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Sense of Coherence and Psychological Distress among Healthcare Workers during the COVID-19 Pandemic in Spain

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Abstract: The health crisis triggered by COVID-19 and the preventive measures taken to control it have caused a strong psychological impact on the population, especially on healthcare professionals. Risk exposure, uncertainty about how to approach the disease, care and emotional overburden, lack of resources, or unclear ever-changing protocols are, among others, psychological distress risk factors for the healthcare professionals who have faced this dramatic scenario on the front line. On the other hand, the Sense of Coherence (SOC) is a competence that could help these professionals perceive the situation as understandable, manageable, and meaningful, facilitating the activation of their resilience. This work aims to describe the levels of psychological distress and SOC of healthcare professionals during the crisis caused by COVID-19, the relationship between both variables, and their health status. A cross-sectional descriptive study with a sample of 1459 currently active healthcare workers was developed. GHQ-12 and SOC-13 were used for data collection. Bivariate analyses were performed, including Chi-Squared Test, Student's T-Test, Analysis of Variance—ANOVA (with Bonferroni test for multiple comparisons), and correlations. Cohen's d or Cramer's V effect size measurements were also provided. The results showed that 80.6% of healthcare professionals had psychological distress, and the mean score on the SOC-13 scale was 62.8 points (SD = 12.02). Both psychological distress and SOC were related to the presence of COVID-19 symptoms, as well as with contact history. Professionals with psychological distress showed a lower SOC. Taking care of the mental health of healthcare professionals is essential to effectively cope with the COVID-19 pandemic. Given the psychological impact of working in the current menacing scenario, people on the front line against the disease should be protected, minimizing risks, providing them with resources and support, and fostering their coping skills.

Keywords: psychological distress; sense of coherence; healthcare professional; mental health; occupational health; COVID-19; public health; social psychology

1. Introduction

At the end of December 2019, a number of cases of pneumonia of unknown origin began to be reported in Wuhan City, China [1], which, after analyzing the causative pathogen, was found to be a betacoronavirus that was renamed SARS-CoV-2 and which caused the so-called coronavirus disease 2019 (COVID-19) [2].

Due to its evolution, on 30 January 2020, the World Health Organization (WHO) declared the outbreak a public health emergency of international scope, to later appoint COVID-19 as a pandemic on 11 March 2020. The WHO declared a state of pandemic as two criteria were met: the outbreak was affecting more than one continent, and cases in each country were beginning to develop by community transmission [3].

The Spanish government declared a state of alarm on 14 March 2020 as a preventive measure to contain the spread of the virus and minimize the health, social, and economic impact of the crisis. To maintain their safety, citizens were confined to their homes, by limiting their movements to the essentials. Wherever possible, jobs were adapted to telework. Activities involving a concentration of people were suspended, such as educational, leisure, cultural or sports activities. Two weeks later, protection measures were reinforced, reducing mobility and activity to essential tasks and services for the maintenance and operation of the country [4]. When the data collection of the present study began, 56,188 cases of COVID-19 had been reported in Spain. 51% of COVID-19 cases were men and the median age was 58 years, being greater in men than in women (61 vs. 56 years). 14.9% of reported cases were health workers, and this percentage was significantly higher among women than among men (20.7% vs. 9.3%) [5]. Seroprevalence among the Spanish population has been described as 5.0% (95% CI 4.7–5.4). Geographical variability was identified, with higher prevalence around Madrid (>10%) and lower in coastal areas (<3%) [6].

A global pandemic has significant economic, social, and public health consequences in all affected countries. At the economic level, there is a remarkable halt of production and a significant loss of jobs. Likewise, at the social level, changes occur, also related to the economic impact (increased poverty), restrictions on the mobility of the population, and acquisition of new hygiene habits (use of masks, practicing social distance, and hand washing). Finally, at the health level, health systems in all countries must prevent, treat, and alleviate the disease, with an increase in associated morbidity and mortality [7].

Faced with this critical situation, the mental health of the general population is compromised, a phenomenon that is especially exacerbated among healthcare professionals, as they are working on the front line against the virus [8]. These healthcare professionals may see their workload and working hours increase [9]. In some cases, there is a lack of protective material, so they may be directly exposed to the pathogen itself [8]. They may be afraid of infecting their family and friends, just as they may suffer from isolation and social discrimination. It is hard to see how the patients they care for are alone and a certain number of them die as a result of COVID-19 [10]. For all these reasons, healthcare professionals may develop physical and mental exhaustion, fear, emotional and sleep disorders [11], and high levels of anxiety, depression, unhealthy behaviors, and even post-traumatic stress, as has occurred in previous outbreaks [12]. This problem may affect the exercise of professional functions by decreasing caring, understanding, and decision-making skills [8]. This is why preserving the physical, mental, and social health of healthcare professionals can be essential in combating the virus [13].

Healthcare professionals are particularly vulnerable to psychological distress, as they are subjected to tight working conditions and the nature of the work implies a heavy emotional burden [14]. In relation to the working conditions, previous studies have identified lack of staff and dissatisfaction with work as triggers of distress among healthcare professionals [15]. According to Klein et al., professionals themselves have identified organizational factors such as lack of routine team meetings, lack of time to discuss particularly difficult cases, or lack of psychological support as a source of distress [16]. In relation to the nature of the work, distress among healthcare professionals relates to compassion fatigue [17], to adverse events when they are considered as second victims [18], and to burnout [19]. In addition,

healthcare professionals are also vulnerable to moral distress, i.e., the inability to provide the care that is considered ethically appropriate. This relates to the organizational environment (poor ethical climate and collaboration), professional attitudes (low job satisfaction and commitment), and psychological characteristics (low psychological empowerment and autonomy) [20]. Job satisfaction, self-esteem, and perceived social support have been identified as protective factors [21], and the promotion of resilience among professionals is proposed as a measure [19].

In this line, and according to the salutogenic theory, one of the main facilitating factors of adaptation to stress is the Sense of Coherence (SOC) [14]. It refers to people's ability to perceive a stressful situation as understandable, manageable, and meaningful, allowing them to use their resources to effectively deal with it [22]. The SOC contributes to the development and maintenance of health; the higher the SOC, the better the person perceives his/her health, in particular mental health [23]. It has been described as a determinant of well-being and a protective factor against psychological distress and overburden [22], as well as an element that strengthens personal resilience [23]. In contrast, low levels of SOC have been associated with burnout and depression [24]. In the work environment, SOC relates to the workplace adaptability, job satisfaction, and sickness-absence [25], as well as being a protective factor against stressors that come from the work environment and difficulties regarding work-life balance [24].

After the first months of the pandemic, recent studies have described psychological distress among healthcare professionals [26–29]. However, the SOC, the associated risk factors, and its potential as a protective measure against distress are less explored.

For all the above, during the health crisis triggered by COVID-19, healthcare professionals have been and are exposed to psychological distress, and in the face of this risk, the SOC could act as a protective factor. The objective of this study was to describe the levels of psychological distress and SOC among healthcare professionals during the health crisis caused by COVID-19, the relationship between both variables, and their health status. In addition, it is intended to identify differences between the clinical realities of Primary Care and Specialized Care with respect to these variables.

2. Materials and Methods

A cross-sectional descriptive study was conducted. Psychological distress and SOC were considered dependent variables. As independent variables, sociodemographic characteristics (sex, age, marital status, latest completed studies, employment situation, professional profile, type of work center, level of care, and years of caring experience), and health status were considered.

2.1. Participants

The sample consisted of 1459 healthcare professionals currently active in Spain. As inclusion criteria, the following were established: (i) being of legal age (18 years or older); (ii) being a currently active healthcare worker; (iii) currently working away from home; and (iv) accepting the informed consent. The exclusion criteria were: (i) being underage; (ii) not being in Spain at the time of participation in the study; (iii) being a non-active health worker (e.g., underage, unemployed, retired); and (iv) tele-working from home.

It was a multidisciplinary sample formed by physicians, nurses, psychologists, pharmacists, and physiotherapists, among others. They worked in specialized health centers, such as hospitals, rehabilitation centers, occupational clinics, nursing homes, or primary care centers, run by the government or by private companies. As an on-line questionnaire was used for data collection, participants' working setting were spread all over the country.

Those professionals who completed the survey were considered participants. Although the invitation to participate was widely sent, the survey online platform only recorded the completed questionnaires. The number of healthcare professionals who were not interested or did not finish the survey could not be measured.

The selection of the sample was carried out by means of a non-probability snowball sampling. The sample was contacted through the internet (email groups) and through dissemination on social networks (WhatsApp, Facebook, Twitter, and LinkedIn). Potential participants were contacted through professional bodies, trade unions, or staff managers working in local health services. A formal invitation request to these contacts to share the link with their staff was made. The potential participants were then encouraged to share the link to the questionnaire with their colleagues. A similar recruitment was made through researchers' social network contacts, who were then encouraged to share the link with other healthcare professionals.

2.2. Measuring Instruments

An ad hoc questionnaire was developed adapting questions from similar studies [30] and adding new ones to collect data related to the study's objective. The questionnaire included items on sociodemographic variables, items to evaluate the physical and mental health of the participants, questions regarding the diagnosis of COVID-19, performance and result of the test. In relation to the physical symptoms perceived in the last 14 days, the most common COVID-19 symptoms indicated by the World Health Organization [31] were included: fever equal to or greater than 38 °C, cough, headache, muscle pain, dizziness, diarrhea, sore throat, rhinitis, chills, and breathing difficulties. Regarding contact history, items related to the relationship with confirmed infected persons or contact with people or materials suspected of being infected were included [32].

To assess mental health and emotional well-being, the General Health Questionnaire's (GHQ-12) self-administered scale was used. This scale, composed of 12 items, is a screening instrument for non-psychotic psychiatric disorders [33]. Each item has four answer options, scoring zero points if options 1 or 2 are chosen and one point if options 3 or 4 are chosen. The overall score ranges from 0 to 12. For this study, a cut-off point of 3 was established, considering the presence of psychological distress in subjects with scores greater than or equal to 3. The internal consistency index (Cronbach's α) obtained was 0.832.

The Sense of Coherence scale (SOC-13) was used to evaluate the SOC in its Spanish version [34]. This self-administered scale consists of 13 items with seven semantic differential points, along which the frequency with which the participant lives certain experiences is evaluated (e.g., believing to be treated unfairly or having very confused feelings or ideas). The total score of the scale ranges from 13 to 91 points, allowing researchers to use it as a single dimension or to decompose it into three dimensions: meaningfulness: items 1, 4, 7, and 12 (value that the person ascribes to the experiences and motivation to fight against the adversities and challenges of life); comprehensibility: items 2, 6, 8, 9, and 11 (cognitive ability to understand and deal with difficult situations); and manageability: items 3, 5, 10, and 13 (ability to make effective use of the available resources). Cronbach's α index was 0.824, considering the instrument in its entirety. The internal consistency indexes shown in the different dimensions were: $\alpha = 0.591$ for meaningfulness; $\alpha = 0.690$ for comprehensibility; and $\alpha = 0.611$ for manageability.

2.3. Procedure

For the design and elaboration of the questionnaire, a bibliographic review was carried out on studies dealing with previous pandemics. A basic search in the databases PubMed, Scopus and CINAHL was conducted, using the key words pandemic, Severe Acute Respiratory Syndrome (SARS), Middle East Respiratory Syndrome (MERS), influenza A virus subtype H1N1, Ebola, psychological distress, healthcare professionals. Articles that described the psycho-emotional impact of the pandemic on the healthcare professionals were selected. Then, the instruments used for data collection were analyzed, and the items related to the aim of this study were extracted. After this review, the research team designed a draft version of the questionnaire by consensus. This first version of the instrument was subjected to an expert board of judges made up of 10 healthcare professionals: three physicians, four nurses, and three psychologists (two of them specialized in clinical psychology). Once the

appropriate modifications were made, the instrument was piloted on 57 participants chosen through a sampling for convenience. 50.9% were men and 49.1% were women, and the mean age was 41.87 years (SD = 11.86). Most of these participants were married (56.1%) and had postgraduate studies, either Master's or Doctorate (57.9%). All of them completed the survey from different electronic devices (Tablet, PC, and mobile). None showed any understanding problems or doubts about the questions or referred any problems regarding the use of the different devices.

Data collection took place between March 26 and April 26, 13 days after the start of the alert state. The online survey platform Qualtrics® was used. Emails were sent to different professional groups, who were asked to facilitate their dissemination.

2.4. Data Analysis

All analyses were carried out with the SPSS 26.0 statistical software. First, an exploratory analysis of the data was performed to detect abnormal values and missing data. A descriptive analysis was then performed using statistics such as frequency, mean, and standard deviation, depending on the variable type. In order to analyze the existence of statistically significant differences between primary and specialized levels of care, in each set of variables (sociodemographic; health conditions; existence of COVID-19 physical symptoms; history of contact; and preventive measures), bivariate analyses were carried out including Chi-Squared Test (χ^2), Student's T-Test, Analysis of Variance—ANOVA (with Bonferroni test for multiple comparisons), and correlations. Cohen's d or Cramer's V effect size measurements were measured from its cut-off points: 0 to 0.19, negligible; 0.20 to 0.49, small; 0.50 to 0.79, medium; from 0.80 onward, high. Similarly in Partial Eta Squared: cut-off points: 0.01 to 0.05, small; 0.06 to 0.13, moderate; from 0.14 onward, large.

2.5. Ethical Considerations

All the ethical principles set out in the Helsinki Declaration have been addressed. Through informed consent, the permission was obtained from the participants who expressed their voluntary desire to participate in the study. All data were collected anonymously and treated confidentially. This study has the favorable report of the Research Ethics Committee of Huelva, belonging to the Ministry of Health of Andalusia (PI 036/20).

3. Results

3.1. Sociodemographic Data

Of the 1459 healthcare professionals who participated in the study, 80.9% were women. The mean age was 41.03 years (SD = 11.21). 65.8% stated their marital status as married or living with a partner. Most of the sample was made up of nurses (68.5%), 87.7% were working full-time, and 64.8% had more than 10 years of experience in their profession. Table 1 details the sociodemographic characteristics of participants, as well as the statistically significant differences between Primary Care and Specialized Care in relation to the sex, age, marital status, professional profile, work center, and years of experience.

Table 1. Sociodemographic variables according to the level of care (n = 1.459).

Variables	N (%)	Level of Care		*p*	*Effect Size (V/d)*
		Primary Care (N = 472)	Specialized Care (N = 987)		
Sex					
Male	278 (19.1)	24.2	16.6	0.001	0.090
Female	1181 (80.9)	75.8	83.4		
Age [mean (SD)]	41.03 (11.21)	43.94 (11.39)	39.64 (10.85)	<0.001	0.390
Marital status					
Single	376 (25.8)	20.3	28.4	0.003	0.090
Married or living with a partner	960 (65.8)	64.0	65.8		
Separate, Divorced, Widow/er	123 (8.4)	10.2	7.6		
Last completed studies					
Higher Sec. Educ., Vocational Training, or lower	94 (6.5)	7.2	6.1	0.077	0.059
University	903 (61.9)	65.0	60.4		
Master or PhD	462 (31.7)	27.8	33.5		
Work situation					
Part-time	179 (12.3)	13.6	11.7	0.299	0.027
Full-time	1280 (87.7)	86.4	88.3		
Professional profile					
Nurse	999 (68.5)	55.1	74.9	<0.001	0.228
Physician	233 (16.0)	18.2	14.9		
Other	227 (15.6)	26.7	10.2		
Type of work center					
Public	1098 (75.3)	61.4	81.9	<0.001	0.221
Private/Associated	361 (24.7)	38.6	18.1		
Years of caring experience					
0-5 years	281 (19.3)	16.7	20.5	0.009	0.080
5-10 years	232 (15.9)	12.9	17.3		
More than 10 years	946 (64.8)	70.3	62.2		

p = level of significance, V = Cramer's V, d = Cohen's d.

The geographical distribution of the study sample is summarized in Table 2.

Table 2. Sample distribution among geographical regions (N = 1459).

Region	N (%)
Andalucía	314 (21.5)
Aragón	111 (7.6)
Principado de Asturias	9 (0.6)
Illes Balears	12 (0.8)
Canarias	147 (10.1)
Cantabria	19 (1.3)
Castilla-La Mancha	39 (2.7)
Castilla y León	73 (5.0)
Cataluña	104 (7.1)
Comunitat Valenciana	77 (5.3)
Extremadura	19 (1.3)
Galicia	55 (3.8)
Comunidad de Madrid	148 (10.1)
Región de Murcia	12 (0.8)
Comunidad Foral de Navarra	44 (3.0)
País Vasco	229 (15.7)
La Rioja	29 (2.0)
Comunidad autónoma de Ceuta	13 (0.9)
Comunidad autónoma de Melilla	5 (0.3)

3.2. Psychological Distress

Table 3 details the scores for the General Health Questionnaire (GHQ-12). The mean score obtained on the scale total was 5.38, with a standard deviation of 2.99. Establishing a cut-off point of three or more points to assess the presence of psychological discomfort, the results showed that 80.6% of the healthcare professionals who participated in this study had this psychic morbidity. In the analysis according to the level of care, the results showed a significant ratio ($\chi^2 = 4.780$; $p = 0.029$; V = 0.057; negligible effect size), with a higher prevalence of professionals with distress in specialized care (82.2%) as compared to primary care (77.3%), as well as statistically significant differences in three items of the scale.

Table 3. General Health Questionnaire (GHQ-12) (n = 1.459).

Items	M(SD)	Level of Care		*p*	*Effect Size (d)*
		Primary Care (N = 472)	**Specialized Care (N = 987)**		
1. Able to concentrate	2.71 (0.69)	2.69 (0.66)	2.71 (0.71)	0.580	0.029
2. Lost much sleep	2.97 (0.89)	2.90 (0.90)	3.01 (0.89)	0.032	0.123
3. Playing a useful part	1.63 (0.70)	1.62 (0.73)	1.64 (0.69)	0.618	0.028
4. Capable of making decisions	2.01 (0.65)	1.96 (0.67)	2.03 (0.64)	0.088	0.108
5. Under stress	3.14 (0.78)	3.09 (0.81)	3.17 (0.76)	0.082	0.103
6. Could not overcome difficulties	2.35 (0.91)	2.33 (0.93)	2.37 (0.90)	0.417	0.044
7. Enjoy your day-to-day activities	2.89 (0.81)	2.84 (0.83)	2.91 (0.80)	0.120	0.086
8. Face up to problems	2.38 (0.66)	2.36 (0.67)	2.39 (0.65)	0.488	0.046
9. Feeling unhappy or depressed	2.65 (0.97)	2.56 (0.98)	2.70 (0.96)	0.014	0.145
10. Losing confidence	1.79 (0.93)	1.77 (0.93)	1.79 (0.92)	0.641	0.022
11. Thinking of self as worthless	1.33 (0.71)	1.31 (0.70)	1.35 (0.12)	0.393	0.098
12. Feeling reasonably happy	2.33 (0.72)	2.27 (0.72)	2.36 (0.72)	0.029	0.125
GHQ-12 (over 12 points)	5.38 (2.99)	5.19 (3.05)	5.48 (2.94)	0.086	0.097
Presence of psychological distress (cut-off point ≥ 3)					
Yes	1176 (80.6)	77.3	82.2	0.029	0.057
No	283 (19.4)	22.7	17.8		

p = level of significance, d = Cohen's d.

3.3. Sense of Coherence

SOC-13 scale scores are summarized in Table 4. The mean score on the scale total was 62.8 points (SD = 12.02). Taking into account the different dimensions that make up the instrument, the healthcare professionals who participated in this study obtained a higher mean score in the meaningfulness dimension (M = 22.42; SD = 3.78), while the manageability dimension obtained the lowest score (M = 18.99; SD =4.36).

When analyzing the sense of coherence according to the level of care, the results showed statistically significant differences in three of the 13 items that form the questionnaire. Although the primary care professionals group had a higher score on the scale (M = 63.47; SD = 12.30), the results were not significant (t = 1.436; $p = 0.144$; d = 0.082).

Table 4. SOC-13 Sense of Coherence Questionnaire (n = 1.459).

Items	M(SD)	Level of Care		*p*	*Effect Size (d)*
		Primary Care (N = 472)	Specialized Care (N = 987)		
1. Feeling like don't really mind what happens	5.99 (1.50)	5.94 (1.53)	6.02 (1.48)	0.359	0.053
2. Feeling puzzled because of unexpected events	3.71 (1.41)	3.75 (1.45)	3.69 (1.40)	0.463	0.042
3. Disappointment from people who trusted	4.15 (1.48)	4.20 (1.50)	4.12 (1.47)	0.306	0.054
4. Goal or objective in life	5.98 (1.09)	5.99 (1.11)	5.97 (1.09)	0.784	0.018
5. Feeling like being treated unfairly	4.62 (1.84)	4.62 (1.85)	4.62 (1.84)	0.951	0.000
6. Feeling an unfamiliar situation and not knowing how to proceed	4.46 (1.81)	4.63 (1.77)	4.38 (1.83)	0.013	0.138
7. Daily things bringing satisfaction and joy, or pain and boredom	5.26 (1.40)	5.26 (1.37)	5.26 (1.41)	0.974	0.000
8. Confusing ideas or feelings	4.97 (1.83)	5.12 (1.74)	4.90 (1.86)	0.032	0.121
9. Inner feelings that you wouldn't like to have	4.57 (2.00)	4.68 (1.98)	4.52 (2.02)	0.162	0.080
10. Feeling miserable	4.87 (1.44)	4.92 (1.45)	4.85 (1.44)	0.384	0.049
11. Importance attached to what happens	3.64 (1.90)	3.83 (1.87)	3.54 (1.90)	0.007	0.159
12. Feel like daily things are scarcely useful or important	5.18 (1.59)	5.16 (1.60)	5.18 (1.58)	0.768	0.013
13. Feel like not being able to control yourself	5.34 (1.61)	5.30 (1.62)	5.36 (1.61)	0.571	0.037
Scale total and dimensions					
Scale total (13–91 points)	62.80 (12.02)	63.47 (12.30)	62.48 (11.87)	0.144	0.082
Manageability dimension	18.99 (4.36)	19.06 (4.48)	18.96 (4.30)	0.673	0.023
Comprehensibility dimension	21.37 (6.03)	22.03 (6.11)	21.06 (5.97)	0.004	0.161
Meaningfulness dimension	22.42 (3.78)	22.36 (3.81)	22.45 (3.77)	0.688	0.024

p = level of significance, d = Cohen's d.

3.4. Health Status

As for the health status of the participants, the presence of COVID-19 physical symptoms and other health-related variables are summarized in Table 5, categorized by level of care. Statistically significant differences were identified between primary care professionals and specialists regarding the following variables: performance of COVID-19 test, two of the symptoms, and items related to contact history.

Table 5. Exposure/protection factors facing COVID-19 (n = 1459).

Variables	N (%)	Level of Care		*p*	*Effect Size (V/d)*
		Primary Care (N = 472)	Specialized Care (N = 987)		
Health Status					
Disability					
Yes	36 (2.5)	2.8	2.3	0.625	0.013
No	1423 (97.5)	97.2	97.7		
Chronic disease					
Yes	423 (29.0)	31.6	27.8	0.134	0.039
No	1036 (71.0)	68.4	72.2		
Taking medication					
Yes	566 (38.8)	41.5	37.5	0.139	0.039
No	893 (61.2)	58.5	62.5		
Received health care at a health center, clinic or hospital in the last 14 days					
Yes	120 (8.2)	7.4	8.6	0.436	0.020
No	1339 (91.8)	92.6	91.4		
Tested for COVID-19					
Yes	307 (21.0)	14.6	24.1	<0.001	0.109
No	1152 (79.0)	85.4	75.9		

Table 5. *Cont.*

Variables	N (%)	Level of Care		*p*	*Effect Size (V/d)*
		Primary Care (N = 472)	Specialized Care (N = 987)		
Result of diagnostic test (n = 307 subjects)					
Positive	49 (16.0)	15.9	16.0	0.970	0.014
Negative	229 (74.6)	75.4	74.4		
Does not know	29 (9.4)	8.7	9.7		
Self-perception of health in the last two weeks [mean (SD)]					
	3.93 (0.74)	3.98 (0.73)	3.90 (0.74)	0.056	0.109
Close contact with a confirmed infected person					
Yes/probably yes	907 (62.2)	44.9	70.4	<0.001	0.246
No/probably no	413 (28.3)	41.7	21.9		
Does not know	139 (9.5)	13.3	7.7		
Casual contact with a confirmed infected person					
Yes/probably yes	948 (65.0)	54.7	69.9	<0.001	0.150
No/probably no	338 (23.2)	29.4	20.2		
Does not know	173 (11.9)	15.9	9.9		
Any type of contact with people or material suspicious of being infected					
Yes/probably yes	1126 (77.2)	67.4	81.9	<0.001	0.173
No/probably no	221 (14.5)	18.6	12.5		
Does not know	122 (8.4)	14.0	5.7		
Any COVID-19 infected relative					
Yes/probably yes	238 (16.3)	17.6	15.7	0.655	0.024
No/probably no	1125 (77.1)	76.1	77.6		
Does not know	96 (6.6)	6.4	6.7		
Any COVID-19 infected workmate					
Yes/probably yes	1068 (73.2)	55.1	81.9	<0.001	0.283
No/probably no	321 (22.0)	36.4	15.1		
Does not know	70 (4.8)	8.5	3.0		
COVID-19 PHYSICAL SYMPTOMS					
Fever (at least one day 38 °C or more)					
Yes	34 (2.3)	1.5	2.7	0.138	0.039
No	1425 (97.7)	98.5	97.3		
Cough					
Yes	443 (30.4)	25.4	32.7	0.005	0.074
No	1016 (69.6)	74.6	67.3		
Headache					
Yes	842 (57.7)	56.6	58.3	0.541	0.016
No	617 (42.3)	41.7	43.4		
Muscle pain					
Yes	494 (33.9)	33.7	33.9	0.923	0.003
No	965 (66.1)	66.3	66.1		
Dizziness					
Yes	179 (12.3)	13.8	11.6	0.226	0.032
No	1280 (87.7)	86.2	88.4		
Diarrhea					
Yes	282 (19.3)	17.4	20.3	0.191	0.034
No	1177 (80.7)	82.6	79.7		
Sore throat					
Yes	454 (31.1)	26.9	33.1	0.016	0.063
No	1005 (68.9)	73.1	66.9		
Rhinitis					
Yes	355 (24.3)	26.1	23.5	0.288	0.028
No	1104 (75.7)	73.9	76.5		
Chills					
Yes	206 (14.1)	12.5	14.9	0.219	0.032
No	1253 (85.9)	87.5	85.1		

Table 5. *Cont.*

Variables	N (%)	Level of Care		*p*	*Effect Size (V/d)*
		Primary Care (N = 472)	**Specialized Care (N = 987)**		
Breathing difficulties					
Yes	94 (6.4)	5.5	6.9	0.315	0.026
No	1365 (93.6)	94.5	93.1		
Number of symptoms [mean (SD)]					
	2.31 (1.94)	2.19 (1.98)	2.37 (1.91)	0.087	0.093

p = level of significance, V = Cramer's V, d = Cohen's d.

3.5. Psychological Distress and SOC Related to Exposure/protection Conditions Facing COVID-19

By analyzing the psychological distress and SOC variables in relation to exposure and COVID-19 protection conditions, a relationship between GHQ-12 and SOC-13 scores and the presence of symptoms and contact history was obtained ($p < 0.05$). The relationship between psychological distress and SOC and the rest of the studied variables is summarized in Table 6.

Table 6. Psychological distress and sense of coherence (SOC) related to exposure/protection conditions facing COVID-19 (n = 1459).

Variables	Psychological Distress Total		*p*	*Effect Size (V/d)*	SOC-13 M (SD) Total	*p*	*Effect Size* $(d/\eta)^2$
	Yes N = 1176	**No N = 283**					
HEALTH STATUS							
Disability							
Yes	2.3	3.2	0.389	0.023	59.05 (14.59)	0.058	0.320
No	97.7	96.8			62.89 (11.93)		
Chronic disease							
Yes	29.3	27.6	0.555	0.015	62.21 (11.84)	0.235	0.069
No	70.7	72.4			63.04 (12.08)		
Taking medication							
Yes	38.9	38.5	0.915	0.003	62.56 (11.55)	0.536	0.032
No	61.1	61.5			62.95 (12.30)		
Received health care at a health center, clinic or hospital in the last 14 days							
Yes	8.8	5.7	0.080	0.046	60.55 (11.99)	0.032	0.204
No	91.2	94.3			63.00 (12.00)		
Tested for COVID-19							
Yes	21.8	18.0	0.165	0.036	62.54 (11.97)	0.665	0.027
No	78.2	82.0			62.87 (12.03)		
Result of diagnostic test (n = 307 subjects)							
Positive	14.8	21.6	0.471	0.070	65.65 (11.82)	0.134	0.013
Negative	75.8	68.6			62.02 (11.74)		
Does not know	9.4	9.8			61.34 (13.61)		
Self-perception of health in the last two weeks [mean (SD)]*							
	3.83 (0.73)	4.31 (0.64)	<0.001	0.673		<0.001	
Close contact with a confirmed infected person							
Yes/probably yes	24.7	43.5	<0.001	0.167	61.82 (12.02)	<0.001	0.015
No/probably no	65.7	47.3			65.12 (11.79)		
Does not know	9.6	9.2			62.31 (11.80)		
Casual contact with a confirmed infected person							
Yes/probably yes	20.7	33.6	<0.001	0.123	62.06 (11.99)	<0.001	0.013
No/probably no	67.4	54.8			65.31 (12.03)		
Does not know	11.9	11.7			61.96 (11.51)		

Table 6. *Cont.*

Variables	Psychological Distress Total		*p*	*Effect Size (V/d)*	SOC-13 M (SD) Total	*p*	*Effect Size* $(d/\eta)^2$
	Yes N = 1176	No N = 283					
Any type of contact with people or material suspicious of being infected							
Yes/probably yes	12.6	22.3	<0.001	0.112	62.10 (11.96)	<0.001	0.016
No/probably no	79.3	68.6			66.49 (11.22)		
Does not know	8.2	9.2			62.86 (12.79)		
Any COVID-19 infected relative							
Yes/probably yes	76.4	79.9	0.276	0.042	63.61 (11.95)	0.002	0.008
No/probably no	16.5	15.5			62.97 (11.92)		
Does not know	7.1	4.6			58.78 (12.62)		
Any COVID-19 infected workmate							
Yes/probably yes	19.3	33.2	<0.001	0.134	61.92 (11.96)	<0.001	0.022
No/probably no	75.9	61.8			66.16 (11.23)		
Does not know	4.8	4.9			60.80 (12.02)		
COVID-19 PHYSICAL SYMPTOMS							
Fever (at least one day 38 °C or more)							
Yes	2.6	1.1	0.115	0.041	62.17 (12.24)	0.758	0.053
No	97.4	98.9			62.81 (12.01)		
Cough							
Yes	32.3	22.3	0.001	0.086	60.64 (12.32)	<0.001	0.260
No	67.7	77.7			63.74 (11.76)		
Headache							
Yes	62.0	39.9	<0.001	0.177	61.16 (12.00)	<0.001	0.327
No	38.0	60.1			65.04 (11.68)		
Muscle pain							
Yes	37.1	20.5	<0.001	0.139	61.16 (11.79)	<0.001	0.207
No	62.9	79.5			63.64 (12.05)		
Dizziness							
Yes	14.3	3.9	<0.001	0.125	58.44 (11.50)	<0.001	0.417
No	85.7	96.1			63.41 (11.96)		
Diarrhea							
Yes	21.8	9.2	<0.001	0.126	60.17 (12.16)	<0.001	0.273
No	78.2	90.8			63.43 (11.90)		
Sore throat							
Yes	34.8	15.9	<0.001	0.161	59.93 (12.04)	<0.001	0.351
No	65.2	84.1			64.09 (11.79)		
Rhinitis							
Yes	25.6	19.1	0.022	0.060	60.90 (12.49)	0.001	0.210
No	74.4	80.9			63.41 (11.80)		
Chills							
Yes	15.9	6.7	<0.001	0.104	59.94 (11.50)	<0.001	0.278
No	84.1	93.3			63.27 (12.04)		
Breathing difficulties							
Yes	7.3	2.8	0.006	0.072	57.60 (12.53)	<0.001	0.466
No	92.7	97.2			63.16 (11.90)		
Number of symptoms [mean (SD)]							
	2.53 (1.96)	1.41 (1.54)	<0.001	0.594		<0.001	

p = level of significance, V = Cramer's V, d = Cohen's d, η^2 = partial Eta squared.

3.6. Relationship between Psychological Distress and SOC

The results of the analysis of the psychological distress-SOC relationship are summarized in Table 7. Healthcare professionals with psychological distress scored significantly lower in the SOC-13 in general, and in all its dimensions, both regarding primary and specialized care ($p < 0.001$).

Table 7. Relationship between psychological distress and SOC according to the scope of support (n = 1.459).

	Psychological Distress					Primary Care (N = 472)					Specialized Care (N = 987)				
						Psychological Distress					Psychological Distress				
SOC-13 M(SD)	**Total N = 1459**	**Yes N = 1176**	**No N = 283**	***p***	***Effect Size* (d)**	**Total N = 1459**	**Yes N = 365**	**No N = 107**	***p***	***Effect Size* (d)**	**Total N = 1459**	**Yes N = 811**	**No N = 176**	***p***	***Effect Size* (d)**
Scale total (13–91 points)	62.80 (12.02)	60.66 (11.70)	71.69 (8.80)	<0.001	0.985	63.47 (12.30)	60.77 (11.72)	72.66 (9.50)	<0.001	1.056	62.48 (11.87)	60.61 (11.70)	71.11 (8.32)	<0.001	0.940
Manageability	18.99 (4.36)	18.34 (4.30)	21.69 (3.46)	<0.001	0.807	19.06 (4.48)	18.20 (4.30)	22.00 (3.83)	<0.001	0.905	18.96 (4.30)	18.41 (4.30)	21.50 (3.22)	<0.001	0.748
Comprehensibility	21.37 (6.03)	20.25 (5.84)	26.06 (4.30)	<0.001	1.042	22.03 (6.11)	20.68 (5.85)	26.65 (4.52)	<0.001	1.070	21.06 (5.97)	20.05 (5.83)	25.70 (4.13)	<0.001	1.015
Meaningfulness	22.42 (3.78)	22.06 (3.81)	23.94 (3.24)	<0.001	0.507	22.36 (3.81)	21.89 (3.80)	24.00 (3.35)	<0.001	0.570	22.45 (3.77)	22.14 (3.81)	23.90 (3.18)	<0.001	0.475

t = Student's T Test, *p* = level of significance, d = Cohen's d.

4. Discussion

The results revealed a high prevalence of psychological distress among healthcare professionals who had served the population during the COVID-19 health crisis (80.6%). The prevalence figures obtained in this study were higher than those obtained in similar previous studies (22.8–33.0%) [29,35]. Some authors have identified similar levels of anxiety and depression among healthcare professionals and the general population during the COVID-19 pandemic [28,36]. However, other authors have described that healthcare professionals present higher levels of anxiety than the general population [35]. The participants in this study were active healthcare professionals during the crisis. Front-row workers have been found to suffer a more severe deterioration regarding mental health than other healthcare professionals [37]. However, they experienced less burnout [38] and vicarious trauma [39]. Our results reveal significantly lower psychological distress among primary care healthcare professionals. This result could be explained by the implementation of telemedicine in primary care as a measure of pandemic containment from the onset of the health alert status. Telemedicine provides health care via telephone, the internet, or similar technologies, while maintaining social distance [40]. Remote consultations ensure access to health services and information in a safe way, avoiding the overexposure of workers [41]. In relation to the approach to COVID-19, telematic consultation saved time and costs, while reducing the risk of virus spread by avoiding close contact with infected patients [42].

On the other hand, the participants in this study showed a high SOC, similar to the scores found in previous studies [43]. High levels of SOC among healthcare professionals have been associated with better health status, more work engagement, and fewer work-related family conflicts [44]. A negative association between SOC and stress has also been identified among midwives [45]. Some authors suggest that SOC is a favoring factor for the mental health of care providers, as it relates to quality of life and protects against anxiety, depression, and subjective burden [46]. SOC has also been related with the prevention of post-traumatic stress experienced by healthcare professionals [47].

Regarding COVID-19 symptoms, the participating professionals had a mean of two symptoms, and the most common one was headache, which coincides with previous studies conducted on healthcare professionals [27], although it differs from the results obtained from the general population [30,48]. Those participants who reported having COVID-19 symptoms had more psychological distress and less SOC. In similar studies that covered the psychological impact of the health crisis on healthcare professionals, the presence of COVID-19 symptoms was associated with higher levels of anxiety, stress, and depression [27].

Our results revealed that 79% of the healthcare professionals who participated in the study have not been tested for COVID-19, and that 74.6% of those who had been tested obtained a negative result. These data reveal a higher prevalence of positive cases than in previous studies conducted on a similar Spanish population, in which between 5.9% and 11.2% of positive cases were obtained [49,50]. COVID-19 positive healthcare professionals are at increased risk of anxiety due to fear of passing the disease on to their relatives, especially if they are people at risk [51]. Given this situation, professionals must remain in isolation and quarantine, and the feeling of being necessary but not able to collaborate may trigger feelings of worthlessness and frustration at their inability to contribute to the fight against the pandemic [52]. The risk of exposure to the disease, coupled with cases of infected colleagues, encourages greater self-perception of the danger and sense of vulnerability that can affect the mental well-being of health workers and their competence and professional skills [53].

Based on the obtained results, healthcare professionals who were in contact with infected people or material, or who had an infected co-worker, showed less psychological distress and SOC. In this line, although there are authors who have identified evidence of a lower psychological impact on front-row health workers versus the rest [38,39], previous studies have described higher levels of anxiety, depression, and insomnia among health workers involved in the diagnosis, treatment, and care of patients with COVID-19 [37,54]. Contact with infected patients has been revealed as a risk factor for psychological deterioration among health workers [55]; exposure to the risk of infection has

shown a negative effect on the mental health of healthcare professionals [26], and having an infected acquaintance has been associated with higher levels of depression and stress [56]. The results of this study related to the reduced psychological impact of workers with a history of contact with COVID-19 could be explained by the greater availability of information on the disease they may have had. Frontline workers can be better informed about the development of the pandemic and have more up-to-date data on protocols and trends. Quality information on the COVID-19 health crisis offered by official sources has been associated with less psychological distress [57].

The results have revealed a relationship between psychological distress and SOC: participants with lower levels of distress expressed significantly higher SOC values. These findings are consistent with previous studies, in which high levels of SOC have been linked to lower symptoms of anxiety and depression [58], distress [59], and mental overburden [60]. The SOC is a competence that can be acquired through training [61] and could act as a predictor of the well-being of healthcare professionals [62].

It has been described how professionals' resort to stress relief activities such as physical exercise, therapy, yoga, meditation, or religious or spirituality-related practices [63]. Some authors have suggested actions to mitigate the impacts of the pandemic on the mental health of healthcare professionals to protect them and promote their psychological well-being during and after the outbreak [55]—among them, virtual clinics, remotely delivered psychological therapies and psychoeducation, chat lines, digital phenotyping, and technologies to monitor risk [29]. Given the relationship identified in this study between psychological distress and SOC, activities aimed at the promotion of this competence should be proposed and enhanced.

Authors should discuss the results and how they can be interpreted in the perspective of previous studies and of the working hypotheses. The findings and their implications should be discussed in the broadest context possible. Future research directions may also be highlighted.

5. Conclusions

This study revealed a high level of psychological distress and SOC among healthcare professionals who were working on hospitals during the coronavirus-triggered health crisis, being these levels lower in primary care workers. Participants had a low frequency of COVID-19 symptomatology, although they acknowledged being exposed to a high history of contact. A relationship has been identified between the presence of COVID-19 symptoms, higher levels of psychological distress, and lower SOC. On the other hand, contact history was associated with less distress and less SOC. Those who did not suffer from distress had higher SOC.

Taking care of the mental health of healthcare professionals is essential to effectively cope with the COVID-19 pandemic. Given the psychological impact of working in the current menacing scenario, people who fight on the frontline against the disease should be protected, minimizing risks and providing them with resources and support that can foster their coping skills. The results of this study could help to better understand the psychological consequences of the effort that healthcare professionals have made in the face of the unexpected and dramatic coronavirus outbreak. In addition, the outcomes may also help design mental health prevention and care interventions for workers.

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