

ORIGINAL RESEARCH

Social distress among medical oncologists and other healthcare professionals during the first wave of COVID-19 pandemic in Italy

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Background: Coronavirus disease 2019 (COVID-19) has rapidly spread to every country around the world taking on pandemic proportions. Since 8 March 2020, the Italian government ordered a nationwide lockdown with unavoidable social isolation. Healthcare professionals (HCPs) represent the most physically and emotionally involved category. The aim of this study is to assess the social distress among HCPs in Italy.

Patients and methods: In this online, totally anonymous survey, 24 multiple choice questions were posed to medical staff employed in the Italian Healthcare System during the COVID-19 pandemic. Data collection was performed from 30 March to 24 April 2020.

Results: A total of 600 HCPs completed the questionnaire. The majority of respondents expressed the fear of being at higher risk of contagion than the general population (83.3%) and the weighty concern of infecting their families (72.5%). An insufficient supply of personal protective equipment (PPE; $P = 0.0003$) and inadequate training about procedures to follow ($P = 0.0092$) were seen to significantly coincide with these worries. More than two-thirds declared a change in family organisation, which showed a significant correlation with the concern of infecting their relatives ($P < 0.0001$).

Conclusions: This is the first Italian survey on social distress among HCPs during the COVID-19 pandemic. The unavailability of PPE, screening procedures and adequate training strongly affected HCPs' emotional status. Although there was a predominance of oncologists (especially from the North of Italy), which impairs the generalisation of our findings, this survey underlined the social impact that this health emergency has had on HCPs.

Key words: social distress, healthcare professional, COVID-19, pandemic

INTRODUCTION

Coronavirus disease 2019 (COVID-19) initially originated in the city of Wuhan (central China) in December 2019, showing a surprisingly high contagiousness that led the World Health Organisation (WHO) to label it as a 'public health emergency of international concern'.¹ Since then, COVID-19 has spread rapidly to nearly every country around the world taking on pandemic proportions with more than 100 000 people affected in just a few weeks.²

To date, all over in the world 102 million confirmed cases have been detected in more than 280 countries, with 2.2 million deaths.³ Italy is one of the most affected countries with 1 601 554 confirmed cases and 55 576 deaths.³ Since 8 March 2020, the Italian government announced extraordinary decree laws, with important containment measures with the aim of minimising people's movement and social activities, in order to combat the spread of contagion. The lockdown has resulted in the closure of schools, colleges, universities, restaurants, museums, bars, gyms, personal care shops (beauty centres, hairdressers) and a great many businesses except for those which provide essential services such as food stores and pharmacies. All public gatherings—social, political or religious—have been banned. Travel into cities and between regions has been strongly discouraged and, in any case, limited only to strict necessity cases.⁴ 'Stay at home'

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is the new popular slogan spread by social media and social networks.

The limitation of daily activities, the change in lifestyle habits, the social isolation combined with the fear of the potential impact of the infection on us and the health of our families, as well as the several unknown elements related to this new and unexpected condition have caused an inevitable feeling of loss of control, thus triggering stress reactions. Therefore COVID-19 not only affects the physical health of infected individuals but also the psychological health and well-being of the uninfected population, particularly of healthcare professionals (HCPs), who are on the frontline, fighting the epidemic, and so more physically and emotionally involved. Among HCPs, about 29 476 cases were diagnosed: the median age is lower than the general population (48 versus 62 years) with a prevalence of females (69%).⁵ HCPs are more exposed not only to the risk of infection, but also to important social and psychological repercussions. HCPs experience emotional overload fuelled by relentless shifts at work, physical fatigue, work in disciplines other than their own, changes to working practices and procedures, physical strain from wearing personal protective equipment (PPE) and grieving the loss of patients and colleagues. Add to all this, the fear of infecting family members leads to self-imposed isolation rules; changes to the habits and management of family life, including on occasion separation from the family (often for long periods); transfer to another house and the impossibility of being able to provide adequate assistance to elderly relatives (parents). All these negative psychological effects impact on mental health and sleep; good sleep quality and psychological well-being for HCPs mean not only being able to perform their work to a higher standard, but also improved immunity which reduces the risk of COVID-19 infection as several studies have demonstrated.^{6,7}

The aim of our national survey is to assess the HCPs social stress level, especially among those who work in the COVID-19 units or who take care of fragile and potentially immunocompromised inpatients or outpatients, who are at higher risk of morbidity and mortality in the event of COVID-19 infections.

METHODS

In this online survey, we recruited HCPs (physicians, nurses and other healthcare workers) employed in any hospital/clinical facility located in Italy. Currently, >400 000 physicians and >800 000 nurses are estimated to be employed in the Italian Health Care System. HCPs enrolled in our survey did not necessarily have to be in contact with patients with COVID-19. The questionnaire was given to medical staff through mailing contacts, WhatsApp and all social media. Participants were encouraged to share the questionnaire with their own contacts to achieve a greater spread among Italian healthcare workers.

The survey was performed using Google Forms and consisted of 24 multiple choice questions including 5 initial queries about demographic characteristics and usual

occupation, 4 questions regarding clinical activity reorganisation and medical staff training during the COVID-19 emergency and 5 questions concerning COVID-19 testing (swabs and serological tests) among HCPs. The perceived social distress was assessed by the remaining 10 questions focusing on family reorganisation and changes in daily life. No open-ended questions were provided and the survey was totally anonymous.

Data collection was performed from 30 March to 24 April 2020. According to Italian law (resolution March 1, 2012, Gazzetta Ufficiale n.72 of March 26, 2012), ethics approval was not required for this study. This survey was promoted by Women for Oncology Italy, a network of female oncologists supported by the European Society for Medical Oncology (ESMO) sharing research issues and collaborating on new ideas.

Descriptive statistics have been applied to describe and summarise our findings. For each question, percentages of each response were calculated on the basis of the total number of participants who answered the question. The correlation analyses between categorical variables were performed using chi-square test with a significance level *P* set at a 0.05 value.

Three logistic models were implemented to evaluate the association between HCP characteristics and the following items: 'Worry of being infected', 'Worry of infecting family' and 'Worry of being infected or infecting family'. For each factor, an odds ratio was estimated and reported along with its 95% confidence interval; odds ratio >1 means a greater worry for the category considered. In order to identify independent predictors, significant associations were tested with a multivariable approach using a forward stepwise procedure based on maximum likelihood ratio. The enter and remove limits were set to 0.05 and 0.10, respectively.

Statistical analysis was carried out using MedCalc Statistical Software version 18.11.3 (MedCalc Software bvba, Ostend, Belgium) and IBM-SPSS statistical software version 21.0.

RESULTS

A total of 600 HCPs completed the study questionnaire providing evaluable responses. The majority of participants were female (444, 74.0%) between 36 and 45 years of age (32.3%). Oncology was the most represented specialty accounting for more than a half of all respondents (58.8%), with a significantly higher prevalence of women (64.2%) compared with men (44.2%) among oncologists ($P < 0.0001$). Other disciplines in closer contact with infected patients were also involved in the survey. All the main figures of medical staff (consultant and resident physicians and nurses) were adequately represented among respondents with a minority (6.2%) including other workers such as physiotherapists, midwives and healthcare assistants. Participants mainly belong to Lombardy (31.3%) and Marche (30.3%), which were two of the most severely affected regions, but almost all the Italian regions contributed to the study questionnaire (Figure 1). The demographic

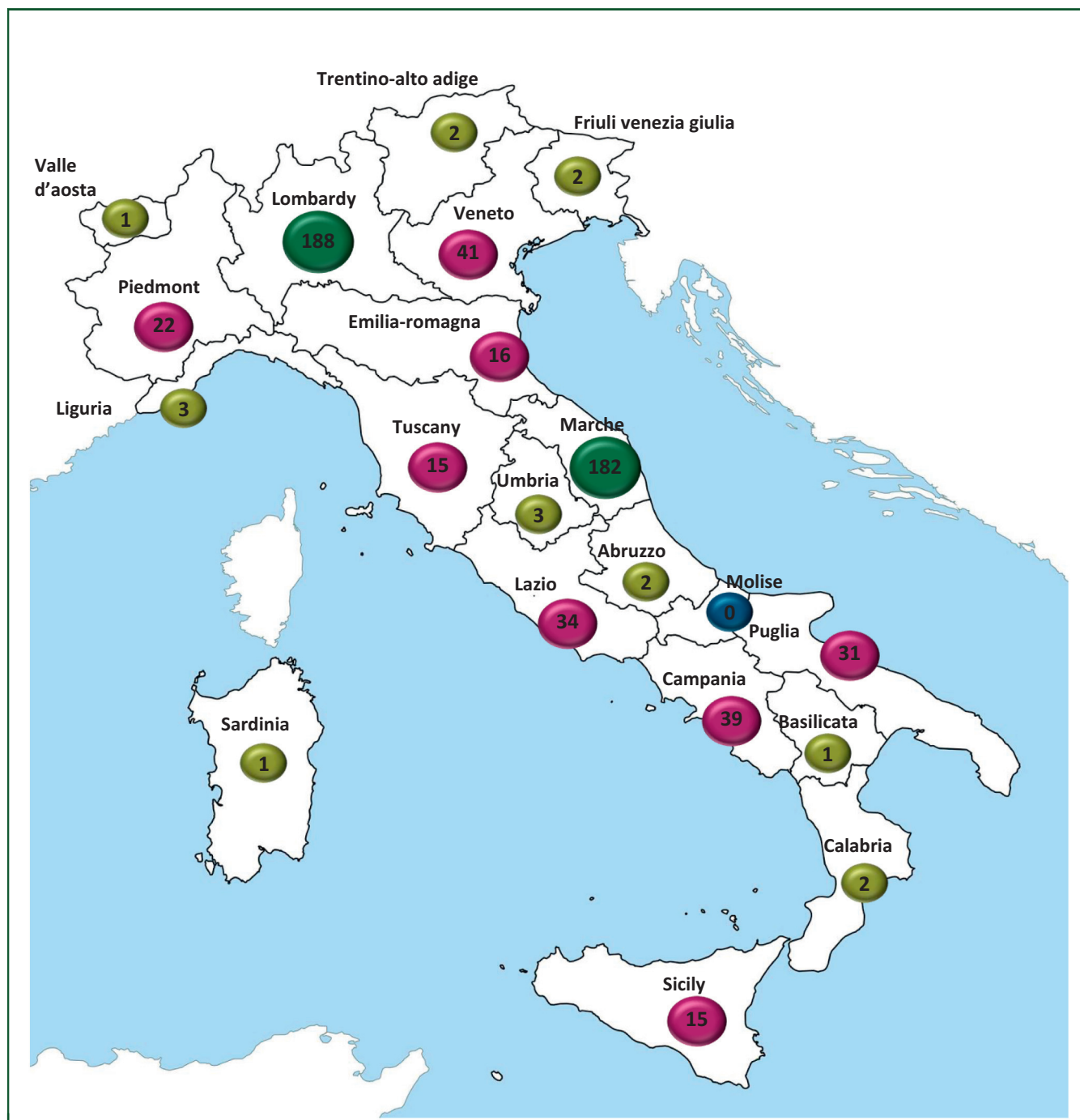


Figure 1. Distribution of 600 study participants across Italian regions.

characteristics and usual occupation of study participants are presented in Table 1.

The COVID-19 pandemic required a rapid and substantial clinical activity reorganisation to face the new emerging needs of patients. In this regard, ~1 of 10 enrolled HCPs declared having to perform their activity in different departments within the same centre (8.7%) or in other hospitals (1.0%). Despite reorganisation and necessary adjustments, adequate work shifts have been totally (57.3%) or partially (25.7%) guaranteed even in this emergency situation. Nevertheless, only a minority of relocated HCPs declared that they had been totally (14.3%) or

partially (27.3%) informed and trained about the management of patients and the new employment conditions. The survey highlighted a critical issue regarding emergency-led shortage of PPE: about one-third (30.7%) of participants declared they were not adequately and promptly provided with PPE in relation to the clinical needs, while another 35.3% declared that the supply of these devices was limited. Responses to questions about clinical activity reorganisation and medical staff training during the COVID-19 emergency are summarised in Table 2.

The survey included five questions regarding COVID-19 screening (swabs and serological tests) among HCPs

Table 1. Demographic characteristics and usual occupation of study participants

Characteristics	N (%)
Sex	
Male	156 (26.0)
Female	444 (74.0)
Age (years)	
25-35	129 (21.5)
36-45	194 (32.3)
46-55	178 (29.7)
56-65	91 (15.2)
>65	8 (1.3)
Occupation	
Consultant physician	379 (63.2)
Resident physician	59 (9.8)
Nurse	125 (20.8)
Other ^a	37 (6.2)
Medical specialty	
Oncology	353 (58.8)
Haematology	8 (1.3)
Emergency medicine	14 (2.3)
Anaesthesia and resuscitation	20 (3.3)
Cardiology	4 (0.7)
Pulmonology	10 (1.7)
Radiology	9 (1.5)
Others ^b	182 (30.4)
Italian region	
North (Valle d'Aosta, Piedmont, Liguria, Lombardy, Trentino-Alto Adige, Veneto, Friuli Venezia Giulia)	259 (43.2)
Centre (Emilia-Romagna, Tuscany, Lazio, Umbria, Marche, Abruzzo, Molise)	252 (42.0)
South (Sardinia, Sicily, Campania, Calabria, Basilicata, Puglia)	89 (14.8)

^a Other occupations: healthcare assistant, pharmacist, data manager, clinical study coordinator, physiotherapist, dietician, biologist, radiology technician, laboratory technician, speech therapist, midwife, general practitioner.

^b Other specialties: Gastroenterology, Urology, Gynaecology, Infectious diseases, Dentistry, Radiotherapy, Surgery, Paediatrics, Pathology, Neurology, Geriatrics, Gynaecology, Otolaryngology, Microbiology, Neurology, Ophthalmology, Palliative Care.

Table 2. Clinical activity reorganisation and medical staff training during the COVID-19 emergency

Questions	N (%)
In this emergency situation, where do you perform your job?	
In your own department	487 (80.5)
In another department in your own hospital	52 (8.7)
In another department in another hospital	6 (1.0)
Others	55 (9.8)
In case of relocation, do you think you have been adequately informed and trained about procedures/recommendations to follow?	
Yes	35 (14.3)
Partially	67 (27.3)
No	80 (32.7)
Don't know	63 (25.7)
Are you adequately and promptly provided with PPE in relation to the clinical needs you are facing up?	
Yes	202 (33.7)
Partially	212 (35.3)
No	184 (30.7)
Don't know	2 (0.3)
Do you believe adequate shifts have been guaranteed even in this emergency situation?	
Yes	344 (57.3)
Partially	154 (25.7)
No	91 (15.2)
Don't know	11 (1.8)

COVID-19, coronavirus disease 2019; PPE, personal protective equipment.

Table 3. COVID-19 testing (swabs and serological tests) among healthcare personnel

Questions	N (%)
In your workplace, have healthcare workers been tested with nasopharyngeal swabs for SARS-CoV-2?	
Yes, if they were symptomatic	212 (35.3)
Yes, regardless of symptoms if they had contacts with known cases	157 (26.2)
Yes, regardless of symptoms and/or contacts with known cases	85 (14.2)
No	146 (24.3)
In case you chose 'Yes, regardless of symptoms and/or contact with known cases' as previous response, how often have swabs been repeated?	
With a frequency of <7 days	8 (4.3)
About every week	14 (7.5)
About every 2 weeks	15 (8.0)
Only in case of symptoms appearance	58 (31.0)
Swabs have not been repeated	92 (49.2)
In your workplace, how have symptomless personnel with a positive swab result been managed?	
Stay away from work for <7 days ^a	24 (4.0)
Stay away from work for at least 7 days ^a	80 (13.4)
Stay away from work for at least 14 days ^a	437 (72.8)
Keep working with adequate PPE	59 (9.8)
In your workplace, how have colleagues of personnel with positive swab been managed?	
Test colleagues with nasopharyngeal swabs regardless of symptoms	178 (29.7)
Test colleagues with nasopharyngeal swabs if they were symptomatic	422 (70.3)
In your workplace, have healthcare workers been tested with serological test (IgG and IgM) for SARS-CoV-2?	
Yes, if they were symptomatic	24 (4.0)
Yes, regardless of symptoms if they had contacts with known cases	27 (4.5)
Yes, regardless of symptoms and/or contacts with known cases	150 (25.0)
No	399 (66.5)

COVID-19, coronavirus disease 2019; Ig, immunoglobulin; PPE, personal protective equipment; SARS-CoV-2, severe acute respiratory syndrome coronavirus 2.

^a Readmission to the workplace after two negative swabs results.

(Table 3). The majority of respondents asserted that nasopharyngeal swabs for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) were performed only in symptomatic HCPs (35.3%) and/or in case of contact with infected persons (26.2%), while about a quarter of participants (24.3%) were not subjected to screening, probably meaning that nasopharyngeal tests were not performed routinely as screening procedures.

Among HCPs who received swab testing irrespective of clinical signs and/or contact with known cases (14.2%), tests were generally only repeated in cases where symptoms manifested. However, approximately half of respondents reported that swabs had not been repeated at all. Symptomless workers with positive swab results have tendentially been away from work for 14 (72.8%) days, only in a minority of cases for a shorter period, 7 (13.4%) or <7 (4.0%) days; their 'close contacts' were tested with nasopharyngeal swabs mainly in case of clinical signs (70.3%). About 66.5% of participants declared a complete lack of serological tests (immunoglobulin G/immunoglobulin M) in their workplace. Our final results showed a regional heterogeneity regarding the use of screening procedures and the length of quarantine. In particular, in northern regions

Table 4. Social distress perceived among healthcare personnel				
Questions	N (%)	N (%)	N (%)	P ^a
	All	Male	Female	
Are you worried about being at higher risk of contagion?				0.83
Yes	500 (83.3)	133 (85.3)	367 (82.7)	
Partially	60 (10.0)	13 (8.3)	47 (10.6)	
No	30 (5.0)	7 (4.5)	23 (5.2)	
Don't know	10 (1.7)	3 (1.9)	7 (1.6)	
Are you worried that your family could be at higher risk of contagion?				0.46
Yes	435 (72.5)	113 (72.4)	322 (72.5)	
Partially	73 (12.2)	16 (10.3)	57 (12.8)	
No	86 (14.3)	24 (15.4)	62 (14.0)	
Don't know	6 (1.0)	3 (1.9)	3 (0.7)	
Do you live alone?				0.11
Yes	102 (17.0)	33 (21.2)	69 (15.5)	
No	498 (83.0)	123 (78.8)	375 (84.5)	
Has the current health emergency brought about a change in your family organisation?				0.34
Yes	329 (54.8)	84 (53.8)	245 (55.2)	
Partially	98 (16.4)	32 (20.5)	66 (14.9)	
No	167 (27.8)	38 (24.4)	129 (29.1)	
Don't know	6 (1.0)	2 (1.3)	4 (0.9)	
In case you chose 'Yes' as your previous response, how did your family organisation change?				0.31
Left your home to protect your family	94 (28.6)	24 (28.6)	70 (28.6)	
Your family moved to another home	26 (7.9)	8 (9.5)	18 (7.3)	
Your child/children moved to another home	22 (6.7)	5 (5.9)	17 (6.9)	
Live in the same house with your family with limitation of close personal contacts	57 (17.3)	20 (23.8)	37 (15.1)	
Others	130 (39.5)	27 (32.2)	103 (42.1)	
How long haven't you seen your child/children?				<0.0001
<7 days	164 (61.0)	39 (45.3)	125 (68.3)	
7-14 days	18 (6.7)	6 (7.0)	12 (6.6)	
>14 days	87 (32.3)	41 (47.7)	46 (25.1)	
How long haven't you seen your parents?				0.12
<7 days	77 (15.6)	16 (12.4)	61 (16.7)	
7-14 days	18 (3.6)	8 (6.2)	10 (2.7)	
>14 days	400 (80.8)	105 (81.4)	295 (80.6)	
Did your hospital provide adequate accommodation for your needs?				0.09
Yes	61 (10.2)	14 (9.0)	47 (10.6)	
Partially	65 (10.8)	15 (9.6)	50 (11.3)	
No	287 (47.8)	88 (56.4)	199 (44.8)	
Don't know	187 (31.2)	39 (25.0)	148 (33.3)	
In case you chose 'Yes' as your previous response, what type of accommodation were you provided with?				0.99
Hotel room	21 (34.4)	5 (35.7)	16 (34.0)	
Hospital areas not currently used and reconverted for personnel needs	23 (37.7)	5 (35.7)	18 (38.3)	
Apartments	4 (6.6)	1 (7.1)	3 (6.4)	
Other	13 (21.3)	3 (21.5)	10 (21.3)	
What difficulties have you encountered in family management?				0.004
Difficulties in buying groceries	328 (54.7)	25 (36.8)	303 (56.9)	
Difficulties in finding babysitters for your child/children	137 (22.8)	15 (22.1)	122 (22.9)	
Difficulties in finding caregivers for your old and/or not self-sufficient relatives	63 (10.5)	16 (23.5)	47 (8.8)	
No difficulties	44 (7.3)	9 (13.2)	35 (6.6)	
Other difficulties	28 (4.7)	3 (4.4)	25 (4.8)	

^a Chi-square test.

almost exclusively symptomatic HCPs were subjected to nasopharyngeal swabs with a median length of quarantine in excess of 7 days, whereas in central and southern regions positive HCPs have been away from work for a shorter period (≤ 7 days) and also asymptomatic workers were tested for COVID-19 through nasopharyngeal swabs and/or serological tests.

Table 4 summarises responses to questions about social distress perceived among HCPs. The most relevant finding is the fear of being at higher risk of contagion than the general population (83.3%) and the weighty concern of infecting their own families (72.5%). There was a significant correlation between the insufficient supply of PPE and the worry of

being infected ($P = 0.0003$) and between the insufficient supply of PPE and the worry of infecting their own family ($P < 0.0001$). Furthermore, the apprehension regarding a higher risk of family contagion significantly correlated with insufficient information and training about procedures/recommendations to follow ($P = 0.0092$) as well as peculiar demographic characteristics and usual occupation, with major concern among consultant physicians and nurses (versus resident physicians, $P < 0.0001$) and those who live alone ($P < 0.0001$).

Among 600 HCPs who filled out the questionnaire, more than two-thirds declared a change in family organisation and daily life. The main aberration consisted in the

Table 5. Odds ratios, 95% confidence interval and *P*-value for associated variables and multivariate analysis

	Worry of being infected		Worry of infecting family		Worry of being infected or infecting family	
	Univariate, odds ratios (95% CI); <i>P</i> -value	Multivariate odds ratios (95% CI); <i>P</i> -value	Univariate, odds ratios (95% CI); <i>P</i> -value	Multivariate odds ratios (95% CI); <i>P</i> -value	Univariate, odds ratios (95% CI); <i>P</i> -value	Multivariate odds ratios (95% CI); <i>P</i> -value
Sex (male versus female)	1.21 (0.73-2.01); 0.45		0.99 (0.66-1.50); 0.98		1.22 (0.70-2.14); 0.48	
Age (>45 versus <45 years)	0.91 (0.60-1.41); 0.69		1.23 (0.86-1.77); 0.26		0.91 (0.57-1.47); 0.71	
Occupation (physician versus other)	1.84 (1.17-2.90); 0.009	1.71 (1.07-2.73); 0.03	1.42 (0.96-2.12); 0.08		2.13 (1.31-3.49); 0.003	1.82 (1.10-3.02); 0.02
Italian regions						
(North versus South)	1.05 (0.54-2.05); 0.88		0.73 (0.41-1.30); 0.29		1.12 (0.53-2.34); 0.77	
(Central versus South)	0.81 (0.42-1.56); 0.54		0.63 (0.35-1.12); 0.11		0.77 (0.38-1.58); 0.48	
Adequate PPE (yes versus no)	0.43 (0.28-0.67); 0.003	0.48 (0.31-0.75); 0.001	0.34 (0.24-0.50); <0.0001	0.37 (0.25-0.55); <0.0001	0.36 (0.22-0.59); <0.0001	0.44 (0.27-0.73); 0.001
Adequate shifts (yes versus no)	0.58 (0.37-0.91); 0.02		0.54 (0.37-0.79); 0.001	0.67 (0.44-1.00); 0.05	0.47 (0.28-0.80); 0.005	0.58 (0.34-0.99); 0.04
Live alone (yes versus no)	0.58 (0.35-0.98); 0.04	0.58 (0.34-0.99); 0.04	0.18 (0.11-0.28); 0.0001	0.18 (0.11-0.28); 0.0001	0.60 (0.34-1.06); 0.08	

For each item, the second term reported in brackets is 95% CI. In multivariable columns odds ratios are adjusted for each other. CI, confidence interval; PPE, personal protective equipment.

limitation of close personal contact, with their relatives living separately together in the same house or moving to a separate residence. In order to avoid infecting their relatives, 43% of HCPs have modified their housing conditions since they have changed home (28%) or moved the family (8%) or only the children (7%). Those who choose to stay with their family have taken safety measures to reduce the risk of infection, such as sleeping in different rooms, avoiding close contact especially with children, and maintenance of distances of at least 1 m from the other cohabitants. Hospitals provided adequate accommodation for HCPs' needs only in ~20% of cases, mostly hotel rooms, reconverted hospital areas which were not in use at that time and apartments. Changes in family life significantly correlated with an insufficient supply of PPE at work ($P = 0.0072$) and job relocation in other departments ($P = 0.0174$). Furthermore, the chi-square test showed a significant correlation between adjustments to family organisation and worry about infecting those they live with ($P < 0.0001$).

Furthermore, the majority of participants revealed other obstacles in family management, such as difficulties in buying groceries (54.7%), finding baby-sitters (22.8%) and/or caregivers for relatives who are not self-sufficient (10.5%; participants could choose >1 answer). The main repercussions of the COVID-19 pandemic concern families and the closest relatives of HCPs, with 80.8% of participants declaring to not have seen their parents for >14 days; furthermore, a lower percentage of women (25.1%) than men (47.1%) among HCPs have not seen their own child/children for >14 days ($P < 0.0001$). Job relocation was significantly correlated with not having seen their children for >14 days ($P = 0.0176$).

In order to check our analysis reducing the role of potential confounding factors, we performed three logistic models in which response variables are the fear of being

infected, the fear of infecting the family and a new variable, that is, the fear of getting infected or infecting the family. We also added a multivariable analysis to identify the factors that, independently of each other, are associated with the response variable (Table 5).

DISCUSSION

The COVID-19 pandemic had a dramatic impact on personnel distress and many studies in these weeks have focused on psychological distress. This is the first Italian survey on HCPs' social distress during the COVID-19 pandemic. The number of participants is high although the collection of data did not take long (only 25 days), demonstrating a great interest among professionals who are deeply involved in this issue. We have taken a picture of the real-world experience of HCPs, called to face simultaneously new and complex professional challenges and the management of daily problems, too often without adequate support. The majority of participants are women (74%), with a significant prevalence of women (64.2%) compared with men (44.2%) among oncologists ($P < 0.0001$): these data were expected because in the Italian health system, especially in oncology, women are predominant. Besides, oncologists are the most represented category, probably because the study was promoted by oncologists, who involved colleagues of their specialty. However, other HCPs completed our survey, especially those more closely involved in the management of patients affected by COVID-19 (emergency medicine, anaesthesia and resuscitation, etc.) and thus more likely to perceive social and psychological distress. The participants in the survey were mainly HCPs from the Lombardy and Marche regions (in North and Central Italy, respectively), who are particularly affected by the pandemic, due to the great number of contagions and deaths. Gender imbalance,

predominance of a specific specialty and geographic origin could be considered as potential bias in the study population selection.

Our analysis suggests that unavailability of PPE, periodic screening procedures, adequate training and the correct dissemination of information are aspects of crucial importance because of their impact on the HCPs' emotional status. The fear of infection and above all the fear of being the 'vehicle' of transmission to family members have forced many HCPs into self-imposed isolation, with a considerable impact on family organisation. A significant number of HCPs have changed their living conditions and relationships with relatives; in fact, a statistically significant correlation emerged between the decision of living alone and the fear of infecting family members ($P < 0.0001$); besides, up to one-third of respondents have not seen their children for >14 days and $>80\%$ have been separated from their elderly parents. Residents are less involved in this problem than consultant physicians and nurses, perhaps because they are younger, live alone and far from their families. Furthermore, in many cases, inadequate support from institutions in providing new housing arrangements was reported. Women seem to have paid the highest price, carrying the burden not only of their job duties and responsibilities, but too often also of household chores and childcare, as reported in other papers.⁸ The COVID-19 pandemic and the subsequent lockdown and closure of schools and nurseries have magnified existing problems.

Our survey also highlighted a regional heterogeneity in the use of screening procedures (nasopharyngeal swabs and serological tests) and length of quarantine (more or less than 7 days, according to the needs of the hospital and the availability of HCP staff). This data could depend on the lack of standardised guidelines and the decentralisation of decision making to every single regional health authority. In Italy, the National Health System delegates the management of healthcare to individual regions. This method of organisation has positive aspects but also limitations, and during the pandemic these limitations were very evident: some regions reinforced the territorial services and employed a proactive approach to the diagnosis and treatment of COVID-19, whereas others were more concentrated on hospital reinforcement. These different situations created the sensation perceived by the HCPs of confusion and uncertainty.⁹

Answers have been mostly provided by oncologists, especially from the North of Italy, who represent the majority of participants with a risk of affecting the generalisation of our findings. Nevertheless, the data which have emerged from this study lead us to conclude that the price paid by HCPs is relevant both from a professional and from an emotional perspective, with the latter not of lesser importance. During a pandemic, unlike other health emergencies, psychological and physical stress among HCPs are increased by social isolation, due to quarantine measures and the lack of family support. A number of Chinese studies performed during the COVID-19 pandemic, have already demonstrated the close connection between self-isolation

and the increased level of anxiety, emotional distress and bad sleep quality as well as the positive impact of social and psychological support.^{10,11} Maintaining the mental health of HCPs is essential in order to guarantee self-efficacy and good professional performance.¹² 'There is no health without mental health,' declare the WHO. In fact, since March 2020, WHO proposed recommendations to help people cope with stress during the COVID-19 global health emergency.¹³

The data come from the first wave of the pandemic and suggest that, as expected, HCPs were highly affected by the situation. We are working now on a project aimed to collect the information about the second wave, to reach out to a larger number of HCPs, and plan to compare the two periods of pandemic in Italy.

It is our hope that institutions may undertake procedures to guarantee that HCPs are able to perform their work safely, in an appropriate context which is in line with their professional skills, and provide adequate social and psychological support. Reducing workers' fear of contagion and psychological distress will certainly yield significant positive benefits for the National Health System.

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DISCLOSURE

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