



Assessment of Psychological Problems and Traumatic Stress Response among Survivors from COVID19 Pandemic

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ABSTRACT

Background:

Mental health issues among Covid19 survivors during the post-illness period are an emerging and essential health issue. The ability to recognize mental health problems in patients who survived of COVID-19 is highly critical in detecting early symptoms of mental disorders. Covid19 can be highly traumatic experiences for patients. **Aim:** This study aimed to assess of psychological problems and traumatic stress response among survivors from COVID19 Pandemic. **Study Design:** A descriptive cross-sectional was followed. **Setting:** COVID 19 outpatient clinic of Chest Hospital, Tanta city, Gharbia Governorate which affiliated to Ministry of Health. **Subjects:** A convinces sample of 50 COVID-19 survivors. **Tools:** Two tools were used; (I) Impact of Event Scale-Revised Scoring (IES-R) and (II) Symptom Checklist-90-Revised (SCL-90-R). In addition, a Socio-demographic Structured Questionnaire Sheet was used. **Results:** About one third of studied COVID-19 survivors had psychological problems and the most common psychological problem of survivors was depression .In addition half of them had traumatic stress response. **Conclusion:** COVID-19 survivors experience a wide range of severe psychological problems. **Recommendation:** Throughout convalescent stage of COVID-19, patients urgently require substantial mental health services and psychological crisis assistance.

Keywords: Survivors, COVID19, psychological problem, traumatic stress response.

Introduction:

Since December 2019, when clusters of pneumonia cases of unknown cause were recorded in Wuhan, China, a viral outbreak of Coronavirus (COVID-19) has been detected. The COVID-19 pandemic has afflicted a significant proportion of individuals worldwide. Despite efforts to limit the

viral spread, cases and deaths continue to rise around the world, a jump that can cause anxiety, fear, and phobia among the general public. As a result, a worldwide scenario of mental distress and socioeconomic catastrophe arose quickly, with far-reaching and terrible effects for individuals and nations (De Felice 2020&WHO 2021).

The body of evidence of studies on COVID-19 captured that COVID-19 is not only a respiratory virus; it is a systemic virus that can prove harmful and clinical significance in almost every organ system, including psychological problems and neurocognitive decline (Varatharaj & Liguori 2020). With the ongoing research on COVID-19 and being a novel disease, a wide plethora of mental health issues are emerging, and being viewed as a critical health concern during the ongoing COVID-19 pandemic. Furthermore, mental health services in countries worldwide have been disrupted or halted as a result of the COVID-19 epidemic even though demand for mental health care grows and the need for psychiatric assessment becomes more urgent (Parra, & Xie, 2020).

Many psychological problems and marked consequences in terms of mental health among the general population including stress, anxiety, depression, frustration, and uncertainty during the COVID-19 outbreak emerged progressively. Dread of becoming ill and dying, fear of being socially excluded/placed in quarantine, loss of livelihood and death of loved ones, and emotions of powerlessness, boredom, and loneliness due to isolation are all stressors unique to COVID-19. These stressors may cause new symptoms or aggravate existing mental or neurological problems (Ma & Lu 2020).

The negative mental consequences of infectious disease epidemics and pandemics like COVID-19 on infected patients are huge. It can be a highly traumatic experience for patients and patients can suffer from posttraumatic stress disorder (PTSD),

chronic psychological problems, and even suicide (Liguori & Xie, 2020). Empirical data have shown that COVID-19 patients have a high rate of psychiatric manifestations and mental disorders, with 40.2 percent of COVID-19 patients suffering from mental diseases (Zhong 2013 & Li 2020).

Although the intensity of COVID-19 mental symptoms may be improved after discharge, certain symptoms may linger for a long time throughout the convalescent stage. By the end of 2020, studies began showing that COVID-19 survivors are also expected to experience the long-term consequences, including pulmonary, neurologic, cardiovascular, and mental health sequelae and COVID-19 is predicted to have a long-term impact on survivors' physical and mental wellbeing (Zhong, 2013 & Xing, 2020)

Patients with epidemic infections like COVID-19 experience more psychological problems during outbreaks than other patients, even after treatment and discharge, they may suffer from varying degrees of stress disorders, anxiety, and long-term mental health problems (Garrigues, 2020 & Turan, 2021)

Even after the traumatic event has passed, people may experience troubling overwhelming feelings and thoughts associated with the event. People may have flashbacks or nightmares about the traumatic event. They may detach themselves from things that may remind themselves of that traumatic event and survivors had stress even after having negative findings in their COVID-19 test results. In this respect a lot of studies documented that people who have survived COVID-19 are at increased risk of mental health issues in the first year after the

illness and in long term mental health of Covid19 survivors is negatively affected by mental health problems such as anxiety, depression and high level of post-traumatic stress (**Garrigues & Pan 2020**). As a result, studies have suggested mental health issues among Covid19 survivors during the post-illness period is an emerging and essential health issue, and recognizing altered emotional processing in COVID-19 survivors may be critical to detecting early signs and symptoms of psychological distress (**Zarghami 2020 & Hu 2020 &Huang, 2021**).

Significance of study

Much research work has been done for hospitalized COVID-19 patients, mainly on clinical characteristics, genetic characteristics of the virus, and its spread. However, few researchers have examined the post-discharge condition of COVID-19 survivors, particularly their mental health and there is a dearth of data on survivors' psychological aspects and mental health difficulties. The stress and psychological impact on COVID-19 survivors are correlated significantly with several adverse psychological effects, such as fatigue, fear of social contact, loneliness, and depressed mood (**WHO, 2021. & Worldometer.2021**).

The starting point for reducing the intensity of psychological problems and their repercussions in COVID-19 survivors is early detection of these symptoms. This mandates the need for mental health providers especially nurses to be aware of these symptoms and be prepared for the mental health effects of COVID-19 .Such investigation and addressing of psychological problems among survivors on regular basis would guide psychiatric nurses to provide the effective psychological interventions for COVID-19

survivors in an attempt to help in conserving the psychological wellbeing of COVID-19 survivors, particularly in light of the virus's spread in Egypt and other areas of the globe, and the uncertainty surrounding it .

Aim of the study

Assessment of psychological problems and traumatic stress response among survivors from COVID19 Pandemic

Research Question

- What is the existence of psychological problems and traumatic stress responses among survivors of COVID19?

Subjects and Method:

Study design: the descriptive cross-sectional design was utilized.

Setting: COVID 19 Outpatient clinic at Chest Hospital, Tanta city, Gharbia Governorate which affiliated to Ministry of Health

Subjects:

A convincing sample of 50 patients' survivors with COVID19 who come for follow up from the study setting meets the study inclusion and exclusion criteria as the following: -

Survivors of COVID-19 are defined in this study as clients who recovered from COVID-19 infection

● **Inclusion criteria:** -

- a. Participants were above 18 years
- b. With the past diagnosis of COVID-19 for three months
- c. Participants are willing to contribute to the study.

● **Exclusion criteria:**

- Patients were having a history of psychiatric diseases

This study's sample size was calculated using the EPI-INFO program, The following factors were used to

determine the sample size: With a 95% confidence level, the predicted outcome is 70% and the margin of error is 5%. Based on the aforementioned parameters, the sample size should be 50 survivors.

Tools of the study:

In this study, two tools were used:

The tool I: - Symptom Checklist-90-Revised (SCL-90-R)

The Symptom Checklist-90-Revised is adopted from (*Derogatis et al. 1973*). SCL-90-R is used to assess a wide variety of psychological issues and psychopathology symptoms. SCL-90 is a psychiatric self-assessment questionnaire. It is aimed to measure the intensity of psychological problems on nine different subscales it includes 90 items and A five-point Likert scale was used to determine the results, representing the rate of occurrence of the symptom during the time reference. It involves nine primary symptom dimensions; Each of the nine symptom dimensions has six to thirteen entries. Which includes; somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism

Scoring

The nine symptom dimensions' scores are combined to create a symptom profile. A higher score indicates the severity of symptoms. Each question's response was graded on a five-point Likert scale ranging from 0 to 4, resulting in a total score of 0 to 360.

- a. Normal = 0 to 90
- b. Mild = 91 to 130
- c. Moderate =131 to 144

d. Severe >145

Tool II:- Impact of Event Scale-Revised Scoring (IES-R).

The Impact of Event Scale-Revised was adopted from (*Weiss. 2007*). It is a simple, self-assessment questionnaire for diagnosing post-traumatic stress disorders. (PTSD) and can be utilized with both healthy and fragile people who have been subjected to a traumatic incident such as COVID 19. This scale has 22 items with three subscales; intrusion has 8 items; avoidance has 8 items and hyperarousal with six items. The IES-R uses a five-point Likert scale ranging from (0 to 4); not at all to extremely

Scoring system:

Each question's response was graded on a five-point Likert scale ranging from 0 (not at all) to 4 (extremely), with a total score ranging from 0 to 88.

The total IES-R score was classified as the following:-

- a. 0 to 23 is considered normal.
- b. 24 to 32 considered as mild psychological impact
- c. 33 to 36 considered as moderate psychological impact
- d. >37 considered as a severe psychological impact

-In addition, a **Socio-demographic scheduled Questionnaire sheet** was used. It was designed by the researcher after a review of the literature to elicit data about the socio-demographic and clinical characteristics of the studied subjects. It contained 7 items like sex, age, marital status, type

of period of survivors (Hu. 2020 & Wang, et al.2020).

Method

1. An official letter from the Faculty of Nursing was sent to the manager of the study setting for their formal authorization.

2. Ethical Consideration

- The study participants gave their informed permission after being told about the study's purpose.

- Confidentiality and privacy were guaranteed. Participants were reassured that the data gathered was private and would only be utilized just for research purposes.

- The rights of the study participants to withdraw at any time were available.

3. **The content validity** of the research instruments (II & III) was tested by Tanta University's jury of 5 specialists in psychiatric nursing. The changes were made in response to their suggestions.

4. The tools of the study reliability was assessed using a test–retest method to ensure internal consistency. At 0.84 tool (I) and 0.87 tool (II), the tools were found to be extremely reliable

5. Pilot study

A pilot study was undertaken after the development of the tools and before starting the actual data collection. It was conducted on 5 studied subjects using the tools of the study. The aim of the pilot study was to examine how useful, efficient, and clear the tools were. In addition, it was used to determine the amount of time it would take to conduct an interview with the clients and to determine any obstacles to data collecting. Those patients were chosen at random and removed from the main study to ensure that the results

were stable. Patients were chosen at random and removed from the main study to ensure that the results were stable.

6. Actual study

The researcher began collecting data after obtaining official authorization from the main person and other official people from study settings. The researcher gave all of the authorized individuals with the necessary study information. The researchers addressed all patients who met the study criteria and asked them to complete the questionnaires in the order listed below:

- Each subject gave their informed permission. Then, a brief explanation of the study's goal and the items of the questionnaire they needed to complete were given to the clients. The data were obtained throughout 2days per week during the morning shift (8am.to 2 pm) for 3 months from August to October 2021 and interviewed the participants on an individual basis was ranged from 20-30 minutes on an individual basis.

- During data collection the researcher followed Covid 19 personal protective measures such as maintaining physical distance, wearing a face mask and clean hands frequently with alcohol, based hands rub or soap and water.

Statistical analysis

Data and descriptive statistics as frequencies and percentages were generated using SPSS (version 20) for coding, inputting, and analyzing data.

Results:

Table (1) shows the socio-demographic characteristics of studied survivors, one can notice that most of the patients are males(74.0%), half of the

patients (50%) were between the ages of 20 and 30, with an average age of 31.54±6.58 years., most of them living in rural areas(76.0%), about half of the patients (52%) have secondary educational level, most of them (70%) were working and more than three quarter of the patients are single (76%).

Figure (1) describes existence of psychological problems among studied survivors by using SCL-90- R, figure illustrated that 70% of studied survivors subjects had mild psychological problems, 10 % had moderate psychological problems and 20 % of them had severe psychological problems.

Figure (2) illustrates levels of psychological problems dimensions among survivors from COVID-19 through using SCL-90-R, the results presented that the common psychological problems experienced by studied subjects was depression that 50% of them had severe depression. Regarding other symptoms , 50 % of the patients have moderate somatization symptoms and moderate obsessive compulsive symptoms , more than one third of the patients have severe interpersonal sensitivity (36%), regarding hostility, 40% of the patients have severe level of hostility, the majority of the patients have problematic level of anxiety moderate and sever level of anxiety (40%,38% respectively), more than one third of the patients have moderate level of phobic anxiety(40%) and most of the study patients have mild psychotic symptoms (70%).

Figure (3) emphasizes level of traumatic stress responses among studied survivors' by using IES-R, it can notice that 45% of survivors had moderate traumatic stress responses followed by 30% mild and 25% of survivors experience sever traumatic stress symptoms

Figure 4 presents levels of stress response subscales among studied survivors IES-R, the results revealed that 40 % of the patients have moderate intrusive symptoms, while two third of them have moderate symptoms of avoidance (60%) and two third of them have mild symptoms of hyper arousal (60%).

Table (1): Sociodemographic Characteristics of Studied Survivors

Items	Number (n=50)	%
Age "in years":		
20-<30	25	50.0
30-<40	15	30.0
≥40	10	20.0
Range	23-42	
Mean±SD	31.54±6.58	
Sex:		
Males	37	74.0
Females	13	26.0
Residence:		
Rural	38	76.0
Urban	12	24.0
Educational level:		
Illiterate	12	24.0
Primary	5	10.0
Secondary	26	52.0
University	7	14.0
Job:		
Not working	15	30.0
Working	35	70.0
Marital status		
Single	38	76.0
Married	12	24.0

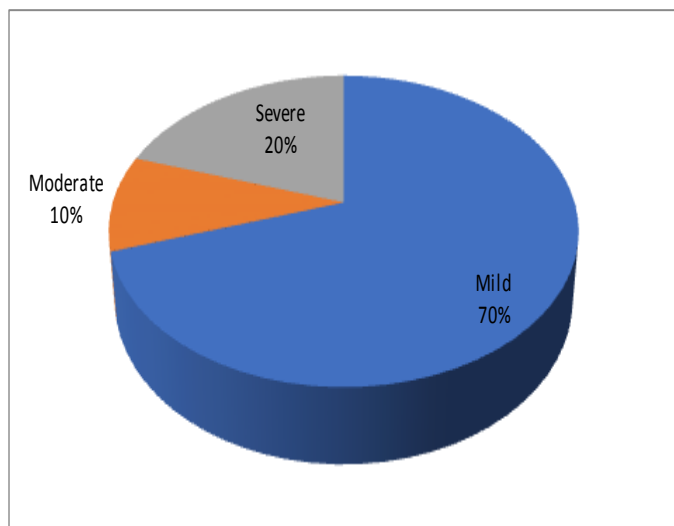


Figure (1) Existence of Psychological Problems among Studied Survivors by Using Symptoms checklist 90 Revised (SCL-90- R) (n-50)

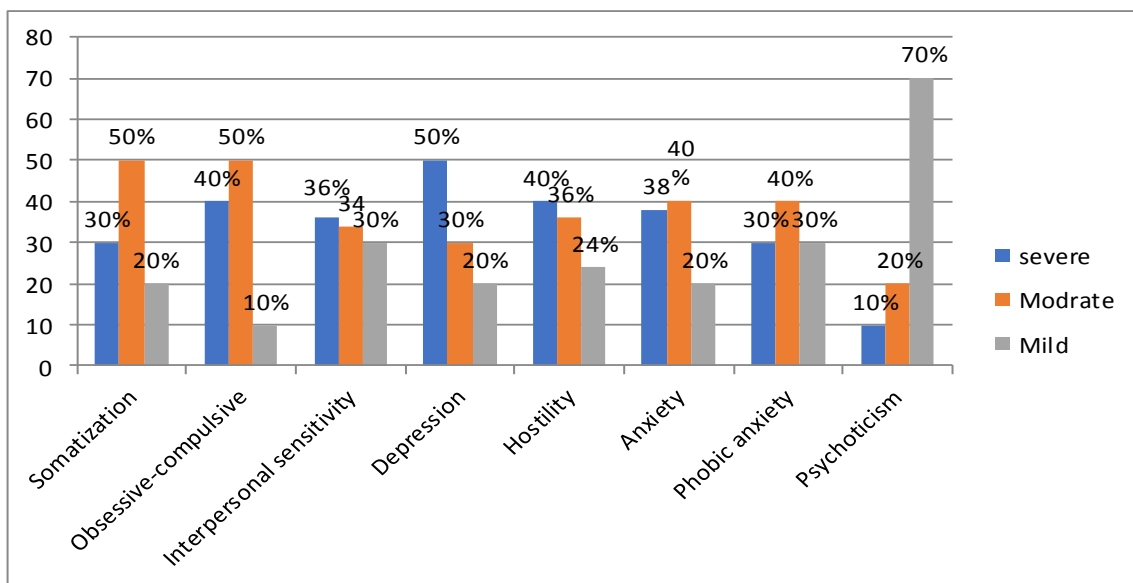


Figure (2): Levels of Psychological Problem Dimensions among Studied Survivors through Using Symptoms checklist 90 Revised (SCL-90- R) (n=50)

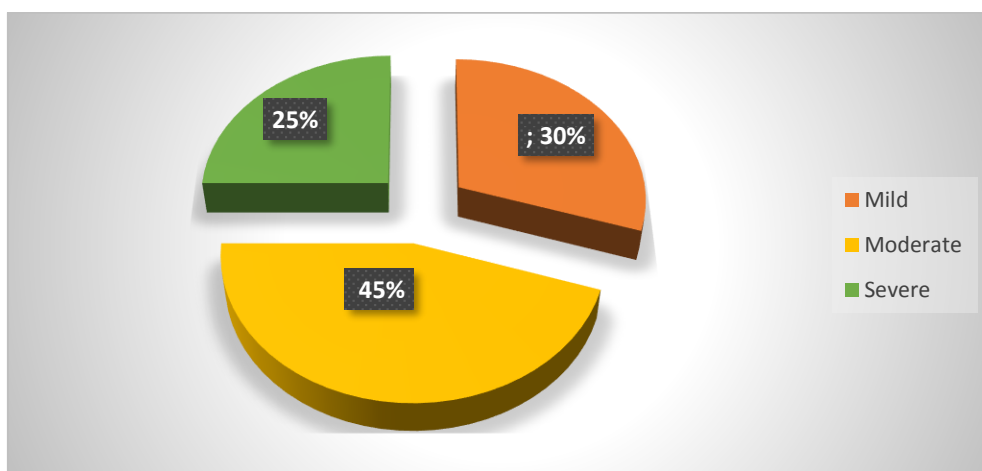


Figure3 Traumatic Stress Responses Levels among Studied Survivors By Using Impact of Event Scale-Revised subscales (IES-R) (n=50)

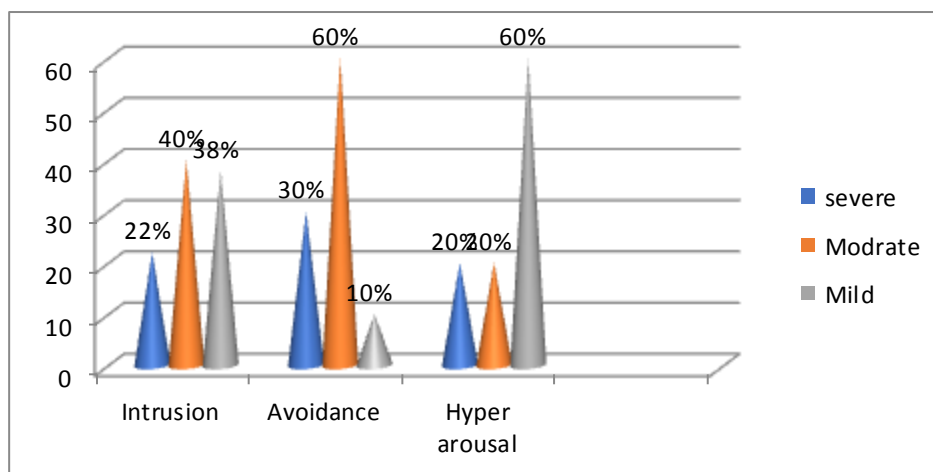


Figure (4) Levels of Stress Response Subscales among Studied Survivors By Using Impact of Event Scale-Revised(n=50)

Discussion

COVID-19 has recently been identified as a global public health problem, and most publications published on it thus far have focused solely on the clinical characteristics of infected people. However, this pandemic has also demanded researchers to show phenomenal emotional resilience in the solitude of their homes which can take a toll on their mental health (**Gardner & Moallem 2015 & Munn, et al. 2015 & Chen, et al 2020 & Qian, 2021**).

Furthermore, the continuing COVID-19 pandemic is occurring at the same time as an "info demic," in which misinformation and disinformation may be readily and swiftly communicated through social media platforms, thus exacerbating COVID-19 patients' poor mental health. As a result, for efficient therapeutic interventions of COVID-19 patients and survivors, a timely and complete assessment of mental health issues is critical. In the same direction, the present study highlights the need to address the psychological dimension for COVID-19 survivors (**Liu 2018 & Munn 2021**.)

The findings of current study answered the research question and determine the existence and common psychiatric symptoms in patients of COVID 19 during survives stage, one fifth of studied survivors experienced psychiatric symptoms which the most common psychiatric symptom in survivors of COVID19, was depression and the least most common

psychological symptoms diminution is psychotic symptoms and in between depression and psychotic dimension ,the studied subjects experienced others psychological symptoms like anxiety, somatization interpersonal sensitivity, obsessive compulsive, intrusion and hyper arousal. Along with current result a lot of studies reported that Since the COVID-19 pandemic began on March 11, 2020, there has been worry that survivors may be at heightened risk of psychiatric illnesses, with research indicating that survivors are at an elevated risk of mood and anxiety disorders in the three months following infection (**Weiss, 2007 & Chen, et al.2020 & Qian, 2021**).

Also in the same stream a study carried by **Xu, (2021)** found that one in three COVID-19 survivors in a study of more than 230,000 patients were diagnosed with psychiatric disorder within six months, one fifth of COVID-19 survivors were diagnosed with a psychiatric disorder within three months with suggesting the pandemic could lead to a wave of mental problems **Zhao, et al.(2021)**.

Attribution to the current result may be related to psychological distress and fears of unknown of tomorrow and fear for future COVID-19 attack and experience again isolation from family and friends, loss of liberty, uncertainty about the disease's progression, and a sense of powerlessness. Additionally some psychosocial issues post discharge, such as stigma associated with COVID19 and financial loss or even unemployment, may raise the likelihood of mental health problems among COVID19 survivors. This

result congruent with *Qin Xie & Bao-Liang Zhong (2021)* who found that the COVID-19 patients presented all the ten SCL-90-R-defined psychiatric symptoms and nearly all the psychiatric symptoms of COVID-19 were mild-to-medium during very early recovery. In the same stream, *Xie, Liu, & Xu, (2021)* found that all ten SCL-90-R-defined psychiatric symptoms were exhibited in survivors' patients of COVID-19 concluded that under the stress of respiratory syndrome, the survivors are easy to get the harmful psychology symptoms.

Huang, et al. (2020) in their study assessed the long-term health consequences of COVID-19 survivors, they explored the related risk variables, particularly illness severity at 6 months after acute COVID-19 infection, they found" survivors were mostly bothered by sleep problems, tiredness, depression, and anxiety. These results are constants with the study of *Liu, . & Yu, (2021)*, they performed a meta-analysis of studies assessing psychiatric symptoms of survivors by using the Symptom Checklist-90-Revised (SCL-90-R), and their result indicated the severity of psychiatric symptoms. A wide variety of severe psychiatric symptoms have been reported by COVID-19 patients, and these symptoms, despite decreasing in severity, persist in exceedingly early recovery .

Regarding psychotic symptoms came at least experienced psychiatric symptoms among studied subjects may be due to the nature of current study

subjects who coming an outpatient for follow up where their behavior are still stabilized not enter in the complication of psychotic symptoms that can be seen in late stage of COVID19 in hospital admission. In this point, study conducted by **Ferrando et al, (2020)** stated that psychotic symptoms are usually in the late stage at the forefront and are characterized by, confessional aspects at the outset of psychiatric manifestations (disorientation to space and time, and inattention.

In relation to traumatic stress response disorders which measured by Impact of Event Scale-Revised Scoring (IES-R), the results revealed that half of the studied survivors subjects have moderate and intrusive symptoms and hyper arousal and one quarter of them had PST . This result may be related to many justifications. Part of these justifications is physiological effect of COVID-19 in the cerebrospinal fluid; As a result, psychiatric symptoms could be part of the neuropsychiatric consequences caused by viral infection on the central nervous system.

On the other hand, individuals who are affected with coronavirus, which might be fatal, face an intense stressful situations COVID-19 is making the people, especially nervous and in a state of great stresses; Fear of oncoming infection and fear of repetition of stressful situation and its painful details as hospitalization, concern about family members becoming infected, despair, anger, irritation, and insomnia are all prevalent stress responses in this patient population. Third

justification, the physical discomfort and pain caused by COVID-19 may aggravate emotional responses to coronavirus infections. Being affected by the disease exposes the individual to an uncertain prognosis and a state of quarantine. After the acute stage of the disease, these factors may predispose people to a traumatic stress response.

Uncertainty and shortage of knowledge about COVID-19, its rapid transmission and communicable nature and its significant threat to life security may be others attributions to intrusive symptoms and hyper arousal among studied patients. This result congruent with *Janiri (2020)* who studied PTSD as mental issues of COVID-19 and found that high level of post-traumatic stress was seen among participants who recovered from COVID-19.

Conclusion

According to the findings it can be concluded survivors of COVID-19 experience a wide range of severe psychological problems such as depression, obsessive compulsion, somatization and anxiety. In addition, study concluded that traumatic stress responses to COVID-19 among survivors are severe in form of intrusive symptoms, avoidance and hyper arousal. Also, COVID-19 is considered disastrous situation for all affected COVID-19 patients even after recovery.

Recommendation

The findings of this study have led to the following suggestions: -

- 1- Mental health examination as well as physical examination should be involved in COVID-19 protocol Examination for early detection psychological problems.
- 2-Throughout each stage of COVID-19, Psychological help and treatments are provided on a regular basis. are imperative to tackle this catastrophic event by d psychological crisis assistance.
- 3-During the convalescent stage of COVID-19, it is critical to evaluate their mental health problems and give psychological assistance l as psychiatric consultation and therapy.
- 4-More research is also needed to look at how COVID-19 patients cope with psychological problems resulting from COVID-19 infection

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Competing interests:

There are no conflicting interests declared by the researchers.

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