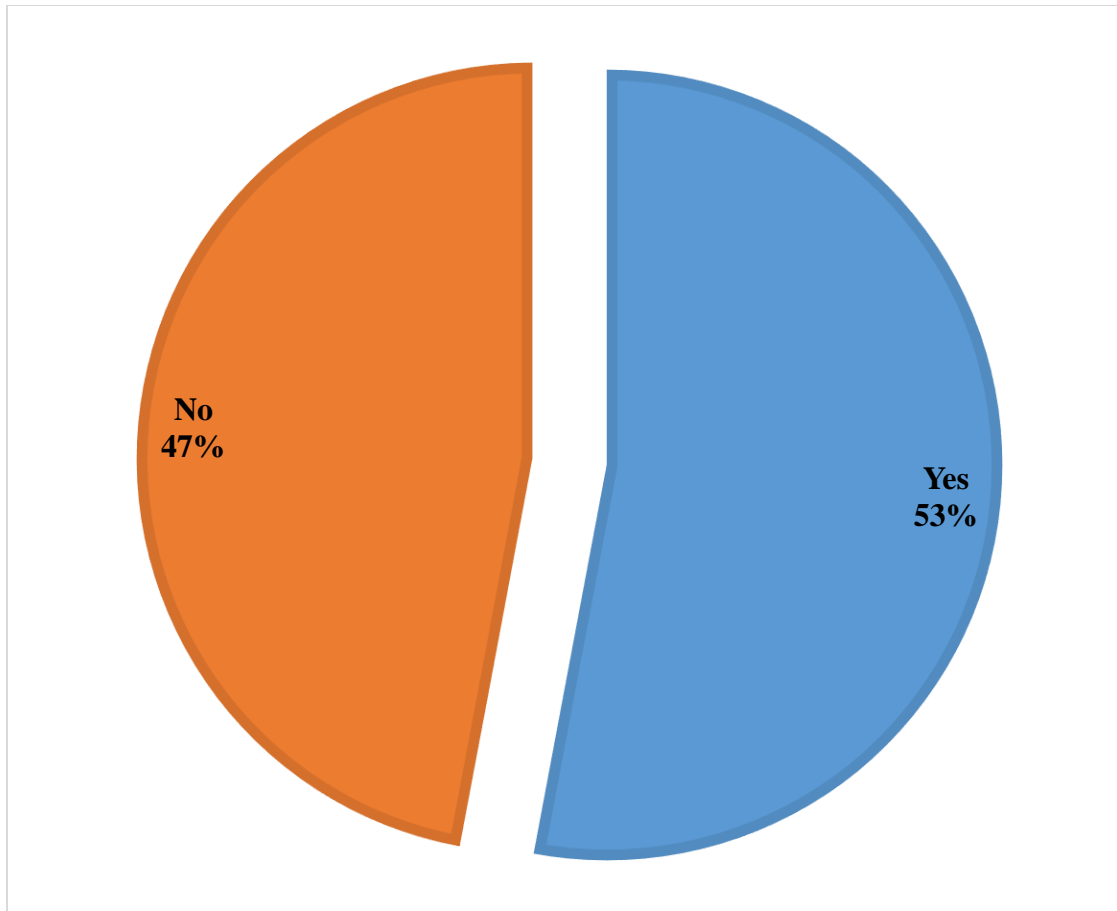
Figure 9: Diagnosed COVID 19 in the family of the participants

Among the 102 participants, 52.9% (n=54) participants diagnosed COVID 19 in the family and 47.1% (n=48) participants not diagnosed COVID 19 in the family.

4.13 Smoking history before diagnosed COVID positive of the participants
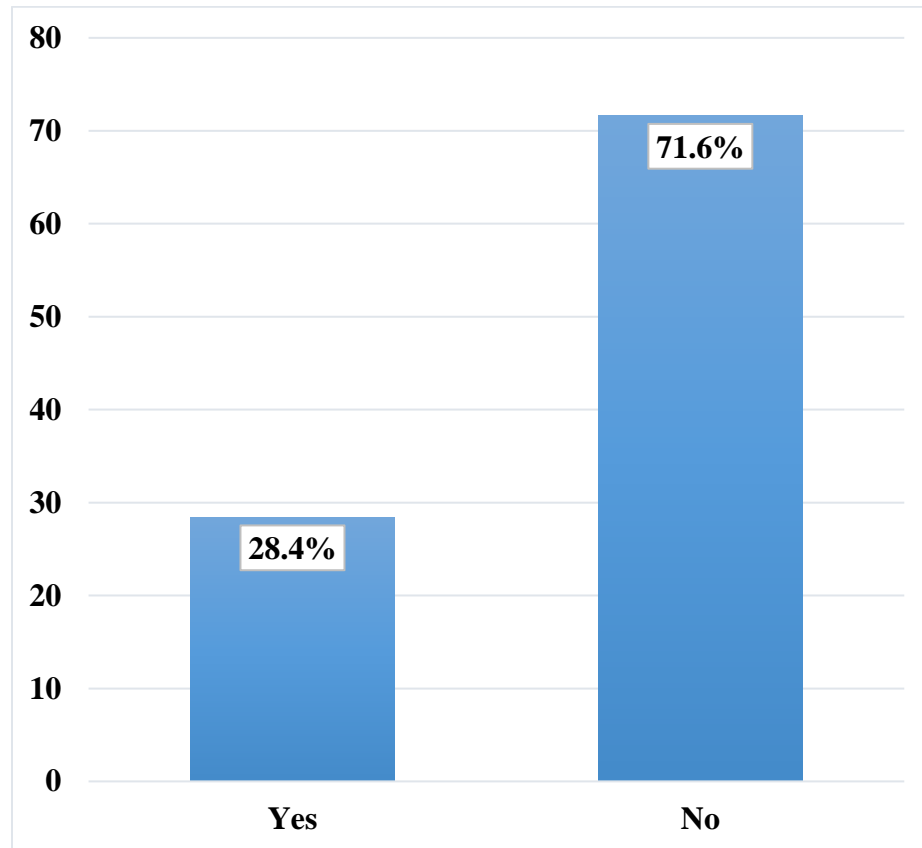
Figure 10: Smoking history before diagnosed COVID positive of the participants

Among the 102 participants, 71.6% (n=73) participants was not taken smoking and 28.4% (n=29) participants was taken smoking.

4.14 Diagnose COVID negative of the participants
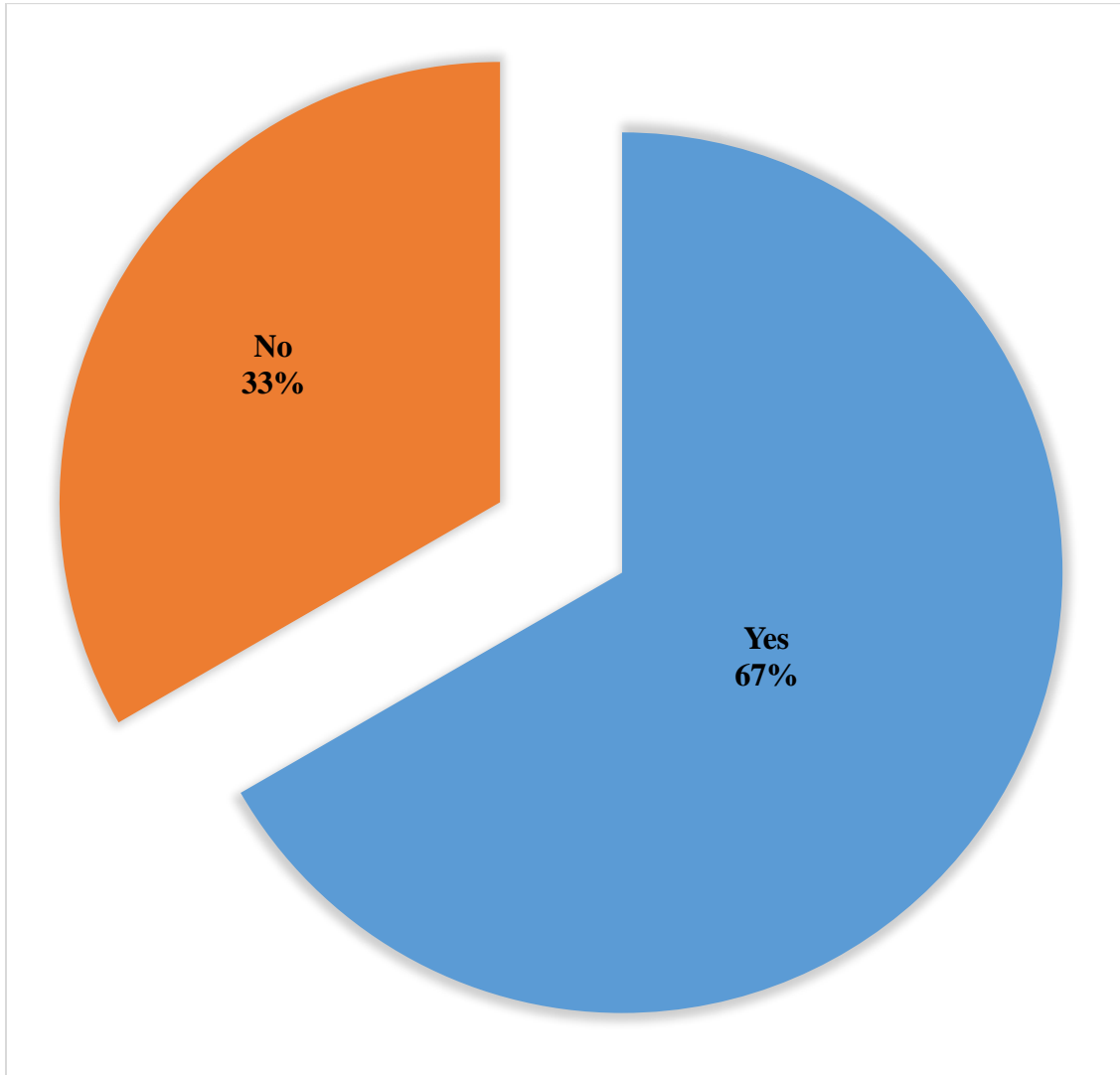
Figure 11: Diagnose COVID negative of the participants

Among the 102 participants, 66.7% (n=68) diagnosed as COVID negative and 33.3% (n=34) not diagnosed as COVID negative.

4.15 Treatment received during COVID-19 of the participants
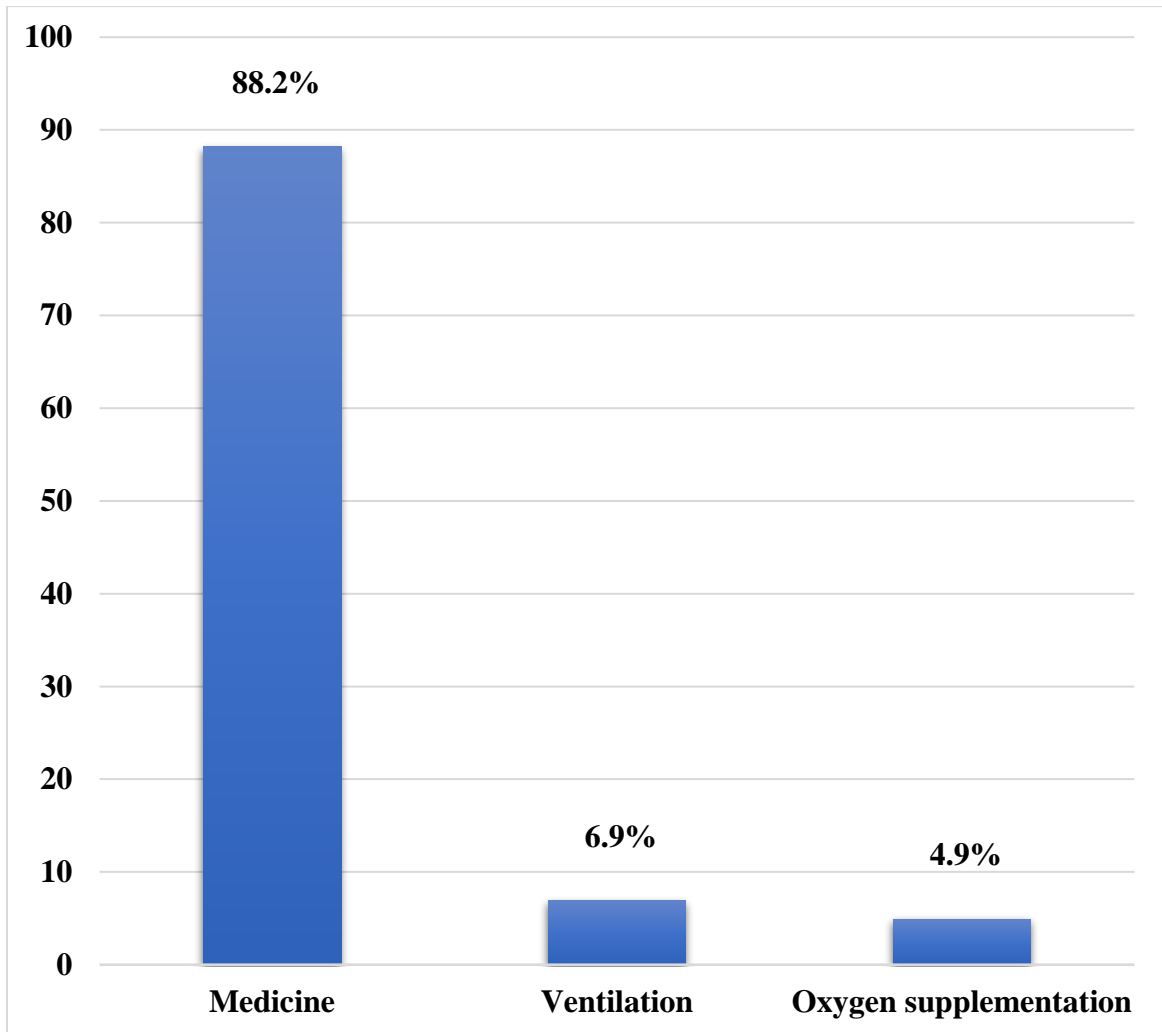
Figure 12: Treatment received during COVID-19 of the participants

Among the 102 participants, 88.2% (n=90) received medicine as treatment during COVID-19, 6.9% (n=7) received Ventilation as treatment during COVID-19 and 4.9% (n=5) received oxygen supplementation as treatment during COVID-19.

4.20 Admit in ICU for COVID-19 of the participants
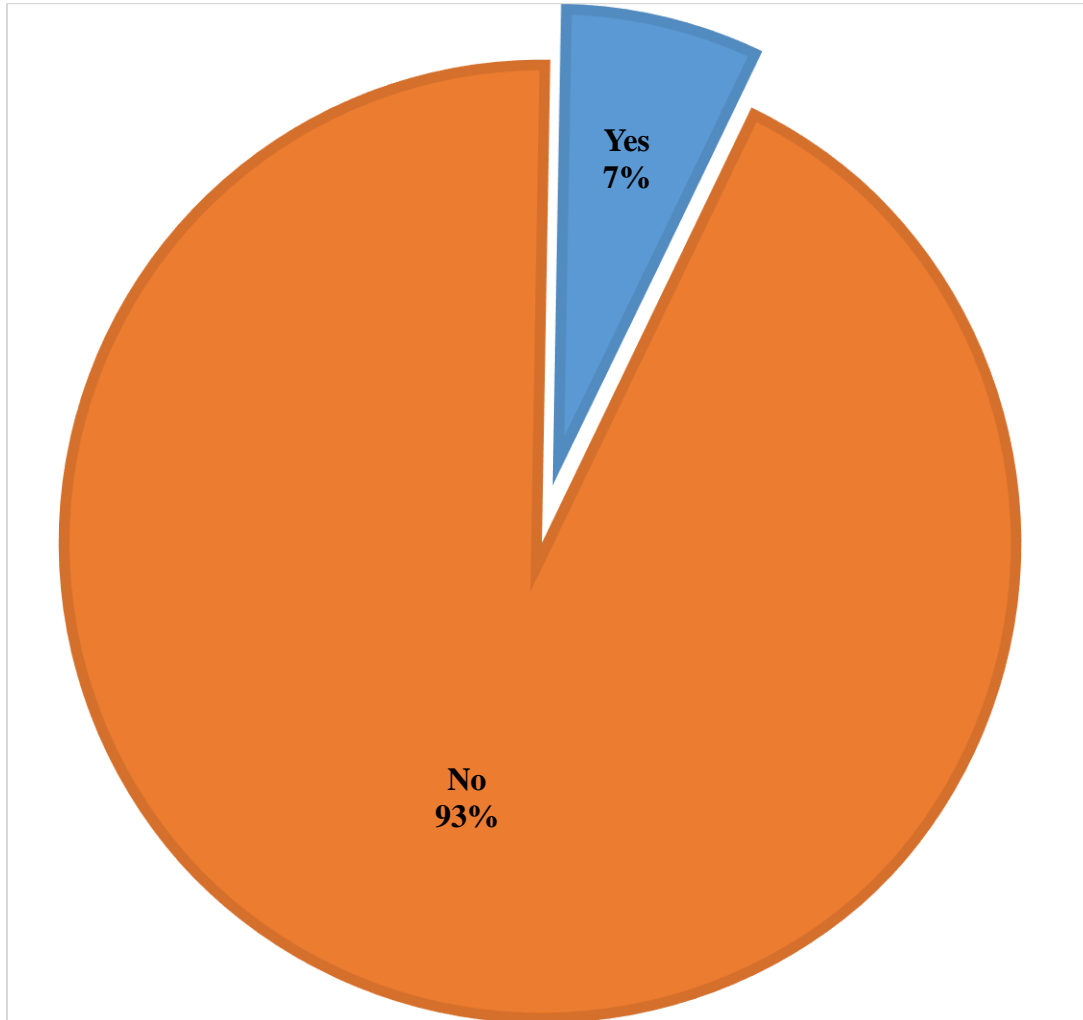
Figure 13: Admit in ICU for COVID-19 of the participants

Among the 102 participants, 93.1% (n=95) didn't admitted in ICU for COVID-19 and 6.9% (n=7) was admitted in ICU for COVID-19.

4.20 Depression level of the participants
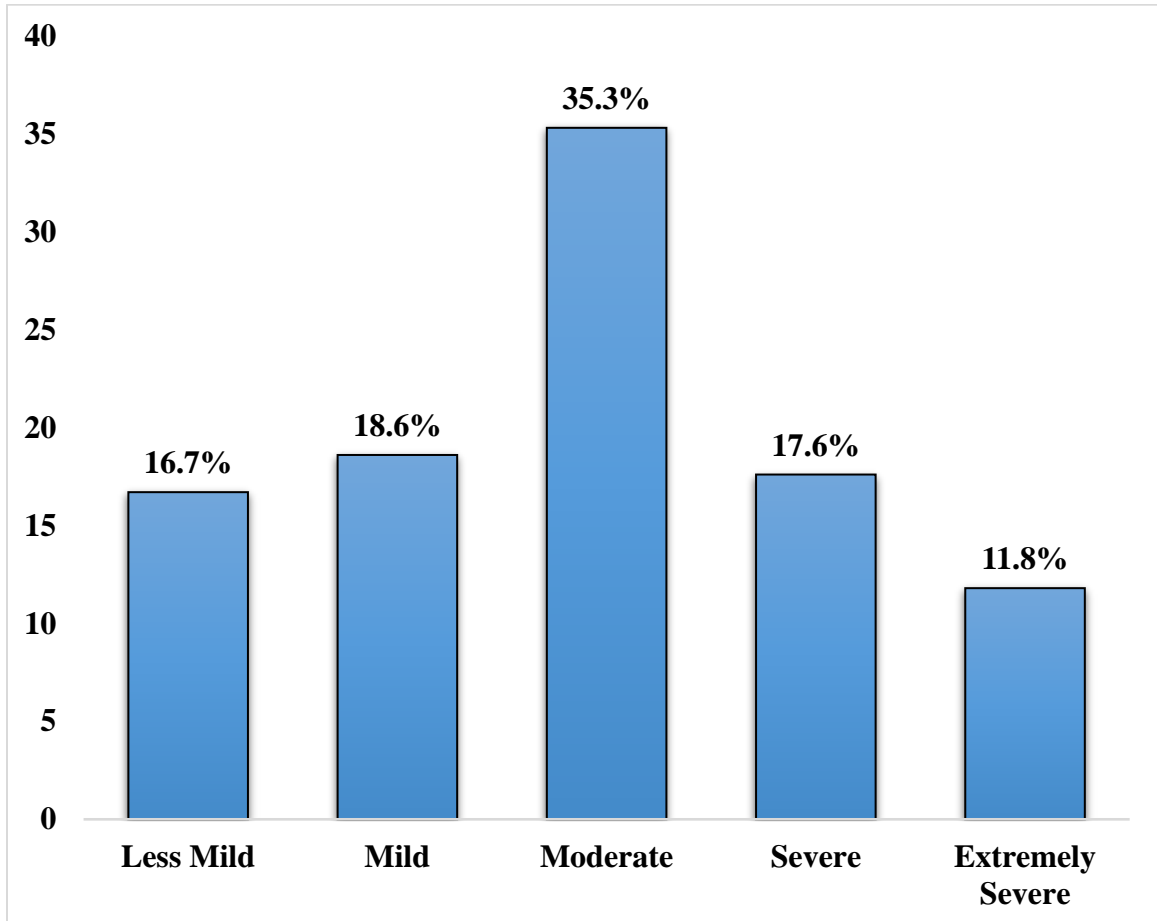
Figure 14: Depression level of the participants

Among the 102 participants, 35.3% (n=36) participants was moderate depression, 18.6% (n=19) participants was mild depression, 17.6% (n=18) participants was severe depression, 16.7% (n=17) participants was less mild depression, and 11.8% (n=12) participants was extremely severe depression.

4.20 Anxiety level of the participants
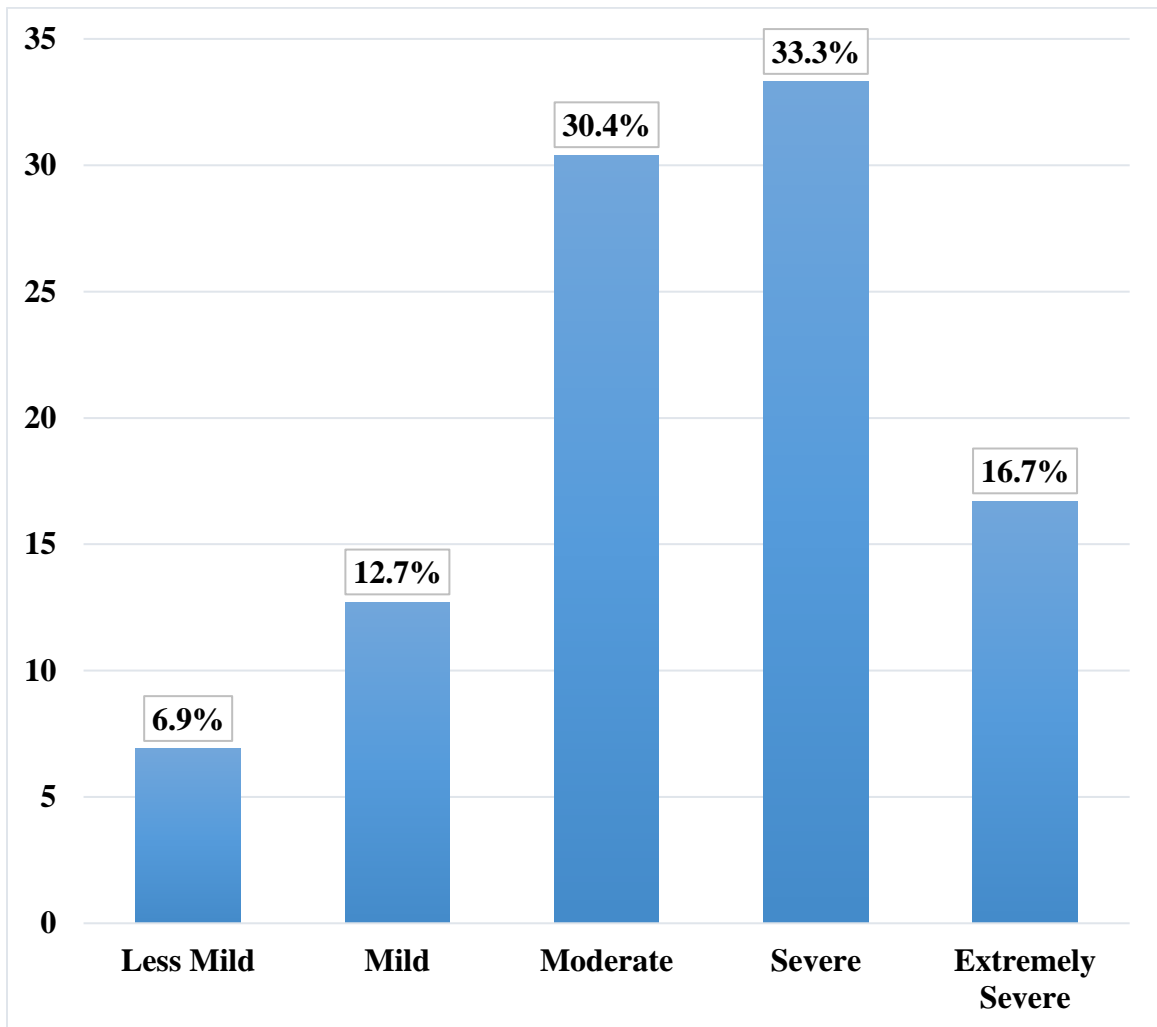
Figure 15: Anxiety level of the participants

Among the 102 participants, 33.3% (n=34) participants was severe anxiety, 30.4% (n=31) participants was moderate anxiety, 16.7% (n=17) participants was extremely severe anxiety, 12.7% (n=13) participants was mild anxiety, and 6.9% (n=7) participants was less mild anxiety.

4.21 Stress level of the participants
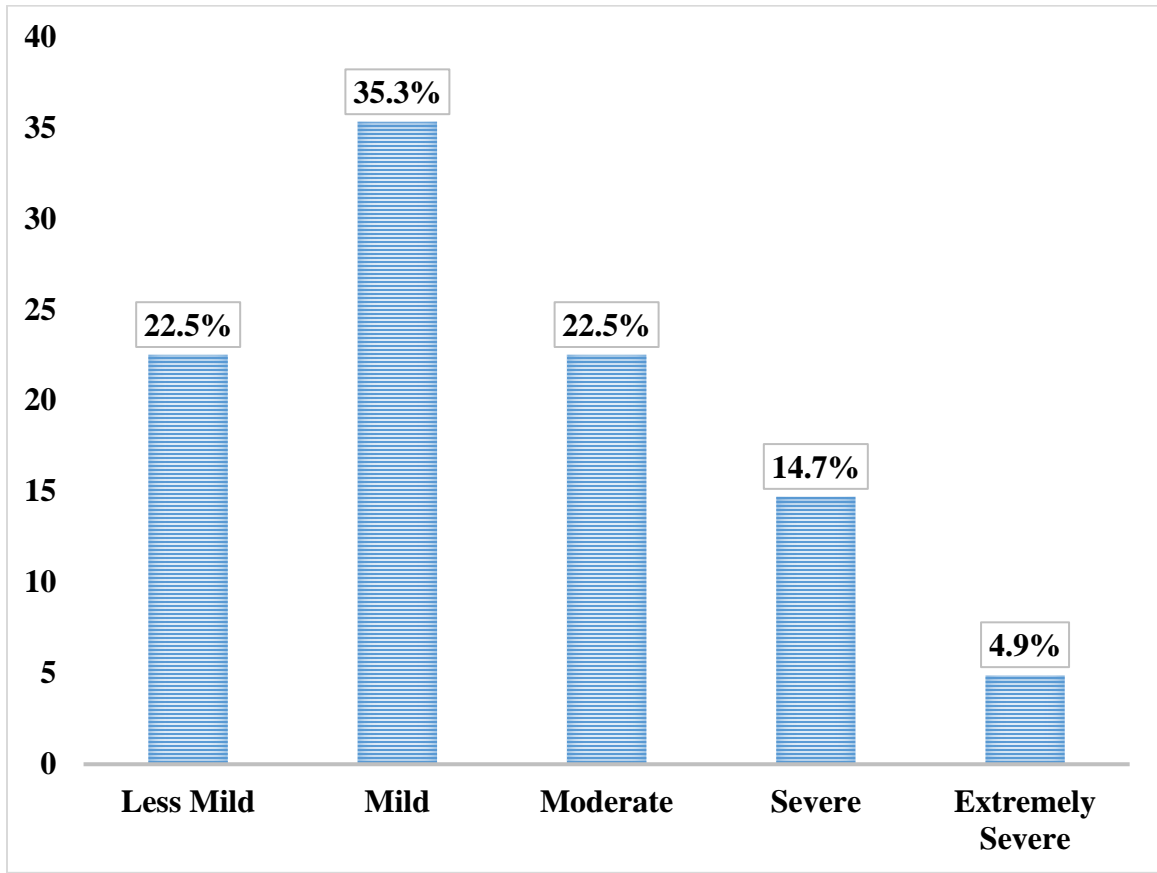
Figure 16: Stress level of the participants

Among the 102 participants, 35.3% (n=36) participants was mild stress, 22.5% (n=23) participants was moderate stress, 22.5% (n=23) participants was less mild stress, 14.7% (n=15) participants was severe stress, and 4.9% (n=5) participants was extremely severe stress.

4.22 Association between depression and socio-demographic and COVID-19 related variables of the participants:

At the chart show that, after Correlations between depression and socio demographic and COVID-19 related variables among the 102 patients P-Value of age, education, occupation, family member, Monthly-income, isolation, how long in isolation, admitted to the hospital, diagnosed COVID 19 in the family, diagnose COVID negative, treatment received, admit in ICU are less than 0.05 which means this are significant with depression. Then we declare that age, education, family member, occupation, monthly-income, isolation, how long in isolation, admitted to the hospital, diagnosed COVID 19 in the family, diagnose COVID negative, treatment received, and admit in ICU variables are correlated with depression. And the gender, marital status, education, family member, Isolation, smoking history has P-Value more than 0.05 which are nor significant with depression. That's means there has no correlation between the gender, marital status, education, family member, Isolation, smoking history with depression.

Dependent Variable: Depression				
Independent Variable	**Test Name**	**Test Value**	**P-Value**	**Significances**
Age category:	Kruskal Wallis Test	8.013	0.03	Significance*
Gender:	Chi-square	5.345	0.251	Non Significance
Marital status:	Chi-square	10.053	3.313	Non Significance
Education:	Kruskal Wallis Test	12.24	0.032	Significance*
Occupation:	Kruskal Wallis Test	10.064	0.026	Significance*
Monthly-income:	Kruskal Wallis Test	3.84	0.015	Significance**
Family Member:	Kruskal Wallis Test	1.604	0.594	Non Significance
Isolation:	Chi-square	11.573	0.016	Significance**
How long in isolation:	Kruskal Wallis Test	19.207	0.037	Significance*
Admitted to the hospital:	Chi-square	14.52	0.043	Significance*
Diagnosed COVID 19 in the family:	Chi-square	7.66	0.56	Non Significance
Smoking history :	Chi-square	1.63	0.38	Significance*
Diagnose COVID negative:	Chi-square	15.99	0.341	Non Significance
Treatment Received:	Kruskal Wallis Test	13.084	0.581	Non Significance
Admit in ICU :	Chi-square	10.52	0.0263	Significance*

*≤0.05; **≤0.01; ***≤0.001;

Table 6: Association between depression and socio-demographic and COVID-19 related variables of the participants.

4.23 Association between anxiety and socio-demographic and COVID-19 related variables of the participants:

At the chart show that, after Correlations between anxiety and socio demographic and COVID-19 related variables among the 102 patients P-Value of age ,occupation, monthly-income, isolation, how long in isolation, admitted to the hospital, diagnose COVID negative, treatment received, admit in ICU are less than 0.05 which means this are significant with anxiety. Then we declare that age ,occupation, monthly-income, isolation, how long in isolation, admitted to the hospital, diagnose COVID negative, treatment received, admit in ICU variables are correlated with anxiety. And the gender, marital status, education, family member, diagnosed COVID 19 in the family, smoking history has P-Value more than 0.05 which are nor significant with anxiety. That's means there has no correlation between the genders, marital status, education, family member, diagnosed COVID 19 in the family, smoking history with anxiety.

Dependent Variable: Anxiety				
Independent Variable	**Test Name**	**Test Value**	**P-Value**	**Significances**
Age category:	Kruskal Wallis Test	2.564	0.02	Significance*
Gender:	Chi-square	4.614	0.962	Non Significance
Marital status:	Chi-square	3.016	0.555	Non Significance
Education:	Kruskal Wallis Test	6.256	0.282	Non Significance
Occupation:	Kruskal Wallis Test	7.164	0.049	Significance*
Monthly-income:	Kruskal Wallis Test	8.588	0.03	Significance*
Family Member:	Kruskal Wallis Test	1.905	0.916	Non Significance
Isolation:	Chi-square	10.625	0.031	Significance*
How long in isolation:	Kruskal Wallis Test	10.697	0.013	Significance**
Admitted to the hospital:	Chi-square	15.252	0.004	Significance*
Diagnosed COVID 19 in the family:	Chi-square	9.902	0.924	Non Significance
Smoking history :	Chi-square	4.56	0.335	Non Significance
Diagnose COVID negative:	Chi-square	12.769	0.012	Significance**
Treatment Received:	Kruskal Wallis Test	8.901	0.01	Significance**
Admit in ICU :	Chi-square	17.332	0.002	Significance**

*≤0.05; **≤0.01 ; ***≤0.001 ;

Table 7: Association between anxiety and socio-demographic and COVID-19 related variables of the participants.

4.24 Association between stress and socio-demographic and COVID-19 related variables of the participants:

At the chart show that, after Correlations between stress and socio demographic and COVID-19 related variables among the 102 patients P-Value of age, education, monthly-income, family member, isolation, how long in isolation, admitted to the hospital, diagnose COVID negative, treatment received, admit in ICU are less than 0.05 which means this are significant with stress. Then we declare that age, education, monthly-income, family member, isolation, how long in isolation, admitted to the hospital, diagnose COVID negative, treatment received, admit in ICU variables are correlated with stress. And the gender, marital status, education, occupation, diagnosed COVID 19 in the family, Smoking history has P-Value more than 0.05 which are nor significant with stress. That's means there has no correlation between the genders, marital status, education, occupation, diagnosed COVID 19 in the family, Smoking history with stress.

Dependent Variable: Stress				
Independent Variable	**Test Name**	**Test Value**	**P-Value**	**Significances**
Age category:	Kruskal Wallis Test	9.603	0.048	Significance*
Gender:	Chi-square	1.097	1.289	Non Significance
Marital status:	Chi-square	3.719	0.445	Non Significance
Education:	Kruskal Wallis Test	9.746	0.086	Non Significance
Occupation:	Kruskal Wallis Test	9.733	0.031	Significance*
Monthly-income:	Kruskal Wallis Test	2.354	0.014	Significance**
Family Member:	Kruskal Wallis Test	1.552	0.043	Non Significance
Isolation:	Chi-square	11.732	0.020	Significance*
How long in isolation:	Kruskal Wallis Test	14.747	0.002	Significance**
Admitted to the hospital:	Chi-square	10.452	0.001	Significance***
Diagnosed COVID 19 in the family:	Chi-square	3.002	0.557	Non Significance
Smoking history :	Chi-square	10.31	0.304	Non Significance
Diagnose COVID negative:	Chi-square	11.009	0.011	Significance
Treatment Received:	Kruskal Wallis Test	10.035	0.007	Significance**
Admit in ICU :	Chi-square	14.33	0.001	Significance***

*≤0.05; **≤0.01; ***≤0.001;

Table 8: Association between stress and socio-demographic and COVID-19 related variables of the participants

This study indicate at the prevalence of mental health issues such sadness, anxiety, and stress among those who are COVID-19 positive during the epidemic. During the pandemic, several precautions are being taken to prevent the further spread of the virus. These include social isolation, lockdowns, and restricted access to public spaces. At the same time, the number of people who are being infected with the illness as well as the mortality rate continue to rise at an alarming pace. The COVID-19 pandemic is a worldwide health risk with terrible repercussions, and it has the potential to affect people in all countries .We found in this study the youngest participant was 20 years old, and the oldest person was 74 years old. The mean age of the 102 participants was 33.07 years old, and the standard deviation was 11.33 years. Li et al., (2020) estimate that, there were a total of 93 participants, and women made up 64.5 percent of the group while males made up 35.5 percent. The average patient was 48 years old.

According to the findings of a research conducted by Nie et al., (2020), these patients had a mean age of 58.4 years and 42.3% were men. Li. et al., 2021 said that the patients' median age was 51.4 years old. In this study, the majority of the patients who took part in the study fell within the age group of 20 to 30. According to Li et al., (2020), the majority of participants were married and had an education level of secondary-graduate or below. Also, the majority of participants were female. According to Nie et al., (2020)'S research, 55.1% of respondents had a high school education or above. According to the findings of this research, the largest participation rate was seen among participants who had graduated higher secondary school, which was 43.1%.

Han et al., (2020) estimate that, at the beginning of the pandemic, government policy was able to successfully counteract the epidemic's impacts on incomes. As a result, poverty levels decreased but low income percentiles increased across a wide variety of demographic groups and geographic areas.

The entire decrease in poverty that we find can be accounted for by the increase in government assistance, which includes unemployment insurance benefits and the Economic Impact Payments, according to simulations that rely on the specific CPS data and that closely match the total amount of government payments made. In this study, most income were 43% population. According to the findings of Chen et al, 2021'S research, family members also reported experiencing worry and a sense of powerlessness as a result of the uncertain effects of COVID-19. As family members attempted to modify their family structure now that the patient was gone, connections within the family were strained, and it was clear that they were experiencing emotional anguish and negative feelings.

Publication by Speth et al. (2020) most of the participants were non-smokers. In this research, most of the sample were not take part in smoking. According to estimates provided by Wilson et al., (2020), a vast majority of respondents expressed considerable worries over the possibility that an illness may be passed on from them to their friends or family members. Also, the majority of participants were dissatisfied with the administrative assistance from the institution and the availability of personal protective equipment respectively. The results of this research showed that among all participants, most of them got COVID positive at their family.

According to findings published by Wang et al., (2021), the majority of participants spent the aforementioned time period with their families, while the remaining participants remained secluded in their houses. Eighty percent of the individuals in the study were single and 88 percent did not have any children. Forty-eight percent of the participants said that the isolation time had a negative impact on their physical health, while forty-six percent of the participants believed that the period had a negative impact on their mental health. Seventy-one percent of athletes believed that their performance would be adversely impacted when they resumed to physical activity following the COVID-19 epidemic. This was the perception among athletes. According to this research, almost the all participants were got isolated.

The findings of this study show that among all of the participants, 35.3 % of participants had been diagnosed with moderate depression, 18.6 % participants had been diagnosed with mild depression, 17.6 % participants had been diagnosed with severe depression, 16.7 % participants had been diagnosed with less mild depression, and 11.8 %participants had been diagnosed with extremely severe depression. According to Nie et al 2021's research, the researchers estimated that the prevalence of depression was 35.9 %, with 20. %of people suffering from mild depression, 12.8 % from moderate depression, and 2.6 % from severe depression.

According to Nie et al., (2021), research to analyze the psychological condition of patients with COVID-19 and the risk factors for COVID-19 patients found that there was no significant difference between the two groups. Our data suggest that COVID-19 patients have much higher prevalence rates of sadness and anxiety, and they underscore the need and urgency of developing interventions to treat the mental health issues experienced by COVID-19 patients. An earlier study from China carried out during the early stages of the pandemic found that a high prevalence of moderate to severe depressive symptoms was present among the general population. The study also found that 16.5 % and 28.8 %of the general population, respectively, exhibited symptoms of anxiety (Wang et al., 2020).

Lin et al., (2020), indicate at a study that the incidence of anxious and depressed symptoms among healthcare personnel treating patients with COVID-19 was found to be 44.6 % and 50.4 %, respectively, in another Chinese research. On the other hand, a Chinese research that was carried out during the same time period as the current study revealed prevalence rates of anxiety and depressive symptoms among all of the participants (including both medical and nonmedical health professionals) of 10.4 % and 10.6 %, respectively. Therefore, it is possible that variations in prevalence rates are attributable to variations in the study periods. Concerning the COVID-19 epidemic, the Chinese government has, in a timely way, supplied necessary information and expertise. It is possible for fear, anxiety, stigmatization, and prejudice to be reduced effectively with more transparency and open communication (Zhang et al., 2020).

This study showed that among all of the participants, 33.3 % of them had experienced severe anxiety, 30.4% % of them had experienced moderate anxiety, 16.7% of them had experienced extremely severe anxiety, 12.7 % of them had experienced mild anxiety, and 6.9 % of them had experienced less mild anxiety. It is possible that the high prevalence of sadness and anxiety among those who have had past histories of mental illness is a finding that is connected with the return of psychiatric disorders both before and after the pandemic, as was shown in other research of the same kind (Lee et al., 2007). During this time of the epidemic, people are being urged to remain inside their houses. Individuals who are experiencing psychiatric symptoms also have a more difficult time obtaining medical assistance. This is due to a number of factors, including the fact that some hospitals have been converted into pandemic hospitals, psychiatric clinics are unable to provide active health services, and the number of patients examined in hospitals has been reduced for safety reasons. In addition, hospital environments pose a risk in terms of the viral load (Turner et al., 2020).

The results of this study showed that 35.3% of the participants had experienced mild stress, 22.5% of the participants had experienced moderate stress, 22.5% of the participants had experienced less mild stress, 14.7% of the participants had experienced severe stress, and 4.9 % of the participants had experienced extremely severe stress. Behavior interventions, such as self-protection skills such as the technique of hand-washing, self-monitoring strategies, and relaxation techniques such as music therapy and breathing relaxation, may also play an important role in effectively reducing patients' anxiety, depression, and stress symptoms. Behavior interventions may also play a role in preventing patients from developing anxiety, depression, and stress symptoms (Kong et al., 2020).

Previous research found that listening to music that one finds delightful was associated with improvements in emotional self-regulation, executive function, and cognitive performance. It is possible to activate emotion processing within cortical and subcortical regions, which will result in an increase in the secretion of the neurotransmitter dopamine, a reduction in the secretion of the stress hormone cortisol, and additional stress relief and relief from health problems related to stress (Yao et al., 2020).According to a number of

studies, practicing relaxation breathing techniques leads to a general decrease in sympathetic tone and an increase in parasympathetic output, both of which work to counteract the increased sympathetic activity that occurs when one is stressed . Because of this, you will experience less negative feelings such as tension, despair, and anxiety (Li et al., 2020).

In this study , P-Values of age, education, occupation, family member, Monthly-income, isolation, how long in isolation, hospitalization, diagnosed COVID 19 in the family, diagnosed COVID negative, treatment received, ICU admission are less than 0.05, which is significant with depression. Age, education, family member, employment, monthly-income, isolation, how long in isolation, hospitalization, COVID 19 in the family, COVID negative, treatment received, and ICU admission are connected with depression. Gender, married status, education, family member, and smoking history had P-Values above 0.05, making them insignificant with depression.

That implies gender, marital status, education, family member, and smoking history are unrelated to depression. Women were more likely to suffer from sadness, anxiety, and health anxiety during the COVID-19 epidemic, according to a research. Anxiety and depression are more common among women, according to past research (Liu et al., 2020). This research Correlations between depression and sociodemographic and COVID-19 factors among patients , P-Values of age, occupation, monthly-income, isolation, how long in isolation, hospitalization, COVID negative diagnosis, therapy received, ICU admission are less than 0.05, indicating depression. Age, employment, monthly income, isolation, length of isolation, hospitalization, COVID-negative diagnosis, therapy received, and ICU admission are linked with depression. And gender, marital status, education, family member, diagnosed COVID 19, smoking history have P-Values above 0.05, which are not significant with depression. No link exists between depression and gender, marital status, education, family member with COVID 19, or smoking history. During the COVID-19 epidemic, anxiety disorders tripled (Zhang et al., 2020). High health anxiety may cause a person to misunderstand their own symptoms, leaving them subject to worry and melancholy. The greater anxiety, sadness, and health anxiety levels among women in this

research are not surprising.

In this study, Age, education, monthly income, family member, isolation, how long in isolation, hospitalization, COVID negative diagnosis, therapy received, and ICU admission all have P-values less than 0.05, indicating depression relevance. Depression is associated with age, education, monthly income, family member, and isolation, length of isolation, hospitalization, COVID negative diagnosis, therapy received, and ICU admission. Gender, marital status, education, occupation, COVID19 in the family, and smoking history all exhibited P-Values greater than 0.05, indicating that they are unrelated to depression. Depression has no relationship with gender, marital status, education, occupation, COVID 19 in the family, or smoking history.

Rogers et al., (2020), estimate that, a significant frequency of anxiety and depression among hospitalized COVID-19 patients. 34.72 % of COVID-19 patients had anxiety symptoms, and 28.47 % exhibited depressive symptoms, according to a comparable research. In addition, a substantial positive association between anxiety and depression scores was discovered. This suggested that COVID-19 individuals with anxiety symptoms were likely to also have depressive symptoms (Greenberg et al., 2020). The prevalence of anxiety symptoms was elevated among individuals aged 46 to 60. In China, people between the ages of 46 and 60 are often the primary caregivers and the backbone of the family.

Despite the prevalence of COVID-19-related symptoms, people may be concerned about a brief economic disturbance. Moreover, women likely have a larger anxiety risk than men. Due to their role as the primary family caretaker and their heightened sensitivity to separation, women are more likely to experience anxiety symptoms (Wang et al., 2020).

Limitation

- The main issue was that we didn't acquire enough patients with Covid-19 because of the patient's unwillingness to provide information.
- Many patients hesitate to recognize Covid-19 because they were terrified of the negative implications of Covid-19.
- The Hospitals that treat patients with COVID-19 typically failed to submit information to assessors.
- It was unable to extrapolate the findings of this research because the sample size was too small. Research was limited to Savar, Dhaka.
- This study was performed in a short time, thus all factors related to impairment and functional disability of COVID-19 may not have been emphasized. If there was adequate time, the scope of this project may be expanded.
- There was so little research on depression, anxiety, and stress among COVID-19 positive patients from a Bangladeshi viewpoint, it is impossible to compare our study with other studies.

CHAPTER-VI	CONCLUSION AND RECOMANDATION

6.1 Conclusion

During the SARS-CoV-2 outbreak, the prevalence of depressed, anxious, and stress-related symptoms increased significantly, according to the research. Effective screening approaches for depression, anxiety, and stress symptoms should be given high attention in the event of a SARS-CoV-2 pandemic. An individual's well-being and daily activities may benefit from this. The number of COVID-19-positive patients is expected to rise as a consequence of this. COVID-19 and depression, anxiety, and stress are linked. Those with COVID-19 were found to have a mean age of 33.07 years in this research. With a COVID-19 positive, men were more impacted than women. For example, the P-Values for COVID-19 and ICU admission in the family were all less than 0.05; this indicates a substantial link with depression. Researchers found an association between hospitalized patients' employment and their level of anxiety. Also, establish a link between monthly revenue and the number of treatments you've had. COVID-19 is a worldwide health concern that is the leading cause of death and disability in the world. COVID-19 patients typically experience sadness, anxiety, and stress that may have a detrimental effect on everyday living. There is an increased risk of depression, tension, and anxiety after the administration of COVID-19 due to the impairments in daily activities and engagement. The COVID-19 crisis enhanced social isolation in an effort to reduce the transmission of the Corona virus among individuals. To guarantee the best possible result for COVID-19 survivors, it is essential to assess their degree of depression, anxiety, and stress. During the SARS-CoV-2 outbreak, the prevalence of depressed, anxious, and stress-related symptoms increased significantly, according to the research. Effective screening approaches for depression, anxiety, and stress symptoms should be given high attention in the event of a SARS-CoV-2 pandemic. An individual's well-being and daily activities may benefit from this.

6.2 Recommendation

- A large proportion of COVID-19 positive patients should be a focus of future research.
- Researchers may conduct research throughout Bangladesh to better serve persons with COVID-19 positive.
- Cohort follow-up study

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Informed Consent
(Please read out to the participant)

Assalamualaikum,

My name is Shahid Afridi. I am conducting this research study which is the part of B.Sc. in Physiotherapy program and my research title is "**Level of Depression, Anxiety and Stress among COVID-19 patients at Savar**" under Bangladesh Health Professions Institute (BHPI), University of Dhaka. I would like to know about some personal and other related information regarding depression among people who having COVID-19 at Savar. You have to answer some questions which are mention in the attached form. This will take approximately 20-30 minutes.

I would like to inform you that this is a purely professional study and will not be used for any other purpose. So your participation in the research will have no impact on your present or future treatment. All information provided by you will be treated as confidential and in the event of any report or publication it will be ensured that the source of information remains anonymous. Your participation in this study is voluntary and you may withdraw yourself at any time during this study without any negative consequences. You also have the right not to answer a particular question that you don't like or do not want to answer during interview.

If you have any query about the study or your right as a participant, you may contact with researcher Shahid Afridi or my supervisor Shazal Kumar Das, Lecturer, Department of Physiotherapy, BHPI, CRP, Savar, Dhaka-1343.

Do you have any questions before I start?

So may I have your consent to proceed with the interview?

| Yes | | No |

Signature of the Participant's... Date………………

Signature of the Witness's……………………………………… Date………………

Signature of the Data collector's………………………….………..Date………………

সম্মতিপত্র

আসসালামুয়ালাইকুম,

আমি শাহিদ আফ্রিদী, বাংলাদেশ হেলথ প্রফেশন্স ইন্সটিটিউট এর বি.এস.সি ইন ফিজিওথেরাপি কোর্সের ৪র্থ বর্ষের একজন শিক্ষার্থী। অধ্যায়নের অংশ হিসেবে আমাকে একটি গবেষণা সম্পাদন করতে হবে এবং এটা আমার প্রাতিষ্ঠানিক কাজের একটা অংশ। নিম্নোক্ত তথ্যাদি পাঠ করার পর অংশগ্রহণকারীদের গবেষণায় অংশগ্রহনের জন্য অনুরোধ করা হলো।

আমার গবেষণার বিষয় হল **'সাভারে কোভিড-১৯ রোগীদের মধ্যে বিষন্নতা, উদ্বেগ এবং চাপের মাত্রা পরিমাপ'**। এই পরীক্ষামূলক গবেষণার মাধ্যমে আমি কোভিড-১৯ আক্রান্ত ব্যক্তিদের বিষন্নতা, উদ্বেগ এবং স্ট্রেসের মাত্রা পরিমাপ নিরূপণের একটি অনুমান পরীক্ষা করব।

আমি যদি আমার গবেষণাটি সার্থকভাবে সম্পূর্ণ করতে পারি তবে যেসব ব্যক্তিরা কোভিড-১৯ আক্রান্ত হয়েছেন তারা উপকৃত হবেন এবং এটি হবে একটি পরীক্ষামূলক প্রমাণ। গবেষণাটি সম্পাদনের জন্য, আমার তথ্য সংগ্রহ করা প্রয়োজন হবে। গবেষণার ক্ষেত্র বিবেচনা করে আপনার মাঝে আমার গবেষণায় অংশগ্রহণ করার জন্য প্রয়োজনীয় বৈশিষ্ট্য লক্ষ্য করা গেছে। এজন্য, আপনি আমার গবেষণার একজন সম্মানিত অংশগ্রহণকারী হতে পারেন এবং আমি আপনাকে আমার গবেষণায় অংশগ্রহন করতে অনুরোধ জানাচ্ছি।

আমি প্রতিজ্ঞা করছি যে, এই গবেষণা আপনার জন্য ঝুঁকিপূর্ণ হবে না অথবা আপনার কোন ক্ষতি করবে না। গবেষণা চলাকলীন সময়ে কোন রকম দ্বিধা বা ঝুঁকি ছাড়াই যেকোন সময়ে আপনি এটাকে বাদ দিতে পারবেন। এই গবেষণার প্রাপ্ত তথ্য সম্পূর্ণভাবে গোপনীয় থাকবে এবং অংশগ্রহণকারীর ব্যক্তিগত তথ্য অন্য কোথাও প্রকাশ করা হবে না।

যদি আপনার গবেষণা সম্পর্কে কোনো জিজ্ঞসা থাকে তবে আপনি অনুগ্রহপূবক যোগাযোগ করতে পারেন গবেষক শাহিদ আফ্রিদী অথবা আমার সুপারভাইজার সজল কুমার দাশ, প্রভাষক, ফিজিওথেরাপি বিভাগ, বিএইচপিআই, সিআরপি, সাভার, ঢাকা- ১৩৪৩ ।

শুরু করার আগে আপনার কি কোন প্রশ্ন আছে ?

আমি কি শুরু করতে পারি ?

হ্যাঁ		না

অংশগ্রহনকারীর স্বাক্ষর.. তারিখ.................

সাক্ষীর স্বাক্ষর.. তারিখ.................

তথ্য সংগ্রহকারীর স্বাক্ষর.. তারিখ.................

Questionnaire

(English)

1. Socio-demographic information:

(Put √ and write your answer)

Question	Answer
1. Participant's Name	
2. Age	
3. Sex	1=Male 2= Female
4. Address	
5. Mobile Number	
6. Marital Status	1= Married 2= Unmarried
7. Educational Qualifications	1= Illiterate 2= Primary 3= Secondary 4= Higher secondary 5= Graduation 6= Post graduation
8. Occupation	1=Farmers 2=Garments workers 3= Driver 4= Day Laborer 5= Service Holder 6= Businessman 7= Retired 8=S uden t 9= Othe rs
9. Monthly Income	1= Below 5000

	BDT
	2= 5000-15000 BDT
	3= 15000- 25000 BDT
	4=25000- 35000 BDT or above
10. Family Member	

2. Covid-19 related information:
(Put √ and write your answer)

Did you were in isolation?	1= Yes 2= No
Had you been admitted to the hospital?	1= Yes 2= No
Diagnosed COVID 19 in the family?	1= Yes 2= No
Did you have a smoking history before diagnosed COVID positive?	1= Yes 2= No
Did you diagnose COVID negative?	1= Yes 2= No
What kinds of treatment you have received during COVID-19 status?	1= Medicine 2= Ventilation 3= Oxygen supplementation
Did you have to admit in ICU for COVID-19?	1= Yes 2= No

3. DASS-21:
Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.
The rating scale is as follows:

0   Did not apply to me at all
1   Applied to me to some degree, or some of the time
2   Applied to me to a considerable degree or a good part of time
3   Applied to me very much or most of the time

1	I found it hard to wind down	0	1	2	3
2	I was aware of dryness of my mouth	0	1	2	3
3	I couldn't seem to experience any positive feeling at all	0	1	2	3
4	I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5	I found it difficult to work up the initiative to do things	0	1	2	3
6	I tended to over-react to situations	0	1	2	3
7	I experienced trembling (e.g. in the hands)	0	1	2	3
8	I felt that I was using a lot of nervous energy	0	1	2	3
9	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10	I felt that I had nothing to look forward to	0	1	2	3
11	I found myself getting agitated	0	1	2	3
12	I found it difficult to relax	0	1	2	3
13	I felt down-hearted and blue	0	1	2	3
14	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
15	I felt I was close to panic	0	1	2	3
16	I was unable to become enthusiastic about anything	0	1	2	3
17	I felt I wasn't worth much as a person	0	1	2	3
18	I felt that I was rather touchy	0	1	2	3
19	I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)	0	1	2	3
20	I felt scared without any good reason	0	1	2	3
21	I felt that life was meaningless	0	1	2	3

The DASS-21 should not be used to replace a face-to-face clinical interview. If you are experiencing significant emotional difficulties you should contact your GP for a referral to a qualified professional.

Recommended cut-off scores for conventional severity labels (normal, moderate, severe) are as follows:

	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely Severe	28+	20+	34+

প্রশ্নপত্র

(বাংলা)

১. সামাজিক-জনসংখ্যা সংক্রান্ত তথ্য:

(আপনার উত্তরে √ রাখুন)

প্রশ্ন	উত্তর
১. অংশগ্রহণকারীর নাম	
২. বয়স	
৩. লিঙ্গ	১=পুরুষ ২= মহিলা
৪. ঠিকানা	
৫. মোবাইল নম্বর	
৬. বৈবাহিক অবস্থা	১= বিবাহিত ২= অবিবাহিত
৭. শিক্ষাগত যোগ্যতা	১= নিরক্ষর ২ = প্রাথমিক ৩ = মাধ্যমিক ৪= উচ্চ মাধ্যমিক ৫ = স্নাতক ৬= স্নাতকোত্তর
৮. পেশা	১ = কৃষক ২ = গার্মেন্টস শ্রমিক ৩ = ড্রাইভার ৪= দিনমজুর ৫= সার্ভিস হোল্ডার ৬ = ব্যবসায়ী ৭= অবসরপ্রাপ্ত ৮=ছাত্র ৯=অন্য রা
৯. মাসিক আয়	১= ১-৫০০০ টাকা ২= ৫০০০-১৫০০০ টাকা ৩= ১৫০০০-২৫০০০ টাকা ৪= ২৫০০০-৩৫০০০ টাকা বা তার বেশি
১০. পরিবারের সদস্য	

75

২. কোভিড-১৯ সম্পর্কিত তথ্য:

(আপনার উত্তরে √ রাখুন)

আপনি কি বিচ্ছিন্ন ছিলেন?	১= হ্যাঁ
	২ = না
আপনি হাসপাতালে ভর্তি করা হয়েছিল?	১= হ্যাঁ
	২ = না
পরিবারে কেউ কি কোভিড-১৯ আক্রান্ত হয়েছে?	১= হ্যাঁ
	২ = না
কোভিড পজিটিভ ধরা পড়ার আগে আপনার কি ধূমপানের ইতিহাস ছিল?	১= হ্যাঁ
	২ = না
আপনি কি কোভিড নেতিবাচক নির্ণয় করেছেন?	১= হ্যাঁ
	২ = না
কোভিড-১৯ অবস্থার সময় আপনি কি ধরনের চিকিৎসা পেয়েছেন?	১ = ঔষধ
	২ = ভেন্টিলেশন
	৩= অক্সিজেন সাপ্লিমেন্ট
আপনাকে কি কোভিড-১৯ -এর জন্য আই সি ইউ-তে ভর্তি হতে হয়েছিল?	১= হ্যাঁ
	২ = না

৩. DASS-21:

অনুগ্রহ করে নিচের প্রতিটি বিবৃতি পড়ুন এবং ০, ১, ২ অথবা ৩ এর মধ্যে গত সপ্তাহ ব্যাপী আপনার জন্য প্রযোজ্য যে কোন একটি সংখ্যায় গোল চিহ্ন দিন। এখানে কোন সঠিক বা ভুল উত্তর নেই। কোন বিবৃতির জন্য বেশী সময় ব্যয় করবেন না।

মানদণ্ডটি)রেটিং স্কেল (নিম্নরূপ:

০= আমার জন্য একেবারেই প্রযোজ্য নয়

১= আমার জন্য অল্পমাত্রায় বা কখনো কখনো প্রযোজ্য

২= আমার জন্য বেশ কিছুমাত্রায় বা বেশখানিকটা সময়ের জন্য প্রযোজ্য

৩= আমার জন্য খুব বেশী বা বেশীরভাগ সময়ের জন্য প্রযোজ্য

১	কোন উৎকণ্ঠা বা উত্তেজনামূলক কাজের পর আরামদায়ক অবস্থায় ফিরে আসা আমার জন্য কঠিন ছিল।	০	১	২	৩
২	আমি বুঝতে পারতাম যে আমার গলা শুকিয়ে আসছে।	০	১	২	৩
৩	ইতিবাচক কোন অনুভূতিই আমার মধ্যে কাজ করত না।	০	১	২	৩
৪	আমার শ্বাসকষ্টের অনুভতি হত)যেমন অতিদ্রুত শ্বাসপ্রশ্বাস, শারীরিক পরিশ্রম ছাড়াই নিঃশ্বাস বন্ধ হয়ে আসা)	০	১	২	৩
৫	নিজে উদ্যোগী হয়ে কোন কাজ শুরু করা আমার জন্য কঠিন হত।	০	১	২	৩
৬	আমার মধ্যে বিভিন্ন পরিস্থিতিতে অতিরিক্ত প্রতিক্রিয়া করার প্রবনতা ছিল।	০	১	২	৩
৭	আমার শরীর কাঁপার অভিজ্ঞতা হয়েছিল)যেমন হাত কাঁপা(।	০	১	২	৩
৮	আমার মনে হতো যে আমি খুব বেশী স্নায়ু চাপে ভুগছি।	০	১	২	৩
৯	আমি এমন পরিস্থিতি সম্পর্কে দুশ্চিন্তাগ্রস্ত ছিলাম যেখানে আমি তীব্রভাবে আতঙ্কিত হতে পারি এবং এমন কোন কাজ করতে পারি যাতে অন্যরা আমাকে বোকা মনে করবে।	০	১	২	৩
১০	আমার মনে হচ্ছিল, ভবিষ্যতে আমার ভালো কিছুরই আশা নাই।	০	১	২	৩
১১	আমি অনুভব করতাম যে আমি খুব অস্থির হয়ে যাচ্ছি।	০	১	২	৩
১২	আরাম বোধ করা আমার জন্য কঠিন হত।	০	১	২	৩
১৩	আমি মনমরা এবং বিষণ্ণ অনুভব করতাম।	০	১	২	৩
১৪	আমার কাজে বাধা হয় এমন যে কোন জিনিসই আমার কাছে অসহ্য লাগত।	০	১	২	৩
১৫	আমার মনে হত এই বুঝি আমি হঠাৎ তীব্রভাবে আতঙ্কগ্রস্ত হচ্ছি।	০	১	২	৩
১৬	কোন কিছুতেই আমি বেশী আগ্রহী হতে পারতাম না।	০	১	২	৩
১৭	আমি অনুভব করতাম ব্যক্তি হিসেবে আমার বিশেষ কোন মূল্য নেই	০	১	২	৩
১৮	আমি অনুভব করতাম আমি একটুতেই মনে ব্যথা পাই ।	০	১	২	৩
১৯	শারীরিক পরিশ্রম না করলেও আমি হৃদপিন্ডের কাজ করা বুঝতে পারতাম(যেমন: হৃদস্পন্দন বৃদ্ধির অনুভূতি বা বুক ধড়ফড় করা, হৃদপিন্ডের স্পন্দনে ব্যাঘাত)।	০	১	২	৩
২০	যথাযথ কারন ছাড়াই আমি ভীত-সন্ত্রস্ত বোধ করতাম।	০	১	২	৩
২১	জীবনটা অর্থহীন বলে মনে হত।	০	১	২	৩

ক্লিনিক্যাল ইন্টারভিউ এর বিকল্প হিসেবে DASS 21 ব্যবহার করা উচিৎ নয় । আপনি যদি উল্লেকযোগ্য মানসিক সমস্যার সম্মুখিন হন তবে একজন যোগ্যতাসম্পন্ন পেশাজীবির কাছে রেফারেলের জন্য আপনার জেনারেল প্রাকটিশনার এর সাথে যোগাযোগ করা উচিৎ।

	স্কোর	ক্রম	মাত্রা
বিষন্নতা (D)			
উদ্বেগ (A)			
চাপ (S)			

ক্রম	মাত্রা	বিষন্নতা (D)	উদ্বেগ (A)	চাপ (S)
১	সাধারন	০ – ৯	০-৭	০-১৪
২	মৃদু	১০-১৩	৮-৯	১৫-১৮
৩	মধ্যম	১৪-২০	১০-১৪	১৯-২৫
৪	তীব্র	২১-২৭	১৫-১৯	২৬-৩৩
৫	অতি তীব্র	২৮+	২০+	৩৪+

The Chairman
Institutional Review Board (IRB)
Bangladesh Health Professions Institute (BHPI), CRP
Savar, Dhaka-1343.Bangladesh

Subject: Application for review and ethical approval.

Dear Sir,

With due respect, I am Shahid Afridi, a student of final year B.Sc. in Physiotherapy program at Bangladesh Health Professions Institute (BHPI) the academic institute of Centre for the Rehabilitation of the Paralyzed (CRP) under the Faculty of Medicine, University of Dhaka. As per the course curriculum, I have to conduct a research project entitled **"Level of Depression, Anxiety and Stress among COVID-19 patients at Savar"**under the supervision of Shazal Kumar Das, Lecturer, Department of Physiotherapy,BHPI.

The purpose of the study is to find out the level of depression, anxiety, and stress among COVID-19 patients at Savar. The study involves face-to-face and phone interviews by using a questionnaire to explore the perception of people with COVID-19 positive at Savar that may take 15 to 20 minutes to fill in the questionnaire and there is no likelihood of any harm to the participants. Related information will be collected from the patients' guidebooks. Data collectors will receive informed consent from all participants and the collected data will be kept confidential.

Therefore, I look forward to having your kind approval for the research project and to starting data collection. I can also assure you that I will maintain all the requirements for the study.

Sincerely,

Shahid Afridi
10.02.22
Shahid Afridi

Final Year B.Sc. in Physiotherapy

Session: 2016 – 2017,

BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Thesis presentation date: 17th October 2021

Shofiz
Head of Department

B.Sc. in Physiotherapy, BHPI.
Md. Shofiqul Islam
Associate Professor & Head
Department of Physiotherapy
Bangladesh Health Professions Institute (BHPI)
CRP, Chapain, Savar, Dhaka-1343

Recommendation from the Supervisor

SKdh 10/2/22
Shazal Kumar Das
Lecturer
Department of Physiotherapy, BHPI.

Date: 22.03.2022

To

Health and Family Planning Officer

Savar Upazila,

Savar, Dhaka.

Subject: *Regarding Data collection for dissertation.*

Greetings from Bangladesh Health Professions Institute (BHPI). I would like to inform you that, BHPI, the Academic Institute of CRP is running B. Sc in Physiotherapy Course, under Faculty of Medicine, University of Dhaka.

According to the content of 4th year of University course curriculum, the students have to do Research and Course work in different topics to develop their skills. Considering the situation, your institute will be the most appropriate place to collect data.

4th year students of BHPI Shahid Afridi would like to collect data in your organization in your convenient time.

We shall remain grateful to you if you could kindly allow us in conducting the placement.

With regards

Md. Shofiqul Islam

Associate Prof. & Head

Dept. of Physiotherapy

BHPI

Ref: Date:

CRP/BHPI/IRB/03/2022/578   02/03/2022

Shahid Afridi
4th Year B.Sc. in Physiotherapy
Session: 2016 – 2017
BHPI, CRP, Savar, Dhaka- 1343, Bangladesh

Subject: Approval of the research project proposal **"Level of Depression, Anxiety and Stress among COVID-19 patients at Savar"** by ethics committee.

Dear Shahid Afridi,
Congratulations.
The Institutional Review Board (IRB) of BHPI has reviewed and discussed your application to conduct the above-mentioned dissertation, with yourself, as the principal investigator and Shazal Kumar Das as thesis supervisor. The Following documents have been reviewed and approved:

Sr. No.	Name of the Documents
1	Dissertation Proposal
2	Questionnaire (English and Bengali version)
3	Information sheet & consent form.

The purpose of the study is to find out the level of depression, anxiety and stress among COVID-19 patients at Savar. Since the study involves questionnaire that takes maximum 15-20 minutes and have no likelihood of any harm to the participants, the members of the Ethics committee approved the study to be conducted in the presented form at the meeting held at 09:00 AM on 12th October, 2021 at BHPI (30th IRB Meeting).

The institutional Ethics committee expects to be informed about the progress of the study, any changes occurring in the course of the study, any revision in the protocol and patient information or informed consent and ask to be provided a copy of the final report. This Ethics committee is working accordance to Nuremberg Code 1947, World Medical Association Declaration of Helsinki, 1964 - 2013 and other applicable regulation.

Best regards,

[signature]

Muhammad Millat Hossain
Assistant Professor, Dept. of Rehabilitation Science
Member Secretary, Institutional Review Board (IRB)
BHPI, CRP, Savar, Dhaka-1343, Bangladesh