PREVALENCE OF DEPRESSION AND ANXIETY AMONG COVID-19 SURVIVORS

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ABSTRACT

Background: Depression is a widespread medical condition that affects the emotions, behaviors, and thoughts of the individuals.

Objectives: To see the prevalence of depression and anxiety in geriatric population of covid-19 survivors and its association with age and gender.

Materials and Methods: It was a cross-sectional research conducted through convenient sampling technique. Sample size was 865 participants. Study duration was 6 months. Study population was geriatric individuals from Punjab of age 65 years and older, encompassing both males and females. Geriatric Depression Scale (short form) was used to assess depression and Geriatric Anxiety Inventory (GAI) was utilized to analyze anxiety. Data was interpreted using SPSS version 26 and presented in form of tables and charts. Association was calculated by using the chi square test.

Results: Out of 865 participants 48.9% were between 65 to 69 years, 38.3% were of age between 70 to 74 years, 8.1% were 75 to 79 years of age and 4.7% were of age 80 years and above. Gender distribution shows that 35.3% were males and 64.7% were females. Prevalence of depression was found to be 62.7%. The prevalence of anxiety was 68.5%. No statistically significant association was found between gender and depression/anxiety (p > 0.05), nor was there a significant correlation between age and depression/anxiety (p > 0.05).

Conclusion: Anxiety and depression were found to be prevalent in the geriatric population of covid-19 survivors. However, no significant relationship was found between gender and depression/anxiety, nor was there a significant relationship between age and depression or anxiety.

Keywords: Anxiety, Covid-19, Depression, Prevalence

INTRODUCTION

Depression is a frequent medical condition that affects emotions, actions, and thoughts. It typically coexists with anxiety disorders in primary care settings, making it one of the most common health diseases (1). The intertwining of symptoms makes separating depression and anxiety challenging; yet, diagnosing and treating both is crucial owing to their association with increased morbidity and mortality (2). In Australia, the 12-month incidence of anxiety-related disorders is 14.4%, whereas the overall prevalence of psychological disorders is 6.2%. Furthermore, studies show that around 85% of people with despair have major signs of anxiety, whereas up to 90% of people with anxiety-related disorders also have depression (3).

The coronavirus, also known as COVID-19, is a newly discovered viral respiratory infection that has spread quickly throughout the world. The World Health Organisation (WHO) reports that there are currently over 187 million confirmed cases worldwide, accounting for over 4 million deaths. COVID-19 has a wide-ranging impact, resulting in serious consequences such as hospitalization, the need for intensive care, and, ultimately, fatalities (4). Coronaviruses had a significant and noticeable impact on the psychological well-being of those who were infected. These outbreaks frequently cause increased anxiety, a sense of hopelessness, and, in some cases, posttraumatic stress disorder (PTSD) in a variety of populations. This mounting evidence strongly suggests that the ongoing corona pandemic is having similar psychological consequences. Notably, the treatment of survivors with cytokine-blocking medications is a promising development in addressing the mental health impact of such outbreaks. In a previous study, 19 survivors who received such treatment reported fewer depressive symptoms. This provides a potential avenue for reducing the psychological consequences of viral outbreaks (5, 6).

Survivors of Severe Acute Respiratory Syndrome (SARS) frequently exhibit symptoms of anxiety, sadness, or a combination of the two during the early stages of recovery, according to research. During this time, respondents in these studies frequently exhibit at least one diagnosable mental health condition. Furthermore, among these survivors, persistent psychopathologies such as severe depression, adjustment disorders, and posttraumatic stress disorder (PTSD) are frequently identified after discharge (7). Anxiety, disruptions in daily routines, separation from friends and family, and social isolation are all common psychological

reactions to infectious diseases. These reactions have a significant negative impact on people's mental health. A better understanding of the infectious disease and its symptoms is required to effectively manage the situation. Individuals exposed to life-threatening conditions have a high prevalence of psychological distress. Without a doubt, the ongoing pandemic puts a significant strain on people from all walks of life (8).

The fear of infection, as well as the strain on healthcare systems, has caused severe anxiety not only among patients, but also among healthcare workers. Inadequate hospital beds equipped with ventilators, combined with a global economic crisis, heightened these concerns. These disorders are most common during the acute phase of the disease.COVID-19 has also been linked to cognitive difficulties and memory problems in patients (9). The World Health Organization (WHO) estimates that 246 million people are suffering from major depressive disorder. Depression is the most serious post-COVID-19 complication, and it must be effectively managed (10). A study by HY Park et al. looked at the psychological effects of COVID-19 on survivors one month after discharge, with a focus on people with underlying medical conditions who were between the ages of 62 and 68. The results showed that those who had recovered completely and without any issues had a lower risk of developing anxiety and depression. The study graded and assessed responses using a Likert scale, offering insights into the psychological effects of global covid pandemic (11).

The goal of this cross-sectional study, which included 865 geriatric COVID-19 survivors aged 65 and up, was to assess the prevalence of anxiety as well as depression and to investigate their relationship with gender and age. The rationale was to address the pandemic's psychological impact on a vulnerable population. The limited research on mental health outcomes, specifically among elderly COVID-19 survivors, revealed a gap in the literature. The importance of this study lies in the valuable insights it has provided into the prevalence and associations of depression and anxiety in this demographic, which will aid in targeted interventions for improved post-COVID-19 mental health outcomes.

MATERIALS AND METHODS

Study design and population

It was a cross-sectional research. Sample size was 865 participants calculated through online Epitool software. Study duration was 6 months. Convenient sampling technique was used. Study population was geriatric individuals of age 65 years and older, encompassing both males and females.

Selection criteria

The inclusion criteria for this six-month cross-sectional study aimed to capture specific demographic — geriatric individuals aged 65 years and older who had survived COVID-19. Participants were required to have completed the recovery phase without complications related to COVID-19 pneumonia. The study sought individuals willing and able to actively participate, possessing the cognitive capacity to respond effectively to the assessment tools employed. Both males and females were included in the study, and marriage status was considered. Additionally, individuals with underlying medical conditions, specifically those with hypertension, were part of the targeted population. These inclusion criteria were carefully chosen to ensure a comprehensive examination of the frequency of depression and anxiety in a specific subset of COVID-19 survivors within the geriatric age group.

Participants with cognitive impairments that interfered with their ability to respond to the assessment tools, individuals unwilling or unable to participate in the study, or having pre-existing psychiatric conditions that could confound the assessment of depression and anxiety, and those with severe medical conditions that could interfere with mental health assessments were excluded from the research.

Data collection tools and procedure

Participants were recruited according to the define selection criteria. The purpose of the study was explained to all participants. Informed consent forms were signed by all subjects prior to data collection. Data was collected o 864 participants. Geriatric Depression Scale (short form)

was used to analyze depression and Geriatric Anxiety Inventory (GAI) was utilized to analyze anxiety.

Ethical consideration

The study was ethically approved by the IRB of "Government College University Faisalabad". All ethical concerns were taken into account. Informed consent forms were signed were all study participants prior to the enrollment. Privacy of the participants was prioritized. All the participants had the right to leave the study anytime.

Statistical analysis

Data was interpreted using SPSS version 26 and presented in form of tables and charts. Association was calculated by using the chi square test.

RESULTS

Demographic statistics

Table 1 presets the demographic data of the participants. Age was divided into four categories. Out of 865 participants 48.9% were between 65 to 69 years, 38.3% were of age between 70 to 74 years, 8.1% were 75 to 79 years of age and 4.7% were of age 80 years and above. Gender distribution shows that 35.3% were males and 64.7% were females.

Table 1: Demographic statistics

Demographic statistics		f(%)
Age	65-69y	423(48.9)
	70-74y	331(38.3)
	75-79y	70(8.1)
	80y and above	41(4.7)
Gender	Males	305(35.3)
	Females	560(64.7)
	Total	865

Depression and Anxiety overall score

Table 2 demonstrates the overall score of depression and anxiety. 37.3% of the participants had no depression. 56.2% had mild depression and 6.5% of the people reported depression of moderate to severe level. Results of Geriatric Anxiety Inventory (GAI) show that, 31.6% had no anxiety, 41.5% had mild anxiety, 16.1% participants had moderate and 10.9% had severe anxiety.

Table 2: Frequency and percentage of overall score of depression and anxiety

Depression			f(%)
Geriatric Depression Scale (short form)	0–4	No Depression	323(37.3)
	5–9	Mild Depression	486(56.2)
	10–15	Moderate - Severe	56(6.5)
Anxiety			**f(%)**
Geriatric Anxiety Inventory (GAI)	0-5	No Anxiety	273(31.6)
	6-10	Mild Anxiety	359(41.5)
	11-15	Moderate Anxiety	139(16.1)
	16 or above	Severe Anxiety	94(10.9)
Total			865

Prevalence of Depression and anxiety

In the geriatric people of 865, prevalence of depression was found to be 62.7%. The prevalence of anxiety was 68.5% (Figure 1).
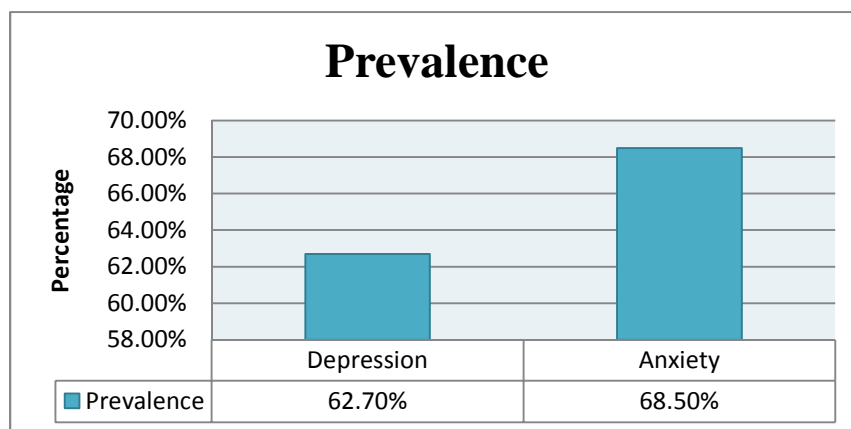

Figure 1: Prevalence of Depression and Anxiety

Association of gender with depression and anxiety

Table 3 indicates that there is no statistically significant association between gender and depression (p > 0.05), or between gender and anxiety (p > 0.05).

Table 3: Association of gender with depression and anxiety

Chi-Square Tests

	Gender*Depression			Gender*Anxiety		
	Value	**df**	**Asymptotic Significance (2-sided)**	**Value**	**df**	**Asymptotic Significance (2-sided)**
Pearson Chi-Square	.654	2	.721	4.497	3	.213
Likelihood Ratio	.655	2	.721	4.455	3	.216
Linear-by-Linear Association	.253	1	.615	2.240	1	.135
N of Valid Cases	865			865		

Association of age with depression and anxiety

Table 4 indicates that there is no statistically significant association between age and depression (p < 0.05), or between age and anxiety (p > 0.05).

Table 4: Association of age with depression and anxiety

Chi-Square Tests

	Age*Depression			Age*Anxiety		
	Value	**df**	**Asymptotic Significance (2-sided)**	**Value**	**df**	**Asymptotic Significance (2-sided)**
Pearson Chi-Square	2.177	6	.903	14.321	9	.111
Likelihood Ratio	2.216	6	.899	14.931	9	.093
Linear-by-Linear Association	.275	1	.600	1.195	1	.274
N of Valid Cases	865			865		

DISCUSSION

Depression is a widespread medical condition that affects the emotions, behaviors, and thoughts of the individuals. Depression is the most serious post-COVID-19 complication, and it must be effectively managed (10). The objective of this cross-sectional study, which included 865 geriatric COVID-19 survivors aged 65 and older, was to determine the frequency of anxiety as well as depression and explore their relation with gender and age. Out of 865 participants 48.9% were between 65 to 69 years, 38.3% were of age between 70 to 74 years, 8.1% were 75 to 79 years of age and 4.7% were of age 80 years and above. Gender distribution shows that 35.3% were males and 64.7% were females. Overall score of Geriatric Depression Scale (short form) showed that 37.3% of the participants had no depression. 56.2% had depression of mild level and 6.5% had moderate to severe depression. Results of Geriatric Anxiety Inventory (GAI) show that, 31.6% had no anxiety, 41.5% had mild anxiety, 16.1% participants had moderate and 10.9% had severe anxiety. Prevalence of depression was found to be 62.7%. The prevalence of anxiety was 68.5%. There was no statistically significant association between gender and depression/anxiety ($p > 0.05$), and a similar lack of significant association was observed between age and depression/anxiety ($p > 0.05$).

F. Chen et al. discovered that women adolescents were more likely to experience anxiety, stress or depression during the corona pandemic. Furthermore, the study discovered that older adolescents had higher levels of depression than their younger counterparts. When it comes to other age groups, however, no link with anxiety was found (2). In present study geriatric population was taken instead of adolescents. In contrast to that study, recent study does not found any association of gender with depression or anxiety. But same results were found in present study in term of association between age and depression / anxiety.

In 2019, XD Nie et al. did a study in Wuhan to evaluate anxiety and depression in coronavirus patients. The study discovered that corona survivors had a significant frequency of anxiety and sadness. Depression was experienced by 35.9% of the population, while anxiety was reported by 38.5% (12). The present study had the similar goals, and depression was found to be 62.7%. Anxiety was found in 68.5% of the elderly group aged 65 and over. Another research, by Azadeh Pani et al., validated the current study's findings, reporting that a high proportion of survivors of covid showed anxiety and depression symptoms (13).

SelcukOzdin et al. investigated the prevalence and predictors of anxiety, depression, and health anxiety in Turkish society during the corona epidemic of 2019, with a particular emphasis on the impact of gender. The findings revealed that the feminine gender was more prone to anxiety and despair (14). In contrast, the current study discovered no link between gender and depression/anxiety (p > 0.05). According to one previous research, anxiety symptoms were considerably greater in individuals over the age of 50 compared to those aged 30 to 49 (15). In accordance with this, a significantly high prevalence of depression and anxiety was discovered in present study of the geriatric group of age 65 years and older.

Conclusion

In conclusion, the frequency of anxiety and depression was found to be considerably high in the elderly population of covid-19 survivors. However, no statistically significant connection was discovered between gender and depression/anxiety, nor was there a significant relationship between age and depression/anxiety.

Limitations

Despite the valuable insights gained from this study on the prevalence of depression and anxiety among geriatric COVID-19 survivors, certain limitations must be considered.

- Excluding individuals with cognitive impairments may introduce selection bias, potentially underrepresenting the most vulnerable subgroup.
- Reliance on self-reported measures such as the Geriatric Depression Scale and Geriatric Anxiety Inventory may introduce subjective biases.

Recommendations

- Longitudinal studies should be considered to better understand the temporal dynamics of depression and anxiety in elderly COVID-19 survivors.
- A larger and more diverse sample, including people with cognitive disabilities, can provide a more complete picture of mental health outcomes.
- Further research that combines objective metrics with self-reported tools may improve the validity of the findings.

- Furthermore, looking into other factors like social support and comorbidities may lead to a more complete understanding of COVID-19's psychological impact on this group.

Acknowledgement

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