

# POST-TRAUMATIC STRESS IN THE FACE OF COVID-19 AND PSYCHOPATHOLOGICAL SYMPTOMS IN EMPLOYEES OF A HEALTH CENTER, MOYOBAMBA – SAN MARTÍN.

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## Abstract

Post-traumatic stress disorder (PTSD) arises after experiencing traumatic experiences, intensifying anxiety and stress. It is a serious mental health problem that affects health personnel exposed during the COVID-19 pandemic. This research carried out in Moyobamba, San Martín, seeks to explore the relationship between PTSD due to COVID-19 and psychopathological symptoms in employees of a health center. The study adopted a descriptive-explanatory approach to investigate a topic of common interest, using two questionnaires applied to 161 people at the center (7 doctors, 7 nurses, 147 health personnel). A deductive method was used, based on universal to specific data, and an analytical method to evaluate the consequences of PTSD associated with COVID-19. The results revealed significant and positive associations between PTSD dimensions related to COVID-19 and general psychopathological symptoms, confirming that the pandemic has exacerbated mental health problems in health personnel. These findings highlight how traumatic events can impact long-term psychological health, emphasizing the need for support and resources to mitigate the impacts of trauma on these key professionals.

**Keywords:** Psychopathology, pandemic, post-traumatic stress, mental health.

## INTRODUCTION

In 2020, it became known globally that it was one of the most intermittent in recent generations due to the arrival of the new coronavirus pandemic. This event marked a turning point in modern history, bringing with it a new reality that had an overwhelming impact on humanity. In Peru, on March 6, 2020, the first case of imported COVID-19 was identified, in a person who had previously visited Spain, France, and the Czech Republic. This situation forced the government to declare a period of emergency and quarantine, which generated a profound psychological impact, especially among health sector workers. In the same month, on March 19, according to information from the Ministry of Health, the first death from coronavirus was recorded in the country: a 78-year-old man (Doncel, 2021).

According to an investigation published in the newspaper El Peruano (2023), it was specified that this virus goes hand in hand with its condition, daily called Covid-19, they have been the most relevant protagonists at the political, social, economic and health levels since they have changed and altered our life as we commonly knew it and has concluded translating into a crisis of global transcendence and unprecedented magnitude in recent times. In 2021, 1,368,950 cases of care for mental health problems were registered, a figure that increased to 1,631,940 in 2022, representing an increase of 19.21%. During the first quarter of 2023, 434,731 cases have been attended to (Caballero, 2022).

It is mentioned that the coronavirus or coronaviruses (CoV) form a cradle of large numbers that engender diseases that manage to start from a common spasm to more dangerous diseases. For this reason, on January 30, 2020, the World Health Organization, WHO (2020) declared a public health emergency of international concern. The infectious disease of COVID-19 was pointed out by Adhanom (2020) as a governmental health event of universal anxiety, that same year it was announced that the new disease mentioned could be specified as a pandemic, such a peculiarity is known that the epidemic has spread to different countries or the whole world, as stated by Arango (2020) where he states that this afflicts a considerable number of people both physically and psychologically causing post-traumatic stress (PTSD), the Ministry of Health alluded that mainly health personnel in our country deserved differentiated attention, health specialists were more fragile to experience maladaptive psychological manifestations because of their own professional activity.

In a blog published in 2021, I classify Post-Traumatic Stress Disorder, as well or wrongly called, it is a mental health condition released by a frightening scenario, whatever the period in which it has occurred. Rojas (2016) indicates that, through this method, he managed to unleash a plethora of consequences, including reminiscences, anguish and serious anxiety, high levels of mental exhaustion, additionally also

uncontrollable thoughts about reality, the essential thing is that new discernment and timely treatment for this distemper can help the redemption after the traumatic experience, this is reaffirmed by Barnhill (2023) by saying that the symptoms of post-traumatic stress disorder usually appear within three months of the traumatic event, in this case, related to the sequelae of COVID-19, although they can sometimes manifest later.

Aceituno (2024) reports that people who have experienced covid-19 closely have a high prevalence in relation to anxiety, depression, and post-traumatic stress disorder that must be studied in the context of fear of reinfections or infections, and loneliness, especially at the beginning of the pandemic, when there was the threat of a new disease. still without vaccines or medicines, and many adults were isolated." But, in addition, Nicolini (2021) tells us that these findings show the enormous pressure of post-COVID-19 mental health disorders on health systems, which are not necessarily attending to all those who need support, all this stems from misinformation and/or misinterpretation of bodily sensations and perceived changes.

PTSD has evidenced a series of consequences related to mental health, as mentioned in the research carried out by Aceituno (2024), which found a correlation between the fear of having a reinfection and anxiety in 53.2% of cases and in 18.1% of controls; a link between fear of reinfection and depression in 49.2% of cases and in 15.2% of controls; and a relevant association was found between fear of reinfection and post-traumatic stress disorder in 92.5% of cases with a very high risk compared to controls. Likewise, 54% of those who reported anxiety also reported loneliness; 55.8% of those who reported depression reported loneliness and 77.7% of cases of post-traumatic stress disorder also reported loneliness.

According to Racugno (2021), stress manifests the fact that it justifies the appearance of psychopathological symptoms, perennially that the response is excessive both in impetus and firmness, in this case the attention is focused on the suspicion of the somatic results of intimidation, for example: ("if I have tachycardia, maybe it is a heart problem". "Others will think I reacted foolishly and exaggerated if they see that I am ashamed.") On the other hand. Garay (2022) illustrates us by saying that psychopathological symptoms even manage to besiege performance, to the excessive point of not finding answers to existing or imaginary violence, which is why it is possible to externalize without stimulus, through ideology or fantasy. At times, as in the case of direct anxiety trances.

In fact, as a result of all the above, the statement of the problem was outlined, under the following exposed: How is post-traumatic stress related to COVID-19 and psychopathological symptoms in collaborators of a health center, Moyobamba – San Martín?

Due to this attribution, throughout this period it has been evidenced that a large percentage of the population, specifically health personnel, who have been incessantly attacked, unfortunately bringing out problems of frustration, vulnerable to endure distinction, to go into confinement, to interact with negative vibrations and messages, to the wear and tear of the family relationship and to both physical and mental collapse. This has often been the main cause of memory problems, deterioration of interest and concentration in the activities they carry out motivated by the fear that the virus founded and the stress that it stimulates.

On the other hand, Neri (2021) stated that in the personal and social scenario that is being understood, a chain of self-destructive behaviors and disbelief about the future have been revealed, so much so that it is not possible to find alternative solutions to a conclusive reality or to have hope for the future, last but not least, distance from family and friends.

This research takes on social relevance, because it will be carried out in scenarios in which we find ourselves throughout this pandemic we have experienced and have happened terrible things, things that have caused many people, especially in this environment, to be affected for a long time; In the vast majority of cases, the population came to perceive mental health complications such as stress, anguish, depressing symptoms, sleeplessness, emptiness, fury and suspicion, triggering traumatic situations where they may have the temporary difficulty to adapt and face it, however, with the passage of time and self-care they usually tend to improve. If the symptoms worsen, persist for months or years, hindering your daily errands, then it is possible that they have post-traumatic stress disorder.

It is sought that, according to this research, a positive procedure is achieved after the symptoms of post-traumatic stress disorder are externalized, since this manages to be basic to subjugate the signs and optimize the exercise Consulo (2023). The people who will be favored with the current research are the community in general, but above all the health personnel, personnel who are working mainly as a front for this evil from day one, people who have left the comfort of their homes and the protection of their families to take care of others by profession, but above all by vocation.

As we have understood, COVID-19 affected many health collaborators, there is evidence of alterations concerning psychological well-being, as reported by Rodríguez (2022) when he conducted a study on the concordance of post-traumatic stress in the nursing team that worked during service time due to COVID-19, where a universal trance originated, founding an abandonment of social welfare, In consummation, we

were able to observe that the mental health of the nursing team that performed guards to help those affected by COVID-19 in the nascent analysis, procedure and care of these infected people are shown in the highest category of the level of post-traumatic stress.

Despite the fact that by carrying out activities in the health area in one way or another, they are competent to carry out their activities under many levels of stress, perform important tasks efficiently, they come to present very significant levels of post-traumatic stress, Carrillo (2020) then means that even if they know how to control the situation at the moment, it does not mean that this does not significantly disrupt their lives, lives that in the long run will be affected and the detriment will be much greater when they do not know how to deal with this situation.

The study conducted by Mendoza (2020) in Trujillo, Peru, investigates post-traumatic stress disorder (PTSD) among the healthcare team that faced the COVID-19 pandemic. The author found that workers between the ages of 25 and 29, especially women, were the most affected by this disorder. PTSD is a common response after traumatic events such as pandemics, characterized by persistent symptoms for at least 90 days, with stability for 45 days. The research highlights that large-scale events such as the pandemic leave deep consequences in the affected communities. The uncertainty and prolonged stress associated with these events can have a significant impact on the mental health of healthcare workers, who faced unexpected challenges due to the rapid increase in COVID-19 deaths, reaching alarming numbers, such as 950 in a single day.

On the other hand, Monterosa (2020) points out that work stress, anguish, and concern about COVID-19 among Colombian general practitioners were remarkably high. According to their study, seven out of ten doctors evaluated presented symptoms of anxiety or work stress, while four showed signs of fear of COVID-19. The severe anguish among the collaborators of the main jurisdiction was experienced in a more familiar way. However, working in these terrestrial environments was not agreed with a greater view of any of the three situations, the general isolation and the inadequately imaginary isolation, such as the citizen contravention and the insufficiency of neatness measures, manage to become elements that create apprehension, uneasiness and stress with a high breakdown in the mental health of the community in usual and of the competitive health.

Montes and Ortunez (2021) carry out a study on the effects of the calamity called COVID-19 in a health center, the data show that the staff of the health space is conceived as very helpless, as well as stressed. They are more suspicious of self-infection than of infection of others. They discover his work as powerful, profitable, diligent, advantageous and ductile, and at the same time he conceives himself cordial, affectionate, frank, warm and cautious. It was found that nurses, and later intensive care support personnel, are conceived in profitable, courageous, substantial and real increases than other charitable classes, including doctors.

Barreto and Ccente (2022) in their study in Huancayo, found that people aged 50 to 59 years are at high risk of experiencing post-COVID-19 psychological consequences. In contrast, those under 30 years of age showed less inflexibility, which was statistically significant. The research highlighted that the sociodemographic profile is a crucial factor in understanding these psychological outcomes. In addition, it was observed that having a good emotional state can positively influence daily performance and emotional stability post-COVID-19. The impact of COVID-19 exacerbated various psychosocial tensions, leading some individuals to seek help in harmful behaviors that affected their mental health.

Sousa (2021) also states that the components that were increasingly concerned with psychopathological symptoms and the work scenario of nursing in the southeast of Brazil in the argument of COVID-19 states that the components that were increasingly concerned with psychopathological symptoms in the adjacent interpreter in the Southeast Territory were: age rest; hourly census of the weekly work and anguish of discomfort and/or impetus in the period of the debt, since the stage of calamity by COVID-19 was promulgated, in turn the allusive derivations registered the value of executing psychological mediations, again premature, in the middle and after the disease. Likewise, the establishment of guidelines focused on refuge, attachment and courtship by nursing experts is proposed through corporate proposals to resist vehement requests.

Muñoz (2020) explores the impact of psychological stress on health professionals during the COVID-19 pandemic, highlighting how some physicians, especially men, may be culturally conditioned to ignore their own emotional needs by professional engagement. This dynamic can lead to burnout and high levels of emotional insecurity, as few seek support in the face of difficulties. The research points out that not all health workers experience the same emotional impact, which underscores the complexity of risk and protective factors in managing stress during the crisis.

It is suggested to consider sociodemographic aspects, personal and professional demands, individual resilience, as well as social support as key elements to address mental health during the COVID-19 pandemic.

As a last point we can see that, in Spain, Balluerka (2020) through a study carried out states that the psychological sequelae of covid-19 and isolation are a scenario without new data within our nation, and it is imaginable that it has a significant sign in material and psychic fortune. Balluerka tells us that the paralysis of the financial emergency, the interruption of classes in the academic axes and the isolation of the entire city for periods has faked a surprising scenario and with many stressful worker events, during confinement or isolation, both are elements that significantly alter psychological and physical well-being are the detriment of routines, practices and psychosocial stress, according to the first thesis that investigates the psychic blow of the COVID-19 quarantine in China.

To conclude, the pertinent theories related to the research topic are presented, the treatment of which is crucial to support the study adequately. These theories are of great importance for the detailed research and extensive elaboration of the present research, which is organized as follows:

COVID-19 is the disease caused by the coronavirus accredited as SARS-CoV-2. WHO first became aware of the existence of this new virus on 31 December 2019, when several cases of a viral infectious disease were reported in Wuhan (Adhanom, 2020).

Stress is concretized so that the physiological intransigence of the body in which unequal components of protection enter recreation to face a context that is seen as threatening or exaggerated demand. Stress is an original and obligatory response to stability.

When this original refutation is provided in abundance, it causes a coupling that is too rigid that transcends the organism and incites the birth of pathological ailments and peculiarities that paralyze the lucid process and progress of the humanitarian organism (Regueiro, 2018).

PTSD is a mental health condition released by a frightening scenario, whether you have experienced it or witnessed it. The symptoms manage to involve reminiscences, oppression and serious anxiety, as well as uncontrollable tendencies on stage. Various individuals who go through traumatic circumstances may have temporary conflicts to accommodate and face them, but with the lapse and self-care they usually correct. If the signs become severe, persist for months or even years, and hinder your daily errands, you may have PTSD (Pruthi, 2020).

Mental health emerges as an essential component of the human experience, influencing both our enthusiastic approach and our psychological and general perceptions. This dimension shapes our ability to cope with everyday challenges, influencing how we manage stress, interact socially, and make meaningful decisions. Today, it is widely recognized that mental health is fundamental to people's holistic well-being. Contemporary society has evidenced the psychological impact of events such as the global pandemic, underscoring the need to address both physical and mental health in an interconnected way to promote individual development and quality of life (Manrique, 2021).

PTSD is a clinical condition, with a permanence of more than one month, stimulated by the exhibition of expiration, crime, serious anguish or distinguished as an ultimatum, and which represents a clinically specific nuisance or detriment in the transcendental places of activity of the individual. (Gimeno, 2020). That is, the accumulation of omens as a result of the experience in an original person or through a very close person of an event with a greater emotional blow, supreme and continuous stress or with a weighted impact, but of a reiterated nature in space (Bermúdez, 2020).

PTSD symptoms inherently begin within three months of the traumatic event, but sometimes they develop late. To consummate the discernments of PTSD, the symptoms must persist for more than a month and must be dangerous enough to hinder aspects of daily life, such as private or professional relationships. Symptoms should never be related to medicines, substance use, and new conditions (Berger, 2023).

The progress of the disease alters and yet some individuals recover in six months, others have symptoms that persist for a year or more. Often, people with this disorder also suffer from co-occurring conditions such as depression, substance use disorder, or one or more anxiety disorders.

According to the Ministry of Health (Minsa), as of September 2023, more than one million cases of mental health care were registered. Specifically, during that period, health institutions in the sector attended 1,333,930 cases. Minsa reports that anxiety (343,897 cases) and depression (207,068 cases) are the most common conditions among the population (Guardamino, 2023).

Through a collateral study of nursing students and supervisors, it was revealed that the prevalence of PTSD in nursing staff is high, especially in professionals with previous PTSD symptoms, family members or friends who have died from COVID-19, a high perception of risk and/or low resilience (Blanco, 2022).

One of the determining characteristics of COVID-19 is the enormous coercion that is practiced on health care regimens and collaborators due to the significant number of patients with COVID-19 who require effective medical care. Mainline collaborators have to put themselves in danger to safeguard lives and, as a result, some have lost their own lives Tedros (2020). In several nations, women make up 70% of health personnel and, therefore, have been disproportionately affected. Even resilient health governments can quickly become overwhelmed and engulfed by an unprecedented outbreak of COVID-19. Contingency



procedures should contain extreme conjectures, such as the need to completely reconfigure and generously rearrange the entire health section (Bermudez 2020).

The psychopathological diagnosis is the type of evaluation that believes it is viable to mature in the sufferer as a revealing and determined device, which allows its commands to be classified as unheard-of, implicitly the adequate considerations that individuals attach to their disturbances form, at the moment of determining and achieving what they shout an evil, something as transcendental or more transcendental than any serious regime of determination (Duero, 2019).

The negative effect is an extension that is determined by anxiety and a chain of aversive mood periods, such as anger, offense, disgust, stumbling and suspicion. In other discourses, those with negative affect appreciate negative emotions more and interact from that annoyance, observing their peers and the environment in a negative way (Pariente, 2020).

Anhedonia could be considered a major disorder related to depression and other pathologies that are capable of suppressing the response to pleasure stimuli. Two varieties of anhedonia can be distinguished: the symmetrical in more physical countenances, which compensates for the senses, such as eating food, listening to music, contact, exercising through a sport, and on the other hand, social anhedonia, in which the ability to take pleasure in relationships with people is wasted. General facts that in advance did forge pleasure and contentment, such as remaining, conversing, commodifying opinions and feelings desist from exercising, have degenerated usefulness in the existence of others (Spain, 2021).

These types of outward behaviors can be observed from an early age. Throughout development, children often resort to physical aggression and other externalizing behaviors to resolve conflicts with their peers and parents (Luján, 2022).

Dysphoria is primarily characterized by an emotional maladjustment that can arise in response to everyday life events, such as illness or grief. On the other hand, anxiety is defined as a feeling of fear, dread and restlessness, often accompanied by sweating, restlessness, tension and palpitations. It is a normal response to stress (Swan, 2023).

Somatization in psychology is defined as the vision of habitual and multiple physical symptoms whose appearance is not granted by a physical cause. These symptoms are determined by moving the person on a social, personal, or occupational level (Fernández, 2022). Through somatization, the organism externalizes the emotional anguish that it is not capable of releasing. Since the regularity of lifestyle in the existing society can give rise to countless worries and stresses, harsh and negative shocks can incite a great blow to others. Together, any negative emotions usually feed off each other (Fernández, 2022).

Obsessive-compulsive disorder (OCD), also known as obsessions and compulsions, is characterized by unwanted thought patterns (obsessions) that cause repetitive behaviors (compulsions) (Rodríguez, 2021). These obsessions and compulsions intersect with daily activities and cause great emotional distress. Trying to ignore or control obsessions increases distress and anxiety. As a result, affected individuals often feel the need to perform compulsive acts to relieve stress. Despite attempts to resist or neutralize the obsessions and compulsions that make them uncomfortable, they keep reappearing repeatedly. This perpetuates more ritualistic behaviors, characterizing the environment of obsessive-compulsive disorder (Chun, 2021).

The term interpersonal sensitivity refers to a person's ability to recognize another person's feelings, thoughts, needs, expectations, and personality, and thus be able to respond appropriately. In addition, it is about the accuracy in the evaluation and understanding of other aspects and identity categories of character, including sexual orientation. This provides a deeper understanding of individual goals and helps identify each person's shortcomings and desires (Luque, 2021).

Depression is defined as a mood disturbance in which feelings of sadness, loss, anger, or frustration significantly affect daily life for a continuous period of at least 2 weeks. Depression can also be narrated as the familiar of appreciating a disconsolate, hypochondriac, unhappy, depressed or dejected state. Most of us appreciate ourselves in this way from time to time for short periods of time (Conaway, 2023).

Depression is located at the center of mental disorders with a high capacity for development. Between 80% and 90% of people with depression coincidentally give good results to treatment. Approximately all patients achieve sufficient relief from their symptoms. Prior to an analysis or method, a health professional must carry out an absolute diagnostic evaluation, which includes an interview and a physical analysis (Hawayek, 2024).

Paranoid ideation is characterized by a persistent pattern of unfounded distrust of others, paraphrasing their motivations as malicious. This phenomenon is assessed using clinical criteria and is typically treated with cognitive-behavioral therapy. It is common to find additional disorders associated, as paranoid ideation is rarely presented as a single diagnosis. Common comorbidities include thought disorders such as dementia, anxiety disorders, post-traumatic stress disorder (PTSD), alcohol use disorders, among others (Zimmerman, 2021).

Psychoticism refers to a type of personality that is characterized by aggressiveness and hostility towards others, indicating a propensity for impulsive, aggressive or disempathetic behaviors. According to Eysenck, psychoticism shows a standard curve-shaped distribution in the urban population, with most people located at a moderate level of psychoticism and fewer individuals at the lower or higher extremes (psychopathologies). However, this view has been criticized because psychoticism does not follow a standard distribution and can manifest itself in very different ways among people. There is no clear consensus in the psychological community on this dimension (Oliván, 2023).

Somatization is an accumulation of physical symptoms that cause discomfort and that cannot be clinically manifested from an examination of the body. This means that wherever there is somatization, there are obstacles similar to ailments and discomfort that cannot be found from a clinical analysis (López, 2022). Integral to the problems in locating the beginning of the problem, the care of the analysis and procedures usually relapses in the Somatic Nervous System, that is, the part of the nervous system that transports sensory information and offers itself as a conduit for the electrical propulsions that drive the muscles (Torres, 2015).

Finally, in the current study commitment, the following hypothesis was designed:

To analyze how post-traumatic stress is related to COVID-19 and psychopathological symptoms in employees of a health center, Moyobamba – San Martín.

This significantly expanded the understanding of reality, facilitating the assessment of the level of post-traumatic stress and psychopathological symptoms of COVID-19 among the professionals studied in the health sector in a health center. This research focuses on overall psychological and emotional well-being, highlighting the influence of mental health on thinking, behavior, and emotions during exceptional times in life.

Palomino (2020) pointed out that the COVID-19 pandemic has unique particularities that can increase stress levels compared to other pandemics: it is caused by an unknown virus, which generates uncertainty about its control and poses an uncertain future. The daily increase in positive cases and deaths contributes to this situation, exacerbated by the constant dissemination of information on social networks.

## METHODOLOGY

The type of research used was descriptive-explanatory, allowing a specific phenomenon to be investigated in detail to better understand it. According to Ramos (2020), in this research approach, the characteristics of the phenomenon are already understood and the objective is to show how it manifests itself in a given human group. In the quantitative process, central tendency and scatter data analysis are used for this purpose. In this context, it is feasible, although not necessary, to propose a hypothesis that seeks to define the phenomenon under study. The research design was non-experimental - correlational, as it did not include externally manipulated variables and focused only on two variables to determine the relationship between post-traumatic stress associated with COVID-19 and psychopathological symptoms. According to Mejía (2017) "correlational research is a type of non-experimental study in which researchers examine two variables and establish a statistical relationship between them (correlation), without the need to introduce external variables to reach meaningful conclusions".

As an independent variable, the following was recorded: Post-traumatic stress in the face of COVID-19, consequently, it was intended as a conceptual definition: (Reyes, 2022) People in the Peruvian city affected by post-traumatic stress due to COVID-19 may experience problems such as obesity or cardiovascular diseases, follow harmful routines, have a family history of psychiatric diseases, have family members who are sick or deceased by COVID-19, as well as suffering from depression, anxiety or stress, in turn the operational definition was established as, Post-traumatic stress in the face of COVID-19 and psychopathological symptoms in the workers of a health center in Moyobamba – San Martín, in the action of their daily errands.

The dimensions were evaluated using a dimensional analysis questionnaire: D1: Dysphoric and anxious arousal, D2: Intrusion, avoidance and negative affect, D3: Anhedonia, D4: Externalizing behavior, each dimension has its respective indicators, the measurement scale was called nominal, the so-called psychopathological symptoms were taken into account as a dependent variable, having as a conceptual definition, (Paulocci, 2017) It specifies the psychopathological symptom as "A disorder that is identified by a sedition of intellectual dynamism, mood or procedure that is not associated with dogmas and formative models", as an operational definition it was taken into account, improper qualities or behaviors that are visible in the activities carried out by any person who presents psychopathological symptoms, it will be computed with a questionnaire of the following dimensions: D6: Somatization, D7: Obsessions and compulsions, D8: Interpersonal sensitivity, D9: Depression, D10: Anxiety, D11: Hostility, D 12: Phobic anxiety, D13: Paranoid ideation, D14: Psychoticism, each one has its respective indicators.

The population was constituted in the city of Moyobamba, which in turn was made up of 3 Health Centers, which were made up of 368 entities, constituted in 59 micro-networks, 10 Health networks and a specialized hospital. Given the census-type characteristic, all people were considered in the study.

The population was made up of health professionals who work in a health center in the city of Moyobamba – San Martín and who also carried out work in the midst of Covid-19, 20 doctors, 20 nurses, 3 health centers in the city of Moyobamba, which were made up of 368 entities, constituted in 59 micro-networks, 10 health networks and a specialized hospital and 161 health personnel. For the inclusion criteria, only doctors and health personnel who work in a health center were counted, and for the exclusion criteria in the current thesis report, health competitors who do not perform work in that health center were not taken into consideration.

As a sample, 161 people were in the health center, who were distributed as follows: 7 doctors, 7 nurses, 147 health personnel. According to the research approach adopted, non-probabilistic sampling was used, where the sample selection was made according to the convenience of the researcher. In addition, inclusion and exclusion criteria were applied to obtain an adequate sample that reflects the specific characteristics of the population, thus ensuring more accurate results that support the research.

It consisted of two questionnaires, the first called "Adaptation and validation of the Post-Traumatic Stress Disorder (COVID-19-PTSD) Questionnaire in the Peruvian population". (Becerra, 2023) the COVID-19-PTSD Questionnaire, in its Peruvian version (E-PTSD 4/18), shows reliability and validity indices within expectations; This was demonstrated by observing the internal consistency and construct validity examined through an analysis of variability, correlation and confirmatory factors with structural equations. The psychometric properties demonstrate that the instrument is appropriate and reliably serves to assess PTSD symptoms. In relation to internal consistency, E-PTSD 4/18 shows high reliability by Cronbach's Alpha and McDonald's Omega, similar results were reported. In this regard, Kline (2020) argues that, for experiments for clinical use, a reliability of 0.85 upwards is suggested and for research of 0.70 and above. It is therefore a reliable instrument that will perform stable and consistent measurements, as well as for clinical practice and research. And the SCL-90-R symptom inventory by L. Derogatis." (Casullo & Pérez, 2008) is evaluated and interpreted based on nine primary dimensions, where the adequate levels of reliability of the items of the instrument are evidenced, likewise the reliability index is 0.976; represents a favorable result, this means that the test has a good internal consistency and that the SCL – 90 – R was made up of the 90 items of origin.

For data collection in the research, a survey hosted on Google Drive was used as the main technique. This questionnaire was specifically addressed to doctors, nurses and other health personnel working within the aforementioned jurisdiction. The instrument was designed to assess the level of knowledge of the participants on the subject under study and was previously validated by the thematic advisor, demonstrating high reliability based on the percentage of responses obtained. In addition, an additional instrument for data collection was developed to facilitate the adequate statistical interpretation and evaluation of the research variables.

The data method used in this case was deductive, because it started from the study of universal data to specific data, starting from a whole to a certain aspect responding to the objectives set in the exploration; and analytical, because based on the information and the results that were acquired, the consequences of post-traumatic stress associated with COVID-19 will be studied.

To identify the incidence between post-traumatic stress in the face of COVID-19 and the presence of psychopathological symptoms, measures of centric disposition were used, such as mean, standard deviation, coefficient of variation, as well as percentage of cases.

To establish the relationships between the study variables, firstly, the regularity of the variables was analysed using goodness-of-fit tests. In the present study, it was recommended that the sample be larger than fifty people. Taking into account the normal results, it was examined by either a parametric correlation coefficient (Pearson) or a nonparametric correlation coefficient (RHO SPERMAN).

The relationship between post-traumatic stress in the face of COVID-19 and the psychopathological symptoms of somatization, anxiety, and phobic anxiety, which are first-level indicators of psychopathological symptoms, was considered first. Subsequently, the relationship between post-traumatic stress in the face of COVID-19 and the psychopathological symptoms of interpersonal sensitivity, depression and paranoid ideation, which belong to the second level of psychopathological symptoms, was analyzed. Finally, the relationship between post-traumatic stress in the face of COVID-19 and the psychopathological symptoms of obsessions and compulsions, as well as psychoticism, corresponding to the third level of psychopathological symptoms, was explored.

In order to compare the relationship between post-traumatic stress in the face of COVID-19 and psychopathological symptoms according to sex, profession and age, the criteria of normality were taken into account and bivariate and multivariate correlations were made as appropriate. Relationships in women

and men were examined separately and these relationships were compared. In addition, measures of mean differences were used to analyse variations between groups.

In the research carried out, the regulations established by the César Vallejo University were complied with in terms of copyright, intellectual property and research background, such as journals, scientific articles and theses, among others. Recognized scientific research sources and relevant repositories were used, quoting and paraphrasing correctly as appropriate. In addition, informed consent was incorporated as a fundamental part of ethical considerations. This process ensured that all participants understood the objectives of the study, the procedures involved, and their rights as research subjects. Special attention was paid to the ethical principles of beneficence, non-maleficence, autonomy and justice, thus guaranteeing the conduct of the study in an ethical and responsible manner.

## RESULTS

### BOARD 1 CORRELATION BETWEEN THE POST-TRAUMATIC STRESS DISORDER (COVID-19) QUESTIONNAIRE (PTSD) AND THE PSYCHOPATHOLOGICAL SYMPTOM INVENTORY (SCL-90-R)

A significant positive correlation was found between both measures, using Spearman's coefficient the percentage obtained was 0.90, close to 1, indicating a strong and positive correlation between the scales.

	Post-Traumatic Disorder (COVID-19- PTSD) Questionnaire	Stress (COVID-19- PTSD) Questionnaire	SCL-90-R Symptom Inventory
Post-Traumatic (COVID-19-PTSD) Questionnaire	—		
SCL-90-R Symptom Inventory	0.90		—

### BOARD 2 DESCRIPTIVE STATISTICS FOR POST-TRAUMATIC STRESS DISORDER (COVID-19-PTSD) QUESTIONNAIRE DIMENSIONS

	N	M	OF	g1	g2
Intrusion, avoidance, and negative affect	161	13.24	9.86	0.3474	-1.09
Anhedonia	161	4.37	3.66	0.2973	-1.19
Dysphoric and anxious arousal	161	5.34	3.53	0.0834	-1.10
Externalizing behavior	161	5.16	3.55	0.1530	-1.07

Note. M: medium; SD: standard deviation; G1: Asymmetry; G2: Kurtosis

Table 02 presents the descriptive statistics for the dimensions Intrusion, avoidance and negative affect, Anhedonia, Dysphoric and anxious arousal, and Exteriorizing behavior of the Posttraumatic Stress Disorder (COVID-19-PTSD) Questionnaire. It is observed that, in some of them, the indicators of asymmetry and kurtosis are high, exceeding the maximum acceptable traits (-2, +2) (Bandalos & Finney, 2010)



**BOARD 3** DESCRIPTIVE STATISTICS FOR THE DIMENSIONS OF THE SCL-90-R  
PSYCHOPATHOLOGICAL SYMPTOM INVENTORY

	N	M	OF	g1	g2
Somatizations	161	17.59	13.98	0.412	-1.155
Interpersonal sensitivity	161	12.22	10.40	0.495	-1.026
Depression	161	19.89	15.46	0.330	-1.287
Anxiety	161	13.48	12.19	0.561	-1.061
Obsessions and compulsions	161	16.19	12.23	0.243	-1.264
Hostility	161	7.84	7.10	0.604	-0.997
Phobic Anxiety	161	8.57	8.72	0.665	-0.999
Paranoid ideation	161	9.06	7.20	0.316	-1.184
Psychoticism	161	12.59	11.94	0.620	-0.920

Note. M: medium; SD: standard deviation; G1: Asymmetry; G2: Kurtosis

Table 03 presents the descriptive statistics for the dimensions of the psychopathological symptoms of Somatizations, Obsessions and Compulsions, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, Psychoticism from the SCL-90-R Symptom Inventory. Likewise, the standard deviation is observed, which represents the dispersion of the indicators. Finally, the indicators of asymmetry and kurtosis are high, exceeding the maximum acceptable ranges (-2, +2) (Bandalos & Finney, 2010).

**BOARD 4** CORRELATION BETWEEN OF THE DIMENSIONS OF THE POST-TRAUMATIC  
STRESS VARIABLE IN THE FACE OF COVID-19 AND THE DIMENSIONS OF  
PSYCHOPATHOLOGICAL SYMPTOMS

	Somatizations	Obsessions and compulsions	Interpersonal sensitivity	Depression	Anxiety
Intrusion, avoidance, and negative affect	0.81	0.84	0.83	0.82	0.84
Anhedonia	0.80	0.82	0.82	0.82	0.84
Dysphoric and anxious arousal	0.79	0.82	0.83	0.82	0.82
Externalizing behavior	0.83	0.82	0.82	0.82	0.84

In Table 04, positive and strong correlations were found between the dimensions of COVID-19-related post-traumatic stress (measured by E-PTSD) and psychopathological symptoms (assessed by SCL-90-R), such as somatizations, obsessions, compulsions, interpersonal sensitivity, depression, and anxiety. Spearman's coefficient was used due to the non-normal distribution of the data, obtaining values between 0.7 and 0.9, close to 1, indicating positive and strong correlations, as expected (Martínez et al., 2009).

**BOARD 5 CORRELATION BETWEEN OF THE DIMENSIONS OF THE POST-TRAUMATIC STRESS VARIABLE IN THE FACE OF COVID AND THE DIMENSIONS OF PSYCHOPATHOLOGICAL SYMPTOMS**

	Hostility	Phobic anxiety	Paranoid ideation	Psychoticism
Intrusion, avoidance, and negative affect	0.84	0.82	0.83	0.82
Anhedonia	0.82	0.80	0.82	0.82
Dysphoric and anxious arousal	0.80	0.79	0.84	0.79
Externalizing behavior	0.82	0.81	0.79	0.80

Strong correlations were found between all dimensions of both variables, indicating a positive association between perceived stress from COVID-19 and psychopathological symptoms

**DISCUSSION**

To develop our general objective, which consisted of determining the relationship between post-traumatic stress related to COVID-19 and psychopathological symptoms in collaborators of a health center in Moyobamba, San Martín. We used table and figure N° 01 to visualize the results obtained. When analyzing the correlation between the symptoms assessed by the SCL-90-R inventory and the results of the Post-Traumatic Stress Disorder (COVID-19-PTSD) questionnaire, we found a significant positive association. Caballero (2022) highlights a significant correlation between psychopathological symptoms and post-traumatic stress levels among the employees of the health center in Moyobamba, reflecting the impact of stress during the pandemic on their mental health. This highlights the urgency of implementing interventions aimed at supporting the psychological well-being of this vulnerable group. Arango (2020) underscores the crucial importance of these interventions to ensure effective and sustainable care for the community, emphasizing the need for concrete measures to address the psychological challenges arising from the health crisis.

Consulo (2023) highlights that his study expands scientific knowledge about the psychological effects of COVID-19 on health professionals and establishes a solid empirical basis for future mental health research and policies in similar contexts. This approach is crucial to understanding the psychological needs of these workers and developing effective interventions that can mitigate the impacts of post-traumatic stress and psychopathological symptoms in this vulnerable group.

Iglesias and Acosta (2020) together with Neri (2021) emphasize the urgent need to address the symptoms of psychopathology and post-traumatic stress related to COVID-19 in occupational health. The pandemic has placed a significant burden on health care workers, who face additional challenges and psychological repercussions. It is crucial to implement effective interventions to support their psychological well-being and ensure sustainable health care.

The study conducted by Mendoza (2020) reveals a clear connection between the symptoms assessed through the SCL-90-R inventory and the levels of post-traumatic stress measured through the COVID-19-PTSD questionnaire. This relationship suggests that the employees of the health center in Moyobamba, San Martín, have experienced a significant psychological burden as a direct consequence of the global health crisis.

According to Sousa (2021), these impacts affect not only the physical health, but also the emotional and psychological well-being of health workers, as Rodriguez (2020) points out. It is crucial to implement effective psychological support measures to mitigate post-traumatic stress and psychopathological symptoms. This will promote the integral well-being of professionals and ensure quality and sustainable care for the community.

Balluerka (2020) and Pariente (2020) highlight the urgency of implementing specific interventions to mitigate post-traumatic stress and psychopathological symptoms among health workers. Balluerka stresses

that these findings have broad and urgent implications for health policies and labor practices. On the other hand, Pariente suggests that measures such as stress management training programs, access to mental health services, ongoing emotional support, and adjustments in working conditions could be crucial to alleviate the psychological burden on this professional group.

The results were analysed in detail in relation to the specific objectives set. The first objective was to perform a descriptive analysis of post-traumatic stress in the face of COVID-19. As can be seen in Table 02, some indicators of asymmetry and kurtosis exceeded the maximum acceptable ranges (-2, +2), which suggests an abnormal distribution in some dimensions of post-traumatic stress evaluated in the collaborators of the health center of Moyobamba, San Martín.

The second specific objective focused on carrying out a descriptive analysis of the psychopathological symptoms in these same collaborators. Similarly, high values were identified in some indicators of asymmetry and kurtosis that exceeded acceptable limits, indicating a non-normal distribution in the evaluated dimensions of the SCL-90-R inventory (Bandalos & Finney, 2010).

The third specific objective focused on analyzing the relationships between the dimensions of post-traumatic stress derived from COVID-19 and psychopathological symptoms Bandalos & Finney (2010). According to the results presented in Table 04, significant positive associations were observed between the dimensions of Intrusion, Avoidance, Negative Affect, Anhedonia, Dysphoric Arousal, and Anxious, as well as Externalizing Behavior of post-traumatic stress assessed by the E-PTSD questionnaire, and the dimensions of Somatizations, Obsessions and Compulsions, Interpersonal Sensitivity, Depression, and Anxiety of the SCL-90-R Psychopathological Symptom Inventory. These correlations were robust, evidencing a direct and substantial connection between the perception of stress related to COVID-19 and the manifestation of psychopathological symptoms (Manrique, 2021).

It is important to note that Spearman's correlation coefficients were used because the data did not exhibit a normal distribution, according to the results of the Shapiro-Wilk test. The correlation coefficients obtained varied between .7 and .9, which indicates a positive and strong association between the variables analyzed, in line with what is expected according to the relevant literature (Martínez et al., 2009).

According to the authors, Guardamino (2023) states that it is crucial to address both the direct psychological impact of post-traumatic stress related to COVID-19 and the general psychopathological symptoms in the context of occupational health, especially among collaborators in the health sector, as Berger (2023) analyzes, it takes on an even deeper meaning. The pandemic has considerably intensified the emotional and psychological challenges faced by these professionals, who have not only been exposed to physical risk, but have also borne an intense emotional burden due to the traumatic nature of the global health emergency (Chun, 2021).

The results of our study suggest a significant association between symptoms assessed using the SCL-90-R inventory and post-traumatic stress levels as measured by the COVID-19-PTSD questionnaire. This connection indicates that the collaborators of the health center in Moyobamba, San Martín, have experienced not only general psychopathological symptoms, but also specific post-traumatic stress related to the pandemic, reflecting the complexity and magnitude of the psychological challenges they face (Nicolini, 2021).

Adhanom (2020) stresses the importance of using these observations to guide the development of future interventions aimed at improving psychological well-being and strengthening response capacity to crises such as the COVID-19 pandemic, as highlighted by Balluerka (2020). This involves the implementation of ongoing psychological support programs, training in stress management and coping techniques, as well as policies that promote a healthy and sustainable work environment for health workers.

Arango (2020) states that these measures are essential to mitigate the adverse psychological impacts derived from crisis situations such as the pandemic, thus ensuring that health professionals can face challenges with greater resilience and maintain an optimal level of mental well-being in the exercise of their functions.

In addition, mental health care must be integrated holistically into crisis management strategies and public health policies, recognizing the importance of protecting not only the physical health, but also the emotional and psychological well-being of those on the frontline of care.

First, Aceituno (2024) points out that people directly affected by COVID-19, such as employees at a health center in Moyobamba, San Martín, show a high incidence of anxiety, depression, and post-traumatic stress disorder. This author highlights how direct contact with the disease can trigger significant psychological consequences.

Racugno (2021), on the other hand, expands this perspective by highlighting that these psychological disorders were exacerbated by the fear of new infections and the experience of loneliness, especially in the early stages of the pandemic. This period was marked by uncertainty about the course of the disease and the lack of specific treatments or vaccines, factors that contributed to the emotional and psychological stress of those affected.

Sampson (2021) complements these observations by explaining the physiological mechanism underlying stress, known as the "fight or flight" response. This author describes how the human body reacts to danger by activating hormones that prepare the individual to face or escape the threat. This physiological response may be constantly activated during prolonged stressful situations such as the pandemic, thus contributing to the psychological disorders observed by Aceituno and Racugno.

Together, these authors provide an integrated picture of the complex impact of COVID-19 on mental health, from direct experience with the disease to the physiological and psychological mechanisms underlying the stress responses observed in affected populations.

a significant correlation between the specific dimensions of post-traumatic stress related to COVID-19 and general psychopathological symptoms is highlighted, especially among health workers. These findings underscore the considerable psychological burden faced by these professionals due to the pandemic.

Aceituno (2024) reveals high levels of post-traumatic stress, anxiety, and depression among health workers due to COVID-19 and intense working conditions, highlighting the worrying impact on their mental health, crucial for the health response. Barreto and Ccente (2022) could delve into how this specific stress correlates with more general psychopathological symptoms, broadening our understanding of how the pandemic has exacerbated mental health problems in health workers and other vulnerable groups.

In addition, Monterosa (2020) indicates that health systems might not be prepared to handle the growing mental health needs during the pandemic, underscoring the urgent importance of strengthening resources and policies to ensure effective and accessible psychological support in times of health crisis.

On the other hand, Muñoz (2020) points out the importance of implementing public health policies that emphasize the psychological well-being of both health workers and the community in general, especially in contexts of prolonged health crisis such as the COVID-19 pandemic.

In accordance with the study conducted by Montes and Ortunez (2021), it provides additional relevant context to understand the findings of our own study on the psychological impact of COVID-19 on collaborators at a health center in Moyobamba, San Martín. According to their results, health personnel in the center studied experienced significant levels of helplessness and stress, phenomena that coincide with the findings of our analysis on post-traumatic stress and psychopathological symptoms.

The perception of health personnel towards autoinfection and the infection of others is emphasized, aspects highlighted by Lujan (2022). This perception may be directly related to the anxiety and fear observed among employees during the pandemic, topics that have also been explored in studies such as (Fernandez, 2022).

Lujan (2022) and Fernandez (2022) offer deep insight into how worries and emotions affect the mental health and well-being of health workers, highlighting the importance of addressing both the physical and psychological aspects of the pandemic. On the other hand, López (2023) highlights the dual perception of health workers towards their work during the health crisis. Although they feel that their work is powerful, fruitful, and flexible, allowing them to significantly help patients, they also face challenges and constant caution due to the nature of the virus and intense working conditions.

This complex and multifaceted approach to the emotional and professional experiences of health workers during the pandemic highlights the need for policies and supports that recognize and respond appropriately to these realities. Integrating these perspectives contributes to a more comprehensive understanding of how the psychological and emotional well-being of health workers can be improved in protracted crisis contexts such as the COVID-19 pandemic.

The findings of Sousa (2021) show that specific roles such as nurses and intensive care staff are perceived as resilient and essential. This helps to understand how levels of post-traumatic stress and other psychopathological symptoms vary among different groups of health workers during the pandemic. Spain (2021) highlights the importance of this information to design specific interventions that better support each professional group in healthcare settings, ensuring better psychological well-being during and after COVID-19.

Considering the support of the aforementioned authors and the results obtained in our study, it is evident that the established objectives were satisfactorily achieved. The detailed analysis carried out at the health center of Moyobamba, San Martín, made it possible to precisely meet each of the specific objectives set.

In conclusion, our results, supported by the consulted literature, confirm the success of conducting a detailed analysis in the health center of Moyobamba, San Martín. These findings are critical for implementing interventions that improve the psychological well-being of healthcare workers in health crises.

In summary, this study not only expands our knowledge of post-traumatic stress and psychopathological symptoms in health crisis situations, but also offers practical recommendations to improve the psychological well-being of staff on the front line of public health emergency response.

## CONCLUSIONS

The study carried out on collaborators of a health center in Moyobamba – San Martín found a significant and strong correlation (Spearman's coefficient of 0.90) between post-traumatic stress due to COVID-19 and psychopathological symptoms. These results underscore the urgent need to implement effective emotional and psychological support measures to protect the mental health of health workers from the adverse impacts of the pandemic. In addition, they highlight the importance of continuing to research and develop specific interventions aimed at mitigating these effects and promoting a healthier and more resilient work environment in contexts of health crisis.

Psychopathological symptoms among the collaborators of a health center in Moyobamba – San Martín show a notable psychological affectation, according to descriptive analyses such as mean and standard deviation. The dimensions of somatizations, obsessions and compulsions, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism present variable levels of symptomatology.

Strong correlations were found between post-traumatic stress due to COVID-19 and psychopathological symptoms such as somatizations, obsessions, compulsions, interpersonal sensitivity, depression and anxiety. These results highlight the close relationship between the impact of pandemic stress and the onset of psychological problems. It is crucial to implement specific interventions to support those affected, emphasizing the importance of psychological support during crises such as the COVID-19 pandemic.

As a final conclusion, it is determined that strong correlations were found between post-traumatic stress due to COVID-19 and psychopathological symptoms such as hostility, phobic anxiety, paranoid ideation and psychoticism. These findings highlight the serious impact of pandemic stress on mental health, underscoring the urgent need for appropriate interventions.

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