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SÍNTOMAS DE SALUD MENTAL, BIENESTAR PSICOLÓGICO Y ESTRATEGIAS DE AFRONTAMIENTO EN UNA MUESTRA DE PERSONAL MÉDICO DE PRIMERA LÍNEA DE LA CIUDAD DE MEDELLÍN, COLOMBIA, DURANTE LA PANDEMIA DE COVID-19

Olena Klimenko [1], Nubia Hernández-Flórez [2], Elisama Beltrán de la Rosa [3]Tatiana Fernanda Cuartas Agudelo [4], Ana Milena Naranjo Ramírez [5,]
Universidad Metropolitana de Barranquilla
Colombia

RESUMEN

Introducción: La pandemia de Covid-19 ha afectado a la salud mental de las personas en todo el mundo, siendo el personal médico de primera línea el más afectado, surgiendo la urgencia de prepararlos con habilidades blandas y estrategias de afrontamiento para fortalecer su salud mental. Objetivo: Describir los síntomas de salud mental y bienestar psicológico y su relación con las estrategias de afrontamiento en una muestra de personal médico de primera línea durante la crisis sanitaria de la pandemia de Covid-19. Método: Estudio cuantitativo, descriptivo-correlacional transversal. Se utilizó la Escala de Estrategias de Afrontamiento (EEC-M), la Escala de Bienestar Psicológico (EBP) y el Inventario de Síntomas SCL-90-R de Derogatis (1994) en una muestra de 57 participantes pertenecientes a personal médico de primera línea en atención a pacientes con COVID entre los meses de septiembre y diciembre de 2020. Resultados: No se identificó la presencia de riesgo en los síntomas de salud mental, y el bienestar psicológico mostró puntuaciones en el rango normal. Esto se asoció al uso frecuente de estrategias de afrontamiento funcionales como la búsqueda de apoyo profesional y la revalorización positiva y al bajo uso de estrategias de afrontamiento no funcionales como la espera, la evitación emocional, la reacción agresiva, la evitación cognitiva y la negación en la muestra de estudio. Conclusiones: Se evidencia la contribución de un uso asertivo de estrategias de afrontamiento en emergencias sanitarias atípicas en personal médico de primera línea durante la pandemia de covid-19, lo que indica la necesidad de formación y entrenamiento en habilidades blandas en estos profesionales.

Palabras clave: estrategias de afrontamiento, salud mental, bienestar psicológico, personal médico de primera línea, pandemia de covid-19.

MENTAL HEALTH SYMPTOMS, PSYCHOLOGICAL WELL-BEING AND COPING STRATEGIES IN A SAMPLE OF FRONTLINE MEDICAL PERSONNEL FROM THE CITY OF MEDELLÍN, COLOMBIA, DURING THE COVID-19 PANDEMIC

ABSTRACT

Introduction: The Covid-19 pandemic has affected the mental health of people worldwide, with frontline medical personnel being the most affected, emerging the urgency of preparing them with soft skills and coping strategies to strengthen their mental health. Aim: To describe the symptoms of mental health and psychological well-being and their relationship with coping strategies in a sample of frontline medical personnel during the health crisis of the Covid-19 pandemic. Method: Quantitative, descriptive-correlational cross-sectional study. The Coping Strategies Scale (EEC-M), the Psychological Well-Being Scale (EBP), and the Derogatis (1994) SCL-90-R symptom inven[1]tory was used in a sample of 57 participants belonging to front-line medical personnel in care for patients with COVID between the months of September and December 2020.[2] Results: The presence of risk in mental health symptoms was not identified, and psychological well-being showed scores in the normal range. This was associated with frequent use of functional coping strategies such as seeking professional support and positive reappraisal and low use of non-functional coping strategies such as waiting, emotional avoidance, aggressive reaction, cognitive avoidance, and denial in the study sample. Conclusions: The contribution of an assertive use of coping strategies in atypical health emergencies in front-line medical personnel during the covid-19 pandemic is evidenced, indicating the need for training and training in soft skills in these professionals.

Keywords: coping strategies, mental health, psychological well-being, frontline medical personnel, covid-19 pandemic.

[1] Psychology Program. University Institution of Envigado, Antioquia Colombia. https://orcid.org/0000-0002-8411-1263, E-mail: eklimenco@correo.iue.edu.co Correo: eklimenko@iue.edu.co

[2] Psychology Program. Metropolitan University of Barranquilla. https://orcid.org/0000-0001-8756-1895, e-mail: nhernandezf@unimetro.edu.co.

[3]. Psychology Program. Metropolitan University of Barranquilla. https://orcid.org/0000-0002-3119-2944, e-mail: elisama.beltran@unimetro.edu.co

[4] Psychology Program. University Institution of Envigado, Antioquia Colombia https://orcid.org/0000-0002-4950-511X, Correo electrónico: tatiana.cuartasagudelo@gmail.com

[5] Psychology Program. University Institution of Envigado, Antioquia Colombia. https://orcid.org/0000-0002-2589-3365, Email: anminara@gmail.com

The COVID-19 pandemic had a devastating effect on the mental health of the population around the world (Xiang et al., 2020; Lee et al., 2020), with an increase in problems such as generalized anxiety, depression, fear of contagion and death, panic disorder, acute stress disorder and post-traumatic stress disorder, suicidal ideation, among others (Nicomedes and Avila, 2020; Fusar-Poli et al., 2020; Islam et al., 2020; De Lima et al., 2020; Pieh et al., 2020).

The above issues have been aggravated in the population of frontline health personnel who care for infected patients, considering a multiplicity of intervening factors such as a high number of cases, shortage of necessary equipment, widespread media coverage, etc., causing a variety of psychological problems, such as depression, anxiety, and insomnia among front-line medical and non-medical care personnel (Bao et al., 2020; Shigemura et al., 2020; Fang et al., 2020; Teng et al., 2020).

Studies indicate that in healthcare workers there has been a significant increase in symptoms of anxiety symptoms due to fear of being infected and hypochondriasis with increased exposure to COVID-19 (Nicomedes and Avila, 2020). However, being physicians and nurses oriented in their work to care for patients, their own mental health and fatigue are often overlooked (Teng et al., 2020). In this aspect, it is of great relevance to pay attention to medical personnel of all types who were in charge of the care of patients affected by the virus, since their mental health is of greater vulnerability being exposed to a greater amount of stressful and disturbing experiences on a daily basis. Studies in China show that frontline healthcare workers in pandemic care were more likely to suffer from depression, anxiety, insomnia, and stress, highlighting a worrying situation for healthcare workers and the need for an urgent intervention service (Lai et al., 2020; Xiao et al., 2020a; Cai et al., 2020).

In this order of ideas, the studies available so far on medical and nursing personnel during the SARS-CoV-2, EBOLA, and the last Covid-19 pandemics indicate that both those in the first line of care and at the general level show a tendency towards higher rates of mental health-related problems such as symptoms of depression, anxiety, and anguish, stress, decreased quality of sleep, fatigue, fear of contagion and high risk of transmitting the disease to family and friends and decreased quality of life (Chan-Yeung, 2004; Tiong and

Koh, 2013; Oladunjoye, A. and Oladunjoye, O., 2020; Xiao et al., 2020b; Ahmed et al., 2020; Teng et al., 2020; Lai et al., 2020; An et al., 2020).

Studies highlight some of the risk factors related to the severity of mental health symptoms among healthcare workers, such as overwhelming workload, lack of personal protective equipment (PPE), lack of drug and vaccine treatment, lack of social support, lack of communication, lack of training in certain aspects, poor media adaptation and sensationalism about the pandemic, distrust of COVID-19 defeat, poor self-assessed health status, among others (Fagiolini et al., 2020; Lai et al., 2020; Xiaoming et al., 2020).

In this order of ideas, protective factors that allow for preventing or mitigating the emergence of difficulties at the level of problems related to mental health in medical personnel such as a higher level of academic training (Xiaoming et al., 2020), training in non-technical skills and soft skills, leadership, communication or situational awareness allowed decreasing stress during the COVID-19 pandemic (Beneria et al., 2020) are also highlighted.

On the other hand, Fullana et al. (2020) in a study on the Spanish population identified that the use of specific coping strategies related to healthy life habits and routines, hobbies, and outdoor activities, among others, allowed to reduce anxiety and depression during the pandemic.

Coping strategies, at a general level, have been considered valuable personological resources to face situations of prolonged and acute stress, thus reducing its negative consequences on mental health (Gantiva et al., 2010; Di Mattei et al., 2018).

Due to the current pandemic, multiple changes have been generated in people's lifestyles, especially for health personnel, where they have implemented more rigorous strategies in user care, to avoid the risk of contagion. The work of health personnel, including physicians, nurses, nursing assistants, and respiratory therapists, are a fundamental part of the situation, being a vulnerable population that is exposed to face this phenomenon in order to preserve people's lives.

In this sense, WHO (2020) in its document "Mental Health and psychosocial considerations during the Outbreak of COVID-19" published on March 18, 2020, invites medical personnel to take care of their mental health in the same way as their physical health, using effective and functional coping strategies.

Considering the stressful situations and danger of contagion to which front-line healthcare personnel is exposed daily, and considering that the current pandemic is not over, it is necessary to focus attention on the importance of mental health and the coping styles used in the process of coping with the burden of implementing self-care in the biopsychosocial needs of patients, colleagues, and family members.

The medical staff occupies a special place in any community, being not only responsible for the health of its members but also an example of self-care processes in both physical and mental aspects. For this reason, it is relevant to approach the aspects of mental health in the medical staff and the coping strategies used in their daily practice and that, to the extent necessary, should be transmitted to the people involved, whether patients, family members, coworkers, etc., taking as a priority that health personnel is vital for the strengthening and improvement of the disease we face with the current pandemic, as it is recurrent exposure and vulnerability to stressors or possible disorders arising from the activity performed by each professional.

Based on the above, the present study aimed to investigate mental health symptoms, psychological well-being, and their relationship with coping strategies and sociodemographic variables in a sample of frontline medical personnel in the city of Medellin, Colombia, during the Covid-19 pandemic, in the months between September and December 2020.

METHOD

Type of Study

Quantitative, non-experimental, descriptive-correlational research with a cross-sectional design.

Participants

The study involved 57 people who oversaw the first line of care during the health crisis during the Covid-19 pandemic, including general practitioners and specialists, respiratory therapists, assistants, and nursing managers, belonging to several health institutions in the city of Medellin, Colombia. Convenience sampling was used, using the snowball technique, replicating the survey from person to person by virtual means. Among the participants, 82.5% were female and 17.5% were male, with an average age of M = 35.8 (Dt = 1.7). 77.2% were

from private institutions and 10.5% from public institutions; 38.6% were nursing assistants, 19.3% were nurses, 28.1% were specialists, 7% were physicians and 7% were respiratory therapists. According to educational level, 53.1% had a postgraduate degree, 26.3% were professionals, 7% were technologists and 31.6% were technicians.

Instruments

For the assessment of coping strategies, the Coping Strategies Scale (EEC-M) in the version of Chorot and Sandín (1993), validated and modified in the Colombian population by Londoño et al. (2006), was used. The questionnaire is organized in a Likert scale format with 6 response options: never, rarely, sometimes, frequently, almost always, always. The version obtained by the validation process consisted of 69 items, which evaluate 12 factors corresponding to the following coping strategies: problem-solving, seeking social support, waiting, religion, emotional avoidance, seeking professional support, aggressive reaction, cognitive avoidance, positive reappraisal, expression of coping difficulty, denial and autonomy. The Cronbach's alpha of the final test was 84 (Londoño et al., 2006).

For psychological well-being, the Psychological Well-Being Scale (EBP) was used in its original version by Díaz et al. (2006) and validated in the Mexican population by Lozano and García (2016). The EBP is self-administered and consists of 20 items with a four-point Likert-type response scale where 0 = strongly disagree and 4 = strongly agree. Two factors are obtained: Positive Well-Being indicates the positive perception that the subject has of himself, his skills, his ability to achieve goals, of his mastery of his environment and his life in general; and Negative Well-Being measures the negative appreciation that individuals have of their ability to interact, to achieve goals, to be recognized and esteemed by others. The respective Cronbach's alpha for both dimensions indicated a good internal consistency of the scale (,96 and,82) (Lozano and Garcia, 2016).

For the assessment of psychopathological symptoms, the SCL-90-R symptom inventory by Derogatis (1994), adapted to Spanish by Casullo and Pérez (2008), was used. The analysis of the psychometric properties of the inventory in the Argentine population showed good levels of internal consistency for all scales (Cronbach's alpha from .72 to .86) and for the general index (.96) (Oscar

and Ledesma, 2009). The 90-item inventory is organized in a Likert scale format with 5 response options: not at all, very little, a little, quite a lot, and a lot, and evaluates a total of nine symptoms: somatizations, obsessions and compulsions, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism, being the instrument applicable to people between 13 and 65 years old (Casullo and Perez, 2008).

Procedure

The study was conducted under the regulations established in Law 1090 of 2006 of the Colombian College of Psychologists, and Resolution 8430 of 1993 of the Ministry of Health, which regulate the administrative, scientific, and technical standards for health research. The present research is classified as a minimal-risk study. All participants were informed of its objectives and procedures and signed the informed consent.

Data analysis

The test for normality of the distribution of variables indicated that all study variables showed a non-normal distribution. Based on the above, for the comparison of study variables according to groups of sociodemographic variables, the Mann-Withney U statistic was used for two groups and Kruscal-Wallis for more than two groups. Finally, Spearman was used for correlations between variables and SPSS software version 25 was used. Statistical significance was established with a p-value <0.05Results

Mental health symptomatology in the study sample.

The data obtained regarding mental health symptomatology in the study sample indicated a normal level, without the presence of risk, according to the standardized scores (Table 1).

Higher values in phobic anxiety were observed in both women and men, without being, however, values that fall in the risk range.

Table 1. Descriptive statistics of mental health symptom

Variables	Female M(Dt)	Normalized T-scores	Male M(Dt)	Normalized T-scores
Somatizations	,8(,7)	50-55	,3(,3)	45-50
Obsessions and Compulsions	,7(,4)	45	,6(,6)	45-50
Interpersonal Sensitivity	,8(,5)	50-55	,5(,4)	45-50
Depression	1(,7)	50-55	,5(,3)	45-50
Anxiety	,7(,6)	45-50	,7(,8)	50-55
Hostility	,6(,5)	45-50	,4(,3)	45-50
Phobic Anxiety	,6(,7)	55-60	,3(,5)	55-60
Paranoid Ideation	,7(,8)	50-55	,4(,4)	45-50
Psychoticism	,6(,7)	50-55	,2(,2)	45
Global Severity Index	,9(,7)	50-55	,5(,4)	45-50

Source: Own elaboration (2023)

Psychological well-being in the health personnel of the study sample.

Table 2 shows the results of the psychological well-being scale. According to the scores obtained at the general level of the study sample, a normal level of psychological well-being is observed both in the total score and in the positive and negative well-being (reference values are shown in Table 3).

Table 2. Descriptive statistics of psychological well-being

Variables	M(Dt) En la escala de 1 a 4	M(Dt) Total factor	Welfare level
General Wellness	2,8 (,4)	56(8)	Standard
Positive Well-Being	3,1 (,4)	43,4(5,6)	Standard
Negative Well-Being	2,1 (,6)	12,6(3,6)	Standard

Source: Own elaboration (2023)

Table 3 Criteria for interpreting the factorial well-being scale

Factor	Low	Normal	High
Positive well-being	0-33	34-49	50-56
Negative well-being	0-9	10-18	19-24
Total welfare	0-44	45-67	68-80

Fuente: Lozano y Garcia (2016).

Coping strategies in the health personnel of the study sample.

The coping strategies in the study sample showed values very close to the reference values of the test. The Z-score indicated that strategies such as

problem-solving and seeking social support did not differ practically from the reference values.

The strategies of waiting (Z=0.12), religion (Z=0.41), seeking professional support (Z=0.28), and positive reappraisal (Z=0.29) obtained means slightly higher than the reference values, indicating greater use of these strategies compared to the reference population. The above, in the case of strategies of seeking professional support and positive reappraisal, is a point in favor of the study participants, both strategies being functional. And in the case of waiting and religion does not represent a positive aspect for the sample being both strategies non-functional.

The strategies of emotional avoidance (Z= -0.13), aggressive reaction (Z= -0.43), cognitive avoidance (Z= -,0.18), and denial (Z= -,0.30) indicated scores below the reference mean, indicating a lower use of these strategies in the study sample compared to the reference population, being this a plus point for the sample participants being these strategies non-functional.

The coping difficulty expression strategy (Z= -1.02) scored the lowest compared to the reference population (Table N 4).

Table 4. Descriptive statistics of coping strategie

Variables	M(Dt)	Reference values	Z score
Problem Solving	33,3 (6,3)	33,5(8,4)	-0,02
Seeking Social Support	22,4 (7)	23,1(8,2)	-0,08
Waiting	23,4 (6,3)	22,5(7,5)	0,12
Religion	23,8 (8,4)	20,7(9,0)	0,41
Emotional Avoidance	24 (6,4)	25(7,6)	-0,13
Seeking Professional Support	12,5 (6,5)	10,9(5,6)	0,28
Aggressive Reaction	10,5 (4,0)	12,7(5,1)	-0,43
Cognitive Avoidance	15 (4,5)	15,9(4,9)	-0,18
Positive Reevaluation	20 (4,5)	18,4(5,4)	0,29
Coping Difficulty Expression	10 (2,8)	14,8(4,7)	-1,02
Denial	7,8 (2,4)	8,8(3,3)	-0,30
Autonomy	5,4 (1,6)	6,8(2,8)	-0,5

Source: Own elaboration (2023)

The difference of the study variables according to groups of sociodemographic variables of the health personnel that are part of the study sample.

The comparison of the study variables according to gender identified a statistically significant difference in the variable of general well-being (p=.013) and positive well-being (p=.014) in favor of the male gender.

Regarding mental health symptomatology, a difference was found in the variable of somatization (p=.040) and phobic anxiety (p=.029) in favor of the female gender. And in the depression variable (p=.043) with higher scores in men.

The analysis of the use of coping strategies according to gender groups showed the difference in problem-solving (p=.028) in favor of the male gender and religion

(p=.017) in favor of females (Table

N 5)

Table 5. Comparison of study variables by gender

Variables	Female Me (Ri)	Male Me (Ri)	Mann-Whitney U	P
General Wellness	2,8(,5)	3(,5)	116,500	,013
Positive Well-Being	3,1(,7)	3,4(,5)	118,000	,014
Negative Well-Being	2(1,2)	2,3(,8)	189,000	,332
Somatizations	,7(,1,2)	,3(,3)	137,500	,040
Obsessions and Compulsions	,9(1,1)	,6(,7)	157,500	,103
Interpersonal Sensitivity	,8(1,1)	,3(1)	167,000	,153
Depression	1(1,2)	,4(,8)	138,500	,043
Anxiety	,7(,9)	,3(,6)	160,000	,114
Hostility	,3(,8)	,2(,7)	209,500	,588
Phobic Anxiety	,3(1)	,0(,2)	134,000	,029
Paranoid Ideation	,5(1)	,2(,7)	167,500	,153
Psychoticism	,3(1)	,0(,3)	143,500	,051
Global Severity Index	,7(,8)	,3(,5)	150,000	,074
Problem Solving	3,5(1,2)	4,2(1,3)	130,500	,028
Seeking Social Support	3(1,4)	3,2(1,5)	221,500	,776
Waiting	2,7(1,9)	2,1(1,4)	182,000	,265
Religion	3,6(1,1)	2,4(1,1)	2,752	,017
Emotional Avoidance	3,1(1,3)	3(1,4)	230,500	,925
Seeking Professional Support	2(1,6)	2,8(2,5)	225,000	,833
Aggressive Reaction	2(1,4)	1,9(1,2)	203,000	,500
Cognitive Avoidance	3(,8)	2,5(1,3)	165,000	,139
Positive Reevaluation	4(1,4)	4,4(,9)	162,000	,125
Coping Difficulty Expression	2,7(1)	2,7(1,4)	227,500	,874
Denial	2,7(,7)	2,3(1,9)	228,000	,882
Autonomy	2,5(1,5)	2,7(,1,6)	217,500	,709

Source: Own elaboration (2023)

Regarding the comparison of study variables according to marital status, a statistically significant difference was identified in depression (p=.046) in favor of the married group.

For the rest of the variables of psychological well-being, symptoms and coping strategies, no statistically significant difference was identified between the marital status groups (Table N 6).

Table 6. Comparison of study variables by marital status

Variables	Married Me (Ri)	Single Me (Ri)	Kruscal-Wallis	p
General Wellness	2,7(,3)	2,7(,6)	,132	,988
Positive Well-Being	3,3(,2)	3,1(,7)	3,388	,336
Negative Well-Being	1,8(,9)	2,2(1,2)	6,591	,086
Somatizations	,3(,4)	,8(1,3)	4,219	,239
Obsessions and Compulsions	,7(,8)	,9(1,4)	5,763	,124
Interpersonal Sensitivity	,4(,8)	1(1,3)	5,621	,132
Depression	,3(,9)	1(1,3)	8,012	,046
Anxiety	,4(,6)	,5(1,2)	3,433	,330
Hostility	,3(,9)	,3(,4)	5,462	,141
Phobic Anxiety	,3(,9)	,3(1,1)	2,505	,474
Paranoid Ideation	,3(,5)	,5(1,5)	2,720	,437
Psychoticism	,1(,5)	,2(,1,1)	3,996	,262
Global Severity Index	,5(,6)	,6(1,2)	3,965	,265
Problem Solving	3,9(1,2)	3,4(1)	5,465	,141
Seeking Social Support	3(1,1)	3,3(1,6)	6,982	,072
Waiting	2,3(1)	2,7(1,1)	4,050	,256
Religion	3,4(1,1)	3,5(1,1)	,070	,976
Emotional Avoidance	3,1(1,3)	3(1,3)	3,715	,294
Seeking Professional Support	2,5(1,6)	2,6(1,9)	5,511	,138
Aggressive Reaction	1,8(,9)	2,1(1,6)	5,910	,116
Cognitive Avoidance	3(1,2)	3,2(1,7)	5,646	,130
Positive Reevaluation	4,2(1,7)	4,1(1,7)	1,314	,726
Coping Difficulty Expression	2,5(,8)	2,7(1,1)	1,741	,628
Denial	2,5(1)	2,6(1,4)	3,421	,331
Autonomy	2,5(1,1)	3(1,5)	4,350	,226

Source: Own elaboration (2023)

In turn, the comparison of study variables according to the type of position held did not show a statistically significant difference in psychological well-being.

For psychopathological symptoms, a statistically significant difference was identified in the somatization variable (p=.038), indicating higher levels of somatization in nurses and respiratory therapists.

Regarding coping strategies, a statistically significant difference was found in the variable of religion (p=.009), showing greater use of this strategy in respiratory therapists, nursing assistants, and nurses (Table 7)

Table 7. Comparison of variables according to job position

Variables	Nursing Assistant Me (Ri)	Nurse Practitioner Me (Ri)	Specialist Me (Ri)	Physician Me (Ri)	Respiratory Therapist Me (Ri)	Krusc al-Wallis	P
General Wellness	2,7(,7)	2,7(,9)	2,7(,1)	3,1(,7)	3,1(,7)	8,357	,079
Positive Well-Being	3(,7)	3(,8)	3,3(,2)	3,4(1)	3,3(,4)	6,269	,180
Negative Well-Being	2(1,7)	3,3(1,7)	1,8(,6)	2,5(1,4)	2,5(,3)	6,989	,136
Somatizations	,7(1,2)	1,1(1,6)	,4(,2)	,08(,2)	1,1(1,2)	10,114	,039
Obsessions and Compulsions	,6(1,1)	1,5(2,4)	,8(,5)	,6(,7)	1,5(1,7)	6,666	,155
Interpersonal Sensitivity	,7(,8)	,7(1,6)	,7(1,1)	,4(,9)	1,3(1,5)	2,096	,718
Depression	,8(1,3)	1 (1,9)	,6(,8)	,4(,4)	1,6(2,4)	4,384	,356
Anxiety	,6(,9)	1(1,3)	,4(,5)	,4(,4)	1,5(1,5)	7,457	,114
Hostility	,3(1)	,6(1)	,3(,5)	,3(,3)	,4(1,5)	4,980	,289
Phobic Anxiety	,4(,9)	,0(1,6)	,2(1)	,3(,9)	,3(1,6)	1,454	,835
Paranoid Ideation	,4(,7)	,5(1,5)	,3(,7)	,4(,4)	1,3(2)	3,455	,485
Psychoticism	,3(,8)	,5(1,1)	,2(,5)	,0(,2)	,8(1,7)	6,622	,157
Global Severity Index	,6(,9)	,9(1,4)	,5(,5)	,4(,4)	1,4(1,3)	5,592	,232
Problem Solving	3,5(1,3)	4,1(1,7)	3,9(1,1)	3,3(1,6)	3,4(1,5)	1,434	,838
Seeking Social Support	3(1,3)	2,8(2)	3,2(1,1)	3,1(2,3)	4,7(1,3)	5,306	,257
Waiting	2,7(1,3)	2,6(1,3)	2,3(,7)	2,4(1,3)	2,3(1,1)	8,661	,070
Religion	3,6(1)	3,2(,9)	3 (1)	1,3(1)	4 (1,3)	3,741	,009
Emotional Avoidance	3,4(1,6)	3(,9)	2,6(1,1)	2,9(1,3)	3,3(1,5)	5,792	,215
Seeking Professional Support	1,9(1,9)	2(1,2)	3(1,8)	2,1(1,9)	2,3(3,4)	4,756	,313
Aggressive Reaction	2(1,3)	2,6(1,2)	1,5(,8)	1,6(1,6)	2,5(2,7)	6,543	,162
Cognitive Avoidance	3(1,1)	2,8(,8)	2,7(1,1)	3,2(1,7)	3.6(2,9)	5,184	,269
Positive Reevaluation	4,1(1,5)	4,2(1,8)	4,1(1,7)	4,3(1,1)	3,7(2)	1,222	,874
Coping Difficulty Expression	2,5(1,3)	2,7(,8)	2,6(,8)	2,2(1,6)	3,5(1,4)	5,075	,280
Denial	2,6(,8)	2,7(,8)	2,5(1,2)	3,5(3)	3(1,5)	3,675	,452
Autonomy	3(1,5)	2,5(1)	2,7(1,5)	2,7(1,6)	2,2(,9)	1,653	,799

Source: Own elaboration (2023)

The comparison of study variables according to age ranges showed no statistically significant difference in psychological well-being.

Nor was a statistically significant difference identified in any of the psychopathological symptom variables. However, a trend towards higher scores

on most of the symptom variables can be observed in the younger age (25-35 years).

As for coping strategies, a statistically significant difference was identified in the cognitive avoidance variable (p=.020), showing the trend of decreasing scores as age increases (Table N 8).

Table 8. Comparison of study variables according to age ranges

Variables	25-35 Me (Ri)	36-45 Me (Ri)	46-60 Me (Ri)	Kruscal-Wallis	p
General Wellness	2,7(,5)	2,7(,5)	2,7(,1)	,573	,751
Positive Well-Being	3,2(,7)	3,3(,7)	3,3(,1)	,522	,770
Negative Well-Being	2,3(1,3)	2(1,2)	1,9(1,3)	,754	,686
Somatizations	,7(1,1)	,4(1)	,4(,2)	2,172	,338
Obsessions and Compulsions	,9(,7)	,5(1,4)	,8(,6)	1,100	,577
Interpersonal Sensitivity	,7(,9)	,7(1,1)	,4(1,1)	,274	,872
Depression	1(1,2)	,4(1,4)	,5(1,7)	3,927	,140
Anxiety	,8(,8)	,4(1,1)	,3(,8)	1,584	,453
Hostility	,3(,7)	,2(1,1)	,2(,7)	,135	,935
Phobic Anxiety	,4(,9)	0(,6)	0(,3)	5,572	,062
Paranoid Ideation	,3(,7)	,5(1,3)	,2(,7)	,558	,756
Psychoticism	,3(,7)	,3(,9)	,2(,4)	1,408	,494
Global Severity Index	,8(,8)	,4(1)	,5(,4)	2,016	,365
Problem Solving	3,6(1,3)	3,9(1,3)	3,9(1)	1,864	,394
Seeking Social Support	3,3(1,4)	2,8(1,9)	3,2(1,8)	2,462	,292
Waiting	2,7(,9)	2,7(,9)	2,1(1)	4,133	,127
Religion	2,7(1,6)	2,5(1,3)	2,4(1,5)	1,261	,267
Emotional Avoidance	3,1(1,3)	3(1,6)	3,1(1,3)	,801	,670
Seeking Professional Support	2(2)	3(1,1)	3,1(2,3)	2,505	,286
Aggressive Reaction	2(,8)	2(1,5)	2(,4)	,095	,954
Cognitive Avoidance	3(,6)	2,8(,8)	2,5(1,4)	7,846	,020
Positive Reevaluation	4(1,2)	4,2(1,8)	4,4(1,7)	,357	,836
Coping Difficulty Expression	2,5(1)	2,5(,9)	2,7(1,3)	,659	,719
Denial	2,6(,7)	2,3(1,6)	2,3(1)	1,635	,442
Autonomy	3(1)	2,5(1,3)	3(1,9)	1,271	,530

Source: Own elaboration (2023)

Finally, no statistically significant differences were found in any of the study variables according to the educational level of the participants, or according to the type of institution (public or private).

Correlation between psychopathological symptoms with psychological well-being and coping strategies in health personnel in the study sample.

The correlation of variables indicated the presence of median, negative, and statistically significant correlations between positive well-being and total symptom severity index (r= -.503/p=.000), as well as between positive well-

being and somatizations (r= -.467/ p=.000); obsessions and compulsions (r= -.451/p=.000); depression (r= -.525/p=.000); anxiety (r= -.344/p=.009); hostility (r= -.406/p=.002); phobic anxiety (r= -.313/p=.018); paranoid ideation (r= -.354/p=.007) and psychoticism (r= -.416/p=.001).

The negative well-being variable showed a median, positive, and statistically significant correlation with the total symptom severity index (r=.466/p=.000), as well as with somatization (r=.390/p=.003); obsessions and compulsions (r=.413/p=.001); interpersonal sensitivity (r=.393/p=.002); depression (r=.480/p=.000); anxiety (r=.474/p=.000) paranoid ideation (r=.325/p=.014) and psychoticism (r=.466/p=.003) (Table N 9).

Table 9. Correlation between psychological well-being and mental health symptoms

Variables	Spearman	P
Positive well-being/somatizations	-,467**	,000
Positive well-being/obsessions and compulsions	-,501**	,000
Positive well-being/interpersonal sensitivity	-,451**	,000
Positive well-being/depression	-,525**	,000
Positive well-being/anxiety	-,344**	,009
Positive well-being/hostility	-,406**	,002
Positive well-being/phobic anxiety	-,313*	,018
Positive well-being/paranoid ideation	-,354**	,007
Positive well-being/psychoticism	-,416**	,001
Positive well-being/global index of severity	-,503**	,000
Negative well-being/ somatizations	,390**	,003
Negative well-being/ obsessions and compulsions	,413**	,001
Negative well-being/ interpersonal sensitivity	,393**	,002
Negative well-being/depression	,480**	,000
Negative well-being/anxiety	,474**	,000
Negative well-being/paranoid ideation	,325**	,014
Negative well-being/psychoticism	,389**	,003
Negative well-being/ global severity index	,466**	,000

**Correlation is significant at the 0.01 level (bilateral).
*Correlation is significant at the 0.05 level (bilateral).
Source: Own elaboration (2023)

Regarding the correlation between the variables of coping strategies and mental health symptoms, a negative, high and statistically significant correlation was identified between the variable of problem-solving and the global severity index (r= -.670/p=.000), as well as with somatizations (r= -.606/p=.000); obsessions and compulsions (r= -.614/p=.000); interpersonal sensitivity (r= -.607/p=.000); depression (r= -.644/p=.000); anxiety (r= -.563/p=.000); hostility (r= -

.500/p=.000); phobic anxiety (r= -.585/p=.003); paranoid ideation (r= -.450/p=.000) and psychoticism (r= -.597/p=.000).

The positive reappraisal strategy also showed a high and significant negative correlation with the global symptom severity index (r= -.621/p=.000), as well as with somatization symptoms (r= -.594/p=.000); obsessions and compulsions (r= -.551/p=.000); interpersonal sensitivity (r= -.487/p=.000); depression (r= -.536/p=.000); anxiety (r= -.600/p=.000); hostility (r= -.584/p=.000); phobic anxiety (r= -.569/p=.003); paranoid ideation (r= -.449/p=.000) and psychoticism (r= -.462/p=.000).

The waiting strategy showed a positive, median, and significant correlation with the global symptom severity index (r=.308/p=.020) and obsessions and compulsions symptoms (r=.292/p=.027); interpersonal sensitivity (r=.307/p=.020); anxiety (r=.388/p=.003); phobic anxiety (r=.312/p=.018); paranoid ideation (r=.378/p=.004) and psychoticism (r=.285/p=.026).

The emotional avoidance strategy showed a positive, median, and significant correlation with the global severity index (r=.311/p=.018), and the symptoms of obsessions and compulsions (r=.351/p=.007); interpersonal sensitivity (r=.321/p=.015); depression (r=.286/p=.031); anxiety (r=.292/p=.028) and psychoticism (r=.329/p=.012).

The aggressive reaction strategy showed a positive, high and significant correlation with the global severity index (r=.576/p=.000) and with somatization symptoms (r=.513/p=.000); obsessions and compulsions (r=.574/p=.000); interpersonal sensitivity (r=.518/p=.000); depression (r=.532/p=.000); anxiety (r=.521/p=.000); hostility (r=.755/p=.000); paranoid ideation (r=.530/p=;000) and psychoticism (r=.448/p=.000).

And finally, coping difficulty expression strategy was positively correlated with global symptom severity index (r=.516/p=.000) and somatization symptoms (r=.482/p=.000); obsessions and compulsions (r=.521/p=.000); interpersonal sensitivity (r=.526/p=.000); depression (r=.461/p=.000); anxiety (r=.543/p=.000); hostility (r=.385/p=.000); phobic anxiety r=.277/p=.037); paranoid ideation (r=.381/p=;000) and psychoticism (r=.465/p=.000)

Table 10. Correlation between coping strategies and mental health symptoms

Variables	Spearman	P
Problem solving/somatizations	-,606**	,000
Problem solving/obsessions and compulsions	-,614**	,000
Problem solving/interpersonal sensitivity	-,607**	,000
Problem solving/depression	-,644**	,000
Problem solving/anxiety	-,563**	,000
Problem solving/hostility	-,500**	,000
Problem solving/phobic anxiety	-,585**	,003
Problem solving/paranoid ideation	-,450**	,000
Problem solving/psychoticism	-,597**	,000
Problem solving/ global severity index	-,670**	,000
Waiting/ obsessions and compulsions	,292*	,027
Waiting/ interpersonal sensitivity	,307*	,020
Waiting/anxiety	,388**	,003
Waiting/phobic anxiety	,312**	,018
Waiting/paranoid ideation	,378**	,004
Waiting/psychoticism	,295*	,026
Waiting/global severity index	,308*	,020
Emotional avoidance/obsessions and compulsions	,351**	,007
Emotional avoidance/interpersonal sensitivity	,321*	,015
Emotional avoidance/depression	,286*	,031
Emotional avoidance/anxiety	,292*	,028
Emotional avoidance/psychoticism	,329*	,012
Emotional avoidance/ global index of severit	,311*	,018
Aggressive reaction/somatizations	,513**	,000
Aggressive reaction/ obsessions and compulsions	,574**	,000
Aggressive reaction/interpersonal sensitivity	,518**	,000
Aggressive reaction/depression	,532**	,000
Aggressive reaction/anxiety	,521**	,000
Aggressive reaction/hostility	,755**	,000
Aggressive reactance/paranoid ideation	,530**	,000
Aggressive reaction/psychoticism	,448**	,000
Aggressive reaction/ global index of severity	,576**	,000
Positive reappraisal/somatizations	-,594**	,000
Positive reappraisal/ obsessions and compulsions	-,551**	,000
Positive reappraisal/interpersonal sensitivity	-,487**	,000
Positive appraisal/depression	-,536**	,000
Positive appraisal/anxiety	-,600**	,000
Positive appraisal/hostility	-,584**	,000
Positive reappraisal/phobic anxiety	-,569**	,005
Positive reappraisal/paranoid ideation	-,449**	,000

Positive appraisal/psychoticism	-,462**	,000
Positive reappraisal/ global index of severity	-,621**	,000
Expression of coping difficulty/somatizations	,482**	,000
Expression of coping difficulty/obsessions and compulsions	,521**	,000
Expression of coping difficulty/interpersonal sensitivity	,526**	,000
Expression of coping difficulty/expression of coping difficulty/depression	,461**	,000
Expression of coping difficulty/anxiety	,543**	,000
Expression of coping difficulty/hostility	,385**	,003
Expression of coping difficulty/phobic anxiety	,277*	,037
Expression of coping difficulty/paranoid ideation	,381**	,003
Expression of coping difficulty / psychoticism	,465**	,000
Expression of coping difficulty/ global index of severity	,516**	,000

Source: Own elaboration (2023)

Positive well-being showed a
positive, median,
and significant correlation with problem-solving strategy (r=.527/p=.000) and positive reappraisal (r=385/p=.003); and a negative, median, and statistically significant correlation with aggressive reacting (r= -.425/p=.001).

Negative well-being, in turn, showed a negative, median, and significant correlation with problem-solving strategies (r= -.296/p=.025) and positive reappraisal (r= -.282/p=.034); and a positive, median, and significant correlation with waiting strategies (r=.272/p=.041) and emotional avoidance (r=.282/p=.042) (Table N 11).

Table N 11. Correlation between coping strategies and psychological well-being

Variables	Spearman	P
Problem solving/negative wellness	-,296*	,025
Problem solving/positive well-being	,527**	,000
Waiting/negative well-being	,272*	,041
Emotional avoidance/negative well-being	,283*	,042
Aggressive reaction/positive well-being	-,425**	,001
Positive reappraisal/positive well-being	,385**	,003
Positive reappraisal/negative well-being	-,282*	,034

**Correlation is significant at the 0.01 level (bilateral).
*Correlation is significant at the 0.05 level (bilateral).
Source: Own elaboration (2023)

DISCUSSION

The results of the study showed overall mental health-related symptom values in the normal range. Only higher scores (without entering, however, the risk range) were observed for phobic anxiety in both women and men.

This is logical since this was a pandemic situation where the fear of contagion and, consequently, the phobic anxiety produced by it, were part of everyday life, especially considering that this was a sample of front-line medical personnel who were in permanent contact with patients infected with the virus.

Likewise, psychological well-being indicated scores in the normal range. Both aspects indicate that the medical personnel in the present study sample showed adequate values in terms of mental health symptomatology and psychological well-being. This differs from other studies, where several issues have been identified at the mental health level in frontline medical staff such as anxiety, depression, distress, elevated stress, and overall decreased quality of life during the covid-19 pandemic (Ahmed et al., 2020; An et al., 2020; Xiao et al., 2020b; Teng et al., 2020; Lai et al., 2020).

The above may be related to the efficient use of coping strategies by the medical personnel participating in the present study. In this aspect, a high score was identified in the use of professional support-seeking and positive reappraisal strategies and a good level of use of problem-solving and social support strategies, these strategies being highly functional. Likewise, it was found that the study participants made less use of non-functional strategies such as emotional avoidance, aggressive reaction, cognitive avoidance, and denial.

Only the two non-functional strategies such as religion and waiting presented scores slightly higher than the mean of the reference. This can be explained, firstly, by the Colombian cultural influence, being this culture highly religious and traditionalist (Diaz, 2012), and, on the other hand, it is likely that the use of these strategies could be associated with the same atypical and highly stressful situation of the pandemic, where religious orientation was exalted by the same fear of death (Dobrakowski et al., 2021).

Likewise, it is important to highlight that a lower use of the coping difficulty expression strategy was identified, which could be related to the situation of the

medical staff, who played the role of support for their patients, as well as for family and friends, which placed them in the greatest attention to the problems of others, from the prosocial position (Esquerda and Teres, 2021).

The comparison of symptomatology in mental health according to gender showed higher scores in somatizations and phobic anxiety in favor of women and higher scores in depression in men. In this sense, the authors also indicate that the female gender presents a higher percentage of anxiety and distress disorders and has a greater tendency to somatization (Martinez, 2003; Matud, 2004). Similarly, studies during the pandemic have indicated that both women in general (Porter et al., 2021) and female nurses had higher rates of anxiety and distress (Lai et al., 2020; Xiao et al., 2020a). Regarding a greater presence of depression in the men in the sample, these data are also in agreement with some studies during the pandemic that have indicated the presence of a considerable percentage of depression in men, largely due to difficulties in handling and managing their emotions (Gottert et al., 2022; Matud, 2004).

Psychological well-being scores were higher in men. This finding can be related to studies during the pandemic that indicate that women have had a greater burden of responsibility and consequent worry during the pandemic, due to the need to combine an increased workload (in the case of medical personnel) and family care, which has had an impact on their well-being (Souza, 2022; Morgan et al., 2022).

Regarding coping strategies, men presented a greater use of the problem-solving strategy and women a greater use of the religion strategy, indicating a more assertive coping for the male gender. Regarding gender differences and the use of coping strategies, the authors highlight that women score significantly higher than men in emotional and avoidance coping styles and lower in rational and detached coping, their coping style being more emotion-focused than that of men (Matud, 2004).

The marital status variable showed an association with depression with higher scores in the married group. These data differ from some studies conducted during the pandemic, where the authors indicate that having a stable relationship acted as a protective factor for mental health (Nkire et al., 2021). However, it is necessary to consider that the present study involved front-line medical personnel, who were in permanent danger of contagion, which could

result in a greater concern in married people regarding the potential danger of infecting their families, causing in this case greater depression.

The variable of a position held was associated with somatization with higher rates in nurses and respiratory therapists, which could be explained by the fact that these types of personnel were the most involved in the care of patients with covid, being exposed to the danger of contagion to a greater degree, which could cause this effect on their mental health. Interestingly, in the same personnel (respiratory therapists, nursing assistants, and nurses), a higher frequency of use of the coping strategy of religion was identified, which could also be associated with a greater fear of contagion and death, being this type of situations associated with greater spirituality and religiosity in people (Lee and Eshah, 2012).

Age was not a significant variable for psychological well-being and mental health symptomatology. Regarding coping strategies, it was identified that the non-functional strategy of cognitive avoidance showed a significant decreasing trend with age. In this aspect, studies also indicate that age acts as a factor of cognitive maturation and more rational use of coping, with older people being more likely to use cognitive avoidance in stressful situations (Richaud and Sacchi, 2005).

Finally, the variables of educational level and the type of institution where he/she works (public and private) showed no association with the study variables assessed.

The variable of positive psychological well-being presented a negative correlation with mental health symptoms, indicating that the higher the level of positive psychological well-being, the lower the negative symptoms related to mental health such as anxiety, anguish, depression, etc. Likewise, negative well-being was positively associated with symptomatology. These results are in line with the findings of other studies, which highlight psychological subjective well-being as a relevant variable for coping capacity and the degree of mental health impairment experienced by both individuals at the general level (Villani et al., 2021) and frontline medical personnel (Lagunes, 2021) during the pandemic.

Regarding coping strategies, it was found that the use of functional strategies such as problem-solving and positive reappraisal was associated with less

mental health symptomatology and greater psychological well-being. In this aspect, the proactive attitude, oriented to an objective assessment of the problem, associated with efficient emotional management and rational thinking, allowed the study participants to reduce the negative impact of the threatening situation of the pandemic.

On the other hand, non-functional strategies such as waiting, emotional avoidance, and aggressive reaction were associated with greater mental health symptomatology and lower psychological well-being, indicating that deficiencies in emotional management, or an attitude of escape from reality, were related to greater mental health affectation in the first-line medical personnel participating in the present study. Finally, the strategy of expressing the coping difficulty was also associated with greater mental health difficulties, this being a strategy prior to the use of other functional coping strategies, which allows the expression of hopelessness in relation to the control of emotions and the problem and the search for more functional coping alternatives.

CONCLUSIONS

The study showed the importance of the use of functional strategies as problem-solving and positive reassessment for frontline medical staff during the covid-19 pandemic, being this an atypical situation of great stress and distress related to a real threat to people's lives. Considering that the emergency associated with the pandemic is still ongoing, it is of great relevance to implement mental health training programs for medical and nursing personnel and all those involved in the care of covid patients.

The present study has limitations related to the study sample, both in its size and in the non-equivalence of groups corresponding to different sociodemographic variables, and it is advisable to continue with this type of study, replicating it with larger samples with better representativeness.

Conflict of interest

The authors of this paper declare that they have no contractual or personal conflicts of interest that could lead to unintentional bias in the research process.

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