BMJ Open

Identification of the most vulnerable populations in the psychosocial sphere: a cross-sectional study conducted in Catalonia during the strict lockdown imposed against the COVID-19 pandemic

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To cite: Farrés J, Ruiz JL, Mas JM, *et al*. Identification of the most vulnerable populations in the psychosocial sphere: a cross-sectional study conducted in Catalonia during the strict lockdown imposed against the COVID-19 pandemic. *BMJ Open* 2021;**11**:e052140. doi:10.1136/bmjopen-2021-052140

► Prepublication history and additional supplemental material for this paper are available online. To view these files, please visit the journal online (http://dx.doi.org/10.1136/bmjopen-2021-052140).

Received 07 April 2021
Accepted 26 October 2021

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ABSTRACT

Design and objectives A cross-sectional study to evaluate the impact of COVID-19 on the psychosocial sphere in both the general population and healthcare workers (HCWs).

Methods The study was conducted in Catalonia (Spain) during the first wave of the COVID-19 pandemic when strict lockdown was in force. The study population included all people aged over 16 years who consented to participate in the study and completed the survey, in this case a 74-question questionnaire shared via social media using snowball sampling. A total of 56 656 completed survey questionnaires were obtained between 3 and 19 April 2020.

The primary and secondary outcome measures included descriptive statistics for the non-psychological questions and the psychological impact of the pandemic, such as depression, anxiety, stress and post-traumatic stress disorder question scores.

Results A n early and markedly negative impact on family finances, fear of working with COVID-19 patients and ethical issues related to COVID-19 care among HCWs was observed. A total of seven target groups at higher risk of impaired mental health and which may therefore benefit from an intervention were identified, namely women, subjects aged less than 42 years, people with a care burden, socioeconomically deprived groups, people with unskilled or unqualified jobs, patients with COVID-19 and HCWs working with patients with COVID-19.

Conclusions Active implementation of specific strategies to increase resilience and to prepare an adequate organisational response should be encouraged for the seven groups identified as high risk and susceptible to benefit from an intervention.

Trial registration number NCT04378452.

Strengths and limitations of this study

- ► The current study aimed to identify the impacts of the COVID-19 pandemic on a wide range of health-related dimensions 2 weeks after starting strict lockdown and while it was still in force.
- ► The survey rapidly reached a large number of people without exposing interviewers to infection, thus becoming one of the most extensive surveys ever published. A total of 56 656 survey questionnaires were analysed, thus representing 0.85% of the Catalan population aged >16 years.
- ► The survey was long (74 questions), thus allowing to collect a large amount of data, but this might also have generated fatigue and a high drop-out rate.
- ► No validated scales were used.
- ► The snowball strategy via social media does not allow the study population to be controlled; therefore, this is not a representative survey of a specific population.

INTRODUCTION

By 30 March 2020, 78 797 confirmed cases of SARS-CoV-2, 6528 deaths and 14 709 patients who had recovered had been reported in Spain.[1] Of these, 16 157 cases and 1410 deaths were recorded in Catalonia.[2] The case fatality (8%) was calculated using recorded cases, although the mortality rate was uncertain and the total number of cases was unknown. At that time, there was local transmission of SARS-CoV-2 in the community. Everyone with a compatible respiratory condition was considered likely to be a case of SARS-CoV-2, although an aetiological diagnosis was not possible for all suspected cases in the context of a health emergency because of the lack of diagnostic kits and saturation of the health system.[3 4]

In this context, 16% of all cases confirmed in Catalonia by 30 March 2020 affected healthcare workers (HCWs).[2] In addition to

their obviously increased risk of being infected, frontline HCWs (emergency rooms, Intensive Care Units (ICUs) and other departments) fighting the SARS-CoV-2 epidemic were faced with high levels of stress and anxiety. This worsened as the tensions in the health systems increased, which required them to face important ethical dilemmas, including patient triage.

Previous major outbreaks of infectious diseases, such as Ebola, have demonstrated that they have an important impact at both an individual and a community level as health services, social systems and economic productivity are all severely affected.[5] Indeed, an important impact on mental health and emotional burden as a result of the SARS-CoV-2 pandemic and mass quarantines, similar to those observed during other epidemics, has been reported.[6–9] However, a certain degree of anxiety is necessary for the adoption of precautionary measures against infection outbreaks[10] and to ensure the successful implementation of public health interventions. Additionally, the SARS epidemic showed that frontline HCWs suffered from chronic stress at the time and that this lasted for at least 1 year after the epidemic wave had receded.[11]

At the time of the strict lockdown in Spain, members of society and HCWs raised their concerns about how the outbreak and the measures implemented by the government were impacting people's lives. With the aim of assessing the nature of this effect and the hypothesis that it may be important in several health dimensions, we designed the present study in order to evaluate the impact of COVID-19 on the psychosocial sphere for both the general population and HCWs.

MATERIALS AND METHODS

Design and setting

This is a cross-sectional study, conducted in Catalonia (Spain) in April 2020, during the first wave of the COVID-19 outbreak, 2 weeks after the implementation of strict lockdown and while this was still in force.

Participants

Anyone aged over 16 years willing to participate in the study and who gave consent by starting the questionnaire.

Ethics

Before starting the survey, participants were informed about the aim of the study, the compliance with their rights and the existence of Institutional Review Board (IRB) approval. They were also informed about their right of access, rectification, limitation and erasure of their personal data and to withdraw consent, as well as how to exercise any of these rights.

Outcome measures

Descriptive statistics for the non-psychological questions and depression, anxiety, stress and post-traumatic stress disorder (PTSD) scores to determine the psychological impact of the outbreak. The anonymous questionnaire was developed by the research team and included 74 questions (online supplemental table 1). To obtain demographical, health status and mental health data, questions reported in the literature were used. In contrast, questions to evaluate the socioeconomic sphere and habits during lockdown were created by the research team. A pilot test was conducted in order to evaluate the validity and reliability of the instrument and to detect any errors in its administration. The questionnaire was adjusted in light of these results before launch. The questionnaire was created using the Typeform software (Typeform SL, Barcelona, Spain) and complied with the European General Data Protection Regulation. The survey was shared in five different languages (Catalan, Spanish, English, Italian and French) via social media (WhatsApp, Telegram channels and institutional websites) using snowball sampling. HCW WhatsApp groups and telegram channels, as well as hospital institutional websites, were used to reach HCWs.

Completion of the whole questionnaire took approximately 10 min. Initially, we estimated that approximately 2000 completed questionnaires within a period of 6 months (April–September 2020) would allow us to extract valid results. As we received a high number of completed questionnaires in just a few weeks, we analysed all completed questionnaires obtained between 3 and 19 April 2020. After collection, data were downloaded as a spreadsheet file (Excel Microsoft Office) and deleted from the Typeform software.

Analysis and statistics

All data were processed anonymously. Questionnaires in which the participant did not reach the end were considered to be incomplete and were discarded. Only finished questionnaires were saved and taken into account for the analysis. Individuals reaching the end of the questionnaire could leave questions unanswered. For individual questions, only the answers for that variable were considered. Questions were grouped into indices (socioeconomic precariousness index, depression index, anxiety index, stress index or PTSD) following the calculation detailed in online supplemental table S1). When computing a combined score for several questions, this score was only computed if all answers for it were present.

Since there were no specific criteria for age stratification or the population density that was significant for all questions, it was decided to divide these categories into groups with a similar sample size, thus resulting in the following age groups: <42, 42–52, 52–61 and >61 years. Given the volume of responses obtained, age ranges were determined statistically to ensure that they were homogeneous in terms of number of surveys completed per group. The scores for the socioeconomic precariousness index and population density (inhabitants/km^2) of the municipality where the respondents lived, as stated by the respondents, were also segmented into four groups each following the same strategy. The four score ranges established for the 0–19 socioeconomic precariousness scale

were: low ≤7 points, mid-low=7–8.5, mid-high=8.5–10 and high >10 points.

All results were obtained considering that the respondents were part of the totality of the cohort of respondents. Responses were also analysed by category and broken down into percentages according to conditional distributions, taking into account the gender of the respondents and their age group. We took the non-binary gender and those who preferred not to say which gender they identify as into account when analysing the results, as this enriches the conclusions. However, statistical analysis often does not take into account the minimum volumes of responses; therefore, only the groups of women and men were compared.

Response percentages were calculated based on the number of respondents for each answer out of the total number of responses to each question. To assess whether the categorical variables were significantly related or not, we applied the χ^2 test independently to the counts observed. We conducted a bivariate analysis between scores and sociodemographic variables. Differences in score distribution between different groups were assessed by comparing probability distributions using a two-band Wilcoxon signed-rank test and calculating the p value using Matlab's 'signrank' function.[12 13]

All tests were applied bilaterally using a significance of 5% (p<0.05).

RESULTS

Characteristics of the cohort

We analysed 56 656 questionnaires. The characteristics of the cohort are described in table 1. Differences between categories by gender and age are presented in online supplemental table 2). The majority of respondents were female (70.4%) and from Catalonia (95.63%, with 27.7% being from Barcelona city), which represents 0.85% of the Catalan population aged >16 years.[2 14]

Those living most precariously were aged under 42 years, with 18.43% sharing an apartment/house (p<0.01). Most respondents had a degree (42.62%) and a qualified job (36.13%). Around 9% of all respondents worked in the healthcare sector. Most unemployed people were in the younger age range (7.6%) and in the non-binary/those who preferred not to say groups (approximately 12% each).

Around 60% of all respondents declared that they were taking care of someone: 24.81% caring for children aged <16 years and 15.11% caring for parents. Women were caregivers more frequently than men (p<0.01). The burden of care was also higher for women and people aged 42–61 years (p<0.01) and worryingly high for 4.79% of all respondents.

Impact of the pandemic on the general population

The impact on the general population is described in tables 2 and 3 and online supplemental table 2). Thus, 85.32% of the cohort declared they were remaining at home. Those working in essential services were mostly women or of non-binary gender, and the percentage of women was also higher among those who were obliged to go to work on-site (p<0.01).

Only 2 weeks after starting the lockdown, 25% of the cohort had already lost their job. People aged less than 52 years, as opposed to those aged over 52 years, and men, as opposed to women, were the most affected (p<0.01). In addition, 20.67% of respondents declared that they had no savings at all (table 1). After the implementation of measures announced by the authorities to cope with the pandemic, 82.75% of respondents declared that they were being careful or had decreased their expenses. Up to 8.78% of respondents declared that they had used social services or that they would need to use them soon, with those aged less than 52 years and people identifying as non-binary or preferring not to say being the most affected. Respondents aged less than 42 years, followed by people aged over 61 years and people identifying as non-binary gender, had the highest precariousness index values (p<0.01).

Around 19.84% of respondents declared that they had come into contact with someone infected by SARS-CoV-2, half of them with a confirmed or probable case (more frequent for women aged less than 52 years, p<0.01). Similarly, 35.75% declared that they had used at least one existing healthcare resource or one put in place by the authorities in the context of the pandemic during the previous 14 days, and 73.82% reported having had one or more symptoms compatible with COVID-19. Less than 2% of people claiming to have had symptoms had undergone a PCR test. A greater percentage of women and those aged less than 42 years said that they felt worse at the moment they answered the survey compared with people in other groups (p<0.01).

Some 42.05% of respondents said they had increased their consumption habits, in most cases of food. Women aged less than 42 years showed the largest increase in consumption (except for illegal drugs) compared with other groups (p<0.01).

TV, followed by social media, was the main source of information regarding the pandemic, with no significant differences being found between different genders or age groups. Around 26.82% of respondents declared that the information given did not accurately reflect reality (more frequent in women and people aged over 52 years (p<0.01), and a further 20.92% said that it was too negative or too sensationalist (more frequent in men and people aged less than 42 years (p<0.01). Similarly, 73.13% declared that they were afraid or worried, with this group including more women but a lower percentage of people aged over 61 years (p<0.01). Finally, 78.56% of the cohort declared that the pandemic had changed them, most of them (50.41%) as regards the way that they see society/how we used to live. Those most affected were women (more than men) and those aged less than 42 years vs their counterparts aged >61 years (p<0.01 in both cases).

Table 1 Characteristics of the cohort

Answer categories		No. of cases	Total %	Answer categories		No. of cases	Total %
Gender	Female	39 943	70.5	Care of someone	No	24 755	39.75
	Male	16 556	29.22		Yes, <16 years	15 452	24.81
	Non-binary	88	0.15		Yes, >16 years	7624	12.24
	Not saying	69	0.12		Yes, siblings	782	1.26
Origin	Catalonia region	54 318	95.63		Yes, parents	9409	15.11
	Other	2480	4.37		Yes, others	4248	6.82
Civil status	Married	30 389	53.65	Burden of care (in n options selected)	none	24 814	43.80
	Divorced	6030	10.64		1	14 055	24.81
	In couple	10 305	18.19		2	15 070	26.60
	Single	7990	14.1		3	2473	4.36
	Widow	1929	3.4		4	217	0.38
Housing	Owned apartment/ house	51 428	90.95		5	20	0.03
	Shared apartment/ house	4417	7.81	People providing financially at home	>2	4379	7.77
	Rented room	607	1.07		2	37 677	66.9
	Centre/institution	71	0.12		1	14 256	25.31
	Homeless	18	0.03	Savings	No	11 685	20.67
Maximum education degree	Primary education	2182	3.85		Yes	20 201	35.73
	Secondary education	3093	5.46		Some	24 637	43.58
	High school	17 853	31.53	Mortgage to pay	No	33 374	59.01
	Degree	24 130	42.62		Yes, one	20 141	35.61
	Master	7528	13.29		Yes, more than one	3041	5.37
	PhD	1829	3.23	Rent to pay	No	42 899	75.83
Employment	Qualified job	20 449	36.13		Yes	13 669	24.16
	Non-qualified job	2037	3.59	Occupation of HCW	Nurse	1567	30.63
	Job in healthcare	5132	9.06		Physician	1110	21.70
	Home/people care	2731	4.82		Others (including working in a private pharmacy)	659	12.88
	Self-employed	5110	9.02		Technician	588	11.49
	Company owner	2417	4.27		Administrative staff	511	9.99
	Unemployed	2883	5.09		Nurse assistant	491	9.59
	Other	15 832	27.97		Researcher	129	2.52
					Caretaker	28	0.54
					Cleaning staff	15	0.29
					Catering staff	13	0.25
					Laundry personnel	4	0.07

Number of cases (number of responses received per answer category) and percentage of the total responses obtained for each question. Please note that some of the questions were multiple choice.
HCW, healthcare worker.

Impact of the pandemic on HCWs

A total of 5104 people (9.05% of the total) identified themselves as workers in the healthcare sector, most of them being women. While the proportion women/men in the total cohort was 70/30, in this subgroup the proportion was 85/15. The impact on this population is detailed in table 4. Thus, 41.65% of HCWs declared that they had worked directly with COVID-19 patients, 32% of them while on duty. The majority of HCWs said that they were afraid to work with COVID-19 patients (75.87%): 42.90% due to the risk of transmitting the infection to their relatives/friends, 17.07% due to the risk of getting infected or transmitting it to other patients and 4.28% due to the risk of dying. Surprisingly, fear of dying decreased with age. In all cases, higher percentages of younger HCWs said they were afraid ($p<0.01$).

Table 2 Impact of the pandemic on the general population

Answer categories		No. of cases	Total %
Loss of job	No	42 475	75.12
	Yes, the company made a labour force adjustment plan	103	0.18
	Yes, the company made a temporary labour force adjustment plan	5530	9.78
	Yes, I have lost some previously contracted/arranged jobs	3252	5.75
	Yes, I was fired	499	0.88
	Yes, others	4687	8.29
Spending less	Yes	34 307	60.66
	A little	12 493	22.09
	No	9747	17.23
Sought social assistance/or any other assistance	No	51 588	91.00
	Not yet, but will need to	2756	5.00
	Yes	2208	4.00
Contact with someone infected by SARS-CoV-2	I do not know	45,86	80.15
	Yes, with a probable non-confirmed case	5627	9.83
	Yes, with a confirmed case	5730	10.01
Presence of symptoms (since February)	No	26 598	26.18
	Headache	16 268	16.01
	Sore throat	10 013	9.85
	Nasal congestion/runny nose	9322	9.17
	Extreme fatigue/tiredness	7029	6.91
	Persistent cough (for 1 week or more)	6957	6.84
	Muscle pain	6299	6.20
	Diarrhoea	5453	5.36
	Dizziness	2897	2.85
	Shortness of breath	2231	2.19
	Chest pain	1935	1.90
	Loss of smell, smell blindness	1894	1.86
	Persistent fever (for 1 week or more)	1663	1.63
	Loss of appetite/weight	1333	1.31
	Loss of taste	1689	1.66
No. of symptoms*	1	11 899	40.03
	2	7062	23.76
	3	4365	14.68
	4	2481	8.34
How did they feel when answering the questionnaire	Well	37 599	66.50
	Normal	12 726	22.50
	Not at 100%	6010	10.60
	Bad	235	0.42
Use of healthcare resources put in place in the context of the COVID-19 pandemic	None	38 955	64.25
	Have used an app set up for management of COVID-19 cases	13 044	21.51
	Have called a telephone number set up for the management of COVID-19 cases	3399	5.60
	Have been to a public healthcare centre (including General Practitioners (GP))	2286	3.77
	Have been tested	1108	1.82
	Have been to private doctor/healthcare centre	973	1.60
	Have gone to the emergency room	863	1.42
For those tested, result of the test	Negative	621	57.76
	Positive	454	42.23

Number of cases (number of responses received per answer category) and percentage of the total responses obtained for each question. Please note that some of the questions were multiple choice.
*For the number of symptoms only answers up to four are presented, even if the percentage given was calculated for all the responses obtained.

Table 3 Impact of the pandemic on the general population (continuation)

		No. of cases	Total %	
Staying home	No, I am forced to go to work	228	0.40	
	No, I need to work	534	0.94	
	No, I work in an essential service	7549	13.32	
	Yes	31 272	55.19	
	Yes, teleworking	17 073	30.13	
Afraid	No	14 021	26.86	
	Yes, going shopping	9029	17.30	
	Yes, to infect others	11 545	22.12	
	Yes, to get infected	17,59	33.70	
Afraid to infect	Elderly	4128	35.76	
	Anyone	5689	49.28	
	Children	1524	13.20	
	Colleagues at work	201	1.74	
Increased substance use	No	36 521	57.94	
	Yes, alcohol	3736	5.92	
	Yes, food	15 292	24.26	
	Yes, illegal drugs	257	0.40	
	Yes, drugs to calm down	2617	4.15	
	Yes, tobacco	4599	7.29	
Media to get information about the pandemic	Social media	35,08	29.23	
	TV	44 126	36.77	
	Radio	18 543	15.45	
	Newspapers	16 255	13.54	
	Other	5991	4.99	
Thoughts about the information received	It's ok	14 193	18.98	
	The government explains too much	2417	3.23	
	The government explains too little	6678	8.93	
	Media explain too much	9556	12.78	
	Media explain too little	2177	2.91	
	Too negative	15 645	20.92	
	Poorly adjusted to reality	4049	26.82	
	No opinion	20 053	5.41	
Impact of the pandemic on people (subjective)	No	14 575	21.43	
	Yes, my personality	3252	4.78	
	Yes, my vision of society/how we live	34 274	50.41	
	Yes, my life	15 889	23.36	
Scores results per percentile	**Score**	**50%**	**90%**	**95%**
	Anxiety	2	≥10	≥16
	Stress	8	≥24	≥28
	Depression	4	≥16	≥20
	PTSD	17	≥46	≥54

Number of cases (number of responses received per answer category) and percentage of the total responses obtained for each question. Please note that some of the questions were multiple choice.
"Score" refers to the data in the cells below, as there were several scores analyzed (there is one score for anxiety, one for stress, etc.). The 50%-90% and 95% in bold stand for the percentile, and the cells below are also referred to these. Example: The percentile 50% of the population sample had a value = 2 of the score of Anxiety, only the 10% of the population sample had more than 10 (percentile 90), and etc.
PTSD, post-traumatic stress disorder.

Table 4 Impact of the pandemic on HCWs

Answer categories		No. of cases	Total %	Answer categories		No. of cases	Total %
Having worked directly with patients with COVID-19	No	2939	58.34	Ethical concerns	No	2817	56.29
	Yes	2098	41.65		No, I follow protocols	1256	25.09
Fear of working with patients with COVID-19	No	1122	24.13		Yes, with selection of patients and/or protocols for selection of patients or therapeutic indications	473	9.41
	Yes	3528	75.87		Yes, others	460	9.19
Fear of working with patients with COVID-19	No fear	1122	14.58	Problems faced by healthcare professionals, grouped	Having worked without sufficient protection	112	25.68
	Scared of transmitting the virus to other non-COVID patients	1150	14.95		With patient triage or protocols for patient triage or therapeutic indication	71	16.28
	Scared of transmitting the virus to own family, colleagues, etc.	3300	42.90		With the protocol for case management	51	11.46
	Scared of being obliged to take medical decisions representing an ethical dilemma for me (patient selection anda application of protocols)	482	6.26		With the protocol for end-of-life management	39	8.94
	Scared of being infected	1309	17.01		With institution management or orders from superiors	35	8.02
	Afraid of dying	329	4.27		With the disjunctive of having to/wanting to go to work in the first line and not being able/wanting to do it	30	6.88
					With the prioritisation of dispensing protective material (face masks and Personal protective equipment (PPE)) or tests.	23	5.27
					With the impact of the outbreak and/or lockdown on some populations (chronic or mental health patients, eldery, etc)	17	3.89
					Others (non-specified)	17	3.89
					With problems due to organisational changes	16	3.66
					With management of information given to patients/their families and related problems (including confidentiality issues)	15	3.44
					With colleagues' attitudes	11	2.52

Number of cases (number of responses received per answer category) and percentage of all responses obtained for each question. Please note that some of the questions were multiple choice.
HCWs, healthcare workers.

Table 5 Conditions statistically associated with the mental health score results

	Statistically associated with:						
Factors:	**Depression index**	**Anxiety index**	**Stress index**	**PTSD index**	**Evitation index**	**Intrusion index**	**Hyperarousal index**
Risk	**P value**	**P value**	**P value**	**P value**	**P value**	**P value**	**P value**
Women	0.019	0.003		0.000	0.007	0.034	0.027
<42 years		0.008					
Caregivers		0.002	0.039	0.006		0.050	
Adults with higher perception of the difficulty of quarantine for children and the whole family (score on a 10-point scale) versus 0				0.041		0.032	0.022
Living in a middle to high density population town		0.031					
Living in a shared apartment/house		0.006					
Living in a rented room		0.039					
Declaring to be homeless				0.044			
High deprivation index (>10)		0.015					
Going to work because job in essential services		0.011					
Being a healthcare worker and being afraid of attending to patients with COVID-19	0.017				0.023		
Having been in contact with a patient with COVID-19		0.006		0.038			
Having had symptoms compatible with COVID-19	0.021	0.002		0.008			
Having used all healthcare resources put in place in the context of the COVID-19 pandemic			0.039	0.008	0.007		0.011
Afraid (of getting infected, infecting others and going shopping)		0.000	0.036	0.000	0.003	0.012	0.006
Having increased consumption of at least one substance		0.006		0.008			
Using three media to get information about COVID-19		0.033					
Protection	**P value**	**P value**	**P value**	**P value**	**P value**	**P value**	**P value**
>61 years		0.006		0.05			
Being married		0.007					
Being a widow				0.020	0.011		
Having a qualified job		0.008					
Having a PhD	0.019	0.010			0.031		
Feeling well		0.045		0.037			

PTSD, post-traumatic stress disorder.

More than 6% of HCWs (6.27%) were worried about taking medical decisions that represented an ethical problem for them, and nearly 18.60% of them declared that they had encountered ethical problems/dilemmas/issues while working. Of these, the younger the respondents, the higher the percentage, especially as regards patient triage and obligatory protocols ($p<0.01$). A total of 437 out of 5104 HCWs chose to explain the ethical problems and other issues they had experienced, as shown in table 4.

Impact of the pandemic on mental health status

Table 5 summarises the conditions found to be statistically significantly associated ($p<0.05$) with the mental health symptoms evaluated. On the basis of this table, we have identified seven target groups susceptible to benefitting from an intervention and which should be taken into account when designing new contention measures to cope with the pandemic: (1) women; (2) people aged under 42 years; (3) caregivers; (4) people working in essential services or non-qualified jobs; (5) people with a higher precariousness index; (6) COVID-19 patients; and (7) HCWs, especially those working with patients with COVID-19.

DISCUSSION

The current study aimed to identify the impacts of the COVID-19 pandemic on a wide range of health status

dimensions in Catalonia while lockdown was in force. It is one of the most extensive surveys ever published, with a total of 56 656 questionnaires analysed, but nevertheless has limitations that must be considered when interpreting the data. Thus, although our survey provides information about how people of different age ranges, and specifically woman and HCWs, have faced the pandemic in several spheres, it was not designed to be representative of a specific population. The survey was long, which may have generated fatigue and a high drop-out rate, although this also allowed us to collect a large volume of data. In addition, it was shared via social media, thus the sample of the population studied could not be controlled. However, although not ensuring representability, the snowball method proved to be a successful strategy that allowed us to rapidly reach a large number of people without exposing interviewers to infection. Another limitation is that the criteria used to establish ranges for some of the variables were statistical, in order to obtain balanced groups in terms of number of responses. This provides rigour but can be confusing because this segmentation is unusual and can lead to some degree of bias.

With regard to the impact on the socioeconomic sphere, the highest level of precariousness, which according to our results seems to occur in people aged less than 42 years, is striking. Of particular concern is the fact that 25% of respondents had experienced a decreased workload due to the epidemic situation, especially men, more of whom had lost more jobs or previously contracted assignments, and those aged less than 52 years, many of whom had been made redundant or put on temporary furlough. In addition, a quarter of respondents had no savings to protect them against contingencies, and up to 8.78% stated that they had applied for social benefits or that they would do so soon. Socioeconomic precariousness was found to be one of the factors associated with higher scores on the mental health indices, which is rather worrying given that the incidence of the pandemic was also more pronounced in the poorest neighbourhoods, at least in Barcelona.[15]

A value of approximately 20% for the population affected at mental health level seems consistent according to literature,[7 16 17] even if higher percentages have been found in some cases.[18 19] Although no validated scales were used, the inclusion of 41 questions related to depression, anxiety, stress and PTSD symptoms allowed us to explore the impact on the mental health dimension. We identified up to seven target groups at higher risk of impaired mental health status and susceptible of benefitting from an intervention. A worse symptoms score was associated with the presence of symptoms compatible with COVID-19 or having used all the healthcare resources put in place. However, as a real intervention based on these assumptions would be very costly and logistically difficult, confirmed patients with COVID-19 might instead be a better target group for an intervention.

Being female, young and having unstable work or income have been shown to be significant correlators of psychological negative impact.[18–21] Women are especially vulnerable as they bear the heavier burden of childcare and care of the elderly, suffer gender-based violence and have more precarious jobs.[22] Crises exacerbate gender inequalities, including gender-based violence, increased care burden, inadequate access to health services and others.[23–25] Moreover, women account for the majority of HCWs around the world, and those younger or with a childcare burden suffered psychological distress.[26 27] In our setting, it was mostly women who were responsible for caring for others, and caregiver adults with a higher perception of the difficulty of quarantine for children and the whole family suffered more psychological distress than the other groups. Individual perception has previously been associated with stress levels and a negative behavioural and emotional impact on children, and it has been hypothesised that one of the causes could be the impact of the situation itself on both adults and their children (indirectly[28] and directly[29]), along with the effects of school closures and the need to work from home with a lot of new inputs. Schools provide both education and counselling and promote and imply healthy habits that might not be continued at home.[29]

Given their frailty and increased risk of suffering COVID-19 if living in nursing homes or similar facilities, people aged more than 60 years represent the vast majority of all COVID-19 related deaths worldwide.[30] The elderly are key in Mediterranean countries, such as ours, as they often take care of grandchildren when their parents go to work, so to quarantine and isolate them can be very disturbing for the whole of society. Moreover, COVID-19 and the consequences of isolating the elderly can be devastating for their mental health and as it contributes to a greater risk of morbidity, which may be even worse in the more disadvantaged populations.[31 32] Although anxiety, depression and symptoms of avoidance coping have been reported for the elderly,[33 34] we found that younger people coped worse with the mental burden due to the COVID-19 pandemic, and the measures imposed to combat it, than older people. Older people have been shown to be more resilient than younger people in other outbreaks and major disasters,[35] and our results also support this by showing that older people were less afraid of dying than younger ones. This could be due to the fact that the elderly have a greater sense of the meaning of life and that they tend to perceive time as being finite, which determines their priorities in terms of goals and behaviours.[36] Young adults already face stressful life changes, and the pandemic has worsened this, even though one in five young adults might have been better off due to having been removed from external pressures, such as work and education and/or to having more time for close relationships.[37] Several factors have been suggested to account for this worsening, including the perceived virus-related health risk[37 38] and the decrease of physical and social activity due to lockdown and other restriction measures decreed by governments.[38 39] A study in France after 2 weeks of lockdown reported sleep

problems and increased consumption of sleeping pills, with both being more frequent in people aged less than 35 years compared with older people.[40] Similarly, Shanahan *et al* showed that a good group to be selected for intervention could be females, migrants and young adults with higher prepandemic emotional distress, including social exclusion.[37]

A non-negligible proportion of our respondents were HCWs who, in Europe, are mostly women.[41] In addition to their obviously increased risk of becoming infected,[42] being on the frontline against the SARS-CoV-2 pandemic may have put them under a great deal of pressure, thus increasing levels of anxiety and chronic stress (due to the overwork and suboptimal working conditions), which can last for to up to a year afterwards.[11 43 44]

A study carried out in a cohort of 9138 HCWs showed that 45.7% were at risk of suffering from a mental disorder,[45] and another, which included 5450 HCWs, showed that 8.4% had experienced suicidal ideation and behaviour.[46] In our study, being a HCW was found to be a positive factor for impaired mental health, especially for those working with patients with COVID-19 and afraid of infecting others, which has proved to have an impact on outcomes.[47] This becomes worse as the tension in health systems increases, as frontline professionals work in a complex environment given the ethical challenges of COVID-19, eliciting different dimensions concerning ethical dilemmas related to the situation itself and the measures dictated by the government.[48] The shortage of hospital beds was an important problem as it contributed to the case fatality rate and implied a triage of patients according to their likelihood of survival.[49–51] The management of end-of-life situations was particularly worrying, as banning the support of relatives at the bedside had a very disturbing impact on patients and their families, but also on HCW mental health, workload, challenges and professional outcomes.[52] According to our results, nearly 8 out of 10 HCWs declared that they were afraid of working with patients with COVID-19, especially given the risk of infecting others. Being obliged to work with lack of appropriate, or sufficient, personal protective equipment was one of the most frequent complaints of HCWs who shared their narratives on the ethical concerns they experienced. This low sense of security had previously been pointed out in small HCW cohorts elsewhere.[53–55] We found differences between women and men in terms of the fear of transmitting the infection to others, and this could be related to women's jobs implying more exposure (as is the case for nurses, who in our cohort were mostly women). Those working in essential services also had higher psychological distress and this could be for the same reason, namely the low sense of security plus the fear of being at higher risk of contracting the disease.

Around 6.27% of respondents declared that their fear was of making medical decisions that represented an ethical problem for them, with this percentage being higher in younger people. One in five of our HCWs declared that they had experienced ethical problems, a value that is in line with other studies,[52 56] with approximately half of these being related to patient selection or patient triage protocols/therapeutic indications. In our opinion, this fact should also be explored more thoroughly and actively followed up to prevent health professionals from being put into similar situations in the future.

Our findings could be used to design and implement interventions to increase the resilience of the groups identified herein, as well as to prepare an appropriate organisational response. In this sense, some authors have published specific strategies that could be used to alleviate this suffering.[52 57–62] Some of the strategies at an individual and organisational level that could be actively implemented in the vulnerable populations identified are:

1. To identify individuals who may be more vulnerable to mental health difficulties or are part of the populations identified as being more vulnerable within each group/team/staff members and to provide them with appropriate care.
2. To provide education on mental hygiene, self-reflection and emotion-focused therapy using different tools (storytelling, music, meditation, etc).
3. To train in building resilience and foster a culture of resilience.
4. To promote mental health services and make them accessible to all. To plan a structured schedule to communicate existing resilience measures and support the programmes available and how to access them.
5. To draft and implement a systematic communication plan in order to provide timely, accurate, regular and evidence-based information on the situation and the response planned (including all scenarios). To perform training and inform about the tools available to ensure its implementation if they are involved in this response. This can be applied at all levels, including companies, health departments and hospitals, public health systems and at local and national government level.
6. To provide people with structured opportunities to debrief and talk after critical events, to hear about their real-time concerns and to engage them in collaborative approaches to decision making and problem solving.

Conclusion

We identified seven populations as being vulnerable and therefore likely to benefit from an intervention in the face of potential future outbreaks or other major disasters. Our study should open the door to the design of coping measures and the elaboration of strategy proposals with the full participation of those institutional leaders who are in a position to adapt policy to the real needs of the people at organisational, governmental and public health service levels.

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Acknowledgements We would like to thank all the people who kindly shared the survey questionnaire via social media and/or completed it. We would also like to thank Jérôme Nigou, Valeria Bergalli, Paolo Salieri, Chiara Bertoldini and Harvey Evans, who kindly volunteered to translate/edit the questionnaire and website information into French, Italian and English, and to Mr Andrew Frankland for reviewing and editing the English grammar of the text.

Contributors M-RS, CA, MV and CV made substantial contributions to the conception or design of the work. JF, JLR, JMM, LA, M-RS, CA and CV made substantial contributions to the acquisition and analysis of data. M-RS, CA, P-JC, JAM-M, MV, BA, JU and AS-B made substantial contributions to the interpretation of data. MRS, CA and CV drafted the manuscript, and all the others authors revised it critically for important intellectual content. All authors gave final approval of the version to be published. CV is responsible for the overall content as guarantor.

Funding This work was supported by the Spanish Government-FEDER Funds through CV contract (CPII18/00031) and funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 847 762 through LA's contract.

Competing interests The salaries of JF, JLR and JAM-M are partially paid by the European Union's Horizon 2020 research and innovation programme under grant agreement no. 847 762. LA received support from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 847 762 through her contract. JAM-M has a postdoctoral research contract from the Fundació Lluita contra la SIDA and has received honoraria for research/educational presentations by GILEAD Sciences and MSD. MV is the president of the Suicidal Conduct Committee of PSSJD. AS-B has received support from the Diputació de Barcelona via contracts or grants to carry out seven projects on mental health planning, from the Spanish Government-FEDER Funds through Instituto de Salud Carlos III (a grant to carry out a research project about mental health (PI19/00111 and PI15/00519)) and from the Catalan Government via an intensification research contract from the PERIS programme (SLT006/17/68), 2018–2020. He has acted as member of the Advisory Board of the Instituto de Salud Carlos III for the evaluation of research projects and as member of the Advisory Board of the Fundación Progreso y Salud for the evaluation of research projects. CV received support from the Spanish Government-FEDER Funds through CIBER Enfermedades Respiratorias and her contract (CPII18/00031), from the European Union's Horizon 2020 research and innovation programme for being the local PI of the Comix study (conducted within the EpiPose project (GA 101003688)) and has acted as an expert member of the COVID-19 crisis committee of the IGTP. MR-S, CA, P-JC, BA and JU declared no competing interests.

Patient consent for publication Not applicable.

Ethics approval PI-20–114, from the Germans Trias i Pujol Hospital Ethics Committee.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are available upon reasonable request. Data are available in a public, open access repository. All data relevant to the study are included in the article or uploaded as supplementary information.

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QUESTIONS	SCORING CODE
General demography	
How old are you?	
Which gender do you identify with?	male, female, non binary, I prefer not to say
In which country do you live?	
In which postal code do you live?	
How would you define your civil status?	single, married, divorced, widow, in a couple
Where do you live?	my own house/apartment, shared house/apartment, in a rented room, institutionalized, I am homeless
What level of education do you have? (check the maximum obtained)	primary education, secondary education, further education, bachelor degree, masters degree, doctoral degree
What is your job?	skilled job, unskilled job, caring for others/home, I have a company, I am self-employed, I am a healthcare worker (or working in a healthcare setting, I am unemployed, others
Questions for the Scale of socio-economic precariousness	For index scoring, sum of all points multiplied by 2.
Who provides financially at home?	>2 of us = 0 p, 2 of us =1 p, only me = 2p
Have you lost your job due to the COVID-19 outbreak?	no= 0 p; yes, the company made a temporary labour force adjustment plan= 1 p; yes, others = 1.5 p; yes, I was fired/the company made a labour force adjustment plan/ I have lost some jobs previously contracted/arranged = 2 p
Do you have savings?	yes= 0 p, yes, some= 1 p, no = 2 p
Do you have a mortgage to pay?	no = 0 p; yes, one =1 p; yes, more than 1 = 2 p
Do you have rent to pay?	no = 0 p, yes =2 p
Are you spending less since the COVID-19 outbreak?	no = 0 p; a little = 1 p; yes =2 p
Have you asked for social assistance or for any other assistance due to the COVID-19 outbreak?	no = 0 p; no, but will have to = 1 p; yes =2 p
Do you have to take care of somebody? (multiple choice question)	no = 0 p; yes (any answer: children <16 y.o., >16 y.o, parents, siblings, others) = 1 p per positive answer.
Habits and COVID-19-related health status during confinement	
(If having children): In which grade do you think the confinement is being difficult for children (and therefore for the family?	scale of potential answer, 0 being= not at all and 10= a lot
Are you staying at home, during this time?	yes; yes, I am teleworking; no, I work in essential services; no, I need to work; no, my employer does not allow me to
Are you scared or worried?	no; yes, of getting infected; yes, of going to the shops; yes, of infecting others; yes, that people close to me get infected
Who are you scared of infecting?	the children; my parents/close elderly people; my colleagues; anyone
Do you think you are consuming more since the outbreak began?	no; yes, I eat more; yes, I drink more (alcoholic drinks); yes, I smoke more; yes, I consume more illegal drugs; yes, I consume more drugs to calm myself down (sleeping pills, muscle relaxants, tranquilizers)
Through which channel do you receive information about the outbreak?	TV; Radio; Newspaper; Social media (Whatsapp, Twitter, Telegram etc.); Other channels
What do you think of the information you are receiving?	It's too much: I would like the Government to explain less; It's too much: I would like the media to explain less; It's too little : I would like the Government to explain more; It's too little : I would like the media to explain more; It's too negative/too sensationalist; I think it's poorly adjusted to reality; It's alright; I do not think anything about it
Do you think this situation has changed you?	no; yes, my life has changed; yes, my personality had changed; yes, the way I see society/the way we lived
Have you been in contact with someone infected by SARS-CoV-2?	yes, with a confirmed case (test positive); yes, with a probable non-confirmed case (test negative or test not done); I do not know
Since February, have you had any of these symptoms?	no; persistent cough (for one week or more); headache; persistent fever (for one week or more); extreme fatigue/tiredness; sore throat; muscle pain; loss of appetite/weight; loss of smell, smell blindness; loss of taste; diarrhea; dizziness; shortness of breath; chest pain; nasal congestion/running nose
How do you feel now?	well, normal, I do not feel at 100%, bad
In the last 14 days, have you used any healthcare resources put in place for the COVID-19 pandemic?	have called a telephone number set up for the management of COVID cases; have gone to the emergency room; have used an app set up for management of COVID cases; have been to a public healthcare center (including GP); have been to private doctor/healthcare center; have been tested; none of the above
If you were tested, what was the result?	positive, negative
For HealthCare workers	
What is your job?	physician, nurse, nurse assitant, technician, caretakr, researcher, kitchen personnel, cleaning personnel, administrative personnel, others
Have you been working with COVID patients directly?	no; not as far as I know; yes, I have been/am in a COVID team; yes, on duty
Are you scared of working with COVID patients?	no; yes, o being infected; yes, of dying; yes, of transmitting the virus to other non-COVID patients; yes, of transmitting the virus to my people (family/colleagues): yes, of being obliged to take medical decisions representing an ethical dilemma for me (patient selection, applicaton of protocols)
Have you had ethical concerns while working?	no; no, I think I need to follow the protocols; yes, with selection of patients and/or protocols for selection of patients or therapeutic indications; yes, others
Questions related to mental-health	**Scoring**
Questions related to anxiety- How these sentences apply to you?	For each of the questions below: never = 0 p, sometimes = 1 p, often = 2 p, almost always = 3 p. For the index scoring, sum of all points multiplied by 2.
last week I was aware of dryness of my mouth	
last week I experienced breathing difficulty (excessively rapid breathing, breathlessness in the absence of any physical exertion and absence of any	
last week I experienced trembling (eg in the hands)	
last week I was worried about situations in which I might panic ad make a fool of myself	
last week I felt I was close to panic	
last week I was aware of the action of my heart in the absence of physical exertions (sense of heart rate increase, heart missing a beat)	
last week I felt scared without any good reason	
Questions related to stress- How these sentences apply to you?	For each of the questions below: never = 0 p, sometimes = 1 p, often = 2 p, almost always = 3 p. For the index scoring, sum of all points multiplied by 2.
last week I found it hard to wind down	
last week I tended to over-react to situations	
last week I felt that I was using a lot of nervous energy	
last week I found myself getting agitated	
last week I found it difficult to relax	
last week I was intolerant of anything that kept me from getting on with what I was doing	
last week I felt that I was rather touchy	
Questions related to depression- How these sentences apply to you?	For each of the questions below: never = 0 p, sometimes = 1 p, often = 2 p, almost always = 3 p. For the index scoring, sum of all points multiplied by 2.
last week I couldn't seem to experience any positive feeling at all	
last week I found it difficult to work up the initiative to do things	
last week I felt that I had nothing to look forward to	
last week I felt down-hearted and blue	
last week I was unable to become enthusiastic about anything	
last week I felt that life was meaningless	
Questions related to PSTD symptoms- How these sentences apply to you?	For each of the questions below: 0= not at all, 1= a little bit, 2= moderately, 3= quite a bit, 4=extremely. For the index scoring, sum of all points multiplied by 2.
Questions related to Intrusion symptoms	
last week any reminder brought back feelings about it	
last week I had trouble staying asleep	
last week other things kept making me think about it.	
last week I thought about it when I didn't mean to	
last week Pictures about it popped into my mind	
last week I found myself acting or feeling like I was back at that time	
last week I had waves of strong feelings about it	
Questions related to Avoidance symptoms	
last week I avoided letting myself get upset when I thought about it or was reminded of it	
last week I felt as if it hadn't happened or wasn't real	
last week I stayed away from reminders of it.	
last week I thought about it when I didn't mean to	
last week I was aware that I still had a lot of feelings about it, but I didn't deal with them	
last week My feelings about it were kind of numb	
last week I tried to remove it from my memory	
last week I tried not to talk about it	
Questions related to Hyperarousal symptoms	
last week I felt irritable and angry	
last week I was jumpy and easily startled	
last week I had trouble falling asleep	
last week I had trouble concentrating	
last week I felt watchful and on-guard	

ANSWER CATEGORIES		Conditional distributions given the responders gender (%)				p (women vs men)	Conditional distributions given the responders age range (%)				p
		women	men	non binary	not saying		<42 y.o.	42- 52 y.o.	52- 61 y.o.	>61 y.o.	
Civil status	Married	51.04	60.21	14.77	27.94		32.2	56.74	61.12	63.22	
	Divorced	11.75	7.94	5.68	16.17		2.52	11.33	15.14	13.08	
	In couple	18.49	17.39	39.77	23.52		38.02	18.34	10.91	6.85	
	Single	14.51	12.89	38.63	30.88		27.15	12.85	10.06	7.2	
	Widow	4.18	1.54	1.13	1.47		0.08	0.71	2.75	9.63	
Housing	Owned appartment/house	91.08	90.89	64.36	72.46		79.44	94.22	95.08	94.48	
	Shared appartment/house	7.7	7.9	26.43	23.18		18.43	4.9	4.11	4.33	
	Rented room	1.05	1.07	8.04	0.00		2.01	0.81	0.67	0.83	p<0·01
	Centre/institution	0.13	0.09	0.00	0.00		0.05	0.03	0.09	0.3	
	Homeless	0.02	0.03	1.14	4.34		0.05	0.01	0.02	0.03	
Maximum Education Degree	Primary Education	3.52	4.63	5.68	5.79		1.53	3.3	4.24	6.1	
	Secondary Education	5.18	6.17	3.4	1.44		4.83	4.49	5.19	7.19	
	High School	29.92	35.46	29.54	28.98	p<0·01	27.54	30.98	34.17	33.11	p<0·01
	Degree	44.99	36.96	31.81	33.33		38.72	43.92	43.48	44.26	
	Master	13.47	12.77	26.13	21.73		24.32	14.3	9.7	5.65	
	PhD	2.9	3.98	3.4	8.69		3.03	2.99	3.2	3.67	
Employment	Qualified job	36.95	34.15	35.22	37.68		48.19	48.76	41.3	7.86	
	Non qualified job	3.51	3.78	9.09	2.89		4.39	4.46	4.49	1.15	
	Job in Healthcare	10.9	4.67	9.09	1.44		12.16	10.58	9.21	4.64	
	Home/people care	6.24	1.42	0.00	2.89	p<0·01	0.94	1.69	3.25	12.86	0<0·01
	Self-employed	8.03	11.41	9.09	15.94		7.72	11.45	11.4	5.59	
	Company owner	3.00	7.36	1.13	1.44		2.39	5.66	5.9	3.05	
	Unemployed	5.29	4.54	12.5	11.59		7.63	4.62	5.61	2.69	
	Other	26.03	32.63	23.86	26.08		16.54	12.73	18.8	62.13	
People financially providing at home	<2	8.03	7.05	14.77	16.41		13.59	3.99	7.26	6.43	
	2	66.29	68.57	54.54	55.22		70.39	71.65	64.94	61.18	
	3	25.67	24.37	30.68	28.35		16012.00	24.35	27.78	32.38	
Care of someone	No	36.55	47.61	58.94	34.66		45.98	16.26	31.39	67.82	
	Yes, of people of <16 y.o.	25.99	21.93	13.68	25.33		33.96	48.69	13.52	2.07	
	Yes, of people of >16 y.o.	13.02	10.35	6.31	6.66	<0.01	4.81	12.58	23.54	6.73	<0.01
	Yes, siblings	1.36	0.96	4.21	2.66		1.57	0.86	1.33	1.28	
	Yes, parents	16.1	12.66	10.52	17.33		8.41	16.92	23.03	10.92	
	Yes, others	6.95	6.46	6.31	13.33		5.24	4.66	7.17	10.16	
Burden of care	None	40.62	51.34				48.85	18.85	35.96	70.47	
	1 option selected	25.9	22.11				13.12	21.03	39.98	24.24	
	2 options selected	28.23	22.83			<0.01	34.82	49.43	19.32	4.51	<0.01
	3 options selected	4.77	3.39				2.82	9.88	4.31	0.61	
	4 options selected	0.41	0.30				0.31	0.73	0.38	0.11	
	5 options selected	0.04	0.01				0.04	0.04	0.02	0.02	
Loss of job	No	76.13	72.73	63.63	65.21		68.4	69.41	73.65	88.18	
	Yes, the company made a labour force adjustment plan	0.18	0.17	0.00	0.00		0.22	0.26	0.15	0.09	
	Yes, the company made a temporary labour force adjustment plan	9.70	10.01	9.09	7.24	<0.01	14.5	13.04	9.9	2.17	<0.01
	Yes, I have lost some jobs previously contracted/arranged	4.93	7.61	15.9	14.49		6.75	7.17	6.68	2.54	
	Yes, I was fired	0.96	0.68	2.27	0.00		1.79	0.96	0.67	0.16	
	Yes, others	8.08	8.77	9.09	13.04		8.3	9.12	8.93	6.83	
Savings	No	22.00	18.00	30.00	26.00		20.34	24.48	22.21	15.82	
	Yes	34.00	40.00	23.00	28.00	<0.01	36.22	32.37	33.65	40.55	<0.01
	Some	44.00	42.00	48.00	46.00		43.43	43.14	44.13	43.62	
Mortgage to pay	No	58.75	59.47	80.68	57.97		64.04	39.65	54.68	76.91	
	Yes, one	36.17	34.37	18.18	36.23	<0.01	31.76	50.8	39.81	20.66	<0.01
	Yes, more than one	5.07	6.14	1.13	5.79		4.18	9.54	5.49	2.42	
Rent to pay	No	76.00	76.00	51.00	66.00		56.64	75.05	83.23	87.08	<0.01
	Yes	24.00	24.00	49.00	34.00		43.35	24.94	16.76	12.91	
Spending less	Yes	59.85	62.61	59.09	69.56		64.15	58.86	60.4	59.52	
	A little	22.34	21.56	13.63	17.39		19.89	23.74	22.72	21.87	
	No	17.80	15.82	27.27	13.04		15.95	17.38	16.87	18.59	
Seek for social assistance/or any other assistance	Yes	91.42	90.8	80.68	81.15		88.95	88.41	90.73	96.48	
	Not yet, but will need to	4.71	5.19	10.22	8.69		6.34	6.43	5.08	1.81	<0.01
	Yes	3.85	3.99	9.09	10.14		4.7	5.15	4.18	1.7	
Index of socio-economic deprivation -score	<7	26.19	17.04	22.47	17.39		21.17	30.35	26.04	22.72	
	7-8.5	20.00	10.22	20.12	10.14	<0.01	33.2	28.42	32.07	36.36	p<0·01
	8.5-10	32.09	32.95	33.59	43.47		17.38	18.8	19.27	24.3	
	>10	21.71	39.77	23.8	28.98		28.24	22.41	22.6	16.59	
Staying home	No, I am forced to go to work	0.33	0.55	2.29	1.44		0.54	0.56	0.4	0.1	
	No, I need to work	0.69	1.51	1.14	1.44		0.75	0.79	0.88	1.3	
	No, I work on essential services	13.73	12.39	13.79	7.24	<0.01	16.36	17.77	15.19	4.47	p<0·01
	Yes	54.13	57.73	43.67	62.31		43.85	39.51	48.13	87.39	
	Yes, teleworking	31.1	27.79	39.08	27.53		38.48	41.35	35.37	6.71	
Afraid	No	22.14	38.44	26.26	17.68		21.77	23.06	26.82	35.04	
	Yes, going shopping	18.9	13.39	17.17	10.14	<0.01	17.82	18.59	16.69	16.19	p<0·01
	Yes, to infect others	23.89	17.68	30.3	24.63		28.52	24.76	22.13	13.85	
	Yes, to get infected	35.04	30.47	26.26	27.53		31.87	33.57	34.33	34.9	
Afraid to infect	Elders	36.23	34.25	43.33	23.52		42.05	35.33	36.86	22.98	
	Anyone	48.63	51.26	50.00	70.58		41.27	41.49	54.17	69.79	p<0·01
	Children	13.32	12.97	3.33	5.88		14.28	21.55	7.21	6.47	
	Colleagues at work	1.81	1.50	3.33	0.00		2.38	1.61	1.74	0.74	
Increased consume of substances	No	55.2	64.77	41.22	50.00		42.95	51.97	59.86	77.68	
	Yes, alcohol	5.57	6.74	8.77	9.75		8.88	7.23	5.01	2.47	
	Yes, food	26.26	19.40	22.8	20.73	<0.01	33.04	27.44	22.72	13.4	p<0·01
	Yes, illegal drugs	0.25	0.73	5.26	2.43		1.07	0.28	0.16	0.09	
	Yes, drugs to calm down	4.83	2.44	8.77	6.09		4.24	4.99	4.27	3.07	
	Yes, tobacco	7.85	5.89	13.15	10.97		9.79	8.06	7.95	3.27	
Media to get information about the pandemic	Social media	30.09	27.20	35.00	30.88		7.49	5.45	3.41	1.49	
	TV	37.48	35.18	28.33	31.61		50.54	50.41	50083.00	48.38	
	Radio	14.94	16.67	10.00	7.35		13.74	20.14	22.9	25.1	
	Newspapers	12.83	15.18	15.00	11.76		19.17	16.7	17.07	20.19	
	Other	4.63	5.74	11.66	13.23		9.03	7.27	6.52	4.82	
Thoughts about the information received	It's ok	19.28	18.40	6.33	13.18		9.76	17.8	28.13	26.74	
	The Government explains too much	2.65	4.55	0.00	2.19		1.44	2.28	3.88	6.66	
	The Government explains too less	9.06	8.60	14.08	9.89		8.99	8.56	9.7	8.53	
	Media explain too much	12.49	13.43	11.97	8.79	<0.01	9.69	10.46	14.32	19.21	<0.01
	Media explain too less	2.8	3.11	5.63	8.79		2.68	2.69	3.53	2.96	
	Too negative	20.47	21.90	25.35	18.68		41.88	26.09	0.24	0.11	
	Poorly adjusted to the reality	27.34	25.60	30.98	29.67		21.13	25.61	33.57	31.12	
	I do not think anything about it	5.87	4.36	5.63	8.79		4.38	6.47	6.6	4.64	
Impact of the pandemic on people (subjective)	No	18.11	29.88	23.07	23.25		17.23	19.43	21.13	28.05	
	Yes, my personality	5.18	3.71	9.4	5.81	<0.01	8.17	5.55	3.29	2.02	<0.01
	Yes, my vision of the society/ ho	51.74	47.05	43.58	50.00		50.98	51.86	52.4	46.36	
	Yes, my life	24.95	19.34	23.91	20.93		23.6	23.14	23.17	23.56	
Contact with someone infected by SARS-CoV-2	I do not know	79.01	82.93	70.32	82.6		75.00	76.77	79.62	88.72	
	yes, with a probable non-confirmed case	10.16	9.01	16.48	5.79	<0.01	13.05	11.61	9.79	5.14	<0.01
	Yes, with a confirmed case	10.81	8.04	13.18	11.59		11.93	11.61	10.58	6.12	
Presence of symptoms (since February)	No	22.92	35.72	11.29	37.75		15.55	20.98	28.09	46.06	
	Headache	17.06	13.02	13.7	8.16		17.59	18.01	16.29	10.81	
	Sore throat	10.51	7.95	9.27	13.26		10.81	10.59	9.47	7.96	
	Nasal congestion/running nose	9.1	9.37	10.08	12.24		12.06	9.05	8.28	6.2	
	Extreme fatigue/tiredness	7.47	5.30	10.48	4.08		7.92	7.57	6.76	4.77	
	Persistent cough (for one week or	6.96	6.50	6.85	7.14		6.71	6.94	6.92	6.81	
	Muscle pain	6.55	5.15	8.87	4.08		6.54	6.78	6.43	4.67	
	Diarrhea	5.37	5.32	8.46	6.12		6.74	5.63	5.06	3.36	
	Dizziness	3.14	1.95	8.06	2.04		3.92	2.97	2.53	1.54	
	Shortness of breath	2.27	1.95	3.62	2.04		2.88	2.48	1.88	1.19	
	Chest pain	1.96	1.74	1.2	2.04		2.38	2.28	1.71	0.93	
	Loss of smell, smell blindness	1.93	1.66	2.41	1.02		2.15	2.05	1.76	1.31	
	Persistent fever (for one week or more)	1.58	1.79	2.41	0.00		1.5	1.5	1.83	1.76	
	Loss of appetite/weight	1.38	1.10	2.01	0.00		1.38	1.3	1.26	1.28	
	Loss of taste	1.74	1.42	1.2	0.00		1.79	1.79	1.66	1.28	
How did they feel when answering the questionnaire	Well	64.92	70.28	52.87	60.86		68.25	67.4	64.24	65.97	
	Normal	22.84	21.6	18.39	24.63		19.31	19.85	23.86	26.65	<0.01
	Not at 100%	11.76	7.83	25.28	13.04		11.93	12.26	11.39	7.13	
	Bad	0.46	0.27	3.44	1.44		0.5	0.46	0.45	0.22	
Use of healthcare resources put in place in the context of the COVID-19 pandemic	None	63.97	64.91	55.63	78.57		63.21	62.38	62.73	68.55	
	Have used an app set up for management of COVID cases	20.9	22.99	26.21	17.14		20.53	22.12	23.33	20.05	
	Have called a telephone number set up for the management of COVID cases	5.9	4.89	4.85	1.42		6.56	6.59	5.49	3.83	
	Have been to a public healthcare center (including GP)	3.97	3.27	2.91	1.42	<0.01	3.97	3.96	3.56	3.58	<0.01
	Have been tested	2.1	1.14	3.88	1.42		2.33	2.06	1.85	1.07	
	Have been to private doctor/healthcare center	1.69	1.39	1.94	0.00		1.76	1.36	1.48	1.82	
	Have gone to the emergency room	1.43	1.37	4.85	0.00		1.6	1.5	1.53	1.08	
For those tested, result of the test	Negative	61.14	42.48	50.00	100.00		62.05	59.21	54.25	51.7	
	Positive	38.85	57.51	50.00	0.00		37.94	40.78	45.74	48.29	
Occupation	Nurse	33.70	13.62	25.00	0.00		34.33	29.26	28.42	28.59	
	Physician	17.96	42.67	12.50	0.00		16.22	17.26	22.22	43.70	
	Others (including working on a private pharmacy)	12.74	13.88	0.00	0.00		15.98	13.71	10.58	8.15	
	Technician	11.19	13.36	0.00	0.00		11.97	13.85	10.81	6.67	
	Administrative personnel	10.66	6.23	25.00	0.00	<0.01	7.59	11.87	13.53	4.89	<0.01
	Nurse assistant	10.56	3.89	37.50	0.00		9.54	9.82	11.26	6.07	
	Researcher	2.36	3.24	0.00	100.00		3.22	2.80	1.89	1.48	
	Caretaker	0.18	2.59	0.00	0.00		0.67	0.55	0.60	0.15	
	Cleaning personnel	0.28	0.39	0.00	0.00		0.30	0.41	0.30	0.00	
	Kitchen personnel	0.28	0.13	0.00	0.00		0.12	0.48	0.15	0.30	
	Laundry personnel	0.09	0.00	0.00	0.00		0.06	0.00	0.23	0.00	
Having worked directly with COVID-19 patients	No	56.88	56.32	50.00	100.00		50.23	53.55	60.78	72.67	
	Yes	43.12	43.68	50.00	0.00	<0.01	49.77	46.45	39.22	27.33	<0.01
Fear of working with COVID-19 patients	No	21.97	36.04				18.70	20.17	25.18	31.70	
	Yes	78.03	63.96			<0.01	81.30	79.83	74.82	68.30	<0.01
Fear of working with COVID-19 patients	No fear	16.81	28.40	21.43	0.00		11.61	14.50	17.70	22.00	
	Scared of transmitting the virus to other non-COVID patients	19.30	17.40	14.29	0.00		17.30	16.22	13.93	12.93	
	Scared of transmitting the virus to own people (family, collaegues)	55.81	47.14	35.71	100.00		46.58	45.97	44.23	38.32	
	Scared of being obliged to take medical decisions representing an ethical dilemma for me (patient selection, application of protocols)	8.09	7.07	14.29	0.00	<0.05	8.23	6.72	4.72	4.99	<0.01
	Scared of being infected	21.69	21.32	14.29	0.00		16.27	16.59	19.42	21.77	
	Afraid of dying	5.43	5.50	7.14	0.00		4.05	4.30	4.45	4.55	