

ARTIGO ORIGINAL

Vulnerability in the mental health of health personnel to COVID-19

Vulnerabilidade na saúde mental de profissionais da saúde ao covid-19

Vulnerabilidad en la salud mental del personal sanitario ante la COVID-19

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Abstract

The frequent affectations to the mental health of the health personnel involved in the response to the COVID-19 pandemic demands the use of an instrument capable of integrating, in its evaluation, the most vulnerable psychological areas in accordance with the actions of Primary Prevention of the Psychological Safety Management Protocol. The objective is to describe the mental health vulnerability of the health personnel before working directly with patients affected by COVID-19. A descriptive, transversal study was carried out with 108 subjects. The psychological vulnerability screening instrument developed as part of the Psychological Safety Management Protocol was applied, in the Hospital for attention to suspected and positive patients of COVID-19. The mental health vulnerability of the sanitary personnel prevailed. The most vulnerable groups were the one from 23 to 40 years old, the feminine sex and the nursing personnel. The most affected areas were the cognitive and the affective ones; expressing more intensity in the symptoms related to difficulties to concentrate, sadness and anxiety. The existence of a greater vulnerability in the mental health of the health personnel before starting to work with patients who are suspected and positive to COVID-19, expresses the need to maintain the Primary Prevention stage as part of the Psychological Safety Management Protocol.

Keywords: Mental Health; Health Personnel; Psychological Safety; COVID-19

Resumo

Os frequentes efeitos sobre a saúde mental dos profissionais de saúde envolvidos na resposta à pandemia COVID-19 exigem a utilização de um instrumento capaz de integrar, na sua avaliação, as áreas psicológicas mais vulneráveis de acordo com as ações de Prevenção Primária declaradas no Protocolo da Gestão de Segurança Psicológica. O objetivo é descrever a vulnerabilidade na saúde mental do pessoal de saúde antes de desenvolver um trabalho direto com pacientes afetados pelo COVID-19. Foi desenvolvido um estudo descritivo e transversal com 108 trabalhadores/as da saúde da instituição a partir do uso do instrumento de rastreamento da vulnerabilidade psicológica. No Hospital para atenção a pacientes suspeitos e positivos de COVID-19. O estudo confirma: um predomínio da vulnerabilidade na saúde mental dos profissionais de saúde; enfermeiras, entre 23 e 40 anos, constituíam o grupo mais vulnerável; as áreas mais afetadas foram cognitivas e afetivas, projetadas em intensos sintomas de desconcentração, tristeza e ansiedade. A existência de maior vulnerabilidade na saúde mental do pessoal de saúde antes de começar a trabalhar diretamente com pacientes suspeitos e positivos para COVID-19, expressa a necessidade de manter a etapa de Prevenção Primária como parte do Protocolo de Gestão da Segurança Psicológica.

Palavras-chaves: Saúde Mental; Pessoal de Saúde; Segurança Psicológica; COVID-19

Resumen

Las frecuentes afectaciones a la salud mental del personal sanitario involucrado en la respuesta a la pandemia de la COVID-19 demanda el uso de un instrumento capaz de integrar, en su evaluación, las áreas psicológicas más vulnerables de acuerdo con las acciones de Prevención Primaria del Protocolo de Gestión de Seguridad Psicológica. El objetivo es describir la vulnerabilidad en la salud mental del personal sanitario antes del trabajo directo con pacientes afectados de COVID-19. Se realizó un estudio descriptivo, transversal con 108 sujetos. Se aplicó el instrumento de cribado de vulnerabilidad psicológica desarrollado en el Protocolo de Gestión de Seguridad Psicológica, en el Hospital de atención a pacientes sospechosos y positivos de COVID-19. Predominó la vulnerabilidad en la salud mental del personal sanitario; el grupo más vulnerable fue el de 23 a 40 años, del sexo femenino y el personal de enfermería. Las áreas con mayor afectación resultaron la cognitiva y la afectiva; expresándose más intensidad en los síntomas relacionados con las dificultades para concentrarse, la tristeza y ansiedad. La existencia de una mayor vulnerabilidad en la salud mental del personal sanitario antes de comenzar a trabajar con pacientes sospechosos y positivos a la COVID-19, expresa la necesidad de mantener la etapa de Prevención Primaria como parte del Protocolo de Gestión de Seguridad Psicológica.

Palabras clave: Salud Mental; Personal Sanitario; Seguridad Psicológica; COVID-19

Introduction

The current COVID-19 pandemic demands a comprehensive approach to the phenomenon in order to provide a proper and effective treatment. The world scenario shows the daily work of information platforms

that suggest the analysis of the psychological impact that the new Coronavirus represents for the population in general and the health personnel in particular.

Since the beginning of the pandemic, health care personnel have faced enormous pressure due to the high risk of infection, lack of adequate protection against possible contamination, isolation, increased demand for work, frustration, tiredness due to long working hours, little contact with family members and the treatment of patients who express negative emotions¹. The presence of these factors increases the vulnerability to suffer from mental disorders, which affects their work performance and quality of life.

Studies on the mental health vulnerability in health personnel show that they may experience anxiety, depressive symptoms, stress, insomnia, denial, anger and fear². These emotional reactions require special attention to the psychological support needs often presented by health care workers coping with the COVID-19 pandemic.

In a rapid systemic review conducted from the beginning of the pandemic until March 2020, which included 61 studies from various countries, found out that the affective area is among the most affected in this group³. In this regard, it is essential that health workers are able to identify by themselves the emotional reactions they may experience and to develop the use of psychological tools for the self-care of their mental health.

Preventive activities are increasingly necessary for the detection and intervention of possible vulnerabilities in mental health, especially for those who are working with patients who are suspected or positive for COVID-19.

In this way, the Psychology of Emergencies and Disasters allows us to predict and develop a proactive way of acting to prevent “normal reactions to abnormal situations” from interfering with the individual’s functioning within his or her environment, causing individual and social discomfort⁴. Hence, the design of current action protocols must be directed towards a preventive vision in order to increase the availability of methodological guidelines that contribute to the generalization of psychological care among health personnel.

The interventions to health workers developed in China show that the best way to prevent mental problems is to provide an adequate space for rest, offer a good diet, provide information about the illness and protective measures, and employ relaxation and stress management techniques¹.

Larroy et al⁵, developed a guide for the non-presential approach to the psychological consequences in the general population of the epidemic outbreak of COVID-19, for which they proposed brief and specific instruments, with the aim of orienting the intervention towards the attention of specific cases of callers. In Cuba, there is also work in the approach to this topic; such is the case of the recommendations published for the personnel of Cuban medical brigades working abroad, with the purpose of preserving their mental health.

These studies highlight the need to address the psychological impact of COVID-19 in the population, including health personnel, but they generally lack institutional strategies to ensure the self-management of psychological safety within the health team.

Psychological safety allows for integrity, stability and psychological balance. That is, the resilience of the personnel in charge of the care of patients affected by the disease for the management of their own vulnerabilities in the field of mental health during the health emergency, and those of their work teams. It constitutes the fundamental premise for the good quality compliance of the institutional strategies developed in those circumstances; it also presupposes the organizational decision making to manage it⁷.

In response to this call-in mental health, psychologists from Holguín province, led by the Neuropsychology Group of the Hospital for attention to suspected and positive patients of COVID-19, made a proposal for a Psychological Safety Management Protocol for health personnel working directly with patients affected by COVID-19⁸. The development of this proposal satisfies the demands for the protection of the mental health of the health personnel. The first stage of this proposal has a preventive nature, which includes the early identification of possible cases of emotional breakdowns.

The screening instrument developed for this protocol and applied in the Stage I of Primary Prevention of Psychological Safety in health personnel⁸, allows to identify if the subject presents any area of interest for psychological intervention and with this information, to conform the work teams to increase the possibilities of success in the work performance and to give sustainability to the services.

It is also an alternative for the detection of vulnerabilities in mental health during the work with patients suspected or positive to COVID-19. Thus, it helps to outline organizational strategies for the psychological safety management of these vulnerable staff.

That is why the objective of this study is: To describe the mental health vulnerability of the health personnel of the Hospital for attention to suspected and positive patients of COVID-19, in the Primary Prevention stage of the Psychological Safety Management Protocol.

Method

A descriptive and transversal study was carried out in the Hospital for attention to suspected and positive patients of COVID-19, Cuba, during the months from March to August 2020.

The study population was constituted by all the health workers who were in the preparation stage for working with patients affected by COVID-19. These workers received training on psychological safety and biosecurity. The sample consisted of 108 subjects, including 29 Nursing graduates and 79 Doctors, before starting direct work with the suspected COVID-19 positive cases and that had not previously worked in the red zone.

To meet the objective, the screening instrument was applied in person to the 108 subjects who made up the sample during the psychological safety training, before starting to work in the red zone.

The screening instrument was created for the Psychological Safety Management Protocol developed by the Neuropsychology Group of the Hospital for attention to suspected and positive patients of COVID-19, in the Primary Prevention stage. Its objective is the early identification of possible cases of mental health vulnerabilities, expressed in the need or not of psychological help. In this sense, the researchers established a

margin of answers from the subjects, in which the slightest presence of psychological symptoms would warn the remote psychologists of a demand for attention, in such a way that this service would be guaranteed to the majority of the health personnel.

The screening instrument has 16 items that list the expected reactions to the new situation grouped into four areas: affective, cognitive, behavioral and somatic. It also allows to identify if the subject presents any area of interest for specific psychological intervention⁸.

In this way, by psychological spheres, the following symptoms are fundamentally measured: affective; sadness, feelings of loneliness-helplessness, fear and anxiety. The cognitive assesses the presence of difficulties in concentration and memory, as well as personal conflicts. The behavioral; irritability, apathy, aggressiveness and consumption of unusual substances. The somatic; gastrointestinal problems, dizziness, fainting, sweating, tremors, decompensation of chronic diseases, tachycardia, chest pain and shortness of breath.

The strategy for the preliminary validation of the screening instrument was to submit it to the criteria of experts (21 experts, 12 of them international), who provided 7 recommendations, aimed at a better differentiation between the identification of psychological vulnerability and what could be considered as normal reactions. These recommendations generated an equal number of modifications to the original version. A pilot study was carried out on 17 subjects of the Hospital which allowed reaching the definitive version, which was transferred to the application for cell phones.

The rating of this instrument has a maximum scale of 32 points; whose possibilities of response are: never (0), sometimes (1) and always (2). From 0 to 8 points, no psychological help is needed, and from 9 to 32 points, psychological help is needed. In addition, if the person selects at least one item from the somatic sphere as positive, he or she is automatically identified as a tributary for specialized attention, understanding that these alterations contain an important psychological burden.

The information was processed through descriptive statistics by means of frequencies and percentage calculation. The information was processed in the Excel System.

The ethical aspects considered were: the consent of the subjects under study. The information contained in the applied instrument is kept preserved and confidential. The research was approved by the Hospital's Ethics Committee with the number 118/2021. The protocol is in line with the Helsinki declaration.

Results

In the fulfillment of the objective proposed during the investigation, it was obtained that the studied sample is of 108 health professionals, 79 of them are Doctors (73 %) and 29 Graduates in Nursing (27) %. In total, 46 men participated which represents 43% and 62 women which is equivalent to 57% of the sample. The age of the health personnel analyzed was from 23 to 60 years old, 76% of the cases were from 23 to 40 years old and 24% were from 41 to 60 years old.

Among the evaluated areas, the cognitive one was the most affected with 85 participants (31%), followed

by the affective one with 84 subjects (30%), the least affected was the somatic sphere with 53 cases (19%). (Table 1)

Taking into account the analysis of the socio-demographic variables, the age group of greater vulnerability in mental health in all the psychological areas is the one from 23 to 40 years old. In this sense, the female sex was the most predominant in each of the psychological areas studied and the occupation that showed the greatest number of cases was doctors. (Table 1)

Table 1. Distribution of the sample according to socio-demographic variable and affected psychological area.

Area	Age				Sex				Occupation				Total	
	23-40		41-60		M		F		Doctor		Nursing Grad.		Area	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Cognitive	65	30%	20	32%	34	29%	51	32%	71	31%	14	29%	85	31%
Affective	66	31%	18	29%	33	28%	51	32%	71	31%	13	27%	84	30%
Behavioral	43	20%	12	19%	24	21%	31	19%	45	20%	10	21%	55	20%
Somatic	41	19%	12	19%	25	22%	28	17%	42	18%	11	23%	53	19%

Source: Own elaboration

The result of the screening showed that from the 108 people who made up the study sample, 56 subjects were vulnerable, which represents 52%; and 52 cases were non-vulnerable, which is equivalent to 48%. As for the analysis by occupational category, the vulnerability in mental health of the nursing staff predominated with 58.6%. (Table 2)

Table 2. Results of the screening in the study sample.

Occupation	Vulnerable		Non vulnerable		Total	
	Amount	%	Amount	%	Amount	%
Doctor	39	49.4	40	50.6	79	100
Nursing grad.	17	58.6	12	41.4	29	100
Total	56	52	52	48	108	100

Source: Own elaboration

When analyzing the accumulated scores in each area, taking into account those that were vulnerable, it was found that the affective one reached greater intensity, which represents 31% of the total, followed by the cognitive one with 29%. As for the perceived intensity of the symptoms by item, in the cognitive sphere the difficulties to concentrate predominated, while sadness and anxiety prevailed in the affective sphere. The behavioral sphere was determined by changes in behavior such as: irritability, apathy and aggressiveness. In

the somatic one, gastrointestinal problems predominated (diarrheas, epigastric jump, vomiting). (Table 3)

The data obtained from the subjects who were not psychologically vulnerable show that the cognitive sphere was the one with the highest intensity, equivalent to 44% of the total, followed by the affective sphere with 42%.

While studying each of the items by area, it was identified that in the cognitive one, difficulties to concentrate prevailed. In the same way, in the affective one, symptoms like: sadness and anxiety were the most common. The behavioral area continues to be determined by changes in behavior (irritability, apathy and aggressiveness) and it also includes refusals to perform tasks that require exposure to greater risk. (Table 3)

Table 3. Accumulated score by item and psychological area.

Area	Vulnerability					Non psychological vulnerability				
	Item	Score	%	Total	%	Item	Score	%	Total	%
Cognitive	1	51	38,3%	133	29%	1	32	54,2%	59	44%
	5	27	20,3%			5	6	10,2%		
	9	16	12,0%			9	2	3,4%		
	13	39	29,3%			13	19	32,2%		
Affective	4	42	29,6%	142	31%	4	21	36,8%	57	42%
	8	22	15,5%			8	7	12,3%		
	12	38	26,8%			12	12	21,1%		
	16	40	28,2%			16	17	29,8%		
Behavioral	2	28	29,8%	94	21%	2	9	47,4%	19	14%
	6	36	38,3%			6	8	42,1%		
	10	25	26,6%			10	1	5,3%		
	14	5	5,3%			14	1	5,3%		
Somatic	3	39	43,8%	89	19%	3	0	0,0%	0	0%
	7	14	15,7%			7	0	0,0%		
	11	18	20,2%			11	0	0,0%		
	15	18	20,2%			15	0	0,0%		
Total		458	100,0%	458	100%		135	100,0%	135	100%

Source: Own elaboration

Discussion

The implementation of the screening instrument in the Primary Prevention stage of the Psychological Safety Management Protocol resulted in a predominance of subjects identified as psychologically vulnerable before starting their work in the red zone. This information could not be compared with other studies, due to the insufficient approach to the subject in current researches that do not reflect the psychological state of health personnel before starting to work with suspected and positive patients.

Ricci Cabello et al recognize the limitations of the available literature, in a systematic review of the

impact of the COVID-19 pandemic on the mental health of health professionals, and in their assessments³.

The existence of a greater psychological vulnerability among health personnel is related to the socio-demographic characteristics of the study sample in which the female sex, early ages and little experience in working with patients who are suspected of being positive for COVID-19 are predominant. Factors that are congruent with the systematic review developed by Ricci Cabello et al³, in which 37 studies identified the presence of these variables associated with the probability of developing mental health problem.

In the analysis of the psychological spheres measured by the screening instrument, the most affected were the cognitive and the affective, followed by the behavioral and the somatic. Other studies have already showed this information, identifying the presence of emotional disturbances in health care workers due to the impact of the pandemic^{2,3,9,10,11,12,13,14}.

The occupational category identified as being most vulnerable in mental health was the nursing staff, because the proportion of nursing staff is higher in the work shifts, it is a profession mostly developed by women and, in addition, they have more exposure as they are in direct contact with the patients for longer. This result corresponds with other studies^{2,8}.

The analysis of the accumulated scores in each area, taking into account those that were vulnerable, allowed observing that the affective one reached greater intensity, followed by the cognitive and behavioral one, with less intensity in the somatic one. Similar data was obtained in other researches^{2,3,13}.

In terms of the perceived intensity of symptoms per item in each sphere, difficulty in concentrating predominated. This result coincides with other problem to which health professionals may be exposed: insufficient attention¹.

In this sense, symptoms of sadness and anxiety prevailed. Likewise, in a study developed in Canada it was observed that the rate of anxiety and depression of the sanitary personnel was of 47% and 44% respectively⁹.

The presence of symptoms related to changes in behavior such as: irritability, apathy and aggressiveness were significant; data already referenced by other authors who report the development of unhealthy behaviors when exposed to threatening situations^{1,11,12,14}.

It is also notorious that among the somatic symptoms, gastrointestinal problems were of greater intensity (diarrhea, epigastric jump, vomiting). These symptoms were addressed in previous studies as physical factors associated with a high psychological impact on the symptoms of anxiety and depression^{2,14,15}.

On the other hand, the data obtained in the subjects who were not psychologically vulnerable show that the cognitive sphere was the one with the highest intensity, followed by the affective and behavioral spheres. While studying each one of the items by area, it was identified that in the cognitive one, difficulties to concentrate prevailed. In the same way, in the affective one, symptoms like: sadness and anxiety were the most common. The behavioral area continues to be determined by changes in behavior (irritability, apathy and aggressiveness) and it also includes refusals to perform tasks that require exposure to greater risk.

Conclusions

The existence of a greater vulnerability in the mental health of the health personnel before starting to work with patients suspected and positive to COVID-19, expresses the need to maintain the stage of Primary Prevention as part of the Psychological Safety Management Protocol for the decision making at the organizational level.

The screening instrument developed for the Primary Prevention stage of the Psychological Safety Management Protocol proved to be useful to describe the mental health vulnerability of the health personnel of the Hospital for attention to suspected and positive patients of COVID-19.

Although the assessment was made before the exposure to higher risk in the direct work with patients affected by COVID-19, the results were congruent with the literature reviewed.

However, due to the urgency of the epidemiological situation that required the use of diagnostic strategies to identify vulnerabilities in the mental health of health personnel, the screening is still in the validation process, so the validity of the instrument has not yet been concluded.

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