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Knowledge, attitudes and practices in health personnel who provide care to patients with SARS-COV2

Abstract

Objective: To identify knowledge, attitudes and practices in health personnel who provide care to patients with SARS-COV2.

Materials and methods: A cross-sectional, descriptive study was carried out that included 362 participants, discriminated against health professionals (213) and health technicians (149) who provided first-line health services for the care of suspected or positive patients for SARS Cov 2, the technique Sampling was at convenience, the questionnaire they answered to participate was self-completed electronically using the Google Docs tool after designing, validating and applying a KAP (Knowledge, Attitudes and Practices) survey. An analysis with descriptive statistics was performed, bivariate associations were made using the Chi-square test where p<005 was taken as the level of significance.

Results: In the KAP (Knowledge, Attitudes and Practices) survey, factors, protective and risk behaviors emerged; In these results, it is important to highlight that some of them vary in the responses of the participants, because what for some may constitute a risk factor or behavior, for others it may be a risk or protective factor.

Conclusion: For the participants Having security in knowledge, personal coping resources, availability of personal protection elements and resources for care, at the time of carrying out the interventions in the patients they become protective behaviors, and the participants' perception of risk was influenced by values, beliefs, feelings, knowledge and their sources. It is important to highlight that some of them vary in the responses of the participants, because what for some may constitute a risk factor or behavior, for others it may be a risk or protective factor. conclusions. For the participants Having security in knowledge, personal coping resources, availability of personal protection elements and resources for care, at the time of carrying out the interventions in the patients they become protective behaviors, and the participants' perception of risk was influenced by values, beliefs, feelings, knowledge and their sources. It is important to highlight that some of them vary in the responses of the participants, because what for some may constitute a risk factor or behavior, for others it may be a risk or protective factor. conclusions. For the participants Having security in knowledge, personal coping resources, availability of personal protection elements and resources for care, at the time of carrying out the interventions in the patients they become protective behaviors, and the participants' perception of risk was influenced by values, beliefs, feelings, knowledge and their sources.

Keywords: health knowledge, attitudes and practice

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Introduction

Globally, as of March 18, 2022, the number of deaths caused by SARS-COV2 was 6 million inhabitants, Colombia ranks 12th with a total of 139,386 deaths and 6,081,933 confirmed cases.[1] The World Health Organization (WHO) estimates that between 80,000 and 180,000 health and care workers may have died from the *COVID-19*between January 2020 and May 2021, although it contemplates an average scenario of 115,500 deaths.[2] According to the National Institute of Health in its bulletin No. 120 of March 22, 2022, 78,375 cases of COVID-19 have been presented in health personnel in Colombia. According to the distribution by profession, the most affected health personnel are nursing assistants with 18,075 cases, medicine with 13,699 cases, administrative personnel with 10,220, and nursing with 8,216 cases.[3] According to the WHO (2020) the factors that contribute to the increased risk of contracting SARSCoV1, MERS-CoV or SARSCoV2 infection at work are: variability of estimates, differences in environments, type and duration of exposure or exposures, the increase in the intensity of transmission in the community in which the health centers are located and the inappropriate use and supply of personal protective equipment, among others.[4,5] Another factor that has influenced is the media, theThe effects of misinformation have also had an impact on the health of healthcare professionals[7] because some have been overwhelmed by circumstances that have led them to states of confusion, anxiety, anguish, depression and post-traumatic stress.[6]

In a study carried out in Wuhan and other Chinese provinces with 1,257 health professionals, of whom 764 were nurses, it was observed that 44.6% of the participating professionals showed Anxiety, and the highest scores corresponded to being a nurse, woman and in the front line of work.[8] During the start of the pandemic, health personnel had to face the challenges involved in caring for patients suspected or diagnosed with COVID19. This situation that occurred worldwide generated an impact on health institutions, their processes and dynamics, as well as transformed the working, personal and family conditions of workers in the health area.[9] From this situation arises the investigative interest of a group of professors in the health area who work in a private University in Bogotá, to carry out an investigation with the objective of identifying factors, protective and risk behaviors

in the health personnel who provide health care. to patients with SARS-COV2. This research proposed an approach from Risk Management and another, from Knowledge, attitudes and practices (CAP Survey), in health personnel.A KAP survey, as mentioned by the Children's Observatory in Andalusia, is a quantitative study of a specific population that gathers information about what people know, how they feel and how they behave in relation to a specific topic.[10]

From these results, risk factors and behaviors are obtained, as well as protective factors and behaviors, which have been defined as follows:

Protective factors: Góngora and Casullo citing (Ingram & Snider 2006), from Clinical Psychology they mention, which are the positive aspects addressed as factors to be strengthened in times of health and illness; This strengthening is therapeutic in people, since it allows modulating emotions, expressing them and generating a greater willingness and capacity to face difficult situations.[11]

A protective behavior: Health-oriented conduct as defined by the Health Promotion Glossary is any activity carried out by a person, regardless of their actual or perceived state of health, aimed at promoting, protecting or maintaining health.[12]

A risk factor: Contemplates social, economic, or biological conditions and associated behaviors or environments that cause increased susceptibility to a specific disease, poor health, or injury[12]

risk behaviors: They are usually defined as "risky" based on epidemiological and social data. (...) Within the broader framework of health promotion, risk behavior can be considered as a response or mechanism to deal with adverse life conditions.[12]

Materials and methods

Cross-sectional, descriptive study that included 362 participants, discriminated between health professionals (213) and health technicians (149), who provided front-line health services for the care of patients suspected or positive for SARS Cov 2, from 4 hospitals. from the center of the Country (Colombia), the sampling technique was convenience and the data collection was carried out from December 2020 to August 2021; Professionals and technicians who filled out the information incompletely were excluded. The participants filled out aquestionnaire completed electronically using the Google Docs tool prior design, validation. The KAP survey (Knowledge, attitudes and practices) included questions related to three dimensions: a) Knowledge, which includes items on COVID 19, forms of prevention, routes and sources of transmission, symptoms, treatment, institutional protocols, biosafety; b) Attitudes, regarding the attention and care of patients suspected or positive for the disease; c) Practices, to inquire about self-care, biosafety and risk management actions to avoid infection.

The methodology for preparing this questionnaire by the researchers was:

I. Validation of content by experts

II. Evaluation of agreement between items

III. Internal validation of the construct

IV. Stability and exploratory factor analysis.

The data was exported and stored and analyzed with descriptive statistics for each of the four areas of the questionnaire and bivariate associations were made using the Chi-square test where p<005 was taken as the significance level. This project was approved by the Ethics and Research Committee of the University. The participation of professionals and technicians was voluntary, with the signing of informed consent, accepted virtually. The ethical principles of research on human beings contained in the Declaration of Helsinki were considered[13] and resolution 8430 of 1993 (October 4).[14]

Results and discussion

The results of this research are structured into sociodemographic results, labor aspects and the KAP survey (Knowledge, attitudes and practices). From the analysis, results arise that are related to risk and protective factors, as well as risk and protective behaviors, at a personal and institutional level, related to the care and care provided to patients suspected or diagnosed with COVID 19. Table 1 below shows the sociodemographic and employment characteristics of healthcare personnel:

Table 1 Sociodemographic and occupational characteristics of health personnel

Sociodemographic aspects		Individual specific conditions		labor aspects	
Variable	**No. (%)**	**Variable**	**Percentage**	**Variable**	**Percentage**
Age	Average				
	34 years				
	SD 9.3				
	Range 18-65				
		Risk factors for complications from COVID 19		Average daily working hours	average 12 hours
		Nope	308 (86%)		SD 4.2
		Yes	51 (14%)		Range 2- 24
Marital status		Risk factors for complications from COVID 19 in the family nucleus		Type of working day	
Single	186 (51%)	Yes	148 (41%)	rotary	173 (48%)
Free Union	89 (25%)	Nope	214 (59%)	nocturnal	102 (28%)
Married	70 (19%)			diurnal	87 (24%)
Divorced	15 (4%)				
Widower	21%)				
Race		Professional experience	Average	Type of contract	60

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Table Continued...

Sociodemographic aspects		Individual specific conditions		labor aspects	
Variable	**No. (%)**	**Variable**	**Percentage**	**Variable**	**Percentage**
White			6 years	Fixed term contract	-16.60%
			ds 7.1	Indefinite term contract	188 -51.90%
			Range 0- 40 years	Provision of Services	114 -31.50%
Profession					
aux. Nursing.	148 (41%)				
Nursing Professional Medical	71 (20%)				
respiratory therapist	86 (24%)				
Other professions	12 (3%)				
	42 (12%)	number of jobs			
		1 jobs	241 (67%)		
		2 or more jobs	121 (33%)		

Source: self made. research teamon

In relation to the results of the KAP survey (Knowledge, attitudes and practices), protective and risk factors and behaviors emerged. It is important to highlight that in the results there is a variety of answers, since for some participants their appreciations will be mediated by subjective realities, which will affect the security of mastery of knowledge; the attitude mediated by emotions, perceptions and feelings and the practices derived from them.

When talking about risk or protective factors, reference is made to those elements that are identified in an environment or in an individual that can have a negative (Risk) or positive (prevention, protection) consequence; the conduct, on the contrary, implies an action carried out, by an individual or received in a certain environment or environment. Next, Table 2 presents the consolidated risk and protective factors and behaviors obtained from the results.

Table 2 Consolidated risk and protective factors and behaviors

Behaviors/ Factors	Personal variables	Institutional variables
Risk behaviors	Practice: Two or more jobs	Forms of contracting
	Partial use of personal protection elements.	
	Source of knowledge used: social networks, internet, radio and television, without consulting another source.	
Risk factor's	Knowledge:Source of knowledge used.	Rotating shifts
	Attitude: Anxiety and fear in the attention and care of COVID patients. It can lead to a greater probability of error when providing care.	
	Practice: Work performance in the COVID zone	
	Greater probability of becoming the source of contagion for the family nucleus.	
	Sociodemographic characteristics such as socioeconomic status that can affect the use of knowledge and the attitude towards performance.	
	Comorbidities in healthcare personnel	
Protective Behaviors	Knowledge:Knowledge guide based on scientific knowledge and International and National guidelines.	Training and continuous education regarding the care, care of the patient suspected or diagnosed with COVID19.
	Practice:Use of 100% of personal protection elements.	Establishment of institutional routes and protocols
	Adherence to Institutional protocols.	
	Attitude:Empathy, solidarity or any feeling that interferes with the attention and care of the patient suspected or diagnosed with COVID.	
Protective factors	Trainings carried out.	Forms of dissemination of knowledge used by each hospital institution. Supported by National and International guidelines.
	Follow the routes established by the hospital institutions for the management of the COVID patient.	
	Perception of the level of knowledge they have regarding the disease, contagion and prevention measures.	

Source: self made. Research team.

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Protective factors and behaviors

From the results obtained in the CAP survey in relation to the knowledge of health personnel about COVID-19, it is obtained that 87.7% received continuous training in the Institution where they work; The topics focused on health care, care, infection prevention, signs and symptoms, causes of infection, corpse management, and emotional support for patients diagnosed with COVID19. Receiving training, but at the same time carrying out a safe practice based on scientific support, goes from being a protective factor to becoming a protective behavior, this relationship that is established allows us to observe how cognitive activities are articulated to affective ones from a plane that is expressed in an attitude and that in turn becomes explicit in a practice. In the same way, it stands out in the results, that 58% take their knowledge of the guidelines established by the World Health Organization WHO, mainly. The international guidelines set the standard for patient management and at the Institutional level, the creation of protocols and routes for care, allowed organizing actions and establishing rules that were accepted by the staff.

The results show that the health personnel adhere to the Biosafety protocols, which corresponds to the attitudes and knowledge they have regarding patient management and the prevention of contagion. 74% of the participants always do so with a level of adherence of 10, which corresponds to greater adherence, accompanied in turn by additional protection measures, such as double masks and a change of clothes when they get home. This allows us to infer that the feelings mediate the practices of the participants, ranging from a threatening objective reality (pandemic and easy contagion), with a need (protection) that becomes manifest in a safe and self-effective act.[15,16]

Olivari and Urra citing Bandura mention that, in the construct of theSelf-efficacy, a concept introduced by Bandura in 1977, human motivation and behavior are regulated by thought and three types of expectations would be involved: a) Expectations of the situation, b) Expectations of results, and c) Perceived self-efficacy, which would give response to obtaining desired results.[18]

In relation to the premises of all conscious or rational processes, there are always some that are not conscious or cannot be established in a specific and rigid way, that is, there are affective, volitional, motivational, intuitive and even subconscious or unconscious foundations (...) It is inevitable to reason based on emotion and feeling. Emotions, affections, values, attitudes and feelings condition reason and human intellect, they do not determine it, but if they are an invariable basic condition of these, they give meaning to conscious processes.[19] When relating the knowledge received at a personal and institutional level, the adherence that is observed from the participants in relation to the protocols and the perception that they have (attitude) of mastery of knowledge and security, to face the situation, it is observed that when responding that 51% state that they have the knowledge, despite the start of the pandemic appeared abruptly, the increasing number of infections and the variation of the disease, generated instability and insecurity in the personnel and the perception of not having sufficient knowledge . Knowledge, learning processes and risk perception are mediated by the perception that each one has regarding the appropriation of a content is mediated by beliefs.

According to the psychometric paradigm, affective responses condition the perception of risk also in the field of health. If the emotions towards a certain activity, which is also carried out regularly, are favourable, individuals tend to judge the risks as low and the benefits as high; otherwise, they perceive high risks and low benefits [6] (...) Many theories consider that the affective component tends to prevail over the rational component in behavioral motivation and decision-making (eg Barrett and Salovey, 2002; Zajonc, 1980). In everyday life, when judging and deciding on risk, intuitive and automatic feelings (fear, anger, anxiety) prevail more than analytical and rational criteria.[20] In the item of personal protection elements (PPE), if the results obtained are analyzed, a correlation is observed between knowledge, attitudes and practices that becomes explicit when the participants of the four Institutions state that 78% qualify at level 10 in on a scale of 0 to 10 with 10 being the highest. This response is presented in a continuum that goes from factor to protective behavior, mediated by an attitude towards the importance of biosafety measures. Regarding the feelings generated by the attention and care of the COVID patient, these varied from feelings of fear, empathy, solidarity and no feeling, allowing us to infer that each person can generate different feelings when facing a situation. It is highlighted that, in this study, in none of the sections analyzed in the CAP, there was an underestimation of the disease, the risk factors and the consequences of contagion by the health personnel.

Behaviors and risk factors

To present the behaviors and risk factors, the associations shown in Table 3 will be taken into account.[21] Of the 362 participants, 80, which constitutes 22%, partially use personal protection elements, as observed in Table 2, of which 24 come out positive. This risk situation demonstrates an unsafe practice on the part of health personnel;[22] since it increases the possibility of being a source of contagion in the hospital institution and in their family nucleus. If the previous response is compared with the perception, it can be observed how the health personnel who are located in stratum 2, state that they do not have enough knowledge when compared to stratum 6, where only 1 person states that they do not have the same knowledge. An important risk factor can be established in the relationship between the type of contract and the number of jobs for health personnel, it is evident how having a contract for the provision of services can lead health personnel to require two jobs, this employment condition brings as a consequence, a greater risk of contagion as observed in the result and allows us to observe how during the pandemic the number of contracts under this modality increased, given the magnitude of the cases presented, but it also shows the job instability of health personnel and the conditions of exposure for disease transmission.

A published article called "Criteria*Vulnerability to Covid-19 infection in workers"*mentionsthat from the workplace it is important to establish the degree of vulnerability of workers, defined by personal characteristics that put people at risk, in addition to variables such as age or sex, as well as by the degree of exposure of the worker, which makes it more susceptible to contracting the disease.[23]

For their part, health personnel who allude to contagion at the Institutional level, can relate it to daily exposure due to their work activity and may also be related to the number of hours of work activity (which changed in some institutions specifically in the COVID area). -19, in those Institutions that opened specific services for the care and care of patients suspected or diagnosed with COVID-19. Health personnel consider that they are the main source of contagion with 53%, 39% institutional factors and 8% report that the personal and institutional are the two main sources. Similarly, there is evidence of a correlation between the source of contagion and the risk perceived by health personnel, when they state that being in contact with, attending to, and caring for a patient with a diagnosis of COVID-19 is a high risk for the contagion of his family (80%). Being the main source of contagion, for health personnel, determines in them an attitude of uncertainty and fear that some manifest when inquiring about the feelings generated by the care of the patient suspected or diagnosed

with COVID19 and can be classified as a behavior that It can become a risk in the face of the practice, but for others it can become a protective behavior, by establishing additional personal protection measures to those already established and promoting self-care. This perception, which, being generalized, constitutes a social perception of risk and cannot be reduced to a simple relation of probabilities and forecast of consequences, but depends on a series of qualitative factors such as beliefs, public opinion and other factors related to the undesirable effects that cause terror (…). The reference frameworks for the public perception of risk are usually based on subjective criteria or on non-scientific sources and not always so reliable (20). In this way, each person can process information, a situation or an object in a different way and assume a behavior or conditioned conduct, to its cognitive interpretation and to the value judgments that it has generated about them.[21]

Table 3 Significant associations between variables

	Variable #1	Variable #2	P-value
Knowledge			
attitudes	Positive for COVID 19	have 2 jobs	P (0.04)
	(34) 28%	(121) 33%	
	Positive for COVID 19 (24) 30%	Partial application of precautionary measures (80) 22%	P(0.01)
Practices	Positive for COVID 19 (61) 23.73%	Work in the COVID Zone (257) 70.9%	P (0.02)
	COVID positive (30) 10.65%	Out-of-hospital close contact (291) 80.38%	P (0.01)
	Type of service provision contract (114) 31.5%	2 Jobs (61) 53.5%	P (0.01)

Source: Self made. Research team

Regarding the feelings that being in contact with diagnosed patients generates, it is observed that 37% express feelings of anguish, fear, insecurity, fear, anxiety, 30% express empathy, liking, affection, hope, gratitude, 25 % does not express any type of feelings and 8% others such as boredom, laziness, desire to help, impotence. What can be inferred from the responses of the participants, given the variety of feelings and emotions that the attention of patients diagnosed with COVID-19 arouses, is that fear is generated, due to the possibility of infecting and infecting their family, However, when looking at the patient as a subject of care, he awakens feelings of empathy and affection, due to the condition of vulnerability that he has when dealing with this disease. In the article Syndrome*of burnout in health personnel during the COVID-19 pandemic: an orange traffic light in mental health*carried out in 2020, it was evidenced that the stressors linked to burnout with the highest rating were the lack of personal protective equipment, the fear of contagion from COVID-19 and the fear of infecting family members.[24–26] Along the same lines, there are various studies that have reported anxiety, stress, fear, and depression in frontline care professionals given the uncertainties related to the disease.[27–29] which increases the risk of suffering disorders that affect mental health in health personnel.

In the same way, another risk behavior that is evident is related to the occupation, since the fact of being health personnel and working in a health institution, becomes a possibility of being a source of contagion for the family group.

A study called "The mental health impact of the covid-19 pandemic on healthcare workers: A rapid systematic review" in its results presented the risk and protective factors identified in different articles, related to the mental health of health workers. Among the risk factors identified as factors that affected health personnel in the increase in anxiety levels, they found: having a family member with the disease, work factors such as high workload, long shifts, the exposure to which they were subjected, for being the first line of attention and having the feeling of not having the support of the directors of the Institution[30–32] And as protective factors, the use of personal protection elements, having rest periods, emotional and social support stood out.[33–35] is situation highlights that the situations experienced by health personnel during the pandemic generated different reactions in health personnel, for some it had a significant impact that affected their physical and emotional peace of mind, their interpersonal relationships, and their quality of life, and for others it It constituted a challenge and learning that implied transformations in their daily life and adjustments in their family, social and work life.

Conclusion

In relation to the knowledge, attitudes and practices regarding the attention and care of patients with suspicion or diagnosis of COVID, it is observed in the results, having security in knowledge, personal coping resources, availability of personal protection elements and resources for Attention, at the time of performing interventions in patients, become protective behaviors. Stressful situations, especially those that are perceived as a risk to health and life, generate various reactions in people that can interfere with intervention actions and feelings. The risk perception of the participants was influenced by values, beliefs, feelings, knowledge and their sources. An unreliable source of knowledge can increase anxiety, fear and distort the real perception of danger.

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Conflcits of interest

The autor declares there is no conflcit of interest.

References

1. STATIST. *Number of people who died from the coronavirus in the world as of November 12, 2021*. 2021.
2. United Nations Organization. *Millions of health workers are not vaccinated against COVID-19 due to political and business barriers*. 2021.
3. National Institute of Health. *COVID-19 in health personnel in Colombia* | Bulletin No. 102| 09-11-2021. 2021.
4. World Health Organization. *Prevention, Identification and Management of Healthcare Professional Infections in the Context of COVID-19: Interim Guidance, 30 October 2020*. World Health Organization. License: CC BY-NC-SA 3.0 IGO. 2020.

5. Huarcaya-Victoria J. Mental health considerations in the COVID-19 pandemic. *Peruvian Journal of Experimental Medicine and Public Health*. 2020;37(2):327–334.
6. Aleixandre-Benavent R, Castelló-Cogollos L, Valderrama-Zurian JC. Information and communication during the early months of COVID-19: Infodemics, misinformation, and the role of information professionals. *Information Professional*. 2020;29(4):1–17.
7. Aleixandre-Benavent R, Castelló-Cogollos L, Valderrama-Zurian JC. Information and communication during the first months of Covid-19. Timeline, infodemic and misinformation, fake news, ongoing investigations, and the role of information specialists. *The information professional*. 2020.
8. OkayFerrán M, Barrientos-Trigo S. Caring for the caregiver: The emotional impact of the coronavirus epidemic on nurses and other health professionals. *Clinical Nursing*. 2021;31:S35–S39.
9. Ybaseta-Medina J, Becerra-Canales B. Health personnel in the COVID-19 Pandemic. *Panacea Medical Journal*. 2020;9(2):72–73.
10. Sariego MGM del P. *Detailed guide for the design and implementation of survey methods of knowledge, attitudes and practices for child protection programs*. 2012.
11. Góngora VC, María Y, Casullo M. Protective factors of mental health: a comparative study on values, self-esteem and emotional intelligence in the clinical population and the general population. *Interdisciplinary*. 2009;26.
12. World Health Organization (WHO). *Health Promotion Glossary World Health Organization Geneva*. 1998.
13. OF Helsinki, Statement, Helsinki Declaration. *Ethical principles for medical research in humans*. Tokyo-Japan: World Medical Association, 1975.
14. Colombia. Ministry of Health. Directorate of Scientific and Technological Development. *Scientific, technical and administrative standards for health research: Resolution No. 008430 of 1993*. Ministry of Health. 1993.
15. Pilco Villagra MDC, Rivas Alarcón D. Nutritional status with biochemical, anthropometric indicators and lifestyles in the Covid-19 pandemic in university students in central Peru. *Visionaries in science and technology*. 2021;6(1):49–53.
16. Martha-Enguita J, Corroza-Laviñeta J, Ostolaza A. Risk factors and predictors of severity in patients hospitalized for COVID-19: analysis of 52 cases. *Clinical Medicine*. 2020;155(8):360–361.
17. Iglesias-OsoresSebastian, Saavedra-Camacho, Johnny Leandro, et al. Perception and knowledge about COVID-19: A characterization through surveys. *Rev Body Med*. 2020;13(4): 356–360.
18. Olivari Medina Cecilia UMEugenia. *Self-efficacy and health behaviors*. 2022.
19. Ortiz Ocaña A. Relationship between objectivity and subjectivity in the human and social sciences. *Revista Colombiana de Filosofía de la Ciencia*. 2013;13(27):85–106.
20. Stanojlovic M. Social perception of risk: an overview and application to health communication. *Communication and Health Magazine*. 2015;5:96–107.
21. Pérez de Celis-Herrero M de la C, Cavazos-Arroyo J. Perception of the risk of COVID-19 and preventive measures in Mexico. *IMSS Medical Journal*. 2021;59(5):377–786.
22. Omaña-Covarrubias A, Moya-Escalera A, Pimentel Pérez M, et al. Medical Practice in the COVID-19 Crisis, an Unsafe Practice. *Mexican Bioethics Review ICSA*. 2021;3(5):1–7.
23. Vincent HerreroaTeofila, Ramírez Iñiguez de la Torre Ma Victoria, Rueda Garrido Juan Carlos. Vulnerability criteria against Covid-19 infection in workers. *Rev Asoc Esp Espec Med Trab*. 2020; 29(2):12–22.
24. Juarez García A. Burnout syndrome in health personnel during the COVID-19 pandemic: an orange traffic light in mental health. *Health UIS*. 2020;52(4):1282.
25. Galehdar N, Toulabi T, Kamran A, et al. Exploring nurses' perception of taking care of patients with coronavirus disease (COVID-19): A qualitative study. *Nurses Open*. 2020;8(1):171–179.
26. Ruano F, Riascos P, López M, et al. Characteristics of personality and care in the care staff of a health institution in the city of Pasto during the Covid-19 pandemic. *Psychological Reports*. 2022;22(2):101–116.
27. Luceño-Moreno L, Talavera-Velasco B, García-Albuerne Y, et al. Symptoms of Posttraumatic Stress, Anxiety, Depression, Levels of Resilience and Burnout in Spanish Health Personnel during the COVID-19 Pandemic. *International Journal of Environmental Research and Public Health*. 2020;17(15):5514.
28. Daddy S, Ntella V, Giannakas T, et al. Prevalence of depression, anxiety, and insomnia among healthcare workers during the COVID-19 pandemic: A systematic review and meta-analysis. *Brain, Behavior, and Immunity*. 2020;88:901–907.
29. Evanoff BA, Strickland JR, Dale AM, et al. Work-Related and Personal Factors Associated with Mental Well-Being During the COVID-19 Response: Survey of Health Care and Other Workers. *Journal of Medical Internet Research*. 2020;22(8):e21366.
30. López Izurieta I, López Izurieta I. The mental health of health personnel before the COVID-19 Pandemic. *Nursing Investigates*. 2021;6(1):47.
31. Catania G, Zanini M, Hayter M, et al. Lessons from Italian front-line nurses' experiences during the COVID-19 pandemic: A qualitative descriptive study. *J Nurs Manag*. 2021;29:404–411.
32. Ralph J, Freeman LA, Menard AD. Language: English. Emerald Group Holdings Ltd. *Journal of Health Organization and Management.* 2022;36(2):240–255.
33. Muller AE, Hafstad EV, Himmels JPW, et al. The mental health impact of the covid-19 pandemic on healthcare workers, and interventions to help them: A rapid systematic review. *Psychiatry Research*. 2020;293:113441.
34. Rodriguez-Quiroga A, Buiza C, Mon MAÁ de, et al. COVID-19 and mental health. *Medicine - Accredited Continuing Medical Training Program*. 2020;13(23):1285–1296.
35. Cipolotti Lisa, Chan Edgar, Murphy Patrick, et al. Psychology & Psychotherapy: Theory, Research & Practice. 2021;94(Supple S2):536–543.
36. Macaya BP, Aranda GF. Care and self-care in health personnel: facing the COVID-19 pandemic. *Chilean Journal of Anesthesia*. 2020;49(3):356–362.