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# Prevalence and Factors Associated with Depression and Anxiety of Hospitalized Patients with COVID-19 in St.peter Specialized Hospital Treatment Centers

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## ABSTRACT

**Background:** -Since December, 2019, an outbreak of corona virus disease 2019 (COVID-19), caused by the severe acute respiratory syndrome coronavirus2 (SARS-CoV-2) has widely and rapidly spread in China and around the world. Since 31 December 2019 and as of 30 April 2020, more than 25,000,000 cases of COVID-19 and 800,000 deaths have been reported. The grim epidemic has caused increasing public panic and mental health stress. Mental health is becoming an issue that cannot be ignored, while trying to control the outbreak.

**Objective:**-This is study aimed to assess the Prevalence and Factors Associated with Depression and Anxiety of Hospitalized Patients with COVID-19in St.peter Specialized Hospital COVID-19 Treatment Centers Addis Ababa, Ethiopia, 2020 G.C

**Methods:** Institutional based cross-sectional study was conducted among 422 Patients with COVID-19admitted at St. Peter Specialized Hospital COVID-19 treatment center. The Anxiety and Depression was measured by using 14-items Hospital Anxiety and Depression Scale (HADS). After cleaning data was enter, in to EPI info version 7 then it was exported to SPSS versions 20 for analysis. To indicate the strength of association odds ratios (OR) and 95% confidence intervals (95% CI) was used and logistic regression was done and the level of significance of association was determined at P- value <0.05.

**Result:** A total of 373 participants were volunteer to be included in the study which makes the response rate 88.4%. The mean age of the respondents was 37.46(± SD =16.09) years. This study revealed that the Magnitude of Depression 36.5 % (136) and Anxiety 21.2 % (79) among COVID-19 patients. By using Multivariate (Anxiety) Logistic Regression, Patients who were Male (AOR 5.01, 95%CI (2.11, 11.87)), Housewife (AOR 11.43, 95%CI ( 2.67, 48.90)), Self-employed (AOR 2.45,, 95%CI (1.07, 5.60)), having Diagnosed Chronic illness (AOR 2.56, 95%CI (1.19, 5.53)), having COVID-19 Symptoms for below 7 days and for 8-14 days ((AOR 3.21, 95%CI (1.21, 8.58)) & AOR 3.70, 95%CI (1.55, 8.84)) respectively) and those who had Poor/low Social Support (AOR 3.42, 95%CI (1.21, 9.63)) had Statistically Significant Association with Anxiety.

By using Multivariate (Depression) Logistic Regression, Patients who were 41 and above years of old (AOR 3.95, 95% CI (1.80, 8.69)), had Monthly Income of less than 1000 birr (AOR 2.99, 95%CI (1.11, 8.05)), Having COVID-19 Symptoms for 8-14 days (AOR 2.63, 95% CI (1.34, 5.17)) and who had Poor Social Support (AOR 3.13, 95% CI (1.34, 7.30)) were Statistically Significant Associated with Depression.

**Conclusion:** In the current study area the magnitude of depression and anxiety was high. Factors like sex, Job, having Diagnosed Chronic illness, Duration of COVID-19 symptom and social support with anxiety and factors such as age, income, duration of COVID-19 symptom and social support had statistically significant associated with depression.

**Keywords:** Anxiety, Depression, Social Support, COVID-19

## INTRODUCTION

### Background

The novel coronavirus (COVID-19) is a new infectious disease that is mainly transmitted by respiratory droplets and contact and is generally infectious to human beings. On January 11, 2020, after pathogenic nucleic acid testing (NAT), China reported 41 cases of pneumonia infected with the novel coronavirus (SARS-CoV-2) for the first time in the world of human infection with the novel coronavirus. On January 30, 2020, the World Health Organization listed the novel coronavirus epidemic as a Public Health Emergency of International Concern (PHEIC). As of February 20, 2020, a total of 75,465 confirmed cases and 2,236 deaths have been reported in mainland China. WHO stated that there is a high risk of COVID-19 spreading to other countries around the world. Now it becomes a major pandemic, once after it was detected in Wuhan, China, to clusters of cases in many countries of the world.

The symptoms of COVID-19 are non-specific, ranging from asymptomatic to severe pneumonia and death. Fever and cough are the most common clinical symptoms. Abnormal chest computed tomography (CT) has been used to diagnose 67.4–88.0% cases of COVID-19, indicating that pneumonia is the most common manifestation of the disease. The disease is rapidly spreading in areas with high population densities, including urban areas, camps and camp-like settings, and often overburdening weak health systems. It is now clear that the virus does not differentiate between setting and season. Without decisive action, massive outbreaks will happen around the world, because many countries have insufficient resources to augment health-care staff, and do not have enough space or the necessary supplies to treat the sick.

Mortality is higher in patients with hypertension, cardiac disease, diabetes mellitus, cancer, and COPD as well as elderly patients are more susceptible to severe disease and death, while children seem to have lower rates of infection and lower mortality. The approach to diagnosis is still very variable from region to region,

country to country, and even among different hospitals in the same city. The importance of a clinical pathway to implement the most effective and relevant diagnostic strategy is of critical importance to establish the control of this virus that is responsible for more and more deaths each day.

Currently, global statistics shows above 12 million people affected by covid-19 and In Ethiopia, more than 12,300 people are affected by covid-19, during the study period.

**Statement of the Problem**

The evidences highlighted that depression and stress are interrelated to each other and the overlapping symptoms of these psychological problems can lead to a wide range of clinical and personal problems which negatively impact on the quality people's overall life. Depression is an individual experience and a complex phenomenon as the feeling of despair is dominant. Even if, the physicians of Filipinos chose adaptive coping in response to the COVID-19 outbreak there is low Psychiatric morbidity which ranges 17.7% to 18.8% on the general health questionnaire (GHQ 28) (12).Further, the survey that was conducted during the initial outbreak of COVID-19 in China, reported 53.8% of respondents rated the psychological impact of the outbreak as moderate or severe; 16.5% as moderate to severe depressive symptoms; 28.8% as moderate to severe anxiety symptoms, and 8.1% reported moderate to severe stress levels. The psychological fear is perhaps more intensified now compared to previous viral respiratory outbreaks, with increased air travel and enhanced global connectedness that make the spread of a pandemic much more effortless. Extensive media coverage of the epidemic can now influence the public's psychological response to the infectious disease threat.

In addition, the systematic review mentioned that pooled prevalence anxiety, depression, acute stress disorder, burnout and post-traumatic stress disorder was 45%, 38%, 31%, 29%, and 19% respectively. Factors such as socio demographic like younger age and female gender; social like lack of social support, social rejection or isolation, stigmatization; and occupational like working in a high risk environment (frontline staff), specific occupational roles ( nurse), and lower levels of specialized training, preparedness and job experience have an association with the likelihood of developing those problems.

**Prevalence and associated factors of Depression and Anxiety**

The cross-sectional study which was done among 144 patients with confirmed COVID19 who were Huoshenshan Hospital of Wuhan, China during the COVID-19 epidemic to explore the prevalence and factors linked to anxiety and depression by using the Hospital Anxiety and Depression Scale (HADS), and social support using the Perceived Social Support Scale (PSSS) reported that 34.72% and 28.47% patients with COVID-19 had symptoms of anxiety or depression, respectively. Further, those who had less social support were correlated with more anxious and depressive symptoms. Specifically factors like gender (β=1.446, p=0.034), older age (β=0.074, p=0.003), having less oxygen saturation (β =-2.140, p=0.049), and social support (β =-1.545, p=0.017) were associated with anxiety and age (β=0.084, p=0.001), family infection with SARS-CoV-2 (β =1.515, p=0.027) and social support (β =-2.236, $p<0.001$) were the factors associated with depression.

The study was done in the Second Affiliated Hospital of Harbin Medical University, by single-center cross-sectional study focused on measuring depression and anxiety using self-report scales. Linear regression was used to determine independent predictors for depression and anxiety. A total of 78 patients who were confirmed to have COVID-19 were enrolled in the study. Prevalence of depression and anxiety symptoms were diagnosed in 35.9% and 38.5% of the patients, respectively. Multivariate linear regression analysis found female gender was an independent predictor for higher depression severity index. Having family members who were diagnose with COVID-19 and family members who died from COVID-19 were independently associated with higher depression severity index and anxiety score. Depression was assessed using the Zung Self-rating Depression Scale (SDS),consists of 20 items that measure symptoms of depression and Anxiety was assessed using the Zung Self-rating Anxiety Scale (SAS), is a 20-item self-report scale.

**Justification of the study**

A number of studies have interlinked the depression and anxiety to patients with different disease. This study first reported the prevalence of anxiety and depression in patients with COVID-19 during the epidemic. Therefore, in the present study, it is worthy of note that social support is one of the key factors linked to anxiety and depression for patients with COVID-19 and also medical workers as the major peer support that is of great significance to infected patients.

So the current study will add information regarding to Severity of Measurements and Associated Factors of anxiety and depression among covid-19 patients. It may also serve as a clinical reference to health care providers who work at psychiatric clinic to offer comprehensive care to their clients to minimize anxiety and depression and related complications and to early identify and treat anxiety and depression. It may also serve as a reference for future studies and to develop policies and plans.

**Data collection instrument**

A structured questionnaire was used to collect the data on socio-demographic characteristics (age, sex, ethnicity, religion, education, occupation, and marital status). HADS was used to

measure the anxiety and depression level among Admitted in the Hospital for COVID-19 disease. HADS is a 14 item questionnaire, commonly used to screen for depression and anxiety, 7 for anxiety and 7 for depression (14). The scales used a cut off score for anxiety and depression ≥ 8 (30). It was validated in Ethiopia and internal consistency was 0.78 for anxiety, 0.76 for depression subscales and 0.87 for full scale. Social support was collected by Oslo 3-item social support scale, it has 3-item questionnaire commonly used to assess social support and it had been used in several studies, the sum score scale ranging from 3-14, which had three broad categories: "Poor Support" 3-8, "Moderate Support" 9-11 and "Strong Support".

The researcher was recruiting four clinical psychiatrists (BSc) to collect the data and four researchers for supervisor. They were oriented on how to use of the questionnaire and the ethical principles of confidentiality and data management prior to their involvement with data collection and data was collected for 20 days.

**Data quality control issues**

Training was given to the data collectors and supervisors on the data collection tool and sampling techniques by the researcher and co-investigators for five consecutive days. Supervision was held regularly during data collection period both by the researcher, co investigators and supervisor. The collected data was checked on daily basis for completeness and consistence. Data quality control issues was insured by conducting pre-test on 5% of a total samples obtained from patients attending at St. pole hospital. The questionnaire is translated to Amharic version and necessary feedback will offered to the data collectors at the end of each collection.

**Data processing and analysis**

All questionnaires were checked for completeness and consistency of responses manually. After cleaning data was enter, in to EPI info version 7 then it was export to SPSS versions 20 for analysis. Descriptive statistics (frequencies and percentages) was used to explain the study participant in relation to study variables.

Bivariate and multivariate analysis was used to determine the presences of statistically significant associations between the independent variables anxiety and depression. The strength of the association was presented by odds ratio and 95% confidence interval. A p-value of < 0.05 on multivariate analyses was considered as statistically significant.

**Ethical considerations**

Ethical clearance was obtained from IRB ethical review board of St. Peter Specialized Hospital. After thoroughly discussing, the ultimate purpose and method of the study, a written consent will seek from St. Peter Specialized Hospital and Supporting Letter from MoH Clinical General Directorate Director. Informed verbal consent was obtained from each respondent. The respondents were informing that their inclusion in the study was voluntary and they are free to withdraw from the study if they are not willing to participate. If any question they do not want to answer they have the right to do so. To ensure confidentiality of respondents, their names were left out on the questionnaire. All interviews were individually to keep confidentiality. Based on the HADS, those who had symptoms of anxiety and depression were clinically further assessed on voluntary bases by referral to St, Peter Specialized Hospital psychiatric clinic/unit for further diagnosis..

**Result**

**Socio-demographic characteristics of the respondents**

A total of 385 participants were included in the study, 373 volunteers, for a participation which makes the response rate 88.4%. after excluding the invalid questionnaires. The mean age of the respondents was 37.46(± SD =16.09) years. Among the respondents, the majority 157(42.1%) were in age 30 years and below years, 220 (59.0%) were male, 191(51.2%) were married, 167 (44.8%) had secondary school education, 247 (66.2%) were orthodox religion members, 155 (41.6%) were employed at government institution and 177 (47.5%) had monthly income of above 2000 birr.