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Psychosocial impact of the Covid-19 pandemic: Identification of most vulnerable populations in a cross-sectional study.

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Abstract

Objective: To analyze the impact of first peak of Covid-19 pandemic on a wide range of dimensions of health of general population and health care workers in particular.

Setting: We developed a 74-question survey questionnaire which was shared through social media through using snowball sampling.

Participants: The study population was all people >16 years old consenting to participate in the Project and completing the survey. 56,656 completed survey questionnaires were obtained from the 3rd to 19th April 2020.

Outcome measures: descriptic statistics for the non-psychological questions and psychological impact of the outbreak as depression, anxiety, stress and PSTD questions scores.

Results showed an early and important negative impact on family finances, fear of working with Covid-19 patients and ethical issues related to Covid-19 care among healthcare workers (HCW). 7 target groups at higher risk of impaired mental health and susceptible to benefiting from an intervention were identified: women, under 42 years of age, people with care burden, socio-economically deprived groups, people with unskilled or unqualified jobs, Covid-19 patients, and HCW working with Covid-19 patients.

Conclusions: Active implementation of specific strategies to increase resilience and to prepare an adequate organizational response should be encouraged for the 7 groups identified as high risk and susceptible to benefit from an intervention. Study registration: ClinicalTrials.gov identifier (NCT number) NCT04378452.

Strengths and limitations of this study

- We have studied the impact of Covid-19 first wave on a very large cohort of people, using a total of 56,656 completed survey questionnaires.

- By using a survey questionnaire including 74 questions we have assessed the impact of the Covid-19 outbreak on a wide range of dimensions of health status.
- As the survey was disseminated through social media, the sample of population studied could not be controlled but was successfully shared rapidly reaching a large number of people in different settings and different regions, without exposing interviewers to infection.
- To explore the impact on mental health dimension survey included 41 questions related to depression, anxiety, stress and Post-Traumatic Stress Disorder symptoms but no validated scales were used.
- Since there were no specific criteria for stratification of some of the categories we divided these categories in the cohort into groups containing a similar sample size.

1. Introduction

On 30 March 2020, 78,797 confirmed cases of SARS-CoV-2, 6,528 deaths and 14,709 patients who had recovered were reported in Spain [1]; 16,157 cases and 1,410 deaths were recorded in Catalonia [2]. Case fatality (8%) was calculated for the registered cases, although the mortality rate was uncertain and the total number of cases (including those undiagnosed and with mild symptoms) were 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 the etiological diagnosis could not be made for all suspected cases in the context of a health emergency because of the lack of kits and the saturation of the health system [3,4].

Other major outbreaks of infectious diseases such as Ebola have demonstrated that there is an important impact on individuals and communities. The psychological effects of the disease itself as well as the traumatic experiences of loved ones are seen at individual level. At community level, health services, social systems and economic productivity are severely affected [5].

Two months after the first case reported in Spain and 2.5 weeks into the quarantine and self-isolation of the region of Catalonia, the emotional burden of the general community had increased. An important impact on mental health and emotional burden by SARS-CoV-2 epidemics and mass quarantines which have been implemented in other epidemics context has been reported [6–9]. Moreover, because a certain level of anxiety is necessary for the adoption of recommended precautionary measures against infection outbreaks [10], and for the successful implementation of public health interventions, a better understanding of people's attitudes and the assessment of psychological impact on them should be mandatory.

On the other hand, 2,600 (16%) of the confirmed cases in our setting by March 30th 2020 affected healthcare workers (HCW). Besides their obvious increased risk of being infected, the HCW facing the SARS-CoV-2 epidemics on the frontline (emergency rooms, ICUs, and other depts.) were put under high levels of stress and anxiety. This worsened as the tension in the Health Systems increased, requiring them to face important ethical dilemmas including triage of patients. Additionally, the SARS epidemic proved that frontline healthcare workers not only suffered from chronic stress at the time, but that this lasted for at least one year after the epidemic wave was over [11].

In the face of all this, we decided to conduct a cross-sectional study to evaluate the impact of the first wave of the Covid-19 pandemic on both the general population and HCW, specifically on their socio-economic status and their psychological distress.

2. M&M

2.1. Ethics

The study was reviewed and approved by the corresponding Ethics Committee, the Comitè Ètic de l'Hospital Universitari Germans Trias i Pujol; and conformed to the principles embodied in the Declaration of Helsinki. The ethical clearance was obtained before starting the project. The survey was created and shared complying with the European General Data Protection Regulation (GDPR), and all data was processed anonymously. The project is registered in ClinicalTrials.gov under the identifier NCT04378452.

2.2. Study procedures

Following the suggestions of members of the public, that claimed that the pandemic was impacting on people's lives and the need of assessing the nature of this impact, we created an anonymous online survey with the Typeform software (Typeform SL, Barcelona, Spain). It included 74 questions on demographic data (12 questions), socio-economic

sphere (8 questions), habits and health status related to Covid-19 during confinement (13 questions) and mental health dimension (through questions related to depression, anxiety, stress and Post-Traumatic Stress Disorder [PTSD] symptoms [41 questions]) (Supplementary Table 1). Patients and public were involved in the data collection as the survey was shared in 5 different languages (Catalan, Spanish, English, Italian, and French) through social media using snowball sampling from the 3rd to 19th April 2020. The data were downloaded as a spreadsheet file (Excel Microsoft Office) after collection and deleted from the Typeform software.

2.3. Analysis and Statistics

Since there were no specific criteria for age stratification or the population density (inhabitants / km2) of the municipality where the respondents lived that was significant for all questions, it was decided to divide these categories in the cohort into groups containing a similar sample size. Thus, and taking into account the volume of responses obtained, age ranges have been determined statistically so that they are homogeneous in terms of number of surveys completed by group.

The questions were grouped into indexes (socioeconomic precariousness index, depression index, anxiety index, stress index, or PTSD). The scores of the socio-economic precariousness index and population density by the respondents were segmented into 4 groups each. The criteria for segmentation were established in order to obtain balanced groups in terms of the number of respondents in each category.

We determined 4 ranges of age: <42 years old, 42-52, 52-61 and >61 y.o. The 4 score ranges of the 0-19 scale of socio-economic precariousness established were: low precariousness ≤7 points, mid-low=7-8.5, mid-high=8.5-10 and high >10 points.

All results were obtained taking into account the fact that the respondents were part of the totality of the cohort of respondents. Responses were also analyzed in total by

category and broken down into percentages according to conditional distributions taking into account; on the one hand the gender of the respondents, and on the other their age group.

We took the non-binary gender and those who preferred not to say which gender they identify as into account when analyzing the results, as this enriches the conclusions. However, statistical analysis, often does not take into account the minimum volumes of responses and 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 Chi-Square test independently in the observed counts. 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 collecting the p-value using Matlab's 'signrank' function [12,13].

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

3. Results

3.1. Characteristics of the cohort

We analyzed 56,656 questionnaires. The characteristics of the cohort are described in Table 1. Differences between categories by gender and age are described in Supplementary Table 2. The majority of respondents were females (70.4%), and from Catalonia. Those living most precariously were under 42 years old, with 18.43% sharing an apartment/house. ($p<0.01$). Most respondents had a degree (42.62%), and a qualified job (36.13%). 9% of total 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).

Up to 60% of the total declared that they were taking care of someone: 24.81% caring for children of <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 of 42-61 years old (p<0.01) and concerningly high for 4.79% of total respondents.

3.2. Impact of the pandemic on the General population

The impact on general population according to the responses obtained to the questionnaire is described in Table 2. Categories of responses by gender and group are described in Supplementary Table 2. 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 amongst those who were obliged to go to work on-site (p<0.01).

Only 2 weeks after starting the lock-down, 25% of the cohort had already lost their job or work. People under 52, as opposed to people over 52, and men, as opposed to women, were the most affected (p<0.01). 20.67% of the respondents declared that they had no savings at all (Table 1). After the start 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 help or that would need to use it soon. Those under 52 and people identifying as non-binary gender or preferring not to say were the most affected (p<0.01 and p<0.05, respectively). Those under 42 years, followed by people over 61 and people identifying as non-binary gender were the ones who showed higher precariousness index values (p<0.01).

The 19.84% of respondents declared that they had had contact with someone infected by SARS-CoV-2, half of them with a confirmed or probable case and this was more frequent for women under 52 (p<0.01). 35.75% declared that during the previous 14 days they had

used at least one existing healthcare resource or one put in place by the authorities in the context of the pandemic, and 64.25%, had used none. 73.82% declared to have had one or more symptoms compatible with Covid-19. The most frequent symptoms were headache (16.01%), sore throat and nasal congestion (9.85% and 9.17% respectively). Only 1.76% of people with one symptom or more had received a PCR test and only 1.81% of those declaring three symptoms or more. Women and under 42 said that they felt worse at the moment they answered the survey than people in other groups ($p<0.01$).

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

Most people said TV was their source of information on the pandemic (36.77%), followed by social media (29.23%). 30% of people only used one source, 37.84% 2 sources and 23.05% used 3. There was no difference across gender or age groups. 26.82% declared that the information given did not accurately reflect reality (more frequent in women and people over 52 ($p<0.01$), and another 20.92% said that it was too negative or too sensationalist (more frequent in men and people under 42 ($p<0.01$). 73.13% declared that they were afraid or worried, these including more women, but a lower percentage of people over 61 ($p<0.01$).

The 78.56% of the cohort declared that the pandemic had changed them, most of them (50,41%) in the way that they see society/how we used to live. Those most affected were women (more than men) and those under 42 vs the >61 ($p<0.01$ in both cases).

3.3. Impact of pandemic on HCW

A total of 5,104 people (9.05% of the total) identified themselves as workers in the healthcare sector, most of them women. While the proportion women/men in the total cohort is 70/30 in this subgroup the proportion is 85/15. The impact on this population is

detailed in Table 3. 41.65% of healthcare personnel declared that they had worked directly with Covid-19 patients, 32% of them while on duty. The majority of healthcare workers said that they were afraid to work with Covid-19 patients (75.87%). As it was a multiple-choice question, we know that around the 42.90% were afraid of transmitting the infection to their relatives/friends, 17.07% feared getting infected or transmitting it to other patients, and 4.28% were afraid of dying. Surprisingly, fear of dying decreased with age. In all cases it was higher percentages of younger HCW who said they were afraid ($p<0.01$).

More than 6 percent of healthcare workers (6.27%) were worried of taking medical decisions that represented an ethical problem for them. In fact, nearly 18.60% of them said that they had ethical problems/dilemmas/issues while working. Of these, the younger the respondents, the higher the percentage, especially with the patient triage and obligatory protocols ($p<0.01$). As many as 437 of 5,104 healthcare workers decided to explain to us which ethical problems they had had. We have grouped the problems and issues that the professionals listed, and the results are found in Table 3.

3.4. Impact of the pandemic on mental health status

Table 4 summarizes the conditions found statistically significantly associated ($p<0.05$) with the mental health symptoms evaluated. According to this table, we have identified 7 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 under 42; 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) healthcare personnel, especially those working with Covid-19 patients.

4. Discussion

Researchers have already sounded the alarm about how the Covid-19 pandemic may affect the mental health of the general population, and more specifically patients with previous physical or mental conditions (including previous mental disorders) [14,15] and people at risk due to their socio-economic conditions. The current study aimed to identify the impacts of the covid-19 pandemia at several levels using a questionnaire.

Our survey was disseminated through social media, thus the sample of population studied could not be controlled. However, this was a successful strategy to rapidly reach a large number of people in different settings and different regions, without exposing interviewers to infection. Even though this does not ensure representability, there is no other study that has reached such a huge number of subjects, as more than 50,000 completed questionnaires were obtained from geographical regions hit by the pandemic in different ways.

The criteria used to establish the age ranges, the population density and the socioeconomic precariousness index were statistical, in order to obtain balanced groups in terms of number of responses. This provides rigor but can be confusing because this segmentation is unusual and can lead to a certain bias.

As for the impact on the socioeconomic sphere, the highest level of precariousness, which according to what the results seem to reflect occurs in those under 42 years of age, is striking. Of particular concern is the fact that 25% of the people who responded to the survey in our study had decreased their workload due to the epidemic situation. According to the International Labor Organization (ILO), the reduction in employment is greater among women and younger and older people, who have all been particularly affected by the Covid-19 crisis. In our study, men are the ones who had lost more jobs or assignments previously contracted or hired, and we saw that higher percentages of those under 52

years old had been dismissed or submitted to a temporary labour force adjustment. Overall, global labour incomes have been estimated to have fallen by 10.7% during the first three quarters of 2020 (compared to the same period in 2019) [16], but we believe this could be much worse given our results. In addition, in our study, a quarter of respondents had no savings to deal with contingencies, and up to 8.78% stated that they had applied for social benefits or that they would do so soon. All of this is important because as we have demonstrated in our results, socioeconomic precariousness was revealed to be one of the factors associated with higher scores on mental health indices, and this is even more worrying given that the incidence of the epidemic was also more pronounced in the poorest neighborhoods, at least in Barcelona [17]. We would also like to mention that more studies should be carried out to analyze the socio-economic precariousness of the group of non-binary people, as we have seen trends that have not been statistically evident but would be worth confirming.

According to the literature, approximately 20% of the population affected seems consistent [7,18,19], even if in some cases higher percentages have been found [20,21]. According to our results, we have identified up to 7 target groups at higher risk of impaired mental health status and susceptible to benefitting from an intervention, and which should be taken into account when designing new contention measures against the pandemic. In our study we did found an association of worse symptoms scoring 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, we do consider instead that the target group for an intervention should be confirmed Covid-19 patients.

Other studies have also shown that being female, young, and having unstable work or income to be significant correlators of psychological negative impact [20–23]. Women

are especially vulnerable as they bear the heavier burden of childcare and care of the elderly, suffer gender violence and have more precarious jobs. This effect, which is generalized in society, is even more obvious if the female sex is combined with characteristics of vulnerable groups [24]. Sex and gender biases have been identified as linked to Covid-19 outbreaks. In many settings, women appear to be slightly more likely to be diagnosed with Covid-19, which may in part be due to the fact that women account for the majority of health care workers around the world. Moreover, several studies have highlighted that fact that health staff who are women, younger or parents of dependent children are more vulnerable to psychological distress [25]. We also know that crises exacerbate gender inequalities: gender-based violence increased during confinement [26]; women were doing 3-10 times more care work than men; women faced significant barriers to healthcare due to lack of autonomy over their own sexual and reproductive health, inadequate access to health services, and insufficient financial resources [27]. In this sense, it is anticipated that the Covid-19 crisis will trigger an economic recession which will disproportionately impact the income and employment of the most vulnerable, particularly women [28]. In our setting it was mostly women who were responsible for caring for others. Caregiver adults with higher perception of the difficulty of quarantine for children and the whole family suffered more psychological distress than the other groups. This was previously identified in a cohort of parents in Italy, showing that their individual perception was associated with their stress levels and a negative behavioural and emotional impact on their children. As this study points out, some of the causes for this could be the impact of the situation itself both on the adults and the children, plus the effects of the school closure together with the need for working from home with a lot of new inputs. It not only has a negative effect on the adults, but on the children both indirectly [29] and directly [30]. Schools provide not only education, but also counselling

and promote and imply healthy habits (healthy diet, physical exercise, social interaction), that might not be continued at home [30].

On the other hand, people over 60 years old were the vast majority of the total number of deaths all over the world [31]. While their frailty and an increased risk of suffering Covid-19 if living in nursing homes or similar facilities is true/undeniable, the elderly are key in Mediterranean countries, such as ours, as they 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, not only for their mental health but also as it contributes to a greater risk of morbidity, and this can be even worse in the more disadvantaged populations [32,33]. In this perspective, older people had more difficulties than younger people in adjusting to lockdown and social distancing rules. On the other hand, older people have proved that they have more resilience than younger people in other outbreaks and major hazards [34], something that our results also support by showing that older people were less afraid of dying than younger ones. All seniors showed anxiety and depression issues in China, and results were worse for females [35]. A Spanish study reported that up to 25.6% of a sample of adults with a mean age of 65 had symptoms of depression and 32.1% symptoms of avoidant coping style, and that having a current or past history of mental disorders highly influenced this, while the main protective factor was the ability to enjoy free time [36]. However, we found that younger people coped worse than older people with the mental burden due to the Covid-19 pandemic and the measures dictated to combat it. Differences between younger and older adults in emotional responses and recovery have been previously described, and several reasons for it have been hypothesized, including the fact that the elderly have a higher sense of meaning of life and that for them perceiving time as finite determines their priorities in terms of goals and behaviours [37]. In the

context of the Covid-19 outbreak's first wave, others have reported an increased negative impact on younger people compared with the elderly. A study in France after 2 weeks of confinement reported sleep problems and increased consumption of sleeping pills, with both more frequent in people under 35 compared to older people[38]. Young adults already face life changes which are stressful and the pandemic has worsened this, even if one out of five young adults might have been better off because of being removed from external pressures such as work and education and/or to having more time for close relationships [39]. A nice study in Switzerland concluded that for this specific population the distress related to lifestyle disruptions and hopelessness was higher than the perceived virus-related health risk [39], which others have already shown to be was relatively low [40]. Shanahan et al also showed that a good group to be selected for intervention could be females, migrants and young adults with higher pre-pandemic emotional distress including social exclusion [39]. Another factor which has been related to distress is the decrease of physical and social activity due to lockdown and other restriction measures decreed by Governments, which had a negative impact on psychological wellbeing of individuals including the elderly [41], but especially on the group of adolescents and young adults [40,42].

A non-negligible proportion of our respondents were HCW, who in Europe are mostly women [43]. Besides their obvious increased risk of being infected [44], facing the SARS-CoV-2 epidemics at the frontline may have put them under a lot of pressure, increasing levels of anxiety and chronic stress (as they faced tremendous overwork and suboptimal working conditions), which can last to up to a year afterwards [11,45,46]. A study carried out in a cohort of 9,138 HCW showed that 45.7% were at risk of suffering from a mental disorder [47], and another, which included 5,450, showed that 8.4% had suicidal ideation and behaviour [48]. In our study, being a HCW has been revealed as a

positive factor for impaired mental health, especially for those working with Covid-19 patients and afraid of infecting others, which has proved to have an impact on outcomes [49].

This becomes worse as the tension in health systems increases, as front-line professionals work in a complex environment given the ethical challenges of the Covid-19, eliciting different dimensions of ethical dilemmas related to the situation itself and the measures dictated by the Government [50]. The shortage of hospital beds — and especially ICU beds — was also an important problem, contributing to the case fatality rate and implying a triage of patients in order to preserve the beds for those with an increased potential to survive [51–53]. 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 [54]. According to our results, nearly 8 out of 10 HCW declared that they were afraid of working with COVID patients, especially because of infecting others. Being obliged to work with lack of appropriate or sufficient personal protective equipment was one of the most frequent complaints of HCW who shared their narratives on the ethical concerns they suffered. This low sense of security had been previously pointed out in a small HCW cohort in Spain [55], in nurses in Poland [56] and in Latin America [57]. 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, that in our cohort were mostly women). In our study those working in essential services also had higher psychological distress and this could be for the same reason, the low sense of security, plus the fear of being at higher risk of contracting the infection.

The 6.27% declared that that their fear was of making medical decisions that represented an ethical problem for them (patient selection or application of protocols), and this percentage was higher in younger people.

In fact, in our sample, one in five of the HCW declared that they had had ethical problems during those first weeks of the peak of the first wave, which is in line with other studies [54,58]; and approximately half of these had to do with 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.

5. Conclusion

Our study represents a photograph of the impact of the Covid-19 outbreak on the general wellbeing of the population and HCW, which should open the door for the elaboration of strategy proposals with the full participation of institutional leaders who are in a position to adapt policy to the real needs of the people. Previous work in smaller, selected cohorts (seniors, youth, etc.) has described the significant impact of the pandemic in a number of areas, including mental health problems in 20% of the population. In this project we have studied 56,656 completed surveys and analyzed the effects of Covid-19 on family finances, habits and attitudes, general health and mental health, and the day to day of health professionals. We were able to confirm the results noted by other smaller studies and to identify up to seven populations likely to benefit from an intervention: women; those under 42 years old; caregivers; people in a situation of socio-economic precariousness; essential workers or those with unskilled jobs; Covid-19 patients, and HCW, especially those working with COVID-patients. This data should be used to design and implement interventions to increase the resilience of these identified groups, as well

as to prepare an appropriate organizational response. In this sense, some authors have published specific strategies that could be used to alleviate this suffering, especially in terms of increasing the adaptability of caregivers by providing tools for recognizing risk factors for emotional distress and managing mental health hygiene, but also response actions by public and private organizations aimed at identifying the employees most at-risk and establishing active mitigating and corrective measures [52,54,59–62]. We think it would be worthwhile studying how to actively implement and adapt these measures to our environment, not only in the health field but also by extending them to the groups we have identified. The results obtained could help local and national Governments and Public Health Services to design or adjust coping measures in the face of potential future outbreaks or other major hazards that might be difficult for society.

6. Contributorship statement

MRS, CA, MV and CV made substantial contributions to the conception or design of the work. JF, JLR, JMM, LA, MRS, CA and CV made substantial contributions to the acquisition and analysis of data. MRS, CA, PJC, JAMM, MV, BA, JU, ASB made substantial contributions to the interpretation of data. MRS, CA, CV drafted the manuscript and all the others authors revised it critically for important intelectual content. All authors gave final approval of the version to be published.

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8. Data sharing statement

The complete dataset results generated is available at: https://zenodo.org/badge/DOI/10.5281/zenodo.4608502.svg.

9. Patient Public Involvement

The project was rapidly designed in a week following the suggestions of members of the public that contacted the authors sharing with them their experience and priorities, claiming that the pandemic was impacting on people's lives and the need of assessing the nature of this impact at several health dimensions that at that moment worried them most. Patients and public were involved in the data collection as the survey was shared in 5 different languages through social media using snowball sampling. A report has been generated based on the study and results presented in this manuscript to be disseminated to the general public. This will be done through its upload in the institutional websites and share by email to a list of people that gave specific consent to be notified of the results obtained. A press release will also be issued and the project and its results will be shared through mass media and discussed with key community members through meetings and public debates.

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12. Tables

Table 1: Characteristics of the cohort.

ANSWER CATEGORIES		TOTAL %	ANSWER CATEGORIES		TOTAL %
Gender	Female	70.4	**Care of someone**	No	39.75
	Male	29.22		Yes, of people of <16	24.81
	Non binary	0.15		Yes, of people of >16	12.24
	Not saying	0.12		Yes, siblings	1.26
Origin	Catalonia region	52.80		Yes, parents	15.11
	Other Spanish regions	46.00		Yes, others	6.82
	Other countries	1.20	**Burden of care (in n options selected)**	none	43.80
Civil status	Married	53.65		1	24.81
	Divorced	10.64		2	26.60
	In couple	18.19		3	4.36
	Single	14.1		4	0.38
	Widow	3.4		5	0.03
Housing	Owned appartment/house	90.95	**People financially providing at home**	>2	7.77
	Shared appartment/house	7.81		2	66.9
	Rented room	1.07		1	25.31
	Centre/institution	0.12	**Savings**	No	20.67
	Homeless	0.03		Yes	35.73
Maximum Education Degree	Primary Education	3.85		Some	43.58
	Secondary Education	5.46	**Mortgage to pay**	No	59.01
	High School	31.53		Yes, one	35.61
	Degree	42.62		Yes, more than one	5.37
	Master	13.29	**Rent to pay**	No	75.83
	PhD	3.23		Yes	24.16
Employment	Qualified job	36.13	**Occupation of HCW**	Nurse	30,64
	Non qualified job	3.59		Physician	21,70
	Job in Healthcare	9.06		Others (including working on a private pharmacy)	12,88
	Home/people care	4.82		Technician	11,50

	Self-employed	9.02		Administrative personnel	9,99
	Company owner	4.27		Nurse assistant	9,60
	Unemployed	5.09		Researcher	2,52
	Other	27.97		Caretaker	0,55
Care of someone	No	39.75		Cleaning personnel	0,29
	Yes, of people of <16 y.o.	24.81		Kitchen personnel	0,25
	Yes, of people of >16 y.o.	12.24		Laundry personnel	0,08
	Yes, siblings	1.26			
	Yes, parents	15.11			
	Yes, others	6.82			
Burden of care (in n options selected)	none	43.80			
	1	24.81			
	2	26.60			
	3	4.36			
	4	0.38			
	5	0.03			

2

Table 2: Impact of the pandemic on the General population.

ANSWER CATEGORIES		TOTAL %	ANSWER CATEGORIES		TOTAL %
Loss of job	No	75.12	**Staying home**	No, I am forced to go to work	0.40
	Yes, the company made a labour force adjustment plan	0.18		No, I need to work	0.94
	Yes, the company made a temporary labour force adjustment plan	9.78		No, I work on essential services	13.32
	Yes, I have lost some jobs previously contracted/arranged	5.75		Yes	55.19
	Yes, I was fired	0.88		Yes, teleworking	30.13
	Yes, others	8.29	**Afraid**	No	26.86

Spending less	Yes	60.66
	A little	22.09
	No	17.23
Seek for social assistance /or any other assistance	No	91.00
	Not yet, but will need to	5.00
	Yes	4.00
Contact with someone infected by SARS-CoV-2	I do not know	80.15
	yes, with a probable non-confirmed case	9.83
	Yes, with a confirmed case	10.01
Presence of symptoms (since February)	No	26.18
	Headache	16.01
	Sore throat	9.85
	Nasal congestion/running nose	9.17
	Extreme fatigue/tiredness	6.91
	Persistent cough (for one week or more)	6.84
	Muscle pain	6.20
	Diarrhea	5.36
	Dizziness	2.85
	Shortness of breath	2.19
	Chest pain	1.90
	Loss of smell, smell blindness	1.86
	Persistent fever (for one week or more)	1.63
	Loss of appetite/weight	1.31
	Loss of taste	1.66
	Yes, going shopping	17.30
	Yes, to infect others	22.12
	Yes, to get infected	33.70
Afraid to infect	Elders	35.76
	Anyone	49.28
	Children	13.20
	Colleagues at work	1.74
Increased substance use	No	57.94
	Yes, alcohol	5.92
	Yes, food	24.26
	Yes, illegal drugs	0.40
	Yes, drugs to calm down	4.15
	Yes, tobacco	7.29
Media to get information about the pandemic	Social media	29.23
	TV	36.77
	Radio	15.45
	Newspapers	13.54
	Other	4.99
Thoughts about the information received	It's ok	18.98
	The Government explains too much	3.23
	The Government explains too less	8.93
	Media explain too much	12.78
	Media explain too less	2.91
	Too negative	20.92

N of symptoms	1	40.03
	2	23.76
	3	14.68
	4	8.34
How did they feel when answering the questionnaire	Well	66.50
	Normal	22.50
	Not at 100%	10.60
	Bad	0.42
Use of healthcare resources put in place in the context of the COVID-19 pandemic	None	64.25
	Have used an app set up for management of COVID cases	21.51
	Have called a telephone number set up for the management of COVID cases	5.60
	Have been to a public healthcare center (including GP)	3.77
	Have been tested	1.82
	Have been to private doctor/healthcare center	1.60
	Have gone to the emergency room	1.42
For those tested, result of the test	Negative	57.76
	Positive	42.23

Impact of the pandemic on people (subjective)	Poorly adjusted to the reality	26.82
	I do not think anything about it	5.41
	No	21.43
	Yes, my personality	4.78
	Yes, my vision of the society/ how we lived	50.41
	Yes, my life	23.36

Scores results per percentiles	**Score**	**50%**	**90%**	**95%**
	Anxiety	2	≥10	≥16
	Stress	8	≥24	≥28
	Depression	4	≥16	≥20
	PSTD	17	≥46	≥54

2

Table 3: Impact of the pandemic on the HCW

ANSWER CATEGORIES		TOTAL %	ANSWER CATEGORIES		TOTAL %
Having worked directly with COVID-19 patients	No	58.34	**Ethical concerns**	No	56.29
	Yes	41.65		No, I follow protocols	25.09
Fear of working with COVID-19 patients	No	24.13		Yes, with selection of patients and/or protocols for selection of patients or therapeutic indications	9.41
	Yes	75.87		Yes, others	9.19
Fear of working with COVID-19 patients	No fear	14.58	**Problems faced by healthcare professionals, grouped**	Having worked without sufficient protection	25.68
	Scared of transmitting the virus to other non-COVID patients	14.95		With patients triage or protocols for patients triage or therapeutic indication	16.28
	Scared of transmitting the virus to own people (family, colleagues)	42.90		With the protocol for case management.	11.46
	Scared of being obliged to take medical decisions representing an ethical dilemma for me (patient selection, application of protocols)	6.26		With the protocol for End-of-Life management	8.94
	Scared of being infected	17.01		With institution management or orders from superiors.	8.02
	Afraid of dying	4.27		With the disjunctive of having to/wanting to go to work at first line and not being able/wanting to do it.	6.88
				With the priorization of dispensing protective material (facial masks, EPIs) or tests.	5.27
				With the impact of the outbreak and/or lockdown on some populations (chronic or mental health patients, elders, etc.)	3.89
				Others (non-specified)	3.89

	With problems due to the organitzative changes.	3.66
	With management of information given to patients/their families, and related problems (including confidentiality issues).	3.44
	With colleagues attitudes	2.52

2

Table 4: *Conditions statistically associated to the mental-health scores results.*

Factors:	Statistically association to:						
	Depression Index	**Anxiety Index**	**Stress Index**	**PSTD Index**	**Evitation Index**	**Intrusion Index**	**Hyperarousal Index**
Risk	**p**	**p**	**p**	**p**	**p**	**p**	**p**
Women	0.019	0.003		0.000	0.007	0.034	0.027
<42 y.o.		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 in a 10-points scale) vs 0				0.041		0.032	0.022
Living in a middle-high density population town		0.031					
Living in a shared appartment/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 on essential services		0.011					
Being a healthcare worker and to be afraid of attending COVID-19 patients	0.017				0.023		
To have been in contact with a COVID-19 patient		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	8641,000	0.007		0.011
To be afraid (of getting infected, to infect others, to go shopping)		0.000	0.036	0.000	0.003	0.012	0.006
To have increased the consume of at least one substance		0.006		0.008			

To use 3 media to get information about COVID-19		0.033					
Protection	**p**	**p**	**p**	**p**	**p**	**p**	**p**
>61 y.o.		0.006		0.05			
To be married		0.007					
Being a widow				0.020	0.011		
To have a qualified job		0.008					
To have a PhD	0.019	0.010			0.031		
Feeling well		0.045		0.037			

2

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 telephonic 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 irritabil 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 (%)					Conditional distributions given the responders age range (%)				
		women	men	non binary	not saying	p (women vs men)	<42 y.o.	42- 52 y.o.	52- 61 y.o.	>61 y.o.	p
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	p<0.01
	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	
	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	p<0.01	1.53	3.3	4.24	6.1	p<0.01
	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		27.54	30.98	34.17	33.11	
	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	p<0.01	48.19	48.76	41.3	7.86	0<0.01
	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		0.94	1.69	3.25	12.86	
	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	
	1	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	<0.01	45.98	16.26	31.39	67.82	<0.01
	Yes, of people of <16 y.o.	25.99	21.93	13.68	25.33		33.96	48.69	13.52	3.07	
	Yes, of people of >16 y.o.	13.02	10.35	6.31	6.66		4.81	12.58	23.54	6.73	
	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			<0.01	48.85	18.85	35.96	70.47	<0.01
	1 option selected	25.9	22.11				13.12	21.03	39.98	24.24	
	2 options selected	28.23	22.83				34.82	49.43	19.32	4.51	
	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	<0.01	68.4	69.41	73.65	88.18	<0.01
	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		14.5	13.04	9.9	2.17	
	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	<0.01	20.34	24.48	22.21	15.82	<0.01
	Yes	34.00	40.00	23,00	28,00		36.22	32.37	33.65	40.55	
	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	<0.01	64.04	39.65	54.68	76.91	<0.01
	Yes, one	36.17	34.37	18.18	36.23		31.76	50.8	39.81	20.66	
	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	No	91.42	90.8	80.68	81.15		88.95	88.41	90.73	96.48	<0.01
	Not yet, but will need to	4.71	5.19	10.22	8.69		6.34	6.43	5.08	1.81	
	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	<0.01	21.17	30.35	26.04	22.72	p<0.01
	7-8.5	20,00	10.22	20.12	10.14		33.2	28.42	32.07	36.36	
	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	<0.01	0.54	0.56	0.4	0.1	p<0.01
	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		16.36	17.77	15.19	4.47	
	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	37.68	<0.01	21.77	23.06	26.82	35.04	p<0.01
	Yes, going shopping	18.9	13.39	17.17	10.14		17.82	18.59	16.69	16.19	
	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	p<0,01
	Anyone	48.63	51.26	50,00	70.58		41.27	41.49	54.17	69.79	
	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	<0.01	42.95	51.97	59.86	77.68	p<0.01
	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		33.04	27.44	22.72	13.4	
	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	12.5		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	<0.01	9.76	17.8	28.13	26.74	<0.01
	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		9.69	10.46	14.32	19.21	
	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	<0.01	17.23	19.43	21.13	28.05	<0.01
	Yes, my personality	5.18	3.71	9.4	5.81		8.17	5.55	3.29	2.02	
	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	23.93	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	<0.01	75,00	76.77	79.62	88.72	<0.01
	yes, with a probable non-confirmed case	10.16	9.01	16.48	5.79		13.05	11.61	9.79	5.14	
	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	64.28	65.97	<0.01
	Normal	22.84	21.6	18.39	24.63		19.31	19.85	23.86	26.65	
	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	0.23	
Use of healthcare resources put in place in the context of the COVID-19 pandemic	None	63.97	64.91	55.33	78.57	<0.01	63.21	62.37	62.73	68.55	<0.01
	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		3.97	3.96	3.56	3.58	
	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	<0.01	34,33	29,26	28,42	28,59	<0.01
	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		7,59	11,87	13,53	4,89	
	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	<0.01	50,23	53,55	60,78	72,67	<0.01
	Yes	43,12	43,68	50,00	0,00		49,77	46,45	39,22	27,33	
Fear of working with COVID-19 patients	No	21,97	36,04			<0.01	18,70	20,17	25,18	31,70	<0.01
	Yes	78,03	63,96				81,30	79,83	74,82	68,30	
Fear of working with COVID-19 patients	No fear	16,81	28,40	21,43	0,00	<0.05	11,61	14,50	17,70	22,00	<0.01
	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, colleagues)	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)	3,09	1,07	14,29	0,00		8,13	6,12	4,72	4,99	
	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	

STROBE Statement—Checklist of items that should be included in reports of ***cross-sectional studies***

	Item No	Recommendation	Page No
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	1
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	2
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	4-5
Objectives	3	State specific objectives, including any prespecified hypotheses	5
Methods			
Study design	4	Present key elements of study design early in the paper	5-6
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5-6
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of selection of participants	5-6
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	5-6
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	5-7
Bias	9	Describe any efforts to address potential sources of bias	6-7
Study size	10	Explain how the study size was arrived at	7
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	N/A
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	5-7
		(*b*) Describe any methods used to examine subgroups and interactions	6-7
		(*c*) Explain how missing data were addressed	6-7
		(*d*) If applicable, describe analytical methods taking account of sampling strategy	6-7
		(*e*) Describe any sensitivity analyses	N/A
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	7, 18
		(b) Give reasons for non-participation at each stage	N/A
		(c) Consider use of a flow diagram	-
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	7-8
		(b) Indicate number of participants with missing data for each variable of interest	18
Outcome data	15*	Report numbers of outcome events or summary measures	8-10
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	8-10

		(*b*) Report category boundaries when continuous variables were categorized	
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	
Discussion			
Key results	18	Summarise key results with reference to study objectives	17
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	11
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	11-17
Generalisability	21	Discuss the generalisability (external validity) of the study results	11-17
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	19

*Give information separately for exposed and unexposed groups.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.

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Identification of most vulnerable populations at psycho-social sphere: a cross-sectional study conducted in Catalonia during the strict confinement in the context of Covid-19 pandemic.

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Identification of most vulnerable populations at psycho-social sphere: a cross-sectional study conducted in Catalonia during the strict confinement in the context of Covid-19 pandemic.

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Abstract

Objectives: To evaluate the impact of Covid-19 on psycho-social sphere on both the general population and HCW.

Design: Cross-sectional study.

Setting: It was conducted in Catalonia, Spain during the first wave of Covid-19 outbreak and when confinement was in force.

Participants: The study population was all people >16 years old consenting to participate in the study and completing the survey. 56,656 completed survey questionnaires were obtained from the 3rd to 19th April 2020.

Interventions: a 74-question survey questionnaire was developed and shared through social media through using snowball sampling.

Primary and secondary outcome measures: descriptive statistics for the non-psychological questions and psychological impact of the outbreak as depression, anxiety, stress and PTSD questions scores.

Results showed an early and important negative impact on family finances, fear of working with Covid-19 patients and ethical issues related to Covid-19 care among healthcare workers (HCW). 7 target groups at higher risk of impaired mental health and susceptible to benefiting from an intervention were identified: women, under 42 years of age, people with care burden, socio-economically deprived groups, people with unskilled or unqualified jobs, Covid-19 patients, and HCW working with Covid-19 patients.

Conclusions: Active implementation of specific strategies to increase resilience and to prepare an adequate organizational response should be encouraged for the 7 groups identified as high risk and susceptible to benefit from an intervention.

Study registration: ClinicalTrials.gov identifier (NCT number) NCT04378452.

Strengths

- The current study originated on the suggestions of citizens and aimed to identify the impacts of the Covid-19 pandemia on a wide range of dimensions of health status two weeks after starting strict confinement and while it was still in force.
- The survey was disseminated through social media, rapidly reaching a large number of people without exposing interviewers to infection and becoming one of the most extensive surveys never published. A total of 56,656 survey questionnaires were analysed, which encompasses a 0.85% of the Catalan population of >16 years old.

Limitations

- The survey was long (74 questions), allowing to collect a high amount of data but might have generated fatigue and a high drop out.
- No validated scales were used.
- The snowball strategy through social media does not allow the population studied to be controlled and is not a representative survey of a specific population.

1. Introduction

On 30th March 2020, 78,797 confirmed cases of SARS-CoV-2, 6,528 deaths and 14,709 patients who had recovered were reported in Spain [1]; 16,157 cases and 1,410 deaths were recorded in Catalonia [2]. Case fatality (8%) was calculated for the registered cases, although the mortality rate was uncertain and the total number of cases were 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 the etiological diagnosis could not be made for all suspected cases in the context of a health emergency because of the lack of kits and the saturation of the health system [3,4].

On the other hand, the 16% of the confirmed cases in our setting by March 30th 2020 affected healthcare workers (HCW)[2]. Besides their obvious increased risk of being infected, the HCW facing the SARS-CoV-2 epidemics on the frontline (emergency rooms, ICUs, and other depts.) were put under high levels of stress and anxiety. This worsened as the tension in the Health Systems increased, requiring them to face important ethical dilemmas including triage of patients.

Other major outbreaks of infectious diseases such as Ebola have demonstrated that there is an important impact at individual but also at community level, as health services, social systems and economic productivity are severely affected [5]. An important impact on mental health and emotional burden by SARS-CoV-2 epidemics and mass quarantines which have been implemented in other epidemics context has been reported [6–9]. However, a certain level of anxiety is necessary for the adoption of recommended precautionary measures against infection outbreaks [10], and for the successful implementation of public health interventions. Additionally, the SARS epidemic proved

that frontline HCW not only suffered from chronic stress at the time, but that this lasted for at least one year after the epidemic wave was over [11].

Following the suggestions of members of the public society and HCW that claimed that the outbreak and confinement were impacting on people's lives and the need of assessing the nature of this effect, we designed the present study in a week with the hypothesis that the impact of the pandemic was important at several health dimensions.

2. Objectives

To evaluate the impact of Covid-19 on psycho-social sphere on both the general population and HCW.

3. M&M

3.1. Design and setting

This is a cross-sectional study, conducted in Catalonia, Spain in April 2020, during the first wave of Covid-19 outbreak, after two weeks of starting the strict confinement and while still in force.

3.2. Participants

All people >16 years old willing to participate in the study. Before starting the survey participants were informed about the aim of the study, the compliance with their rights and the existence of the IRB approval (PI-20-114, from Ethics Committee of the Germans Trias i Pujol Hospital), and gave consent by starting the questionnaire. 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.

3.3. Outcome measures

Descriptive statistics for the non-psychological questions and psychological impact of the outbreak as depression, anxiety, stress and Post Traumatic Stress Disorder (PTSD)

questions scores. Data on demography, socio-economic sphere, habits and health status related to Covid-19 during confinement and mental health dimension (related to depression, anxiety, stress and PTSD symptoms) were collected through an anonymous online survey including 74 questions (Supplementary Table 1), created with the Typeform software (Typeform SL, Barcelona, Spain) complying with the European General Data Protection Regulation (GDPR). The survey was shared in 5 different languages (Catalan, Spanish, English, Italian, and French) through social media (WhatsApp, Telegram channels, institutional websites) using snowball sampling. In order to reach HCW we used HCW whatsapp groups and telegram channels, as well as hospital institutional websites.

The completion of the whole questionnaire took approximately 10 minutes. Initially we estimated an n of 2,000 completed questionnaires within 6 months (April-September 2020) would allow to extract valid results. As we received a high number of completed questionnaires in few weeks we analysed all completed questionnaires obtained from the 3rd to 19th April 2020.

The data were downloaded as a spreadsheet file (Excel Microsoft Office) after collection and deleted from the Typeform software.

3.4. Analysis and Statistics

All data was processed anonymously. Answers of participants that didn't reach the end of the questionnaire were considered not completed and a drop out. Only finished questionnaires were saved and taken into account for the analysis. Individuals reaching the questionnaire's end could leave questions unanswered. For individual questions only the answers for that variable were considered. The questions were grouped into indexes (socioeconomic precariousness index, depression index, anxiety index, stress index, or

PTSD) following the calculation detailed in Table S1.When computing any score out of several questions, the score was only computed if all answers for the score where 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 in the cohort into groups containing a similar sample size, resulting in the following age groups <42, 42-52, 52-61, >61. Taking into account the volume of responses obtained, age ranges were determined statistically so that they are homogeneous in terms of number of surveys completed by group. The scores of the socio-economic precariousness index and population density (inhabitants/km2) of the municipality where the respondents lived by the respondents were also segmented into 4 groups each. following the same strategy. The 4 score ranges of the 0-19 scale of socio-economic precariousness established resulted in: low precariousness ≤7 points, mid-low=7-8.5, mid-high=8.5-10 and high >10 points.

All results were obtained taking into account the fact that the respondents were part of the totality of the cohort of respondents. Responses were also analyzed in total by category and broken down into percentages according to conditional distributions taking into account; on the one hand the gender of the respondents, and on the other their age group.

We took the non-binary gender and those who preferred not to say which gender they identify as into account when analyzing the results, as this enriches the conclusions. However, statistical analysis, often does not take into account the minimum volumes of responses and 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 Chi-Square test

independently in the observed counts. 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 collecting the p-value using Matlab's 'signrank' function [12,13].

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

4. Results

4.1. Characteristics of the cohort

We analyzed 56,656 questionnaires. The characteristics of the cohort are described in Table 1. Differences between categories by gender and age are described in Supplementary Table 2. The majority of respondents were females (70.4%), and from and from Catalonia (95.63%, from which 27.7% from Barcelona city), which encompasses a 0.85% of the Catalan population of >16 years old [2,14].

Those living most precariously were under 42 years old, with 18.43% sharing an apartment/house. ($p<0.01$). Most respondents had a degree (42.62%), and a qualified job (36.13%). 9% of total 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).

Up to 60% of the total declared that they were taking care of someone: 24.81% caring for children of <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 of 42-61 years old ($p<0.01$) and concerningly high for 4.79% of total respondents.

4.2. Impact of the pandemic on the General population

The impact on general population according to the responses obtained to the questionnaire is described in Table 2. Categories of responses by gender and group are described in Supplementary Table 2. 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 amongst those who were obliged to go to work on-site ($p<0.01$).

Only 2 weeks after starting the lock-down, 25% of the cohort had already lost their job or work. People under 52, as opposed to people over 52, and men, as opposed to women, were the most affected ($p<0.01$). 20.67% of the respondents declared that they had no savings at all (Table 1). After the start 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 help or that would need to use it soon. Those under 52 and people identifying as non-binary gender or preferring not to say were the most affected ($p<0.01$ and $p<0.05$, respectively). Those under 42 years, followed by people over 61 and people identifying as non-binary gender were the ones who showed higher precariousness index values ($p<0.01$).

The 19.84% of respondents declared that they had had contact with someone infected by SARS-CoV-2, half of them with a confirmed or probable case and this was more frequent for women under 52 ($p<0.01$). 35.75% declared that during the previous 14 days they had used at least one existing healthcare resource or one put in place by the authorities in the context of the pandemic, and 64.25%, had used none. 73.82% declared to have had one or more symptoms compatible with Covid-19. The most frequent symptoms were headache (16.01%), sore throat and nasal congestion (9.85% and 9.17% respectively). Only 1.76% of people with one symptom or more had received a PCR test and only 1.81% of those declaring three symptoms or more. Women and under 42 said that they felt worse at the moment they answered the survey than people in other groups ($p<0.01$).

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

Most people said TV was their source of information on the pandemic (36.77%), followed by social media (29.23%). 30% of people only used one source, 37.84% 2 sources and 23.05% used 3. There was no difference across gender or age groups. 26.82% declared that the information given did not accurately reflect reality (more frequent in women and people over 52 ($p<0.01$), and another 20.92% said that it was too negative or too sensationalist (more frequent in men and people under 42 ($p<0.01$). 73.13% declared that they were afraid or worried, these including more women, but a lower percentage of people over 61 ($p<0.01$).

The 78.56% of the cohort declared that the pandemic had changed them, most of them (50,41%) in the way that they see society/how we used to live. Those most affected were women (more than men) and those under 42 vs the >61 ($p<0.01$ in both cases).

4.3. Impact of pandemic on HCW

A total of 5,104 people (9.05% of the total) identified themselves as workers in the healthcare sector, most of them women. While the proportion women/men in the total cohort is 70/30 in this subgroup the proportion is 85/15. The impact on this population is detailed in Table 3. 41.65% of healthcare personnel declared that they had worked directly with Covid-19 patients, 32% of them while on duty. The majority of HCW said that they were afraid to work with Covid-19 patients (75.87%). As it was a multiple-choice question, we know that around the 42.90% were afraid of transmitting the infection to their relatives/friends, 17.07% feared getting infected or transmitting it to other patients, and 4.28% were afraid of dying. Surprisingly, fear of dying decreased with age.

In all cases it was higher percentages of younger HCW who said they were afraid ($p<0.01$).

More than 6 percent of HCW (6.27%) were worried of taking medical decisions that represented an ethical problem for them. In fact, nearly 18.60% of them said that they had ethical problems/dilemmas/issues while working. Of these, the younger the respondents, the higher the percentage, especially with the patient triage and obligatory protocols ($p<0.01$). As many as 437 of 5,104 HCW decided to explain to us which ethical problems they had had. We have grouped the problems and issues that the professionals listed, and the results are found in Table 3.

4.4. Impact of the pandemic on mental health status

Table 4 summarizes the conditions found statistically significantly associated ($p<0.05$) with the mental health symptoms evaluated. According to this table, we have identified 7 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 under 42; 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) healthcare personnel, especially those working with Covid-19 patients.

5. Discussion

Researchers have already sounded the alarm about how the Covid-19 pandemic may affect the mental health of the general population, and more specifically patients with previous physical or mental conditions (including previous mental disorders) [15,16] and people at risk due to their socio-economic conditions. The current study originated on the suggestions of citizens and aimed to identify the impacts of the Covid-19 pandemia on a wide range of dimensions of health status in Catalonia while confinement was in force. It is one of the most extensive surveys never published with a total of 56,656

questionnaires analysed, and yet it has limitations that must be considered in interpreting the data. Even if our survey has the value to provide the information about how people of different range of age and specifically woman and healthcare workers has faced the pandemic at several spheres, it was not designed to be representative for a specific population. No validated scales were used. However, as the survey included 41 questions related to depression, anxiety, stress and PTSD symptoms we could explore the impact on mental health dimension. The survey was long, which might have generated fatigue and a high drop out, even if this allowed to collect a high amount of data; and it was shared through social media, thus the sample of population studied could not be controlled. However, even if not ensuring representability, the snowball was a successful strategy 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 rigor but can be confusing because this segmentation is unusual and can lead to a certain bias.

As for the impact on the socioeconomic sphere, the highest level of precariousness, which according to what the results seem to reflect occurs in those under 42 years of age, is striking. Of particular concern is the fact that 25% of the people had decreased their workload due to the epidemic situation, basically men, who had lost more jobs or assignments previously contracted or hired, and those under 52 years old, who had been dismissed or submitted to a temporary labour force adjustment. In addition, a quarter of respondents had no savings to deal with contingencies, and up to 8.78% stated that they had applied for social benefits or that they would do so soon. We found socioeconomic precariousness to be one of the factors associated with higher scores on mental health

indices, something worrying given that the incidence of the epidemic was also more pronounced in the poorest neighborhoods, at least in Barcelona [17].

According to the literature, approximately 20% of the population affected seems consistent [7,18,19], even if in some cases higher percentages have been found [20,21]. We identified up to 7 target groups at higher risk of impaired mental health status and susceptible to benefitting from an intervention. Worse symptoms scoring 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, thus confirmed Covid-19 patients might be a better target group for an intervention instead.

Being female, young, and having unstable work or income have been shown to be significant correlators of psychological negative impact [20–23]. Women are especially vulnerable as they bear the heavier burden of childcare and care of the elderly, suffer gender violence and have more precarious jobs [24]. Crises exacerbate gender inequalities including gender-based violence, increased care burden, inadequate access to health service and others [25][26][27]. Moreover, women account for the majority of HCW around the world, and those younger or with childcare burden suffered psychological distress [28,29]. In our setting it was mostly women who were responsible for caring for others, and caregiver adults with higher perception of the difficulty of quarantine for children and the whole family suffered more psychological distress than the other groups. The individual perception was previously associated with their stress levels and a negative behavioural and emotional impact on their children, and it has been hypothesized that some of its causes could be the impact of the situation itself both on the adults and the children (indirectly [30] and directly [31]) , plus the effects of the school closure together with the need for working from home with a lot of new inputs. Schools

provide not only education, but also counselling and promote and imply healthy habits that might not be continued at home [31].

On the other hand, people over 60 years old, with their frailty and an increased risk of suffering Covid-19 if living in nursing homes or similar facilities, were the vast majority of the total number of deaths all over the world [32]. The elderly are key in Mediterranean countries, such as ours, as they 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, not only for their mental health but also as it contributes to a greater risk of morbidity, and this can be even worse in the more disadvantaged populations [33,34]. Even if anxiety, depression and symptoms of avoidant coping style have been reported for seniors[35] [36], we found that younger people coped worse than older people with the mental burden due to the Covid-19 pandemic and the measures dictated to combat it. Older people have proved that they have more resilience than younger people in other outbreaks and major hazards [37], something our results also support by showing that older people were less afraid of dying than younger ones. This could be due because elderly have a higher sense of meaning of life and that for them perceiving time as finite determines their priorities in terms of goals and behaviours [38]. Young adults already face life changes which are stressful and the pandemic has worsened this, even if one out of five young adults might have been better off because of being removed from external pressures such as work and education and/or to having more time for close relationships [39]. Several factors have been pointed out for this worsening, including the perceived virus-related health risk [39][40] and the decrease of physical and social activity due to lockdown and other restriction measures decreed by Governments [40,41]. A study in France after 2 weeks of confinement reported sleep problems and increased consumption of sleeping pills, with

both more frequent in people under 35 compared to older people [42] and Shanahan et al showed that a good group to be selected for intervention could be females, migrants and young adults with higher pre-pandemic emotional distress including social exclusion [39].

A non-negligible proportion of our respondents were HCW, who in Europe are mostly women [43]. Besides their obvious increased risk of being infected [44], facing the SARS-CoV-2 epidemics at the frontline may have put them under a lot of pressure, increasing levels of anxiety and chronic stress (due to the overwork and suboptimal working conditions), which can last to up to a year afterwards [11,45,46]. A study carried out in a cohort of 9,138 HCW showed that 45.7% were at risk of suffering from a mental disorder [47], and another, which included 5,450, showed that 8.4% had suicidal ideation and behaviour [48]. In our study, being a HCW has been revealed as a positive factor for impaired mental health, especially for those working with Covid-19 patients and afraid of infecting others, which has proved to have an impact on outcomes [49].

This becomes worse as the tension in health systems increases, as front-line professionals work in a complex environment given the ethical challenges of the Covid-19, eliciting different dimensions of ethical dilemmas related to the situation itself and the measures dictated by the Government [50]. The shortage of hospital beds was an important problem, contributing to the case fatality rate and implying a triage of patients according to their increased potential to survive [51–53]. 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 [54]. According to our results, nearly 8 out of 10 HCW declared that they were afraid of working with COVID patients,

especially because of infecting others. Being obliged to work with lack of appropriate or sufficient personal protective equipment was one of the most frequent complaints of HCW who shared their narratives on the ethical concerns they suffered. This low sense of security had been previously pointed out in a small HCW cohorts elsewhere [55][56][57]. 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, that in our cohort were mostly women). Those working in essential services also had higher psychological distress and this could be for the same reason, the low sense of security, plus the fear of being at higher risk of contracting the infection.

The 6.27% declared that that their fear was of making medical decisions that represented an ethical problem for them, and this percentage was higher in younger people. One in five of the HCW declared that they had had ethical problems in line with other studies [54,58]; and approximately half of these had to do with 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 data could be used to design and implement interventions to increase the resilience of these identified groups, as well as to prepare an appropriate organizational response. In this sense, some authors have published specific strategies that could be used to alleviate this suffering [54,59–64]. Some of the strategies at individual and organizational level which could be actively implemented in the identified vulnerable populations are:

1) To spot the individuals which a) might may be more vulnerable to mental health difficulties or b) are part of the populations identified as more vulnerable within each group/team/staff members, and to deliver them an appropriate attention.
2) To provide education on mental higiene, 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 the existing resilience measures and support programs 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 do training and inform about the tools available to ensure its implementation if they are involved in this response. This can be applied to all levels, including companies, health departments and hospitals, public health systems and at local and national governmental level.
6) To provide people structured opportunities to debrief and talk after critical events, to hear about their real-time concerns, and to engage them into collaborative approaches to the decision-making and problem-solving.

6. Conclusion

We identified 7 populations as vulnerable and likely to benefit from and intervention in the face of potential future outbreaks or other major hazards. Our study should open the door for the adjustment of coping measures and the elaboration of strategy proposals with the full participation of institutional leaders who are in a position to adapt policy to the real needs of the people at Organizations, Governments and Public Health Services level.

7. Registration

The study is registered in ClinicalTrials.gov under code NCT04378452.

8. Contributorship statement

MRS, CA, MV and CV made substantial contributions to the conception or design of the work. JF, JLR, JMM, LA, MRS, CA and CV made substantial contributions to the acquisition and analysis of data. MRS, CA, PJC, JAMM, MV, BA, JU, ASB made substantial contributions to the interpretation of data. MRS, CA, 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.

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10. Data sharing statement

The article was uploaded in medRxiv 2021.03.20.21254029. The complete dataset results generated is available at:

https://zenodo.org/badge/DOI/10.5281/zenodo.4608502.svg.

11. Patient Public Involvement

The study was rapidly designed in a week following the suggestions of members of the public that contacted the authors sharing with them their experience and priorities, claiming that the pandemic was impacting on people's lives and the need of assessing the nature of this impact at several health dimensions that at that moment worried them most.

Patients and public were involved in the data collection as the survey was shared in 5 different languages through social media using snowball sampling. A report was generated based on the study and its results to be disseminated to the general public through its upload in the institutional websites and shared by email to a list of people that gave specific consent to be notified of the results obtained. A press release was also issued and the study and its results discussed with key community members through meetings and public debates.

12. Funding

This work was supported by the Spanish Government-FEDER Funds through CV [CPII18/00031], and funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 847762 through LAC contract.

13. Conflicts of Interest

JF, JLR and JMM salaries are partially paid through the European Union's Horizon 2020 research and innovation programme under grant agreement No 847762.

LA received support from the European Union's Horizon 2020 research and innovation programme under grant agreement No 847762 through her contract.

JAMM has a post-doctoral 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.

ASB has received support from the Diputació de Barcelona through contracts or grants to develop seven projects on mental health planning; from the Spanish Government-FEDER Funds through Instituto de Salud Carlos III: grant to develop a research project about mental health (PI19/00111 and PI15/00519); and from the Catalan Government through an intensification research contract by PERIS program (SLT006/17/68), 2018-

2020. He has acted as member of the Advisory Board of Instituto de Salud Carlos III for the evaluation of research projects and as member of the Advisory Board of Fundación Progreso y Salud for the evaluation of research projects.

CV received support by the Spanish Government-FEDER Funds through CIBER Enfermedades Respiratorias and her contract [CPII18/00031]; by 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 expert member of the Covid-19 crisis committee of the IGTP.

MRS, CA, PJC, BA and JU declare no competing interests.

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15. Tables

Table 1: Characteristics of the cohort. N of cases (number of responses received per answer category) and percentage out of the total responses obtained per each question. Please note that some of the questions were multiple choice.

ANSWER CATEGORIES		N CASES	TOTAL %	ANSWER CATEGORIES		N CASES	TOTAL %
Gender	Female	3,922	70.4	**Care of someone**	No	24,755	39.75
	Male	16,556	29.22		Yes, of people of <16	15,452	24.81
	Non binary	88	0.15		Yes, of people of >16	7,624	12.24
	Not saying	69	0.12		Yes, siblings	782	1.26
Origin	Catalonia region	54,318	95.63		Yes, parents	9,409	15.11
	Other	2,480	4.37		Yes, others	4,248	6.82
Civil status	Married	30,389	53.65	**Burden of care (in n options selected)**	none	24,814	43.80
	Divorced	6,030	10.64		1	14,055	24.81
	In couple	10,305	18.19		2	15,070	26.60
	Single	7,990	14.1		3	2,473	4.36
	Widow	1,929	3.4		4	217	0.38
Housing	Owned appartment/house	51,428	90.95		5	20	0.03
	Shared appartment/house	4,417	7.81	**People financially providing at home**	>2	4,379	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	2,182	3.85		Yes	20,201	35.73
	Secondary Education	3,093	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	7,528	13.29		Yes, more than one	3,041	5.37
	PhD	1,829	3.23	**Rent to pay**	No	42,899	75.83
	Qualified job	20,449	36.13		Yes	13,669	24.16
	Non qualified job	2,037	3.59		Nurse	1,567	30.63
	Job in Healthcare	5,132	9.06		Physician	1,110	21.70
Employment	Home/people care	2,731	4.82		Others (including working on a private pharmacy)	659	12.88
	Self-employed	5,110	9.02		Technician	588	11.49
	Company owner	2,417	4.27	**Occupation of HCW**	Administrative personnel	511	9.99
	Unemployed	2,883	5.09		Nurse assistant	491	9.59
	Other	15,832	27.97		Researcher	129	2.52
					Caretaker	28	0.54
					Cleaning personnel	15	0.29
					Kitchen personnel	13	0.25
					Laundry personnel	4	0.07

2

Table 2: Impact of the pandemic on the General population. N of cases (number of responses received per answer category) and percentage out of the total responses obtained per each question. Please note that some of the questions were multiple choice. *For the number of symptoms only answers up to 4 are presented, even if the percentage given was calculated out of the total responses obtained.

ANSWER CATEGORIES		N CASES	TOTAL %	ANSWER CATEGORIES		N CASES	TOTAL %
Loss of job	No	42,475	75.12	**Staying home**	No, I am forced to go to work	228	0.40
	Yes, the company made a labour force adjustment plan	103	0.18		No, I need to work	534	0.94
	Yes, the company made a temporary labour force adjustment plan	5,530	9.78		No, I work on essential services	7,549	13.32
	Yes, I have lost some jobs previously contracted/arranged	3,252	5.75		Yes	31,272	55.19
	Yes, I was fired	499	0.88		Yes, teleworking	17,073	30.13
	Yes, others	4,687	8.29	**Afraid**	No	14,021	26.86
Spending less	Yes	34,307	60.66		Yes, going shopping	9,029	17.30
	A little	12,493	22.09		Yes, to infect others	11,545	22.12
	No	9,747	17.23		Yes, to get infected	17,590	33.70
Seek for social assistance/or any other assistance	No	51,588	91.00	**Afraid to infect**	Elders	4,128	35.76
	Not yet, but will need to	2,756	5.00		Anyone	5,689	49.28
	Yes	2,208	4.00		Children	1,524	13.20
Contact with someone infected by	I do not know	45,860	80.15		Colleagues at work	201	1.74
	yes, with a probable non-confirmed case	5,627	9.83	**Increased substance use**	No	36,521	57.94

SARS-CoV-2	Yes, with a confirmed case	5,730	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/running nose	9,322	9.17
	Extreme fatigue/tiredness	7,029	6.91
	Persistent cough (for one week or more)	6,957	6.84
	Muscle pain	6,299	6.20
	Diarrhea	5,453	5.36
	Dizziness	2,897	2.85
	Shortness of breath	2,231	2.19
	Chest pain	1,935	1.90
	Loss of smell, smell blindness	1,894	1.86
	Persistent fever (for one week or more)	1,663	1.63
	Loss of appetite/weight	1,333	1.31
	Loss of taste	1,689	1.66
N of symptoms*	1	11,899	40.03
	2	7,062	23.76
	3	4,365	14.68
	4	2,481	8.34
How did they feel when answering the questionnaire	Well	37,599	66.50
	Normal	12,726	22.50
	Not at 100%	6,010	10.60
	Bad	235	0.42
Use of healthcare resources put in place in	None	38,955	64.25
	Have used an app set up for management of COVID cases	13,044	21.51
	Yes, alcohol	3,736	5.92
	Yes, food	15,292	24.26
	Yes, illegal drugs	257	0.40
	Yes, drugs to calm down	2,617	4.15
	Yes, tobacco	4,599	7.29
Media to get information about the pandemic	Social media	35,080	29.23
	TV	44,126	36.77
	Radio	18,543	15.45
	Newspapers	16,255	13.54
	Other	5,991	4.99
Thoughts about the information received	It's ok	14,193	18.98
	The Government explains too much	2,417	3.23
	The Government explains too less	6,678	8.93
	Media explain too much	9,556	12.78
	Media explain too less	2,177	2.91
	Too negative	15,645	20.92
	Poorly adjusted to the reality	4,049	26.82
	I do not think anything about it	20,053	5.41
Impact of the pandemic on people (subjective)	No	14,575	21.43
	Yes, my personality	3,252	4.78
	Yes, my vision of the society/ how we lived	34,274	50.41
	Yes, my life	15,889	23.36

Scores results per percentiles	**Score**	**50%**	**90%**	**95%**
	Anxiety	2	≥10	≥16
	Stress	8	≥24	≥28
	Depression	4	≥16	≥20

the context of the COVID -19 pandemic	Have called a telephone number set up for the management of COVID cases	3,399	5.60	PTSD	17	≥46	≥54
	Have been to a public healthcare center (including GP)	2,286	3.77				
	Have been tested	1,108	1.82				
	Have been to private doctor/healthcare center	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				

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Table 3: Impact of the pandemic on the HCW. N of cases (number of responses received per answer category) and percentage out of the total responses obtained per each question. Please note that some of the questions were multiple choice.

ANSWER CATEGORIES		N CASES	TOTAL %	ANSWER CATEGORIES		N CASES	TOTAL %
Having worked directly with COVID-19 patients	No	2,939	58.34	**Ethical concerns**	No	2,817	56.29
	Yes	2,098	41.65		No, I follow protocols	1,256	25.09
Fear of working with COVID-19 patients	No	1,122	24.13		Yes, with selection of patients and/or protocols for selection of patients or therapeutic indications	473	9.41
	Yes	3,528	75.87		Yes, others	460	9.19
Fear of working with COVID-19 patients	No fear	1,122	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	1,150	14.95		With patients triage or protocols for patients triage or therapeutic indication	71	16.28
	Scared of transmitting the virus to own people (family, colleagues)	3,300	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, application of protocols)	482	6.26		With the protocol for End-of-Life management	39	8.94
	Scared of being infected	1,309	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 at first line and not being able/wanting to do it.	30	6.88
				With the priorization of dispensing protective material (facial masks, EPIs) or tests.	23	5.27
				With the impact of the outbreak and/or lockdown on some populations (chronic or mental health patients, elders, etc.)	17	3.89
				Others (non-specified)	17	3.89
				With problems due to the organitzative 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

2

Table 4: Conditions statistically associated to the mental-health scores results.

Factors:	Statistically association to:						
	Depression Index	Anxiety Index	Stress Index	PTSD Index	Evitation Index	Intrusion Index	Hyperarousal Index
Risk	**p**	**p**	**p**	**p**	**p**	**p**	**p**
Women	0.019	0.003		0.000	0.007	0.034	0.027
<42 y.o.		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 in a 10-points scale) vs 0				0.041		0.032	0.022
Living in a middle-high density population town		0.031					
Living in a shared appartment/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 on essential services		0.011					
Being a healthcare worker and to be afraid of attending COVID-19 patients	0.017				0.023		
To have been in contact with a COVID-19 patient		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
To be afraid (of getting infected, to infect others, to go shopping)		0.000	0.036	0.000	0.003	0.012	0.006
To have increased the consume of at least one substance		0.006		0.008			

To use 3 media to get information about COVID-19		0.033					
Protection	**p**	**p**	**p**	**p**	**p**	**p**	**p**
>61 y.o.		0.006		0.05			
To be married		0.007					
Being a widow				0.020	0.011		
To have a qualified job		0.008					
To have a PhD	0.019	0.010			0.031		
Feeling well		0.045		0.037			

2

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 telephonic 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 irritabl 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 (%) women	men	non binary	not saying	p (women vs men)	Conditional distributions given the responders age range (%) <42 y.o.	42- 52 y.o.	52- 61 y.o.	>61 y.o.	p
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	p<0.01
	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	
	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	p<0.01	1.53	3.3	4.24	6.1	p<0.01
	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		27.54	30.98	34.17	33.11	
	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	p<0.01	48.19	48.76	41.3	7.86	0<0.01
	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		0.94	1.69	3.25	12.86	
	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	
	1	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	<0.01	45.98	16.26	31.39	67.82	<0.01
	Yes, of people of <16 y.o.	25.99	21.93	13.68	25.33		33.96	48.69	13.52	3.07	
	Yes, of people of >16 y.o.	13.02	10.35	6.31	6.66		4.81	12.58	23.54	6.73	
	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			<0.01	48.85	18.85	35.96	70.47	<0.01
	1 option selected	25.9	22.11				13.12	21.03	39.98	24.24	
	2 options selected	28.23	22.83				34.82	49.43	19.32	4.51	
	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	<0.01	68.4	69.41	73.65	88.18	<0.01
	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		14.5	13.04	9.9	2.17	
	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	<0.01	20.34	24.48	22.21	15.82	<0.01
	Yes	34.00	40.00	23,00	28,00		36.22	32.37	33.65	40.55	
	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	<0.01	64.04	39.65	54.68	76.91	<0.01
	Yes, one	36.17	34.37	18.18	36.23		31.76	50.8	39.81	20.66	
	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	No	91.42	90.8	80.68	81.15		88.95	88.41	90.73	96.48	<0.01
	Not yet, but will need to	4.71	5.19	10.22	8.69		6.34	6.43	5.08	1.81	
	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	<0.01	21.17	30.35	26.04	22.72	p<0.01
	7-8.5	20,00	10.22	20.12	10.14		33.2	28.42	32.07	36.36	
	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	<0.01	0.54	0.56	0.4	0.1	p<0.01
	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		16.36	17.77	15.19	4.47	
	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	37.68	<0.01	21.77	23.06	26.82	35.04	p<0.01
	Yes, going shopping	18.9	13.39	17.17	10.14		17.82	18.59	16.69	16.19	
	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	p<0,01
	Anyone	48.63	51.26	50,00	70.58		41.27	41.49	54.17	69.79	
	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	<0.01	42.95	51.97	59.86	77.68	p<0.01
	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		33.04	27.44	22.72	13.4	
	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	12.5		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	<0.01	9.76	17.8	28.13	26.74	<0.01
	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		9.69	10.46	14.32	19.21	
	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	<0.01	17.23	19.43	21.13	28.05	<0.01
	Yes, my personality	5.18	3.71	9.4	5.81		8.17	5.55	3.29	2.02	
	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	23.93	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	<0.01	75,00	76.77	79.62	88.72	<0.01
	yes, with a probable non-confirmed case	10.16	9.01	16.48	5.79		13.05	11.61	9.79	5.14	
	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	64.28	65.97	<0.01
	Normal	22.84	21.6	18.39	24.63		19.31	19.85	23.86	26.65	
	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	0.23	
Use of healthcare resources put in place in the context of the COVID-19 pandemic	None	63.97	64.91	55.33	78.57	<0.01	63.21	62.37	62.73	68.55	<0.01
	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		3.97	3.96	3.56	3.58	
	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	<0.01	34,33	29,26	28,42	28,59	<0.01
	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		7,59	11,87	13,53	4,89	
	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	<0.01	50,23	53,55	60,78	72,67	<0.01
	Yes	43,12	43,68	50,00	0,00		49,77	46,45	39,22	27,33	
Fear of working with COVID-19 patients	No	21,97	36,04			<0.01	18,70	20,17	25,18	31,70	<0.01
	Yes	78,03	63,96				81,30	79,83	74,82	68,30	
Fear of working with COVID-19 patients	No fear	16,81	28,40	21,43	0,00	<0.05	11,61	14,50	17,70	22,00	<0.01
	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, colleagues)	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)	3,09	1,07	14,29	0,00		8,23	6,12	4,72	4,99	
	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	

STROBE Statement—Checklist of items that should be included in reports of ***cross-sectional studies***

	Item No	Recommendation	Page No
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	1
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	2
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	4-5
Objectives	3	State specific objectives, including any prespecified hypotheses	5
Methods			
Study design	4	Present key elements of study design early in the paper	5-6
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5-6
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of selection of participants	5
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	5-6
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	5-7
Bias	9	Describe any efforts to address potential sources of bias	6-7
Study size	10	Explain how the study size was arrived at	7
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	N/A
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	6-8
		(*b*) Describe any methods used to examine subgroups and interactions	6-8
		(*c*) Explain how missing data were addressed	6-8
		(*d*) If applicable, describe analytical methods taking account of sampling strategy	6-8
		(*e*) Describe any sensitivity analyses	N/A
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	5, 8
		(b) Give reasons for non-participation at each stage	N/A
		(c) Consider use of a flow diagram	-
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	8-11
		(b) Indicate number of participants with missing data for each variable of interest	29-34
Outcome data	15*	Report numbers of outcome events or summary measures	8-11, 29-34

Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	8-11, 29-34
		(*b*) Report category boundaries when continuous variables were categorized	
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	
Discussion			
Key results	18	Summarise key results with reference to study objectives	17
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	11
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	11-17
Generalisability	21	Discuss the generalisability (external validity) of the study results	11-17
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	19

*Give information separately for exposed and unexposed groups.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.

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

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Abstract

Design and Objectives: A cross-sectional study to evaluate the impact of Covid-19 on the psycho-social 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 the 3rd and the 19th of 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 (PTSD) question scores.

Results: An 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, Covid-19 patients, and HCWs working with Covid-19 patients.

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

Study registration: ClinicalTrials.gov identifier (NCT number) NCT04378452.

Strengths

- The current study aimed to identify the impacts of the Covid-19 pandemic on a wide range of health-related dimensions two 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

Limitations

- 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.

1. Introduction

By 30th 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 etiological 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 30th March 2020 affected healthcare workers (HCWs) [2]. In addition to their obviously increased risk of being infected, frontline HCWs (emergency rooms, 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 one 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.

2. Materials and Methods

2.1. 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, two weeks after the implementation of strict lockdown and while this was still in force.

2.2. Participants

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

2.3. Ethics

Before starting the survey, participants were informed about the aim of the study, the compliance with their rights and the existence of IRB approval (PI-20-114, from the Germans Trias i Pujol Hospital Ethics Committeee). 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.

2.4. 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 (Supplementary Table 1). To obtain demographical, health status and mental health data, questions reported in the literature were used. In contrast, questions to evaluate the socio-economic 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 (GDPR). The survey was shared in five different languages (Catalan, Spanish, English, Italian, and French) via social media (WhatsApp, Telegram channels, 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 minutes. Initially we estimated that approximately 2000 completed questionnaires within a period of six 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 the 3rd and 19th of April 2020. After collection, data were downloaded as a spreadsheet file (Excel Microsoft Office) and deleted from the Typeform software.

2.5. 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 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, >61. 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 socio-economic 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 socio-economic 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 analyzed 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 analyzing 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 Chi-Square 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% ($p < 0.05$).

3. Results

3.1. Characteristics of the cohort

We analyzed 56,656 questionnaires. The characteristics of the cohort are described in Table 1. Differences between categories by gender and age are presented in Supplementary 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.

3.2. Impact of the pandemic on the general population

The impact on the general population is described in Tables 2, 3 and Supplementary 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 amongst those who were obliged to go to work on-site ($p<0.01$). Only two 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).

3.3. 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 ($p<0.01$).

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.

3.4. Impact of the pandemic on mental health status

Table 5 summarizes 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 Covid-19 patients.

4. 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 rigor 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 neighborhoods, 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 Covid-19 patients 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][24][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 hypothesized 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, not only for their mental health but also 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 two 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 to 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 pre-pandemic 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 Covid-19 patients 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 front-line 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 Covid patients, 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][54][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 which 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 organizational 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 organizational 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 programs 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.

5. 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 organizational, governmental and public health service levels.

6. Registration

The study is registered in ClinicalTrials.gov under code NCT04378452.

7. Contributorship statement

MRS, CA, MV and CV made substantial contributions to the conception or design of the work. JF, JLR, JMM, LA, MRS, CA and CV made substantial contributions to data acquisition and analysis. MRS, CA, PJC, JAMM, MV, BA, JU and ASB made substantial contributions to data interpretation. MRS, CA and CV drafted the manuscript and all the other authors revised it critically for important intellectual content. All authors gave final approval of the version to be published.

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9. Data sharing statement

The article was uploaded to medRxiv 2021.03.20.21254029. The complete dataset results generated are available at:

[dataset] Cristina Vilaplana, Judith Farrés, José Luis Ruiz, José Manuel Mas, Maria-Rosa Sarrias, Carolina Armengol, Lilibeth Arias, Pere-Joan Cardona, José A Muñoz-Moreno, Miriam Vilaplana, Belén Arranz, Judith Usall, & Antoni Serrano-Blanco. (2021). COM-COVID project: results dataset. Zenodo repository. Version 1, March 20, 2021. https://doi.org/10.5281/zenodo.4608502

10. Patient Public Involvement

The study was rapidly designed in a week following suggestions from members of the public who contacted the authors to share their concerns, experience and priorities with

them, suggesting that the pandemic was impacting people's lives at several health dimensions. Patients and public were involved in data collection as the survey was shared in five different languages via social media using snowball sampling. A report was generated based on the study, and its results were disseminated to the general public by upload to the institutional websites and shared by email with a list of people who had given specific consent to be notified of the results obtained. A press release was also issued and the study and its results were discussed with key community members via meetings and public debates.

11. Funding

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12. Conflicts of Interest

The salaries of JF, JLR and JMM are partially paid by the European Union's Horizon 2020 research and innovation program under grant agreement no. 847762.

LA received support from the European Union's Horizon 2020 research and innovation program under grant agreement no. 847762 through her contract.

JAMM has a post-doctoral 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.

ASB 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 program (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 program 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.

MRS, CA, PJC, BA and JU declare no competing interests.

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14. Tables

Table 1: Characteristics of the cohort. 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.

ANSWER CATEGORIES		No. CASES	TOTAL %	ANSWER CATEGORIES		No. 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
	Master	7528	13.29
	PhD	1829	3.23
Employment	Qualified job	20,449	36.13
	Non-qualified job	2037	3.59
	Job in Healthcare	5132	9.06
	Home/people care	2731	4.82
	Self-employed	5110	9.02
	Company owner	2417	4.27
	Unemployed	2883	5.09
	Other	15,832	27.97

	Yes, one	20,141	35.61
	Yes, more than one	3041	5.37
Rent to pay	No	42,899	75.83
	Yes	13,669	24.16
Occupation of HCW	Nurse	1567	30.63
	Physician	1110	21.70
	Others (including working in a private pharmacy)	659	12.88
	Technician	588	11.49
	Administrative staff	511	9.99
	Nurse assistant	491	9.59
	Researcher	129	2.52
	Caretaker	28	0.54
	Cleaning staff	15	0.29
	Catering staff	13	0.25
	Laundry personnel	4	0.07

2

Table 2: Impact of the pandemic on the general population. 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 4 are presented, even if the percentage given was calculated for all the responses obtained.

	ANSWER CATEGORIES	No. 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 one week or more)	6957	6.84
	Muscle pain	6299	6.20
	Diarrhea	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 one 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 cases	13,044	21.51
	Have called a telephone number set up for the management of COVID cases	3,399	5.60
	Have been to a public healthcare center (including GP)	2286	3.77
	Have been tested	1108	1.82
	Have been to private doctor/healthcare center	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

2

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

		No. 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	

2

Table 4: Impact of the pandemic on HCWs. 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.

ANSWER CATEGORIES		No. CASES	TOTAL %	ANSWER CATEGORIES		No. CASES	TOTAL %
Having worked directly with COVID-19 patients	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 COVID-19 patients	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 COVID-19 patients	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, 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 prioritization of dispensing protective material (face masks, EPIs) or tests.	23	5.27
				With the impact of the outbreak and/or lockdown on some populations (chronic or mental-health patients, elder.y, etc.)	17	3.89
				Others (non-specified)	17	3.89
				With problems due to organizational 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

2

Table 5: Conditions statistically associated with the mental-health score results.

Factors:	Statistically associated with:						
	Depression Index	Anxiety Index	Stress Index	PTSD Index	Evitation Index	Intrusion Index	Hyperarousal Index
Risk	**p**	**p**	**p**	**p**	**p**	**p**	**p**
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) vs 0				0.041		0.032	0.022
Living in a middle-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 COVID-19 patients	0.017				0.023		
Having been in contact with a COVID-19 patient		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, 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**	**p**	**p**	**p**	**p**	**p**	**p**
>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			

2

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 telephonic 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 irritabil 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 (%)					Conditional distributions given the responders age range (%)				
		women	men	non binary	not saying	p (women vs men)	<42 y.o.	42- 52 y.o.	52- 61 y.o.	>61 y.o.	p
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	p<0.01
	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	
	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	p<0.01	1.53	3.3	4.24	6.1	p<0.01
	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		27.54	30.98	34.17	33.11	
	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	p<0.01	48.19	48.76	41.3	7.86	0<0.01
	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		0.94	1.69	3.25	12.86	
	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	
	1	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	<0.01	45.98	16.26	31.39	67.82	<0.01
	Yes, of people of <16 y.o.	25.99	21.93	13.68	25.33		33.96	48.69	13.52	3.07	
	Yes, of people of >16 y.o.	13.02	10.35	6.31	6.66		4.81	12.58	23.54	6.73	
	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			<0.01	48.85	18.85	35.96	70.47	<0.01
	1 option selected	25.9	22.11				13.12	21.03	39.98	24.24	
	2 options selected	28.23	22.83				34.82	49.43	19.32	4.51	
	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	<0.01	68.4	69.41	73.65	88.18	<0.01
	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		14.5	13.04	9.9	2.17	
	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	<0.01	20.34	24.48	22.21	15.82	<0.01
	Yes	34.00	40.00	23,00	28,00		36.22	32.37	33.65	40.55	
	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	<0.01	64.04	39.65	54.68	76.91	<0.01
	Yes, one	36.17	34.37	18.18	36.23		31.76	50.8	39.81	20.66	
	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	No	91.42	90.8	80.68	81.15		88.95	88.41	90.73	96.48	<0.01
	Not yet, but will need to	4.71	5.19	10.22	8.69		6.34	6.43	5.08	1.81	
	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	<0.01	21.17	30.35	26.04	22.72	p<0.01
	7-8.5	20,00	10.22	20.12	10.14		33.2	28.42	32.07	36.36	
	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	<0.01	0.54	0.56	0.4	0.1	p<0.01
	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		16.36	17.77	15.19	4.47	
	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	37.68	<0.01	21.77	23.06	26.82	35.04	p<0.01
	Yes, going shopping	18.9	13.39	17.17	10.14		17.82	18.59	16.69	16.19	
	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	p<0,01
	Anyone	48.63	51.26	50,00	70.58		41.27	41.49	54.17	69.79	
	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	<0.01	42.95	51.97	59.86	77.68	p<0.01
	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		33.04	27.44	22.72	13.4	
	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	12.5		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	<0.01	9.76	17.8	28.13	26.74	<0.01
	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		9.69	10.46	14.32	19.21	
	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	<0.01	17.23	19.43	21.13	28.05	<0.01
	Yes, my personality	5.18	3.71	9.4	5.81		8.17	5.55	3.29	2.02	
	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	23.93	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	<0.01	75,00	76.77	79.62	88.72	<0.01
	yes, with a probable non-confirmed case	10.16	9.01	16.48	5.79		13.05	11.61	9.79	5.14	
	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	64.28	65.97	<0.01
	Normal	22.84	21.6	18.39	24.63		19.31	19.85	23.86	26.65	
	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	0.23	
Use of healthcare resources put in place in the context of the COVID-19 pandemic	None	63.97	64.91	55.33	78.57	<0.01	63.21	62.37	62.73	68.55	<0.01
	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		3.97	3.96	3.56	3.58	
	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	<0.01	34,33	29,26	28,42	28,59	<0.01
	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		7,59	11,87	13,53	4,89	
	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	<0.01	50,23	53,55	60,78	72,67	<0.01
	Yes	43,12	43,68	50,00	0,00		49,77	46,45	39,22	27,33	
Fear of working with COVID-19 patients	No	21,97	36,04			<0.01	18,70	20,17	25,18	31,70	<0.01
	Yes	78,03	63,96				81,30	79,83	74,82	68,30	
Fear of working with COVID-19 patients	No fear	16,81	28,40	21,43	0,00	<0.05	11,61	14,50	17,70	22,00	<0.01
	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, colleagues)	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		8,23	6,12	4,72	4,99	
	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	

STROBE Statement—Checklist of items that should be included in reports of ***cross-sectional studies***

	Item No	Recommendation	Page No
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	1
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	2
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	4-5
Objectives	3	State specific objectives, including any prespecified hypotheses	5
Methods			
Study design	4	Present key elements of study design early in the paper	5-6
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	5-6
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of selection of participants	5
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	5-6
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	5-7
Bias	9	Describe any efforts to address potential sources of bias	6-7
Study size	10	Explain how the study size was arrived at	7
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	N/A
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	6-8
		(*b*) Describe any methods used to examine subgroups and interactions	6-8
		(*c*) Explain how missing data were addressed	6-8
		(*d*) If applicable, describe analytical methods taking account of sampling strategy	6-8
		(*e*) Describe any sensitivity analyses	N/A
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	5, 8
		(b) Give reasons for non-participation at each stage	N/A
		(c) Consider use of a flow diagram	-
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	8-11
		(b) Indicate number of participants with missing data for each variable of interest	29-34
Outcome data	15*	Report numbers of outcome events or summary measures	8-11, 29-37

Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	8-11, 29-37
		(*b*) Report category boundaries when continuous variables were categorized	
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	
Discussion			
Key results	18	Summarise key results with reference to study objectives	17
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	11-12
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	11-17
Generalisability	21	Discuss the generalisability (external validity) of the study results	11-17
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	19

*Give information separately for exposed and unexposed groups.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.