



## RESEARCH ARTICLE

## Frequency of Mental Behavioral Disorders in the Emergency Staff during the Care of Patients in the Covid-19 Pandemic

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### Summary

As the health personnel fight it spread of COVID-19, has acquired information of alterations psychological featured in professionals and technicians of the health that is in contact with patients infected by this virus. Of according to center carried out, the more alterations frequent in a 85% are: Anxiety, depression and Post-traumatic stress.

Anxiety is define like of the answers of our mind and body before situations of danger or threat, the it depresses us talk about a group of diseases mental that because a grade of disability be in your more serious way the one who can wear situations irreversible like suicide and stress post-traumatic is a memory recurring and annoying of a situation experienced the what was it unpleasant. Being important mention that the whole population is vulnerable during a pandemic, no However the objective of this the study goes addressed to personal of Health, especially doctors nurses, social workers, stretcher handlers, general services, guards of security, since in several studies that are Have made about the world is the most vulnerable For development of disorders mental. This for fear of contract infection, Social isolation and separation of loved to avoid the contagion of themselves. The HGZ 50 from the Institute Mexican from Social Security in San Luis Potosi, Mexico is COVID Hospital since the beginning of the pandemic, for what, it was proposed identify the development of mental disorders in emergency health personnel who are in contact with suspected or diagnosed patients of SARS-COV-2 infection, since it has had a high flow of patients with these characteristics, with exhaustive working hours, a few staff and high frequency of infections during care, in this way we set out to investigate the frequency of this type of disorders in the staff and determine in which gender the development of mental disorders is more frequent and thus provide an overview of our reality, orient ourselves towards a referral and timely management

of some type of disorder.

**Material and methods:** Descriptive, analytical, prospective, longitudinal study, carried out on emergency personnel of the HGZ 50 of the IMSS in SLP, Mexico, involved in the care of patients with suspected or infected by COVID-19. A total of 174 participants were included, obtaining the number of the staff of the institution's personnel area. Participants conducted the survey electronically with the google surveys program, using the abbreviated version of the DASS scale 21 translated into Spanish, establishing the frequency of anxiety, depression and post-traumatic stress, with prior informed consent and electronic safeguarding of personal data by the interviewers. The analysis was carried out by descriptive statistics using measures of central tendency and Chi square: As well as a b analysis, using Pearson's correlation.

**Results:** 174 participants were included, of which 50.6% were male n 49.9% female. The frequency of participants by contractual category was: General nursing 29.3%, residents 20.3%, specialist doctors 10.9% nursing assistants and general service 8.6% respectively. 62.6% of the participants presented some kind of mental disorder. By gender, 31.6% men presented some kind of mental disorder and 31.03% in women. By contractual category, higher frequency of mental disorders in general nursing 17.8%, resident 14.3%, nursing assistants 7.4%, stretcher handler 7.4%, and specialist doctors 3.4%. Type of disorder, by gender: Post-traumatic stress 38.6% male n 37.2% women. Depression: 21.5% men and 33.7% women. Mental disorder's by contractual category: Anxiety and post-traumatic stress were more frequent in general nursing, and depression also in nursing with the same frequency as emergency room residents. A significant association (p 0.025) was observed with respect to the contractual category. Depression was significantly associated with gender (p 0.050) and contractual

category was found to be associated with the development of anxiety (p 0.041).

**Conclusions:** A high rate of mental disorders was reported, showing that there is a psychological impact during the pandemic with front-line care personnel, despite multiple sessions of psychological support in the corresponding unit, so it is important to protect the patients, health workers, as well as their management in case of presenting some kind of mental disorder. Interventions to promote the physical and mental well-being of health personnel exposed to COVID-19 should be continued and intensified and immediately to reduce the occurrence of mental disorders.

### Abbreviations

WHO: World health organization; UNO: United Nations Organization; DSM: Diagnostic and Statistical Manual of Mental Disorders; PPE: Personal protective equipment; CPG: Clinical Practice Guide; CONICET: Scientific and Technical Research Council; OCD: Obsessive Compulsive Disorder; EEAG: Scale of Evaluation of the Global Activity; IMSS: Mexican social security institute; SPPSTIMSS: Prevention and Health Promotion Service for IMSS Worker

## Introduction

The present study combines four pathological entities such as depression, anxiety, post-traumatic stress and the current COVID-19 pandemic, its importance is resumed in the care provided by workers in emergencies of the general hospital of Zone number 50 of the IMSS in San Luis Potosí since considered COVID care hospital, according to the events that have occurred worldwide uncertainty, fear and panic have been generated due to exposure as front-line care personnel and their relationship as a factor that generates mental disorders has been demonstrated [1].

The new coronavirus has infected 4,248,389 people in the world, caused 294,046 deaths as May 12, 2020, a statistically increasing day by day, grim that not only represents the magnitude of the threat to physical health; also for psychological well-being [2]. In Wuhan, on December 12, 2019, the health services detected cases of viral pneumonia that were related to the ingestion of food from the human market which crossed front lines to transmission by aerosols [3]. Therefore the world was forced to convert health systems and prepare for a new threat, generating uncertainty among the scientific and medical community; a virus whose behavior in humans is not certain, as well as its treatment [4]. Where we expose ourselves to the unknown or to a change, stress, worry and anxiety can appear, which acts as defense mechanism and serves as warning signal that accompanies us to adaptation. It is a situation that we must pay attention to preserve our mental health, but when anxiety overcomes us we feel collapsed, overwhelmed, it unbalances our emotions causing mental health disorders and we are unable to rise to the circumstances and challenges we have coping, calming anxiety does not mean ignoring problems, it is about maintaining an emotional balance to be able to carry out our daily activities

in the best way, in our workplace, school, at home [5-8]. Faced with this critical situation, frontline health workers who are directly involved in the diagnosis treatment and care of patients with COVID-19 are at high risk of developing some type of mental disorders. Since the number of confirmed and suspected cases of COVID-19 is increasing in our entity, the overwhelming workload, the exhaustion of personal protective equipment, the extensive coverage of the media and even in many occasions with little information, indeed, the lack of specific drugs to treat the disease and the feeling of receiving inadequate support can contribute significantly to the mental burden of these health workers.

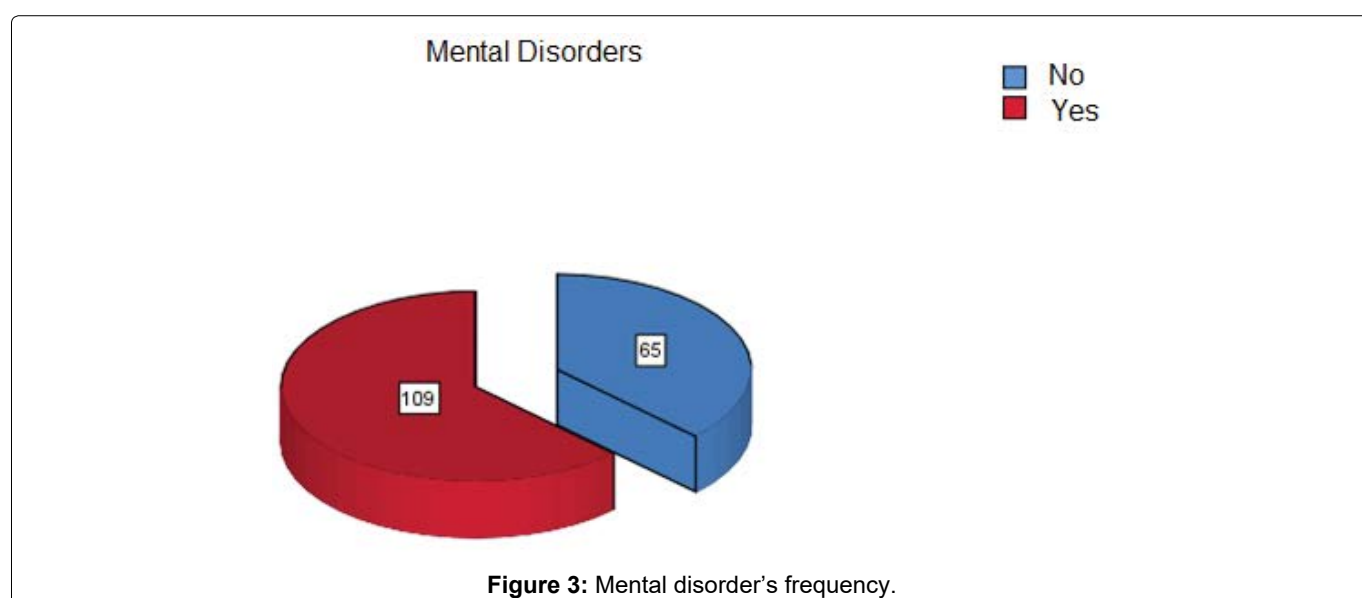
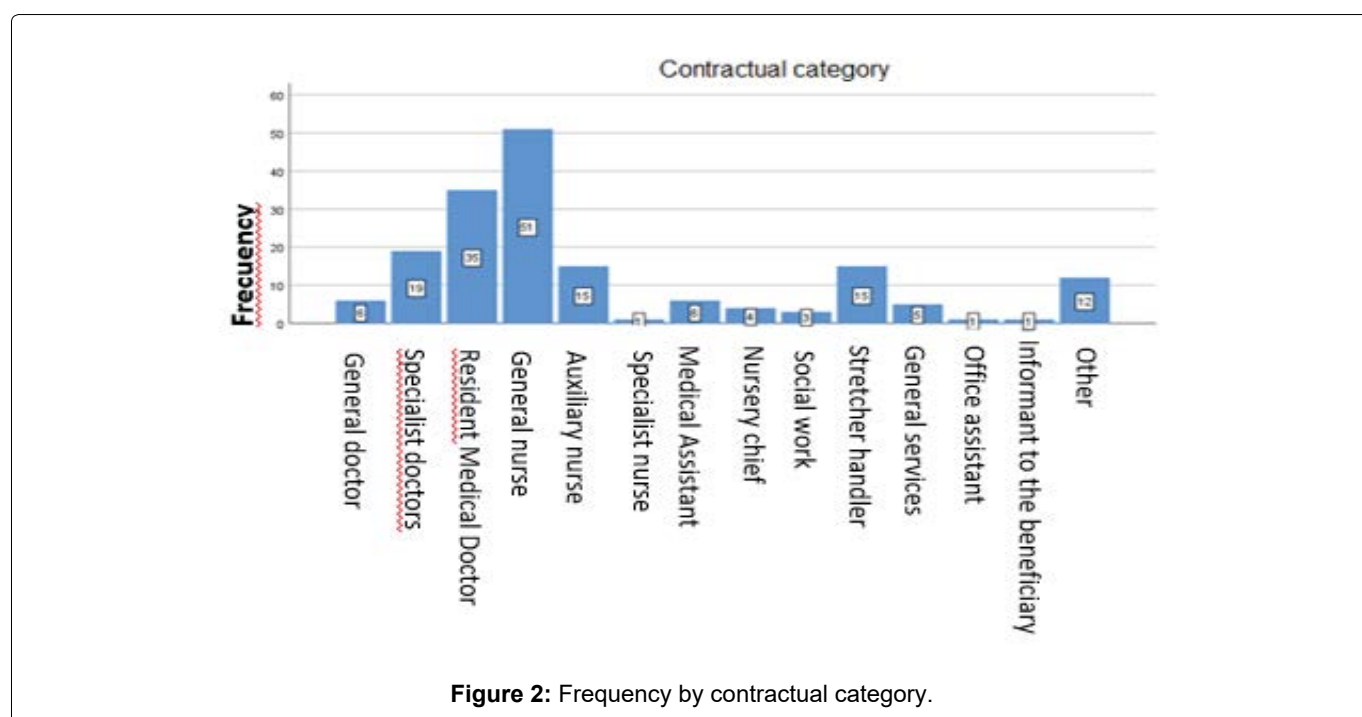
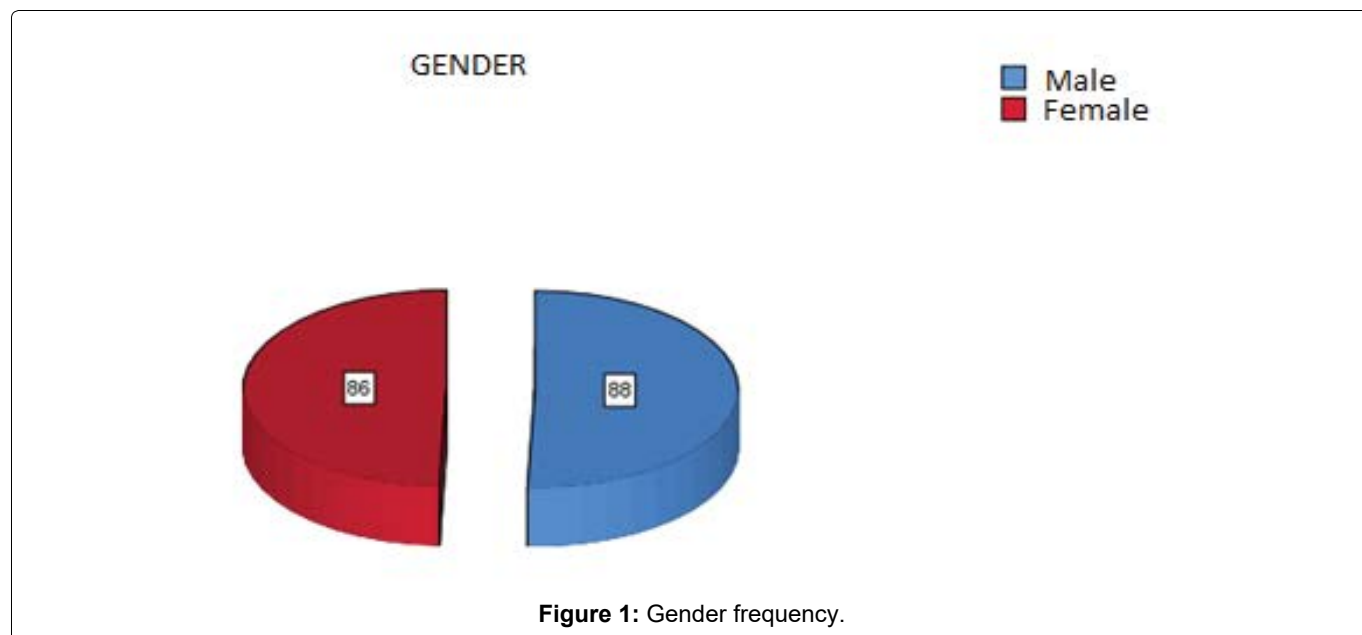
There is a cross-sectional study, based on surveys, carried out on 1257 front-line health workers in different cities of China, who were in direct contact with the care of patients suspected or infected by COVID-19, in order to detect some type of mental disorder, yielding as results: Symptoms of depression in 54.4%, anxiety in 44.6% stress 71.5%. It is extremely important to detect in a timely manner the frequency of mental health disorders of workers who are in the first line of care for patients infected by COVID-19 and thus trigger prevention and care mechanisms for mental disorders that can develop during the pandemic. Statistically, we approach the articles published at an international and national level to give credibility and guarantee the impact that this COVID-19 pandemic has on anxiety disorders in health workers.

## Objectives

- Establish the frequency of mental and behavioral disorders in the emergency staff of the General Zone Hospital No. 50 IMSS during the care of patients in the COVID-19 pandemic.
- Establish the frequency of mental and behavioral disorders by gender, contractual category and identify if there is a greater association by gender and category.

## Methods

Descriptive, analytical, prospective, longitudinal carried out in General Zone Hospital No. 50 IMSS of San Luis Potosí, the population studied being the health personnel of the emergency area in the period from September to October 2020, Using descriptive statistics with the SPSS program (Version 22). Measures of central tendency and Chi-square. As well as a B analysis through Pearson's correlation, and the DASS-21 scale in order to detect pathologies: Depression, anxiety and post-traumatic stress. To evaluate each disorder, the scores for each item were added separately: The higher the score, the greater the degree of symptoms, which was divided into mild, moderate, severe, extremely severe. Depression: (Items 3, 5, 10, 13, 16, 17, 21); Anxiety: (items 2.4.7, 9, 15, 20), Stress: (items 1, 6, 8, 11, 12, 14, 18).



## Results

A total of 174 participants were included, of which 50.6% were male and 49.9% female. In [Figure 1](#) the gender frequency is shown.

By contractual category, the frequency of mental disorders was found in general nursing staff in 29.3%, residents in 20.3% specialist doctors in 10.9%, auxiliary nurses and stretcher handlers in 8.6% respectively, which can be observed in [Figure 2](#).

[Figure 3](#) shows us the frequency of mental disorders, drawing our attention that of the 174 subjects interviewed, 62.6% have some type of mental disorder.

[Figure 4](#) shows a higher frequency of mental disorders during the survey in male staff.

In the survey carried out, a significant association was observed with a Chi-Square of  $P = 0.025$  with respect to the contractual category (higher frequency in general nursing) and the development of mental disorders. [Table 1](#) shows the analysis of the three variables taken into account in the study.

The  $P > 0.05$  result for the three mental disorders and

**Table 1:** Association of mental disorders in the population studied by gender, age and contractual category.

Variable	Chi-Pearson square (value)	p
Gender	0.002	0.547
Age	10.586	0.060
Contractual category	24.771	0.025

**Table 2:** Association of mental disorders with gender.

Mental Disorder	Chi-Pearson square (value)	p
Post-traumatic stress	0.038	0.846
Anxiety	0.238	0.369
Depression	3.204	0.05

their association with gender did not establish a significant association in post-traumatic stress and anxiety, only depression ( $P = 0.05$ ) had a strong association with the female gender, predominantly this disorder ([Table 2](#)).

Elsewhere, there was an association of the contractual category (general nursing) with the development of anxiety, but not with depression and post-traumatic stress.

Post-traumatic stress has not significant association with the variables taken into account (age, gender or contractual category)  $P > 0.05$  ([Table 3](#)).

## Discussion

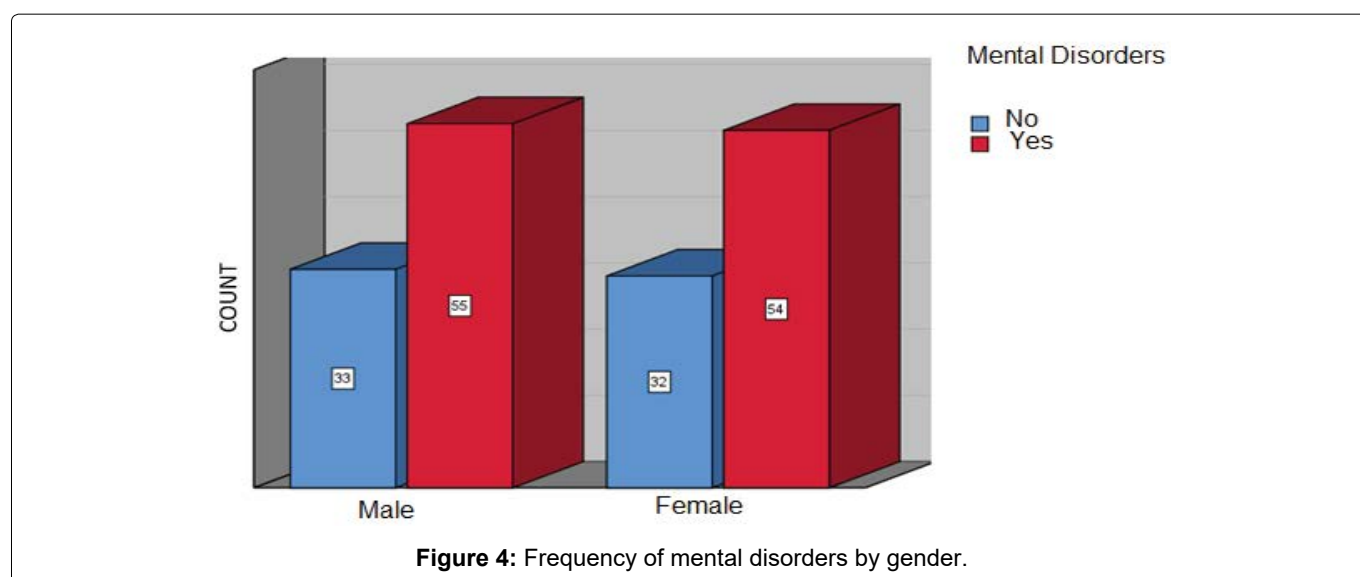
The objective of our study was to establish the frequency of mental and behavioral disorders in the emergency personnel of the IMSS general hospital 50 during the care of patients in the COVID-19 pandemic.

The current pandemic of COVID-19 where health workers in emergency services are the first line of care makes them vulnerable to presenting mental and behavioral disorders due to uncertainty, fear and isolation, as well as their evolution, even more so being the HGZ 50 of the IMSS considered a COVID Hospital since the beginning of the pandemic.

Mental and behavioral disorders are common mental health problems that directly affect work capacity and productivity in the person, it is estimated that more than 300 million people in the world suffer from depression and more than 260 million have anxiety disorder,

**Table 3:** Association of mental disorders with contractual category.

Mental Disorder	Chi-Pearson square (value)	p
Post-traumatic stress	17.886	0.162
Anxiety	23.030	0.041
Depression	18.644	0.135



**Figure 4:** Frequency of mental disorders by gender.

constituting an important economic burden and comorbidity due to the disability they produce is the second cause of medical attention for illness in society.

- In our study we found that of the 174 participants in the survey, 109 subjects developed some type of mental disorder, corresponding to 62.6%.
- By gender, it was identified that 55 people of the male gender presented some type of mental disorder corresponding to 31.6% and 54 people of the female gender that correspond to 31.03%.

Regarding the contractual category, we found some mental disorder as follows: General nursing staff reported 31 cases (17.8%), resident medical doctors with 25 cases (14.3%), auxiliary nurses with 13 cases (7.4%), stretcher handlers with 13 cases (7.4%) and medical specialists with 6 reported cases (3.4%). However, in the literature reviewed, none of the studies take into account the presence or absence of disorders in general, since they either do not take into account the category or only give the report by specific type of disorder, so we consider our result relevant.

Depression, anxiety and post-traumatic stress by gender:

- In our study, according to each disorder, the following results were reported by gender: Post-traumatic stress: 38.6% male and 37.2% female. Anxiety: 56.8% in men and 60.4% in women. Depression: 21.5% in men and 33.7% in women.
- The mental disorders in our work by contractual category, in relation to post-traumatic stress, the results are the following: General nursing 13.2%, resident medical doctors 9.7%, auxiliary nurses 4%, specialist doctors and general services with 2.8%, finally general doctors with 1.1%. Anxiety: General nursing 17.2%, resident medical doctors 12%, stretcher handlers 6.8%. General nursing depression 8.6%, resident medical doctors 8.6%, auxiliary nurses 2.8%.
- A significant association (P 0.025) was made with respect to the contractual category and the development of mental disorders. Depression was significantly associated with gender (P 0.05) and contractual category was found to be associated with the development of anxiety (P 0.041).

## Limitations

During the development of the research, we presented several limitations: The first was the social “taboo” when mentioning “mental disorders” associated with the COVID-19 pandemic, producing a reaction of rejection or fear due to the possibility of presenting any of these pathologies, among some respondents and even the denial of consent to carry out the survey or possible bias on the veracity of the answers provided, which reduced our sample size.

The second limitation was that some of the interviewees are under pharmacological and psychological treatment for a mental disorder developed before the COVID-19 pandemic, however, there were only 4 subjects with this condition.

Based on this study, it is possible to deepen this topic to determine the association of the development of mental disorders with other sociodemographic and work variables such as: Marital status, number of economic dependents, schooling, significant comorbidities for complications due to COVID-19, work in more than one institution, work shift among others and even extend to staff from the rest of the hospital and perform it in a multicentric type.

## Conclusions

In this study, carried out in health staff who are in contact with patients with COVID-19, a high rate of mental disorders was reported, demonstrating that there is a psychological impact during the pandemic with first-line care staff, despite multiple psychological support sessions in the hospital, so it is important to protect health workers, as well as their management in case of presenting some type of mental disorder.

Interventions to promote the physical and mental well-being of health staff exposed to COVID-19 should be continued and intensified immediately, to reduce the presentation of mental disorders.

## Conflict Interests

The researchers say there is no conflict of interest in the development of this study. National Committee for Epidemiological Surveillance.

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