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Research paper

The long psychological shadow of COVID-19 upon healthcare workers: A global concern for action

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ABSTRACT

Introduction: : The outbreak of COVID-19 has posed unprecedented psychological pressure upon every National Health Service in the world. In Piedmont, one of the most affected areas in Italy, 4550 healthcare workers were assessed online in May-June 2020, after the acute outbreak of March-April 2020, that compelled the Italian government to enforce, what was then, the first total lockdown in the Western world.

Methods: : Socio-demographic information of healthcare workers was gathered along with responses to: General Anxiety Disorder-7, Impact of Event Scale-Revised, Beck Depression Inventory-II, Peritraumatic Dissociative Experiences Questionnaire. Information about the need for psychological support was also gathered.

Results: : The regression models predicted the presence of moderate to severe symptoms for all the conditions assessed. Almost half of healthcare workers presented at least one clinically relevant symptom, and among them one in every four expressed the need of receiving psychological support.

Conclusions: : Evidence calls for an increase of psychological services within the National Health System in Italy so as to guarantee for healthcare workers the psychological support necessary to cope with the long shadow of COVID-19, whose long-term impact is likely to reveal itself more strongly the more the acute stage of it is passed.

Limitations: : The assessment of the psychological symptoms was performed without knowing the life and professional situations of the sample, and their medical records. Healthcare workers from only one region in Italy were involved, and some professionals (e.g. self-employed healthcare workers) were not included.

1. Introduction

The SARS-CoV-2 (COVID-19) pandemic was declared on 11 March 2020 by the World Health Organization (WHO, 2020a), and after one entire year it continues to affect not only people's physical health, but people's lives at different levels (Talevi et al., 2020). This is why COVID-19 has especially been defined as a health emergency (WHO, 2020b) that can only be fully resolved if, along with the vaccination of the population, the implications of it upon the psychological well-being are addressed (Rodrigues and Plotkin, 2020).

Research (Lu et al., 2020; Shechter et al., 2020) shows that those mostly affected by it are not only patients who have died or have survived the disease, but those who have been working to cure it: healthcare workers (HCWs). The extraordinary pressure on the healthcare systems and the uncertainty linked to the lack of knowledge about this new virus and its variants (Baric, 2020) clearly highlight the importance of investigating the psychological impact that the pandemic has upon HCWs.

International findings have been unanimous in identifying the profound psychological implications that COVID-19 is having upon these professionals working under the COVID-19 conditions in hospitals, intensive care units, COVID and no-COVID wards (De Giorgio, 2020; Shi et al., 2020). A resilient health system is a paramount condition for guaranteeing an efficient response to the COVID-19 disease, and prevent the collateral impact that it can have on people (Di Nuovo, 2017). This response can be put in motion if HCWs are supported in their work not only with the right equipment to physically protect them against the virus, but also if they work in a climate of cooperation and psychological support (Imperatori et al., 2020).

Several studies (Moutier, 2018; Stanton and Randal, 2011) highlight how HCWs are not always ready to ask for help, especially for psychological and mental support. The reasons for this can vary. Psychological help still gathers some form of diffidence, prejudice and shame, even among highly educated people who may be more aware of these emotions, but who have equally internalized them (Corrigan and Watson, 2020), and still consider them impacting other people's behavior rather

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than their own (fundamental attribution error) (Nisbett and Wilson, 1977). Moreover, it is not unusual that the idea of being in need of psychological support is still associated with a sort of demerit or inadequacy or fault in those people who express the need and ask for help. Some professionals may refer to the lack of time as the main impediment for seeking help, but it seems to hide a deeper embarrassment with the loss of self-confidence in front of a colleague, who they refer to for professional advice. The fear that the quality of one's work will be questioned and the feeling of not being permitted to leave duties even when one is not well (Garelick, 2012) are other aspects that seem to influence the decision not to look for psychological support. Studies show that healthcare professionals are in fact less inclined to ask for psychological help because the front they are expected to show is of a «professional invulnerability» (Wallace, 2010). This misconception is likely to be reinforced by a «messianic power» associated with HCWs, who are often seen as fully equipped to cope with everything, always and everywhere. It may be possible that, especially in the case of the COVID-19 emergency, despite its extraordinariness, expressing a need for psychological support is still seen as inappropriate, almost an admission of one's own incapacity or incompetence. Hence, the pressure not to acknowledge the need for psychological support or, in any case, not to share it, might constitute for some HCWs the rule rather than the exception. In addition, an easier access to drugs (e.g. anxiolytic, antidepressant), in comparison with the rest of the population, may lead HCWs to try to resolve their distress on their own (Srivastava, 2018). All these aspects can act as a barrier to seeking help.

To date, the scientific literature has mainly focused on anxiety, depression and post-traumatic stress symptoms related to HCWs responding to COVID-19, and no studies have specifically addressed their need for psychological support, and their openness to admit it or talk about it.

The first available data on post-traumatic stress symptomatology in HCWs show a prevalence of clinically relevant symptoms in the range of approximately 7% to 35% (Benfante et al., 2020), increasing further (up to 71%) when mild symptoms are also taken into account (Lai et al., 2020). Similar prevalence data are also found for anxiety and depressive symptoms (Benfante et al., 2020; Pappa et al., 2020).

In China, the first country to report cases of COVID-19, a study of 2285 HCWs found that about 46% of professionals had anxiety symptoms and about 44% had depression symptoms, with 12% and 13% having moderate/severe symptoms respectively (Que et al., 2020).

Several socio-demographic factors, work-related characteristics (e.g. being engaged in frontline) and access to information on the pandemic were associated with an increased risk of presenting psychological symptoms (Que et al., 2020). Data on 2040 healthcare workers in the USA found that isolation was associated with higher levels of depression, while living with cohabitates and taking precautions against infection was associated with higher levels of anxiety (Firew et al., 2020). The first study in Australia, involving 320 healthcare workers in a Melbourne hospital, found moderate to severe symptoms of anxiety in 20% of participants, depression in 21% and post-traumatic stress in 29% (Dobson et al., 2021).

European studies show similarly high rates. In Spain, out of 1422 HCWs who came into contact with COVID-19 patients, between 46% and 59% of participants respectively reported a possible or probable depressive and anxiety disorder, plus a further 5% and 21% with severe levels of these two symptoms. Approximately 57% reported post-traumatic stress symptoms (PTSS) (Luceño-Moreno et al., 2020). In a Norwegian study with 1773 participants, working within the health public sector, 21% reported moderate/severe symptoms of depression, 20.5% reported anxiety, and 29% reported clinical and subclinical symptoms of post-traumatic stress disorder (PTSD, Checklist [PCL-5] indicated in the DSM-5). The latter figure reached 36.5% in those professionals who had worked directly with COVID-19 patients. A further aspect that deserves attention is that higher levels of anxiety and depression (in the presence of previous psychiatric disorders) were

associated with greater PTSS (Johnson et al., 2020). A German study found that the symptoms of stress, anxiety and depression were present in 2.2% and 14.5% of the medical and nursing staff interviewed, respectively (Bohken et al., 2020), and these results were influenced by age, sex, role, and working directly with COVID-19 patients.

In a study conducted in Italy by Rossi and colleagues (2020), among 1379 healthcare workers, almost 50% of participants reported post-traumatic stress symptoms, 25% depression and 20% anxiety. Higher levels of PTSS were associated with several socio-demographic and occupational characteristics (e.g. age, gender, occupation, having had direct contact with COVID-19 patients, having had colleagues who were COVID-19 positive or had died from COVID-19, etc.), which confirm data from preliminary studies conducted in China (Rossi et al., 2020). Despite methodological differences, it is important to consider the results of a Chinese study, which carried out two analyses of psychopathological symptoms: the first one during the first weeks of the pandemic, and the second one as soon as a significant drop in the number of infections was recorded. It was possible to observe that stress, obsessive-compulsive and phobic symptoms decreased (with the only exception being of somatization symptoms), probably due to the early psychological interventions provided (Liu et al., 2020).

What emerges from these studies is that HCWs are likely to present a high extent of clinically relevant symptoms (of moderate and severe intensity) of anxiety, depression and post-traumatic stress, associated with different personal and professional characteristics, and with a high risk of chronicity. Those HCWs who suffered from these psychological conditions, may find themselves debilitated and unable to return to work because of emotional and physical strain (Donnelly, 2020). Moreover, scientific findings remind us of how, during previous epidemics such as SARS, people persisted in experiencing distress in the follow-up years after the outbreak (Ren and Guo, 2020). Despite the complexity of the situation, none of these studies directly investigated whether the HCWs in their samples openly expressed a need for psychological support.

These are the scientific premises behind this study carried out in Piedmont, one of the regions most affected by COVID-19 in Italy, and initially in the world (Petrino and Cibinel, 2020). The aim of this study is twofold: (1) to investigate the psychological impact of the pandemic on a large and representative sample of HCWs particularly affected by the pandemic and from a different geographical area from those involved in other investigations so far; (2) to specifically explore whether these professionals felt the need for psychological support, and were willing to express it openly. Such a study seems especially relevant now than ever before because of the importance of including in any governmental recovery plan an investment in psychological services for healthcare professionals. It is paramount that evidence-based information is behind the message offered to the public that the National Health Service is working to render the work environment of HCWs psychologically resilient and psychologically safe. This is specifically crucial for the Covid-19 pandemic, where progress to overcome it by the National Health System in any country, has resulted in a zig-zag path due also to the many new SARS-CoV-2 variants responsible for the upsurges of the Covid-19 contagion (ECDC, 2021). In a situation like this one, that has stretched the strength and resources of the HCWs to the limits, it is important to explore not only the psychological implications of Covid-19, but also the extent to which HCWs are open to manifest their psychological needs for asking for psychological support. To our knowledge this aspect has not been specifically addressed in previous Covid-19 studies, and only a study by Felice and colleagues (2020) explored the availability of psychological support at the workplace. By investigating directly the need for psychological support for HCWs could add some insight into the current literature on how to promote the psychological well-being within the Health Care System for HCWs, and optimize resources and services.

2. Method

2.1. Measures and procedure

In Piedmont, one of the most affected areas in Italy, 4550 physicians, nurses, and other health-care workers, from intensive care units, hospital wards and health facilities, were assessed online after the acute outbreak of March-April 2020 that compelled the Italian government to enforce, what was then, the first total lockdown in the Western world.

Scientifically validated scales were used to combine a battery of 60 items to explore the psychological state of HCWs. The battery included the General Anxiety Disorder-7 (GAD-7) (Spitzer et al., 2006), the Impact of Event Scale-Revised (IES-R) (Weiss and Marmar, 1997), the Beck Depression Inventory-II (BDI-II) (Beck et al., 1996) and the Peritraumatic Dissociative Experiences Questionnaire (Marmar et al., 1996).

The GAD-7 (Spitzer et al., 2006) is a 7-item scale, which measures worry and anxiety symptoms that refer to possible disturbances in the previous two weeks (e.g. “Feeling nervous, anxious, tense”). Each item is scored on a four-point Likert scale, from 0 (“Never”) to 3 (“Almost every day”), and with a total score that ranges from 0 to 21. Higher scores reflect greater anxiety severity.

The IES-R (Weiss and Marmar, 1997) is a 22-item scale assessing, from 0 (“Not at all”) to 4 (“Extremely”), the level of symptomatic responses in terms of intrusion, hyper-arousal and avoidance to specific traumatic and stressful life events occurred during the previous week.

The BDI-II (Beck et al., 1996) is an instrument comprising 21 items, which was developed to assess the presence, intensity and severity of depressive symptoms in both their somatic-affective dimension (e.g. loss of interest, changes in sleep and appetite, agitation and crying, etc.) and cognitive dimension (e.g. pessimism, guilt, self-criticism, etc.).

The PDEQ (Marmar et al., 1996) is a 10-item measure of peritraumatic dissociation that indexes both the significant reactions individuals experience in the aftermath of the exposure to a critical event, and the extent of the peritraumatic response experienced. Each item is scored on a five-point Likert scale, from 1 (“Not at all true”) to 5 (“Extremely true”). Higher scores are indicative of a more severe symptomatology.

These instruments were combined with a direct question asking whether the professional needed any psychological support (“Do you feel the need for psychological support?”), along with some socio-demographic variables (e.g. age, gender, professional roles, geographical area of COVID-19 prevalence).

Data were collected using an online procedure that guaranteed absolute confidentiality and anonymity. The survey took approximately 15 minutes to complete. The time window for data collection was between May 14th and June 21st, 2020: the decision to start the survey in this period depended mostly on the need to collect information on the emotional and psychological conditions of the HCWs after being affected by the pandemic for at least two months. The project was approved by the Bioethics Committee of the University of Turin (Italy) (Prot. n.181445 of 11.05.2020) and the study was conducted in accordance with the Declaration of Helsinki. All participants gave their explicit informed consent.

2.2. Analytical strategy

Descriptive analyses with Odds Ratio (OR) were carried out to explore characteristics of the sample involved. Odds ratios were calculated to identify which factors significantly predicted group differences (e.g. being in frontline *versus* being in second-line). The OR provides information about the existence, direction, and strength of an association between target and comparison groups regarding the likelihood of an event occurring (Farrington and Loeber, 2000).

Subsequently, the predictors with higher ORs, which were identified in the first set of analyses as potential explanatory factors for the presence of clinically relevant symptoms in HCWs, were included in a series

of logistic regression models. Three logistic regression models, one for each type of symptom, were run, using gender, age, being in frontline vs. in second-line, professional role, and area prevalence rate of COVID-19 as predictors.

All analyses were run with SPSS software, version 26.

2.3. Sample

The sample consisted of 4550 HCWs of whom 78% ($n = 3540$) were women and 22% ($n = 1007$) were men, with an average age of 49.1 years (St.D. = 9.9; range, 21–74). 4001 participants were specifically involved in care (e.g. physicians, nurses, psychologists, healthcare technicians, etc.) and 536 belonged to the administrative area (e.g. managers, administrative staff, etc.). Further disaggregation of the group of healthcare workers showed that 1006 were involved in frontline (i.e. working with COVID-19 patients, in COVID-19 wards, intensive care units and sub-intensive wards). 2995 were HCWs in second-line (see table 1 for details).

3. Results

Almost half (44.7%; $n = 2034$) of HCWs presented at least a clinically relevant (moderate/severe vs. absence/mild) symptomatology.

Looking specifically at the moderate to severe symptoms manifested, while 17.0% ($n = 774$) of HCWs had symptoms of depression, 36.8% ($n = 1673$) had clinically relevant PTSS, 33.7% ($n = 1534$) of them presented clinically relevant symptoms of anxiety, and 40% of them ($n = 1821$) manifested dissociative symptoms.

Older HCWs (75th percentile-split at 57 years-old and above) reported less frequently the presence of at least one clinically relevant symptom ($n = 481$; 40.8%) than younger HCWs (56 years-old and younger) ($n = 1550$; 46.0%) ($\chi^2 = 9.397$, $df 1$, $p = .002$). In other words, being older, and likely more professionally experienced, seemed to constitute a protective factor against the manifestation of at least one moderate or severe psychological symptom (OR: .81; CI 95% = .71-.93).

Female healthcare workers ($n = 1676$; 47.4%) more frequently reported the presence of at least one moderate to severe symptom indicative of a probable disorder in comparison with male colleagues ($n = 355$; 35.3%) ($\chi^2 = 45.985$, $df 1$, $p = .0001$). In other words, being male was a protective factor with respect to manifesting at least one moderate or severe psychological symptom (OR: .61; CI 95% = .52-.70).

Table 1
Sample description.

Characteristics	No. (%)
Gender	
Male	1007 (22.1)
Female	3540 (77.8)
Non-binary	3 (0.1)
Job type	
Frontline	1016 (22.3)
Second-line	3534 (77.7)
Role	
Physicians	969 (21.3)
Nurses	1492 (32.8)
Other HCWs ^a	1553 (34.1)
Administrative staff	536 (11.8)
Covid prevalence ^b	
Below the median	2135 (46.9)
Equal or above the median	2415 (53.1)

^a Laboratory medical technologists, radiological technologists, other health care professionals, and hospital support staff.

^b The variable ‘Covid prevalence’ was derived from the median split of the distribution of the infection rate by area. Median: 6.95 (prevalence per 1000 inhabitants). Data source: http://www.salute.gov.it/imgs/C_17_notizie_4736_1_file.pdf Access date: 12 May 2020. http://www.salute.gov.it/imgs/C_17_notizie_4745_1_file.pdf Access date: 13 May 2020.

Three different logistic regression models, using the presence (vs. absence) of moderate to severe symptoms of depression, anxiety, and PTSS, as dependent variables, were run (see Table 2). Results showed that being female was positively associated with a higher probability of presenting anxious symptoms (OR: 1.43; CI 95% = 1.21-1.68) or PTSS (OR: 1.63; CI 95% = 1.39-1.91), and age was a protective factor against depressive symptoms (OR: 0.99; CI 95% = 0.98-1.00). Frontline HCWs were significantly more likely to have symptoms of anxiety (OR: 1.40; CI 95% = 1.19-1.63) or PTSS (OR: 1.41; CI 95% = 1.21-1.65). Differences in the professional role, and in particular being a nurse, were associated with a higher probability of developing symptoms of depression (OR: 1.56; CI 95% = 1.28-1.90), anxiety (OR: 1.48; CI 95% = 1.27-1.73) or PTSS (OR: 1.54; CI 95% = 1.32-1.79). COVID-19 prevalence increased the probability of anxiety (OR: 1.06; CI 95% = 1.00-1.13), but it showed no association with depression or PTSS.

The need for psychological support of HCWs

Among those 44.7% of HCWs who (n = 2034) manifested at least a clinically relevant (moderate/severe vs. absence/mild) symptomatology, 39.6% (n = 806) expressed the need for receiving psychological support. The likelihood of expressing the need for psychological support was seven times higher for those who reported a clinically relevant symptomatology (n = 806; 25.0%) in comparison with those HCWs who did not (n = 204; 8.1%) (OR: 7.44; CI 95% = 6.28 – 8.80).

Specifically, younger HCWs (n = 843; 25.0%) were more likely to express their need for psychological support in comparison with older and likely more experienced colleagues (n = 165; 14.0%) ($\chi^2 = 60.949$, $df\ 1$, $p = .0001$) (OR: .49; CI 95% = .41-.59).

Female HCWs (n = 821; 23.2%) were more likely than their male counterparts (n = 187; 18.6%) to express the need for psychological support ($\chi^2 = 9.466$, $df\ 1$, $p = .002$) (OR: .76; CI 95% = .63-.90).

Finally, we investigated whether frontline work was associated with a greater perceived need for psychological support: when comparing frontline HCWs with second-line HCWs, we found that frontline HCWs

were significantly more likely to express a need for psychological support ($\chi^2 = 15.136$, $df = 1$, $p < .001$) (OR: 1.38; CI 95% = 1.17-1.62).

4. Discussion

The aim of this study was to explore the psychological impact of working under COVID-19 upon HCWs in one of the worst affected areas in Italy and, at the beginning of the emergency, in the world.

Findings suggest that COVID-19 had a negative shadow effect upon HCWs, especially when younger (which suggests less working experience), in frontline, and female, and when involved in the daily care of severely affected patients. Being female was positively associated with a higher probability of presenting anxious symptoms or PTSS, and age was a protective factor against depressive symptoms. Frontline HCWs were significantly more likely to have symptoms of anxiety or PTSS. Differences in the professional role, and being a nurse, were associated with a higher probability of developing symptoms of depression, anxiety or PTSS. COVID-19 prevalence increased the probability of anxiety, but it showed no association with depression or PTSS.

Two main results of this study deserve consideration.

The first result is that almost half (44.7%) of the 4550 HCWs reported at least one moderate to severe clinically relevant psychopathological symptom. Evidence from this study confirmed the negative psychological shadow effect of COVID-19. These findings are distressing per se. Taken in perspective, they are especially relevant now because they suggest that the risk for HCWs of developing a mental condition may progress the longer the National Health Service is embedded in a COVID-19 clamp. Vaccines may only partially lift this pressure.

While some countries are currently seeing a decline in overall infections and deaths, as measures of national health protections have taken place successfully (e.g. movement restrictions, physical distancing, adequate supplies of Personal Protection Equipment – PPE –, vaccination), the load of work for many HCWs in Italy, as in the rest of the world, seems not to have decreased, given the backlog of the unattended health cases that might be awaiting them (Mehta, et al., 2021). In addition to this, one has to consider those situations involving recovered HCWs exposed to COVID-19 positive patients, or those involving ill HCWs with confirmed or suspected COVID-19 and those HCWs back to work after experiencing a high-risk exposure. This can be further exacerbated by the succession of COVID-19 waves, worsened by the introduction and increased spread of new SARS-CoV-2 variants that can prefigure a condition comparable to repeated trauma (Sher, 2021). All these are possible circumstances that are likely to put extra pressure upon HCWs, who could then feel even less inclined to admit that they need some psychological support when the «worst», Covid-19-wise speaking, has passed. Hence, this last aspect cannot be discounted.

Investments for providing the best psychological services are required for guaranteeing a psychologically safe work environment for HCWs and for establishing the best possible professional defense against COVID-19. By conducting long-term reassessments of psychological symptoms in a large sample, researchers can provide information on the differential impact of continuous post-Covid-19 pressure upon a vast range of HCWs in various sectors of healthcare, in different roles, in different moments of their careers, and with different experiences within personal and professional risk-situations.

It is interesting to note that the clinically relevant symptoms that were detected in this study seem to cut across all HCWs confirming that the entire healthcare sector was directly affected by this emergency. From a clinical perspective, these findings suggest that further attention should take place now, a year after. The vaccination of the entire population may only partially lift this pressure, as responses from the Health National Systems around the world are showing (El Bcheraoui et al., 2020). Findings suggest that the responsibility for intervening to cure, and to prevent any form of worsening condition of the patients was felt as a priority, pushing every healthcare worker, in any location and structure, to give their competent contribution. Further studies are

Table 2

Logistic regression analyses of variables predicting symptoms of depression, anxiety, and PTSS among HCWs.

	Depression OR (95% CI)	p	Anxiety OR (95% CI)	p	PTSS OR (95% CI)	p
Gender (F)	1.15 (0.94-1.41)	.17	1.43 (1.21-1.68)	<.001	1.63 (1.39-1.91)	<.001
Age	0.99 (0.98-1.00)	.06	1.00 (0.99-1.01)	.96	1.00 (1.00-1.01)	.59
Frontline job	1.06 (0.87-1.29)	.53	1.40 (1.19-1.63)	<.001	1.41 (1.21-1.65)	<.001
Role						
Physicians	1.01 (0.80-1.28)	.91	1.09 (0.91-1.31)	.34	0.86 (0.72-1.03)	.10
Nurses	1.56 (1.28-1.90)	<.001	1.48 (1.27-1.73)	<.001	1.54 (1.32-1.79)	<.001
Other HCWs	1.37 (1.05-1.78)	.02	1.22 (0.99-1.51)	.06	1.11 (0.90-1.37)	.32
Covid prevalence ^a	0.94 (0.87-1.01)	.10	1.06 (1.00-1.13)	.04	1.04 (0.98-1.11)	.15
Constant	0.33	.001	0.20	<.001	0.22	<.001
% presenting moderate / severe symptoms	17.0%		33.7%		36.8%	

^a The variable ‘Covid prevalence’ was derived from the median split of the distribution of the infection rate by area.

certainly necessary to explore differences in the risk of developing clinically relevant psychological symptoms, between frontline and second-line, and between different professional roles (e.g. physicians versus nurses).

The second important result of the present study is that 39.6% of HCWs manifested the need for psychological support in the presence of a relevant psychological symptomatology (e.g. anxiety, PTSS, depression or dissociative symptoms). This finding calls for an increase of psychological services within the National Health System in Italy so as to guarantee for all HCWs the emotional and psychological support necessary to cope with the long shadow of COVID-19, whose long-term impact is likely to reveal itself more strongly the more the acute stage of it is passed (Rosser, 2020).

The clinical relevance of this finding is extremely informative whatever the perspective taken. If one considers the fact that, among the general population, the search for support and the explicit need for help tends to be very limited, the fact that almost one in every four HCWs recognized the need for psychological support shows the extent of the psychological pressure they were experiencing, and their openness to ask for help. These results, in line with other international studies (Cohen et al., 2016; Mehta and Edwards, 2018; Shreffler et al., 2020), highlight the relevance for taking charge of the psychological needs of HCWs today, in order to reduce the risk of their worsening in a frankly psychopathological condition and over time compromising their health, with the human, social and economic costs that would follow.

If one considers the other proportion of HCWs who did not express the need for psychological support (60.4% of HCWs), then the finding is in line with other studies, which show that the willingness to recognize the importance of being psychologically supported is especially meagre among HCWs. This is a finding that cannot be disregarded. According to the National Statistics Institute (ISTAT) in Italy (2018), among the adult population with a major chronic depressive or anxiety disorder, those who had seen a psychiatrist or psychologist in the previous 12 months were only 15%.

A study conducted in Great Britain shows that one in six people report a mental problem (McManus et al., 2016) and that since 2000 this trend has been increasing for women even if it remains stable for men. The study also shows that around 13.1% of those who reported a major psychological disorder actually started treatment, and this percentage dropped to 3% if the treatment was non-pharmacological (Lubian et al., 2016). Not recognizing the need for psychological support or not declaring it might be also the result of protective responses and the implementation of avoidance and minimization mechanisms, indicative of possible dissociative processes (Oathes and Ray, 2008). It might also suggest that in the presence of a condition of alert and high activation (hyper-arousal), as experienced by HCWs during the COVID-19 emergency, the most frequent response is likely to be one of focusing on the task (targeted oriented) and on the management of the emergency conditions, dismissing or not being aware of the need for rest, and for emotional debriefing and support (Mattlin, 1990). Further studies are necessary to investigate this aspect.

On the other hand, this finding invites one to also consider the other face of the coin. Research suggests that manifesting the need for psychological support was found to be associated with shame and stigmatization among physicians and nurses (El-Awaisi et al., 2020), who are perceived as professionals who always play an important role in the relationship with the patient as they put their lives at risk (Cook et al., 2020). Hence, HCWs are expected to not show any signs of weakness, otherwise the risk is to give the impression of incompetence or weakness (Han et al., 2011).

Last but not least, an aspect to be considered in order to understand the "absence" of the need for psychological support, even in the presence of a probable disorder, is related to the fact that many of these professionals could have internal resources and a large pool of resilience able to offer them the tools to face the emergency condition in the absence of psychological support.

Whatever the possible alternative explanations, this study is the first one, according to our knowledge, to have contemplated and explored the awareness of a need for psychological support during this COVID-19 pandemic. Time to act, to guarantee a psychologically safe and respondent working environment for HCW, is now.

5. Limitations

To our knowledge, this is the largest study demonstrating the psychological impact of COVID-19 on healthcare workers, and emphasizing the potential long-lasting sequelae of it upon mental health. However, this study has limitations. The assessment of the psychological symptoms was performed without knowing the personal life situations and the working conditions (e.g. quality of work conditions and job satisfaction) of the sample, and their medical records. Moreover, the study involved healthcare workers from only one region in Italy, even though one of the most affected, and some categories of professionals (e.g. self-employed healthcare workers) were not included.

6. Conclusions

Healthcare workers are called upon to deal with this pandemic by balancing personal risk and professional duty. Society and institutions must ensure that professionals are supported, not only during the most critical phase but above all beyond it (Harkin, 2020). Particular attention should be paid to post-traumatic stress symptoms since we know that these symptoms tend to strengthen beyond the short-term period, possibly resulting in a post-traumatic stress disorder diagnosis.

Despite psychological support being a resource that fosters well-being, promotes solidarity and reinforces human and professional sensibilities, not every HCW in our study (one in every four) openly endorsed it. The reasons behind it may go from dismissing or not being aware of the need for psychological support to not being in need of it because of the resources that HCWs are equipped with. Whatever the reasons, it is believed that to encourage a sense of awareness is a crucial key for protecting human health. Psychological support should be offered sensitively, attentively, and respecting personal and professional time and space, and as part of the global response to the COVID-19 emergency.

Investments for providing the best psychological services are thus required for guaranteeing a psychologically safe work environment for healthcare workers and for establishing the best possible professional defense against COVID-19. According to the evidence presented by Preti and colleagues (2020) in their review, the exposure of HCWs to critical situations cannot be avoided, and the Covid-19 pandemic is a clear example of the unavoidability of an unprecedented World health emergency. However, what can be prevented is the failure to consider the negative psychological impact that these professionals have suffered and the detrimental impact that this suffering can have upon decision-making. Research shows that HCWs are more likely than the rest of the working population to become patients (West, 2016; see also Deeny and Hardy, 2018). This is why, in accord with an editorial dictum by Karlsson and Fraenkel (2020), that mistakes made in the first wave must not be repeated in the second, and even less in the third or subsequent waves.

Furthermore, it can be assumed that the importance of disseminating a vision whereby the openness to ask for and obtain psychological support can make a difference to the resilience of the professional as an individual and to the whole health system as an organization that works to promote well-being.

Author Contributions

Zara, Settanni, Zuffranieri, Veggi and Castelli contributed equally to this work. Zara planned the study, and had full access to all the data and takes responsibility for the integrity of the data. **Concept and design:**

Zara. Acquisition of data: Zara. **Statistical analysis:** Settanni, Zufriani. **Interpretation of data:** All authors. **Drafting of the manuscript:** Zara (first version). All authors (for all other versions). **Critical revision of the manuscript for important intellectual content:** All authors. **Administrative, technical, or material support:** All authors. **Supervision:** Zara, Castelli. All authors have approved the final article.

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Conflict of interest

We declare no competing interests.

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