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

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# Psychosocial impact of the Covid-19 pandemic: Identification of most vulnerable

- 2 populations in a cross-sectional study.
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#### **Abstract**

- 2 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.
- 4 Setting: We developed a 74-question survey questionnaire which was shared through social media through using snowball sampling.
- 6 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
- 8 obtained from the 3<sup>rd</sup> to 19<sup>th</sup> 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.
- 18 Conclusions: Active implementation of specific strategies to increase resilience and to prepare an adequate organizational response should be encouraged for the 7 groups
- 20 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.

severely affected [5].

#### 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

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.

level. At community level, health services, social systems and economic productivity are

On the other hand, 2,600 (16%) of the confirmed cases in our setting by March 30<sup>th</sup> 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

6 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

8 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

- 14 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

20 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

6 French) through social media using snowball sampling from the 3<sup>rd</sup> to 19<sup>th</sup> 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

- 10 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.
- 16 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
- 20 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
- 22 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.
- 4 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.
- 6 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

- 6 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
- 8 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 onsite (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
- 22 (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%

6 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).

8 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

18 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

8 (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

2 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

4 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

6 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

8 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.

18 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

24 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

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),

2 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

## 5. Conclusion

similar situations in the future.

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 atrisk 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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 languages.

## 8. Data sharing statement

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

#### 4 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 CATE	GORIES	TOTAL	
	Female	70.4		No	39.75	
~ .	Male	29.22	-	Yes, of people of <16	24.81	
Gender	Non binary	0.15	Care of someone	Yes, of people of >16	12.24	
	Not saying	0.12		Yes, siblings	1.26	
	Catalonia region	52.80	•	Yes, parents	15.11	
Origin	Other Spanish regions	46.00		Yes, others	6.82	
	Other countries	1.20		none	43.80	
	Married	53.65	=	1	24.81	
	Divorced	10.64	Burden of care (in	2	26.60	
Civil status	In couple	18.19	n options selected)	3	4.36	
Civii status	Single	14.1		4	0.38	
	Widow	3.4	-	5	0.03	
	Owned appartment/hous e	90.95	People financially providing at home	>2	7.77	
Housing	Shared appartment/hous e	7.81		2	66.9	
<b>8</b>	Rented room	1.07	-	1	25.31	
	Centre/institutio n	0.12		No	20.67	
	Homeless	0.03	Savings	Yes	35.73	
	Primary Education	3.85	-	Some	43.58	
3.5	Secondary Education	5.46		No	59.01	
Maximum Education	High School	31.53	Mortgage to pay	Yes, one	35.61	
Degree	Degree	42.62		Yes, more than one	5.37	
	Master	13.29	Dam4 40 55	No	75.83	
	PhD	3.23	Rent to pay	Yes	24.16	
	Qualified job	36.13	-	Nurse	30,64	
	Non qualified job	3.59	-	Physician	21,70	
Employmen t	Job in Healthcare	9.06	Occupation of HCW	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
	No	39.75	Cleaning personnel	0,29
	Yes, of people of <16 y.o.	24.81	Kitchen personnel	0,25
Care of someone	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		
	none	43.80		
D 1 6	1	24.81		
Burden of care (in n	2	26.60		
options	3	4.36		
selected)	4	0.38		
	5	0.03		

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

ANSWER CATEGORIES		TOTA L %		WER GORIES	TOTAL %
	No	75.12		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
Loss of job	Yes, the company made a temporary labour force adjustment plan	9.78	Staying home	No, I work on essential services	13.32
	Yes, I have lost some jobs previously contracted/arra nged	5.75		Yes	55.19
	Yes, I was fired	0.88		Yes, teleworking	30.13
	Yes, others	8.29	Afraid	No	26.86

No		Yes	60.66		Yes, going shopping	17.30
No		A little	22.09		Yes, to infect	22.12
Not yet, but will need to   Not yet, but will need to   Not yet, but will need to   Not yet		No	17.23			33.70
No   Social media		No	91.00		Elders	35.76
The contact with someone infected by SARS- CoV-2   No   S7.94	assistance		5.00	A fuoid to	Anyone	49.28
Ves. with a probable non-confirmed case   Ves. with a confirmed case   Ves. food   Ves. flegal drugs   Ves. food   Ves. flegal drugs	other	Yes	4.00		Children	13.20
Someoninfected by SARS-CoV-2   Yes, with a confirmed case   Yes, food   24.26   Yes, illegal drugs   Ves, food   Ves, illegal drugs   Ves, to calm   down   Ves, food   Ves, illegal drugs   Ves, food   Ves, food   Ves, illegal drugs   Ves, food   Ves, illegal dr		I do not know	80.15			1.74
No	someone infected	probable non-	9.83		No	57.94
Headache   16.01   Substance use   Yes, illegal drugs   Yes, drugs to calm   4.15 down			10.01			5.92
Headache   16.01   Substance use   Yes, illegal drugs   Q.40		No	26.18	Incressed	Yes, food	24.26
Nasal   Congestion/runn   9.17   ing nose   Extreme   fatigue/tirednes   6.91   S   Persistent   Cough (for one week or more)   Muscle pain   6.20   Diarrhea   5.36   Shortness of breath   Eloss of smell, smell blindness   1.86   Eloss of appetite/weight   Loss of faste   Loss of fas		Headache	16.01	substance		0.40
congestion/runn ing nose  Extreme fatigue/tirednes 6.91 8  Persistent cough (for one week or more)  Muscle pain 6.20 Diarrhea 5.36 Dizziness 2.85  Shortness of breath  Chest pain 1.90  Chest pain 1.90  Loss of smell, smell blindness  Persistent fever (for one fever (for one week or more)  Loss of appetite/weight  Loss of taste 1.66  Coccurrence fatigue/tirednes 6.91 8  Media to get informatio n about the pandemic  TV 36.77  Radio 15.45  Newspapers 13.54 Other 4.99  It's ok 18.98  The Governmen t explains too much The Governmen t explains too much The Governmen t explains too less n received Media explain too less Media explain too 12.78 Media explain too 2.91 less Too 20.92		Sore throat	9.85		to calm	4.15
fatigue/tirednes s Persistent cough (for one week or more)  Presence of symptoms  (since February)  Chest pain 1.90  Loss of smell, smell blindness Persistent fever (for one fever (for one fever (for one mappetite/weight 1.31 Loss of sappetite/weight 1.31  Loss of faste 1.66  Persistent cough (for one cough (for one week or more)   Social media 29.23  Media to get informatio n about the pandemic   TV 36.77  Radio 15.45  Newspapers 13.54  Other 4.99  It's ok 18.98  The Governmen t explains too much The food less  Thoughts about the informatio n received   Media explain too less much   Media explain too less much   Media explain too less   Too 20.92		congestion/runn	9.17			7.29
Presence of symptoms (since February)    Chest pain   Loss of smell, smell blindness   Persistent fever (for one week or more)   Loss of appetite/weight   Loss of taste   Loss of staste   Loss of taste   Lo		fatigue/tirednes	6.91	Media to		29.23
Presence of Diarrhea   5.36   Diarrhea   5.36   Diarrhea   5.36   Dizziness   2.85   Other   4.99		cough (for one	6.84	get informatio	TV	36.77
Diarrhea5.36 DizzinessNewspapers Other13.54 OtherShortness of Shortness of Pebruary2.19It's ok18.98Loss of smell, smell blindness1.90The Governmen t explains too much3.23The Governmen t explains too muchThe Governmen t explains too much8.93Persistent fever (for one fever (for one appetite/weight1.63Media explain too fever plain too fever plain too fever fev	Duosonaa	Muscle pain	6.20		Radio	15.45
Symptoms (since Shortness of breath Shortness of the state of the shortness of breath Shortness of the state of the shortness of the state of the shortness of the sh		Diarrhea	5.36		Newspapers	13.54
The Governmen t explains too much    Loss of smell, smell blindness   1.86     Thoughts about the informatio too less   Persistent fever (for one seek or more)   Loss of appetite/weight   1.31   Loss of taste   1.66     Loss of taste   1.66     Thoughts about the informatio too less   Media explain too sexplain too			2.85		Other	4.99
Chest pain 1.90  Loss of smell, smell blindness  Persistent fever (for one fever (for one appetite/weight 1.31  Loss of faste 1.66  Chest pain 1.90  Thoughts about the informatio too less much mech much much much much much much less  Too 20.92			2.19		It's ok	18.98
Loss of smell, smell blindness  Persistent fever (for one week or more)  Loss of appetite/weight  Loss of taste 1.66  Thoughts about the informatio too less  N received media explain too much  Media explain too 12.78  Media explain too 2.91  less  Too 20.92		Chest pain	1.90		Governmen t explains	3.23
fever (for one week or more)  Loss of appetite/weight  Loss of taste 1.66  explain too 12.78  Media explain too 2.91  less  Too 20.92			1.86	about the	Governmen t explains	8.93
Loss of appetite/weight  1.31  explain too 2.91  less Too 20.92		fever (for one	1.63	n received	explain too	12.78
1 000 01 19010 1 100			1.31		explain too less	2.91
		Loss of taste	1.66			20.92

1	40.03		Poorly adjusted to the reality	26.82		
2	23.76		I do not think anything about it	5.41	_	
3	14.68		No	21.43		
4	8.34	Impact of	Yes, my personality	4.78	_	
Well	66.50	the pandemic on people (subjective)	Yes, my vision of the society/ how we lived	50.41	_	
Normal	22.50		Yes, my life	23.36		
Not at 100%	10.60		Score	50%	90%	95%
Bad	0.42		Anxiety	2	≥10	≥16
None	64.25		Stress	8	≥24	≥28
Have used an app set up for management of COVID cases	21.51	Scores results per	Depression	4	≥16	≥20
Have called a telephone number set up for the management of COVID cases	5.60	percentues	PSTD	17	≥46	≥54
Have been to a public healthcare center (including GP)	3.77					
Have been tested	1.82					
Have been to private doctor/healthca re center	1.60					
Have gone to the emergency room	1.42					
Negative	57.76					
Positive	42.23					
	Well  Normal  Not at 100%  Bad  None  Have used an app set up for management of COVID cases  Have called a telephone number set up for the management of COVID cases  Have been to a public healthcare center (including GP)  Have been tested  Have been to private doctor/healthcare re center  Have gone to the emergency room  Negative	2 23.76  3 14.68 4 8.34  Well 66.50  Normal 22.50  Not at 100% 10.60  Bad 0.42  None 64.25  Have used an app set up for management of COVID cases Have called a telephone number set up for the management of COVID cases Have been to a public healthcare 3.77  center (including GP)  Have been to private doctor/healthcar recenter Have gone to the emergency room  Negative 57.76	2 23.76  3 14.68 4 8.34  Well 66.50  Normal 22.50  Not at 100% 10.60 Bad 0.42  None 64.25  Have used an app set up for management of COVID cases Have called a telephone number set up for the management of COVID cases Have been to a public healthcare (including GP)  Have been to a public healthcare tested Have been to private doctor/healthca re center Have gone to the emergency room Negative 57.76  Impact of the pandemic on people (subjective)  Scores results per percentiles	1 40.03 2 23.76  2 23.76  3 14.68 4 8.34  Well 66.50  Normal 22.50  Not at 100% 10.60 Bad 0.42 None 64.25 Have used an app set up for management of COVID cases Have called a telephone number set up for the management of COVID cases Have been to a public healthcare center (including GP) Have been to private doctor/healthcar re center (including GP) Have been to private doctor/healthcar re center (including GP) Have gone to the emergency room Negative 57.76	1 40.03 2 23.76 2 23.76  2 23.76  Well 66.50  Well 66.50  Normal 22.50  Not at 100% 10.60 Bad 0.42 None 64.25 Have used an app set up for management of COVID cases Have called a telephone number set up for the management of COVID cases Have been to a public healthcare center (including GP) Have been tested Have been to a public healthcare (including GP) Have been tested Have been to apprivate doctor/healthcare re center Have gone to the emergency room Negative 57.76	1

Table 3: Impact of the pandemic on the HCW

ANSWI	ER CATEGORIES	TOTAL	ANSWER CATEGORIES		TOTAL
Having worked directly	No	58.34		No	56.29
with COVID- 19 patients	Yes	41.65	Ethical	No, I follow protocols	25.09
Fear of working with COVID-	No	24.13	concerns	Yes, with selection of patients and/or protocols for selection of patients or therapeutic indications	9.41
19 patients	Yes	75.87		Yes, others	9.19
	No fear	14.58		Having worked without sufficient protection	25.68
	Scared of transmitting the virus to other non-COVID patients	With patients triage or protocols for patients triage or therapeutic indication	16.28		
Fear of working with COVID- 19 patients  Scared of transmitting the virus to own people (family, colleagues)  Scared of being obliged to take medical decisions representing an ethical dilemma for me (patient selection, application of	42.90		With the protocol for case management.	11.46	
	obliged to take medical decisions representing an ethical dilemma for me (patient selection,	6.26	Problems faced by healthcare professionals,	With the protocol for End-of- Life management	8.94
	Scared of being infected	17.01	grouped	With institution management or orders from superiors.	8.02
Afraid of dy	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

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

## Statistically association to:

	Statistically association to:							
Factors:	Depression Index	Anxiety Index	Stress Index	PSTD Index	Evitation Index	Intrusion Index	Hyperarousal Index	
Risk	p	p	p	p	p	р	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-

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			

ages	Married Married	women 51.04	men 60.21	14.77	Open	vs men)	<42 y.o. 32.2	42- 52 y.o. 56.74	52- 61 y.o. 61.12	>61 y.o. 63.22	p
Civil status	Divorced In couple	11.75 18.49	7.94 17.39	5.68 39.77	16.17 23.52		2.52 38.02	11.33 18.34	15.14 10.91	13.08 6.85	
	Single Widow	4.18	12.89	38.63 1.13	30.88 1.47		27.15 0.08	12.85 0.71	2.75	7.2 9.63	
Iousing	Owned appartment/house Shared appartment/house	91.08 7.7 1.05	90.89 7.9 1.07	64.36 26.43 8.04	72.46 23.18 0,00		79.44 18.43 2.01	94.22 4.9 0.81	95.08 4.11 0.67	94.48 4.33 0.83	p<0.01
)	Rented room Centre/institution Homeless	0.13 0.02	0.09 0.03	8.04 0,00 1.14	0,00 0,00 4.34		2.01 0.05 0.05	0.81 0.03 0.01	0.67 0.09 0.02	0.83 0.3 0.03	p =0.01
	Primary Education Secondary Education	3.52 5.18	4.63 6.17	5.68 3.4	5.79		1.53 4.83	3.3 4.49	4.24 5.19	6.1 7.19	
aximum ducation Degree	High School Degree	29.92 44.99	35.46 36.96	29.54 31.81	28.98 33.33	p<0.01	27.54 38.72	30.98 43.92	34.17 43.48	33.11 44.26	p<0.01
1	Master PhD	13.47	12.77 3.98	26.13 3.4	21.73 8.69		24.32 3.03	14.3 2.99	9.7 3.2	5.65 3.67	
5	Qualified job Non qualified job	36.95 3.51	34.15 3.78	35.22 9.09	37.68 2.89		48.19 4.39	48.76 4.46	41.3 4.49	7.86 1.15	
<b>)</b> Employment	Job in Healthcare Home/people care	10.9 6.24 8.03	4.67 1.42 11.41	9.09 0,00	1.44 2.89 15.94	p<0.01	12.16 0.94 7.72	10.58 1.69 11.45	9.21 3.25 11.4	4.64 12.86 5.59	0<0.01
)	Self-employed Company owner Unemployed	3,00 5.29	7.36 4.54	9.09 1.13 12.5	1.44		2.39 7.63	5.66 4.62	5.9 5.61	3.05 2.69	
People financially	Other >2	26.03 8.03	32.63 7.05	23.86 14.77	26.08 16.41		16.54 13.59	12.73 3.99	18.8 7.26	62.13	
People financially poviding at home	2	66.29 25.67	68.57 24.37	54.54 30.68	55.22 28.35		70.39 16012,00	71.65 24.35	64.94 27.78	61.18 32.38	
	No Yes, of people of <16 y.o.	36.55 25.99	47.61 21.93	58.94 13.68	34.66 25.33		45.98 33.96	16.26 48.69	31.39 13.52	67.82 3.07	
are of someone	Yes, of people of >16 y.o. Yes, siblings Yes, parents	13.02 1.36 16.1	10.35 0.96 12.66	6.31 4.21 10.52	6.66 2.66 17.33	<0.01	4.81 1.57 8.41	12.58 0.86 16.92	23.54 1.33 23.03	6.73 1.28 10.92	<0.01
10	Yes, others None	6.95	6.46	6.31	13.33	•	5.24	4.66 18.85	7.17 35.96	10.16	
1 Surden of care	1 option selected 2 options selected	25.9 28.23	22.11 22.83			< 0.01	13.12 34.82	21.03 49.43	39.98 19.32	24.24 4.51	< 0.01
12	3 options selected 4 options selected	4.77 0.41	3.39 0.30			<0.01	2.82 0.31	9.88 0.73	4.31 0.38	0.61 0.11	<0.01
	5 options selected No	0.04 76.13	0.01 72.73	63.63	65.21		0.04 68.4	0.04 69.41	0.02 73.65	0.02 88.18	
13	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	
4 oss <sup>1</sup> of job	Yes, the company made a temporary labour force	9.70	10.01	9.09	7.24	<0.01	14.5	13.04	9.9	2.17	<0.01
15	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	
16	Yes, I was fired Yes, others	0.96 8.08	0.68 8.77	2.27 9.09	0,00 13.04		1.79	0.96 9.12	0.67 8.93	0.16 6.83	
iav <u>ing</u> s	No Yes	22.00 34.00	18.00 40.00	30,00 23,00	26,00 28,00	< 0.01	20.34 36.22	24.48 32.37	22.21 33.65	15.82 40.55	<0.01
<del>7</del>	No Yes, one	44.00 58.75	42.00 59.47	48,00 80.68	46,00 57.97	-0.0°	43.43 64.04	43.14 39.65	44.13 54.68	43.62 76.91	-o.c-
Mortgage to pay	Yes, one Yes, more than one No	36.17 5.07 76.00	34.37 6.14 76.00	18.18 1.13 51,00	36.23 5.79 66,00	<0.01	31.76 4.18 56.64	50.8 9.54 75.05	39.81 5.49 83.23	20.66 2.42 87.08	< 0.01
Cent to pay	Yes Yes	24.00 59.85	24.00 62.61	49,00 59.09	34,00 69.56	-	43.35 64.15	24.94 58.86	16.76 60.4	12.91 59.52	<0.01
pending less	A little No	22.34 17.80	21.56 15.82	13.63 27.27	17.39 13.04		19.89 15.95	23.74 17.38	22.72 16.87	21.87 18.59	
or social	No Not yet, but will need to	91.42 4.71	90.8 5.19	80.68 10.22	81.15 8.69		88.95 6.34	88.41 6.43	90.73 5.08	96.48 1.81	< 0.01
ndex of socio-	Yes <7 7-8.5	3.85 26.19 20,00	3.99 17.04 10.22	9.09 22.47 20.12	10.14 17.39 10.14		4.7 21.17 33.2	5.15 30.35 28.42	4.18 26.04 32.07	1.7 22.72 36.36	
conomic provation -score	8.5-10 >10	20,00 32.09 21.71	32.95 39.77	20.12 33.59 23.8	10.14 43.47 28.98	<0.01	33.2 17.38 28.24	28.42 18.8 22.41	32.07 19.27 22.6	36.36 24.3 16.59	p<0.01
	No, I am forced to go to work No, I need to work	0.33	0.55 1.51	2.29 1.14	1.44		0.54 0.75	0.56	0.4	0.1 1.3	
23 <sub>ng home</sub>	No, I work on essential services Yes	13.73 54.13	12.39 57.73	13.79 43.67	7.24 62.31	<0.01	16.36 43.85	17.77 39.51	15.19 48.13	4.47 87.39	p<0.01
24	Yes, teleworking No Yes, noing shopping	31.1 22.14 18.9	27.79 38.44 13.39	39.08 26.26 17.17	27.53 37.68		38.48 21.77 17.82	41.35 23.06	35.37 26.82	6.71 35.04	
25	Yes, going shopping Yes, to infect others Yes, to get infected	18.9 23.89 35.04	13.39 17.68 30.47	17.17 30.3 26.26	10.14 24.63 27.53	<0.01	17.82 28.52 31.87	18.59 24.76 33.57	16.69 22.13 34.33	16.19 13.85 34.9	p<0.01
26 to infect	Elders Anyone	36.23 48.63	34.25 51.26	43.33 50,00	23.52 70.58		42.05 41.27	35.33 41.49	36.86 54.17	22.98 69.79	
unust to infect	Children Colleagues at work	13.32 1.81	12.97 1.50	3.33 3.33	5.88 0,00		14.28 2.38	21.55 1.61	7.21 1.74	6.47 0.74	p<0,01
	No Yes, alcohol	55.2 5.57	64.77 6.74	41.22 8.77	50,00 9.75		42.95 8.88	51.97 7.23	59.86 5.01	77.68 2.47	
stances	Yes, food Yes, illegal drugs Yes, drugs to calm down	26.26 0.25 4.83	19.40 0.73 2.44	22.8 5.26 8.77	20.73 2.43 6.09	< 0.01	33.04 1.07 4.24	27.44 0.28 4.99	22.72 0.16 4.27	13.4 0.09 3.07	p<0.01
9	Yes, tobacco Social media	7.85 30.09	5.89 27.20	13.15 35,00	10.97 30.88	-	9.79 7.49	8.06 5.45	7.95 3.41	3.27 1.49	
Media to get Innation about Idenandemic	TV Radio	37.48 14.94	35.18 16.67	28.33 10,00	31.61 12.5		50.54 13.74	50.41 20.14	50083,00 22.9	48.38 25.1	
	Newspapers Other	12.83 4.63	15.18 5.74	15,00 11.66	11.76 13.23		19.17 9.03	16.7 7.27	17.07 6.52	20.19 4.82	
31	It's ok The Government explains too much	2.65	18.40 4.55	0,00	2.19		9.76	2.28	3.88	26.74 6.66	
hagehts about the		9.06	8.60	14.08	9.89	-0.01	8.99	8.56	9.7	8.53	
nformation 3 <sup>cd</sup>	Media explain too much Media explain too less	12.49	13.43	11.97 5.63	8.79 8.79	<0.01	9.69 2.68	10.46	14.32 3.53	19.21 2.96	< 0.01
	Too negative Poorly adjusted to the reality	20.47 27.34	21.90 25.60	25.35 30.98	18.68 29.67	:	41.88 21.13	26.09 25.61	0.24 33.57	0.11 31.12	
mpact of the	I do not think anything about it  No  Yes, my personality	5.87 18.11 5.18	4.36 29.88 3.71	5.63 23.07 9.4	8.79 23.25 5.81		4.38 17.23 8.17	6.47 19.43 5.55	6.6 21.13 3.29	4.64 28.05 2.02	
ut demic on people ubjective)	Yes, my life	51.74 24.95	3.71 47.05 19.34	43.58 23.93	50,00 20.93	< 0.01	50.98 23.6	51.86 23.14	52.4 23.17	46.36 23.56	< 0.01
office with	I do not know yes, with a probable non-	79.01 10.16	82.93 9.01	70.32	82.6 5.79	<0.01	75,00 13.05	76.77 11.61	79.62	88.72 5.14	<0.01
ARS-CoV-2	Yes, with a confirmed case	10.81	8.04	13.18	11.59	-0.01	11.93	11.61	10.58	6.12	~v.01
37	No Headache	22.92 17.06	35.72 13.02	11.29	37.75 8.16		15.55 17.59	20.98 18.01	28.09 16.29	46.06 10.81	
38	Nasal congestion/running nose Extreme fatigue/tiredness	10.51 9.1 7.47	7.95 9.37 5.30	9.27 10.08 10.48	13.26 12.24 4.08		10.81 12.06 7.92	10.59 9.05 7.57	9.47 8.28 6.76	7.96 6.2 4.77	
resence of	Persistent cough (for one week or Muscle pain	6.96	6.50 5.15	6.85 8.87	7.14 4.08		6.71	6.94	6.92	6.81 4.67	
resence of rountoms (since (r) ary)	Diarrhea Dizziness	5.37 3.14	5.32 1.95	8.46 8.06	6.12 2.04		6.74 3.92	5.63 2.97	5.06 2.53	3.36 1.54	
	Shortness of breath Chest pain Loss of smell, smell blindness	2.27 1.96 1.93	1.95 1.74 1.66	3.62 1.2 2.41	2.04 2.04 1.02		2.88 2.38	2.48 2.28 2.05	1.88 1.71 1.76	1.19 0.93 1.31	
<b>1</b> 1	Loss of smell, smell blindness Persistent fever (for one week or more)	1.93	1.66	2.41	0,00		2.15	1.5	1.76	1.31	
12	Loss of appetite/weight Loss of taste	1.38 1.74	1.10	2.01 1.2	0,00		1.38 1.79	1.3 1.79	1.26 1.66	1.28 1.28	
ondid they feel	Well Normal	64.92 22.84	70.28 21.6	52.87 18.39	60.86 24.63		68.25 19.31	67.4 19.85	64.28 23.86	65.97 26.65	< 0.01
uestionnaire	Bad	11.76 0.46	7.83 0.27	25.28 3.44	13.04 1.44		11.93 0.5	12.26 0.46	11.39 0.45	7.13 0.23	-0.31
	Have used an app set up for	63.97	64.91 22.99	55.33 26.21	78.57 17.14		63.21	62.37 22.12	62.73 23.33	68.55 20.05	
15 Use of healthcare	management of COVID cases Have called a telephone number set up for the management of	5.9	4.89	4.85	1.42		6.56	6.59	5.49	3.83	
rces put in In the context	COVID cases  Have been to a public healthcare					< 0.01					<0.01
of the COVID-19	center (including GP)  Have been tested	3.97	3.27 1.14	2.91 3.88	1.42		3.97 2.33	3.96 2.06	3.56 1.85	3.58 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	
18	Have gone to the emergency room	1.43	1.37	4.85	0,00		1.6	1.5	1.53	1.08	
of the test	Negative Positive	61.14 38.85	42.48 57.51	50,00 50,00	0,00		62.05 37.94	59.21 40.78	54.25 45.74	51.7 48.29	
50	Nurse Physician	33,70 17,96	13,62 42,67	25,00 12,50	0,00		34,33 16,22	29,26 17,26	28,42 22,22	28,59 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	
Occupation	Technician Administrative personnel	11,19	13,36 6,23	0,00 25,00	0,00	< 0.01	7,59	13,85	10,81	6,67 4,89	<0.01
2	Nurse assistant Researcher	10,56 2,36	3,89 3,24	37,50 0,00	0,00 100,00		9,54 3,22	9,82 2,80	11,26 1,89	6,07 1,48	
3	Caretaker Cleaning personnel	0,18	2,59 0,39	0,00	0,00		0,67	0,55	0,60	0,15	
	Kitchen personnel Laundry personnel	0,28	0,13 0,00	0,00	0,00		0,12 0,06	0,48 0,00	0,15 0,23	0,30	
directly with	No Yes	56,88 43,12	56,32 43,68	50,00 50,00	0,00	< 0.01	50,23 49,77	53,55 46,45	60,78 39,22	72,67 27,33	<0.01
GMID-19 patients Fear of working	No	21,97	36,04				18,70	20,17	25,18	31,70	
with COVID-19	Yes	78,03	63,96			<0.01	81,30	79,83	74,82	68,30	<0.01
	No fear Scared of transmitting the virus	16,81	28,40	21,43	0,00		11,61	14,50	17,70	22,00	
57	to other non-COVID patients Scared of transmitting the virus	19,30	17,40	14,29	0,00	-	17,30	16,22	13,93	12,93	
8 Par of working	to own people (family, colleagues)	55,81	47,14	35,71	100,00		46,58	45,97	44,23	38,32	
with COVID-19	Scared of being obliged to take medical decisions representing the control of the	tn.//	hm	ionar	hm:	<0.05	/ci+~	/ah-	\+/~	مامام	<0.01
er revi 60	(patient selection, application of	. LP9.//	NI#I	Johan	.umij.	COII	i/ 341C	/ aw(	uu/g	urøle	mie
	protocols) Scared of being infected	21,69	21,32	14,29	0,00		16,27	16,59	19,42	21,77	

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	2
		was done and what was found	
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	5-6
-		recruitment, exposure, follow-up, and data collection	
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection	5-6
		of participants	
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders,	5-6
		and effect modifiers. Give diagnostic criteria, if applicable	
Data sources/	8*	For each variable of interest, give sources of data and details of methods	5-7
measurement		of assessment (measurement). Describe comparability of assessment	
		methods if there is more than one group	
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	N/A
		applicable, describe which groupings were chosen and why	
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	7, 18
•		potentially eligible, examined for eligibility, confirmed eligible, included	
		in the study, completing follow-up, and analysed	
		(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,	7-8
<b>F</b>		social) and information on exposures and potential confounders	
		(b) Indicate number of participants with missing data for each variable of	18
		interest	
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	8-10
		estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	

		(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	11
		bias or imprecision. Discuss both direction and magnitude of any potential	
		bias	
Interpretation	20	Give a cautious overall interpretation of results considering objectives,	11-
		limitations, multiplicity of analyses, results from similar studies, and other	17
		relevant evidence	
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	19
		and, if applicable, for the original study on which the present article is	
		based	

<sup>\*</sup>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.

## **BMJ Open**

# Identification of most vulnerable populations at psychosocial 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-

2 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

- 6 and when confinement was in force.
  - **Participants:** The study population was all people >16 years old consenting to participate
- 8 in the study and completing the survey. 56,656 completed survey questionnaires were obtained from the 3<sup>rd</sup> to 19<sup>th</sup> 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 nonpsychological 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
- 22 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
- 4 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

- 2 On 30<sup>th</sup> 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
- 4 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.
- 6 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-
- 8 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
- 10 system [3,4].
  - On the other hand, the 16% of the confirmed cases in our setting by March 30<sup>th</sup> 2020
- 12 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
- 16 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
- 20 mental health and emotional burden by SARS-CoV-2 epidemics and mass guarantines
  - 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

2 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

- 4 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
- 6 the impact of the pandemic was important at several health dimensions.

#### 2. Objectives

8 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.

#### 16 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

6 General Data Protection Regulation (GDPR). The survey was shared in 5 different

languages (Catalan, Spanish, English, Italian, and French) through social media

8 (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

10 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

3<sup>rd</sup> to 19<sup>th</sup> April 2020.

16 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

24 (socioeconomic precariousness index, depression index, anxiety index, stress index, or

points.

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

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

- 8 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
- 10 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).
- 18 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

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 these declaring three symptoms are more. We men and under 42 said that they felt we rese

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 2 (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

#### 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

the results are found in Table 3.

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

6 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

8 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

10 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
  2 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.).
- 6 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.
- 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.

#### 2 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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- languages; and to Harvey Evans also for edition the English grammar of the text.

#### 10. Data sharing statement

- The article was uploaded in medRxiv 2021.03.20.21254029. The complete dataset results generated is available at:
- 20 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

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.

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12 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.
- 16 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
  - about mental health (PI19/00111 and PI15/00519); and from the Catalan Government

FEDER Funds through Instituto de Salud Carlos III: grant to develop a research project

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
- 2 the evaluation of research projects and as member of the Advisory Board of Fundación Progreso y Salud for the evaluation of research projects.
- 4 CV received support by the Spanish Government-FEDER Funds through CIBER Enfermedades Respiratorias and her contract [CPII18/00031]; by the European Union's
- 6 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
- 8 member of the Covid-19 crisis committee of the IGTP.
- 10 MRS, CA, PJC, BA and JU declare no competing interests.

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16		
	1	5. Tables
18		

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
	Female	3,922	70.4		No	24,755	39.75
Carlan	Male	16,556	29.22		Yes, of people of <16	15,452	24.81
Gender	Non binary	88	0.15	Care of	Yes, of people of >16	7,624	12.24
	Not saying	69	0.12	someone	Yes, siblings	782	1.26
Outoin	Catalonia region	54,318	95.63		Yes, parents	9,409	15.11
Origin	Other	2,480	4.37		Yes, others	4,248	6.82
	Married	30,389	53.65		none	24,814	43.80
	Divorced	6,030	10.64		1	14,055	24.81
Civil status	In couple	10,305	18.19	Burden of care (in n	2	15,070	26.60
	Single	7,990	14.1	options selected)	3	2,473	4.36
	Widow	1,929	3.4	,	4	217	0.38
	Owned appartment/house	51,428	90.95		5	20	0.03
	Shared appartment/house	4,417	7.81	People	>2	4,379	7.77
Housing	Rented room	607	1.07	financially providing	2	37,677	66.9
	Centre/institution	71	0.12	at home	1	14,256	25.31
	Homeless	18	0.03		No	11,685	20.67
Maximum - Education	Primary Education	2,182	3.85	Savings	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	Rent to pay	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

- 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.
- 4 \*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 CASE S	TOTAL	ANSWER	CATEGORIES	N CASES	TOTAL
	No	42,475	75.12		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
Loss of job	Yes, the company made a temporary labour force adjustment plan	5,530	9.78	Staying home	No, I work on essential services	7,549	13.32
	Yes, I have lost some jobs previously contracted/arr anged	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		No	14,021	26.86
	Yes	34,307	60.66		Yes, going shopping	9,029	17.30
Spendin g less	A little	12,493	22.09	Afraid	Yes, to infect others	11,545	22.12
	No	9,747	17.23	_	Yes, to get infected	17,590	33.70
Seek for	No	51,588	91.00		Elders	4,128	35.76
social assistan	Not yet, but will need to	2,756	5.00	_	Anyone	5,689	49.28
ce/or any other assistan ce	Yes	2,208	4.00	Afraid to infect	Children	1,524	13.20
Contact with	I do not know	45,860	80.15	-	Colleagues at work	201	1.74
someon e infected by	yes, with a probable non-confirmed case	5,627	9.83	Increase d substanc e use	No	36,521	57.94

SARS- CoV-2	Yes, with a confirmed case	5,730	10.01		Yes, alcohol	3,736	5.92	
	No	26,598	26.18		Yes, food	15,292	24.26	-
	Headache	16,268	16.01		Yes, illegal drugs	257	0.40	_
	Sore throat	10,013	9.85		Yes, drugs to calm down	2,617	4.15	_
	Nasal congestion/ru nning nose	9,322	9.17		Yes, tobacco	4,599	7.29	_
	Extreme fatigue/tiredn ess	7,029	6.91	Media to	Social media	35,080	29.23	_
Presenc	Persistent cough (for one week or more)	6,957	6.84	get informati on about the pandemi	TV	44,126	36.77	_
e of sympto	Muscle pain	6,299	6.20	panuemi C	Radio	18,543	15.45	_
ms	Diarrhea	5,453	5.36	•	Newspapers	16,255	13.54	-
(since	Dizziness Shortness of	2,897	2.85		Other	5,991	4.99	-
Februar	Shortness of breath	2,231	2.19		It's ok	14,193	18.98	
y)	Chest pain	1,935	1.90		The Government explains too much	2,417	3.23	_
	Loss of smell, smell blindness	1,894	1.86		The Government explains too less	6,678	8.93	_
-	Persistent fever (for one week or more)	1,663	1.63	Thoughts about the informati on	Media explain too much	9,556	12.78	
	Loss of appetite/weig ht	1,333	1.31	received	Media explain too less	2,177	2.91	_
	Loss of taste	1,689	1.66		Too negative	15,645	20.92	_
	1	11,899	40.03		Poorly adjusted to the reality	4,049	26.82	_
N of sympto	2	7,062	23.76		I do not think anything about it	20,053	5.41	_
ms*	3	4,365	14.68	Impact of		14,575	21.43	_
	4	2,481	8.34	the pandemi	Yes, my personality	3,252	4.78	_
How did they feel	Well	37,599	66.50	c on people (subjecti	Yes, my vision of the society/ how we lived	34,274	50.41	_
when .	Normal	12,726	22.50	ve)	Yes, my life	15,889	23.36	
answeri ng the	Not at 100%	6,010	10.60		Score	50%	90%	95%
question naire	Bad	235	0.42	Scores	Anxiety	2	≥10	≥16
Use of	None	38,955	64.25	results	Stress	8	≥24	≥28
re resourc	Have used an app set up for management of COVID cases	13,044	21.51	per percentil es	Depression	4	≥16	≥20

the context of the COVID -19 pandem ic	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/healthc are center	973	1.60				
	Have gone to the emergency room	863	1.42				
For	Negative	621	57.76				
those tested, result of the test	Positive	454	42.23				

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.

	ISWER EGORIES	N CASES	TOTAL	ANSW	ER CATEGORIES	N CASES	TOTAL %
Having worked directly	No	2,939	58.34		No	2,817	56.29
with COVID- 19 patients	Yes	2,098	41.65	Fu: 1	No, I follow protocols	1,256	25.09
Fear of working with COVID-	No	1,122	24.13	Ethical concerns	Yes, with selection of patients and/or protocols for selection of patients or therapeutic indications	473	9.41
19 patients	Yes	3,528	75.87		Yes, others	460	9.19
	No fear	1,122	14.58		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
Fear of working with	Scared of transmitting the virus to own people (family, colleagues)	3,300	42.90	Problems faced by healthcar	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	e profession als, grouped	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

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

### Statistically association to:

			Statis	otically a	SSOCIATION (	. <b>U</b> .	
Factors:	Depression Index	Anxiety Index	Stress Index	PTSD Index	Evitation Index	Intrusion Index	Hyperarousal Index
Risk	p	p	p	р	р	р	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-

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			

aye 4	1R Of GA1s	women 51.04	men 60.21	BMJ,	27.94	vs men)	<42 y.o. 32.2	42- 52 y.o. 56.74	52- 61 y.o. 61.12	>61 y.o. 63.22	P
ivil status	Divorced In couple	11.75 18.49	7.94 17.39	5.68 39.77	16.17 23.52		2.52 38.02	11.33 18.34	15.14 10.91	13.08	
	Single Widow	4.18	12.89	38.63 1.13	30.88 1.47		27.15 0.08	12.85 0.71	2.75	7.2 9.63	
lousing	Owned appartment/house Shared appartment/house Rented room	91.08 7.7 1.05	90.89 7.9 1.07	64.36 26.43 8.04	72.46 23.18 0,00		79.44 18.43 2.01	94.22 4.9 0.81	95.08 4.11 0.67	94.48 4.33 0.83	p<0.01
)	Rented room Centre/institution Homeless	0.13 0.02	0.09 0.03	8.04 0,00 1.14	0,00 0,00 4.34		2.01 0.05 0.05	0.81 0.03 0.01	0.67 0.09 0.02	0.83 0.3 0.03	p =0.01
-	Primary Education Secondary Education	3.52 5.18	4.63 6.17	5.68	5.79		1.53	3.3	4.24 5.19	6.1 7.19	
aximum ducation Degree	High School Degree	29.92 44.99	35.46 36.96	29.54 31.81	28.98 33.33	p<0.01	27.54 38.72	30.98 43.92	34.17 43.48	33.11 44.26	p<0.01
	Master PhD	13.47 2.9	12.77 3.98	26.13 3.4	21.73 8.69		24.32 3.03	14.3 2.99	9.7 3.2	5.65 3.67	
;	Qualified job  Non qualified job	36.95 3.51 10.9	34.15 3.78 4.67	35.22 9.09 9.09	37.68 2.89 1.44		48.19 4.39 12.16	48.76 4.46 10.58	41.3 4.49 9.21	7.86 1.15 4.64	
mployment	Job in Healthcare Home/people care Self-employed	6.24 8.03	1.42	0,00 9.09	2.89 15.94	p<0.01	0.94 7.72	1.69	3.25 11.4	12.86 5.59	0<0.01
)	Company owner Unemployed	3,00 5.29	7.36 4.54	1.13 12.5	1.44 11.59		2.39 7.63	5.66 4.62	5.9 5.61	3.05 2.69	
eople financially	Other >2	26.03 8.03	32.63 7.05	23.86 14.77	26.08 16.41		16.54 13.59	12.73 3.99	18.8 7.26	62.13	
cople financially coviding at home	1	66.29 25.67	68.57 24.37	54.54 30.68	55.22 28.35		70.39 16012,00	71.65 24.35	64.94 27.78	61.18 32.38	
`	Yes, of people of <16 y.o.	36.55 25.99 13.02	47.61 21.93 10.35	58.94 13.68 6.31	34.66 25.33		45.98 33.96 4.81	16.26 48.69 12.58	31.39 13.52 23.54	67.82 3.07	
are of someone	Yes, of people of >16 y.o. Yes, siblings Yes, parents	1.36	0.96 12.66	4.21 10.52	6.66 2.66 17.33	< 0.01	1.57 8.41	0.86 16.92	1.33 23.03	6.73 1.28 10.92	< 0.01
0	Yes, others None	6.95 40.62	6.46 51.34	6.31	13.33		5.24 48.85	4.66 18.85	7.17 35.96	10.16 70.47	
1 urden of care	1 option selected 2 options selected	25.9 28.23	22.11 22.83			<0.01	13.12 34.82	21.03 49.43	39.98 19.32	24.24 4.51	<0.01
2	3 options selected 4 options selected	4.77 0.41	3.39 0.30				2.82 0.31	9.88 0.73	4.31 0.38	0.61	
_	5 options selected No	76.13	0.01 72.73	63.63	65.21		0.04 68.4	0.04 69.41	73.65	0.02 88.18	
3	Yes, the company made a labour force adjustment plan Yes, the company made a	0.18	0.17	0,00	0,00		0.22	0.26	0.15	0.09	
ass of job	t es, the company made a temporary labour force adjustment plan	9.70	10.01	9.09	7.24	< 0.01	14.5	13.04	9.9	2.17	<0.01
5	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	
6	Yes, I was fired Yes, others	0.96 8.08	0.68 8.77	2.27 9.09	0,00 13.04	<u> </u>	1.79 8.3	0.96 9.12	0.67 8.93	0.16 6.83	
avings	No Yes	22,00 34,00	18.00 40.00	30,00 23,00	26,00 28,00	<0.01	20.34 36.22	24.48 32.37	22.21 33.65	15.82 40.55	<0.01
7 Mortgage to pay	No Yes, one	44.00 58.75 36.17	42.00 59.47 34.37	48,00 80.68 18.18	46,00 57.97 36.23	<0.01	43.43 64.04 31.76	43.14 39.65 50.8	44.13 54.68 39.81	43.62 76.91 20.66	< 0.01
8	Yes, more than one No	5.07 76.00	6.14 76.00	18.18 1.13 51,00	5.79 66,00	-0.01	31.76 4.18 56.64	9.54 75.05	5.49 83.23	2.42 87.08	
ent to pay	Yes Yes	24.00 59.85	24.00 62.61	49,00 59.09	34,00 69.56		43.35 64.15	24.94 58.86	16.76 60.4	12.91 59.52	<0.01
pending less	A little No	22.34 17.80	21.56 15.82	13.63 27.27	17.39 13.04		19.89 15.95	23.74 17.38	22.72 16.87	21.87 18.59	
ssistance/or any	No Not yet, but will need to Yes	91.42 4.71 3.85	90.8 5.19 3.99	80.68 10.22 9.09	81.15 8.69 10.14	-	88.95 6.34 4.7	88.41 6.43 5.15	90.73 5.08	96.48 1.81	< 0.01
ther assistance idex of socio-	Yes <7 7-8.5	3.85 26.19 20,00	3.99 17.04 10.22	9.09 22.47 20.12	10.14 17.39 10.14		21.17 33.2	5.15 30.35 28.42	4.18 26.04 32.07	1.7 22.72 36.36	
onomic position -score	8.5-10 >10	32.09 21.71	32.95 39.77	33.59 23.8	43.47 28.98	<0.01	17.38 28.24	18.8 22.41	19.27 22.6	24.3 16.59	p<0.01
13 taylig home	No, I am forced to go to work No, I need to work	0.33	0.55 1.51	2.29 1.14	1.44		0.54 0.75	0.56	0.4	0.1 1.3	
taying home	No, I work on essential services Yes Ver, teleprocking	13.73 54.13 31.1	12.39 57.73 27.79	13.79 43.67 39.08	7.24 62.31 27.53	<0.01	16.36 43.85 38.48	17.77 39.51 41.35	15.19 48.13 35.37	4.47 87.39 6.71	p<0.01
:4	No Yes, going shopping	31.1 22.14 18.9	27.79 38.44 13.39	39.08 26.26 17.17	27.53 37.68 10.14		38.48 21.77 17.82	41.35 23.06 18.59	35.37 26.82 16.69	6.71 35.04 16.19	
25	Yes, to infect others Yes, to get infected	23.89 35.04	17.68 30.47	30.3 26.26	24.63 27.53	<0.01	28.52 31.87	24.76 33.57	22.13 34.33	13.85 34.9	p<0.01
6 to infect	Elders Anyone	36.23 48.63	34.25 51.26	43.33 50,00	23.52 70.58		42.05 41.27	35.33 41.49	36.86 54.17	22.98 69.79	p<0,01
7	Children Colleagues at work	13.32	12.97 1.50	3.33 3.33	5.88 0,00		14.28 2.38	21.55 1.61	7.21 1.74	6.47 0.74	pr~0,01
./	No Yes, alcohol	55.2 5.57	64.77	41,22 8.77	50,00 9.75		42.95 8.88	51.97 7.23	59.86 5.01	77.68 2.47	
u stances	Yes, food Yes, illegal drugs Yes, drugs to calm down	26.26 0.25 4.83	19.40 0.73 2.44	22.8 5.26 8.77	20.73 2.43 6.09	<0.01	33.04 1.07 4.24	27.44 0.28 4.99	22.72 0.16 4.27	13.4 0.09 3.07	p<0.01
9	Yes, tobacco Social media	7.85 30.09	5.89 27.20	13.15 35,00	10.97 30.88		9.79 7.49	8.06 5.45	7.95 3.41	3.27 1.49	
ledia to get function about conndemic	TV Radio	37.48 14.94	35.18 16.67	28.33 10,00	31.61 12.5		50.54 13.74	50.41 20.14	50083,00 22.9	48.38 25.1	
	Newspapers Other	12.83 4.63	15.18 5.74	15,00 11.66	11.76 13.23		19.17 9.03 9.76	16.7 7.27	17.07 6.52 28.13	20.19 4.82 26.74	
31	It's ok The Government explains too much	19.28 2.65	18.40 4.55	0,00	2.19		9.76	17.8 2.28	28.13 3.88	26.74 6.66	
h2ghts about the	The Government explains too less	9.06	8.60	14.08	9.89	<0.01	8.99	8.56	9.7	8.53	<0.01
iformation 13	Media explain too much Media explain too less	12.49 2.8	13.43 3.11	11.97 5.63	8.79 8.79	-0.01	9.69 2.68	10.46 2.69	14.32 3.53	19.21 2.96	-0.01
4	Too negative Poorly adjusted to the reality Lee not think anothing about it	20.47 27.34 5.87	21.90 25.60 4.36	25.35 30.98 5.63	18.68 29.67 8.79		41.88 21.13 4.38	26.09 25.61 6.47	0.24 33.57 6.6	0.11 31.12 4.64	
mpact of the	I do not think anything about it No Yes, my personality	5.87 18.11 5.18	4.36 29.88 3.71	5.63 23.07 9.4	8.79 23.25 5.81		4.38 17.23 8.17	6.47 19.43 5.55	6.6 21.13 3.29	4.64 28.05 2.02	
objective)	Yes, my vision of the society/ho Yes, my life	51.74 24.95	47.05 19.34	43.58 23.93	50,00 20.93	<0.01	50.98 23.6	51.86 23.14	52.4 23.17	46.36 23.56	< 0.01
fact with	I do not know yes, with a probable non-	79.01 10.16	82.93 9.01	70.32 16.48	82.6 5.79	< 0.01	75,00 13.05	76.77 11.61	79.62 9.79	88.72 5.14	< 0.01
ARS-CoV-2	Yes, with a confirmed case	10.81	8.04	13.18	11.59		11.93	11.61	10.58	6.12	1
	No Headache Sore throat	22.92 17.06 10.51	35.72 13.02 7.95	11.29 13.7 9.27	37.75 8.16 13.26		15.55 17.59 10.81	20.98 18.01 10.59	28.09 16.29 9.47	46.06 10.81 7.96	
8	Nasal congestion/running nose Extreme fatigue/tiredness	10.51 9.1 7.47	7.95 9.37 5.30	9.27 10.08 10.48	13.26 12.24 4.08		10.81 12.06 7.92	10.59 9.05 7.57	9.47 8.28 6.76	7.96 6.2 4.77	
9 resence of	Persistent cough (for one week or Muscle pain	6.96	6.50 5.15	6.85 8.87	7.14 4.08		6.71	6.94	6.92 6.43	6.81 4.67	
matoms (since arrary)	Diarrhea Dizziness	5.37 3.14	5.32 1.95	8.46 8.06	6.12 2.04		6.74 3.92 2.88	5.63 2.97 2.48	5.06 2.53	3.36 1.54	
	Shortness of breath Chest pain Loss of smell, smell blindness	2.27 1.96 1.93	1.95 1.74 1.66	3.62 1.2 2.41	2.04 2.04 1.02		2.88 2.38 2.15	2.48 2.28 2.05	1.88 1.71 1.76	1.19 0.93 1.31	
1	Persistent fever (for one week or more)	1.58	1.79	2.41	0,00	•	1.5	1.5	1.83	1.76	
-2	Loss of appetite/weight Loss of taste	1.38 1.74	1.10	2.01 1.2	0,00		1.38 1.79	1.3 1.79	1.26 1.66	1.28 1.28	
ondid they feel	Well Normal	64.92 22.84	70.28	52,87 18.39	60.86 24.63	-	68.25 19.31	67.4 19.85	64.28 23.86	65.97 26.65	<0.01
uestionnaire	Not at 100% Bad None	11.76 0.46 63.97	7.83 0.27 64.91	25.28 3.44 55.33	13.04 1.44 78.57		0.5 63.21	12.26 0.46 62.37	11.39 0.45 62.73	7.13 0.23 68.55	
	None Have used an app set up for management of COVID cases	20.9	22.99	55.33 26.21	78.57 17.14		20.53	62.37	62.73 23.33	20.05	
se of healthcare	Have called a telephone number set up for the management of	5.9	4.89	4.85	1.42	•	6.56	6.59	5.49	3.83	
in the context	COVID cases  Have been to a public healthcare				1.42	<0.01					<0.01
the COVID-19	Center (including GP) Have been tested	3.97	3.27 1.14	2.91 3.88	1.42		3.97 2.33	3.96 2.06	3.56 1.85	3.58 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	
-8	Have gone to the emergency room	1.43	1.37	4.85	0,00		1.6	1.5	1.53	1.08	
or those tested,	Negative Positive Nurse	61.14 38.85 33,70	42.48 57.51 13,62	50,00 50,00 25,00	100,00 0,00 0,00		62.05 37.94 34,33	59.21 40.78 29,26	54.25 45.74 28.42	51.7 48.29 28,59	
0	Physician Others (including working on a	17,96	42,67	12,50	0,00		16,22	17,26	22,22	43,70	
1	private pharmacy) Technician	12,74	13,88	0,00	0,00		15,98 11,97	13,71	10,58	8,15 6,67	
O	Administrative personnel Nurse assistant	10,66	6,23	25,00 37,50	0,00	<0.01	7,59 9,54	11,87	13,53 11,26	4,89 6,07	< 0.01
2	Researcher Caretaker	2,36 0,18	3,24 2,59	0,00	100,00		3,22 0,67	2,80 0,55	1,89	1,48	
3	Cleaning personnel Kitchen personnel	0,28	0,39	0,00	0,00	•	0,30	0,41	0,30	0,00	
sing worked	Laundry personnel No	0,09 56,88	0,13 0,00 56,32	0,00 0,00 50,00	0,00		0,06 50,23	0,48 0,00 53,55	0,23 60,78	0,00 72,67	
directly with QVID-19 patient:	Yes	43,12	43,68	50,00	0,00	<0.01	49,77	46,45	39,22	27,33	<0.01
Fear of working with COVID-19	No	21,97	36,04	-		<0.01	18,70	20,17	25,18	31,70	< 0.01
6patients	Yes No feer	78,03	63,96 28,40	21,43	0,00	-0.01	81,30	79,83	74,82	68,30 22,00	-0.01
7	No fear Scared of transmitting the virus to other pon-COVID patients	16,81	28,40 17,40	21,43	0,00		11,61	14,50 16,22	17,70	22,00 12,93	
	to other non-COVID patients Scared of transmitting the virus to own people (family		47,14		100,00			45,97	44,23	38,32	
Rar of working with COVID-19	to own people (family, colleagues)  Scared of being obliged to take	55,81		35,71		<0.05	46,58				<0.01
with COVID-19 Partients Previ	medical decisions representing	tp://	bm	ionen	.bani	com	/site	/abr	out <sub>*</sub> /a	uide	line
0	(patient selection, application of protocols)	Lo-+/ /	~ 011	, - 011			., 5440	,	9	J. 7-01 C	
	Scared of being infected	21,69	21,32 5,50	14,29 7,14	0,00		16,27 4,05	16,59 4,30	19,42	21,77	

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	1
		_ the abstract	
		(b) Provide in the abstract an informative and balanced summary of what	2
		was done and what was found	
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation	4-5
		being reported	
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	5-6
_		recruitment, exposure, follow-up, and data collection	
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection	5
		of participants	
Variables	7	Clearly define all outcomes, exposures, predictors, potential	5-6
		confounders, and effect modifiers. Give diagnostic criteria, if applicable	
Data sources/	8*	For each variable of interest, give sources of data and details of methods	5-7
measurement		of assessment (measurement). Describe comparability of assessment	
		methods if there is more than one group	
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	N/A
		applicable, describe which groupings were chosen and why	
Statistical methods	12	(a) Describe all statistical methods, including those used to control for	6-8
		confounding	
		(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	6-8
		strategy	
		(e) Describe any sensitivity analyses	N/A
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers	5, 8
Turtiorpunts	15	potentially eligible, examined for eligibility, confirmed eligible, included	
		in the study, completing follow-up, and analysed	
		(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,	8-11
2 compare aum	1.1	social) and information on exposures and potential confounders	
		(b) Indicate number of participants with missing data for each variable of	29-34
		interest	27-34
		interest	-
Outcome data	15*	Report numbers of outcome events or summary measures	8-11,

Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted	8-11,
		estimates and their precision (eg, 95% confidence interval). Make clear	29-34
		which confounders were adjusted for and why they were included	
		(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	11
		bias or imprecision. Discuss both direction and magnitude of any	
		potential bias	
Interpretation	20	Give a cautious overall interpretation of results considering objectives,	11-17
		limitations, multiplicity of analyses, results from similar studies, and	
		other relevant evidence	
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	19
		study and, if applicable, for the original study on which the present	
		article is based	

<sup>\*</sup>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.

# **BMJ Open**

# 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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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

# 8 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

8 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

10 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

14 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

16 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

24 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

#### 2. Materials and Methods

general population and HCWs.

#### 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<sup>2</sup>) 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].

18 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

20 (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%

carring for children aged <16 years and 15.11% carring 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

2 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).

6 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

2 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

6 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)

16 Covid-19 patients; and 7) HCWs, especially those working with Covid-19 patients.

#### 4. Discussion

18 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

6 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

20 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.

4 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

6 for an intervention.

continued at home [29].

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

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 frontline professionals work in a complex environment given the ethical challenges of Covid-19, eliciting different dimensions concerning ethical dilemmas related to the situation itself and the measures dictated by the Government [48]. The shortage of hospital beds was an important problem as it contributed to the case fatality rate and implied a triage of patients according to their likelihood of survival [49–51]. The management of end-of-life situations was particularly worrying, as banning the support of relatives at the bedside had a very disturbing impact on patients and their families, but also on HCW mental health, workload, challenges and professional outcomes [52]. According to our results, nearly 8 out of 10 HCWs declared that they were afraid of working with 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.

6 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

18 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.).

24 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.
- 20 (2021). COM-COVID project: results dataset. Zenodo repository. Version 1, March 20, 2021. https://doi.org/10.5281/zenodo.4608502

#### 10. Patient Public Involvement

24 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.

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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.
- 22 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.
- 2 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
- 4 Progreso y Salud for the evaluation of research projects.
  - CV received support from the Spanish Government-FEDER Funds through CIBER
- 6 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
- 8 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 %
	Female	39,943	70.5		No	24,755	39.75
	Male	16,556	29.22		Yes, <16 years	15,452	24.81
Gender	Non binary	88	0.15	Care of	Yes, >16 years	7624	12.24
	Not saying	69	0.12	someone	Yes, siblings	782	1.26
0	Catalonia region	54,318	95.63		Yes, parents	9409	15.11
Origin	Other	2480	4.37		Yes, others	4248	6.82
	Married	30,389	53.65		none	24,814	43.80
	Divorced	6030	10.64	Burden of care (in n options selected)	1	14,055	24.81
Civil status	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
	Owned apartment/house	51,428	90.95		5	20	0.03
	Shared apartment/house	4417	7.81	n 1	>2	4379	7.77
Housing	Rented room	607	1.07	People providing financially	2	37,677	66.9
	Centre/institution	71	0.12	at home	1	14,256	25.31
	Homeless	18	0.03		No	11,685	20.67
Maria	Primary Education	2182	3.85	Savings	Yes	20,201	35.73
Maximum Education Degree	Secondary Education	3093	5.46		Some	24,637	43.58
	High School	17,853	31.53	Mortgage to pay	No	33,374	59.01

	Degree	24,130	42.62		Yes, one	20,141	35.61
	Master	7528	13.29		Yes, more than one	3041	5.37
	PhD	1829	3.23	Rent to pay	No	42,899	75.83
	Qualified job	20,449	36.13	Rent to pay	Yes	13,669	24.16
	Non-qualified job	2037	3.59		Nurse	1567	30.63
	Job in Healthcare	5132	9.06		Physician	1110	21.70
Employment	Home/people care	2731	4.82	Occupation of HCW	Others (including working in a private pharmacy)	659	12.88
	Self-employed	5110	9.02		Technician	588	11.49
	Company owner	2417	4.27		Administrative staff	511	9.99
	Unemployed	2883	5.09		Nurse assistant	491	9.59
	Other	15,832	27.97		Researcher	129	2.52
					Caretaker	28	0.54
					Cleaning staff	15	0.29
					Catering staff	13	0.25
					Laundry personnel	4	0.07

- 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 %
	No	42,475	75.12
	Yes, the company made a labour force adjustment plan	103	0.18
Loss of job	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
	Yes	34,307	60.66
spending less	A little	12,493	22.09
	No	9747	17.23
Sought social	No	51,588	91.00
ssistance/or any	Not yet, but will need to	2756	5.00
ther assistance	Yes	2208	4.00
	I do not know	45,86	80.15
Contact with omeone infected by SARS-CoV-2	yes, with a probable non-confirmed case	5627	9.83
SARS-C0 V-2	Yes, with a confirmed case	5730	10.01
	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
Presence of	Persistent cough (for one week or more)	6957	6.84
ymptoms (since	Muscle pain	6299	6.20
February)	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

Loss of appetite/weight   1333   1.31     Loss of taste   1689   1.66     Mo. of symptoms*   2   7062   23.76     3   4365   14.68     4   2481   8.34     Well   37,599   66.50     Normal   12,726   22.50     Not at 100%   6010   10.60     Bad   235   0.42     Mole   Have used an app set up for management of COVID cases     Have called a telephone number set up for the management of COVID cases     Have been to a public healthcare center (including GP)   2286   3.77     Have been tested   Have been to private doctor/healthcare center     Have gone to the emergency room   863   1.42     For those tested, result of the test   Positive   454   42.23				
No. of symptoms*   2		Loss of appetite/weight	1333	1.31
No. of symptoms*   2   7062   23.76		Loss of taste	1689	1.66
No. of symptoms*   3		1	11,899	40.03
How did they feel when answering the questionnaire   Well   37,599   66.50	No of armentones*	2	7062	23.76
Well   37,599   66.50	No. of symptoms"	3	4365	14.68
How did they feel when answering the questionnaire    Normal   12,726   22.50     Not at 100%   6010   10.60     Bad   235   0.42     None   38,955   64.25     Have used an app set up for management of COVID cases     Have called a telephone number set up for the management of COVID cases     Have been to a public healthcare center (including GP)   2286   3.77     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   100   10.60     Rad   235   0.42     Have used an app set up for management of COVID cases     Have been to private doctor/lealthcare center (including GP)   2286   3.77     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   100   10.60     Rad   10.60     Rad		4	2481	8.34
when answering the questionnaire  Not at 100% Bad  235  0.42  None  None  Have used an app set up for management of COVID cases  Have called a telephone number set up for the management of COVID cases  Have been to a public healthcare center (including GP)  Have been to private doctor/healthcare center  Have gone to the emergency room  None  38,955  64.25  Have been to COVID cases  Have been to a public healthcare center (including GP)  2286  3.77  Have been to private doctor/healthcare center  973  1.60  Have gone to the emergency room  863  1.42  Negative  Negative  South of the test		Well	37,599	66.50
Not at 100%   Bad   235   0.42		Normal	12,726	22.50
None 38,955 64.25  Have used an app set up for management of COVID cases  Use of healthcare resources put in place in the context of the COVID-19 pandemic Have been to a public healthcare center (including GP) 2286 3.77  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		Not at 100%	6010	10.60
Have used an app set up for management of COVID cases    Have used an app set up for management of COVID cases		Bad	235	0.42
Use of healthcare resources put in place in the context of the COVID-19 pandemic  Have been to a public healthcare center (including GP)  Have been to private doctor/healthcare center  Have gone to the emergency room  Negative  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  Have been to private doctor/healthcare center  973  1.60  For those tested, result of the test		None	38,955	64.25
Use of healthcare resources put in place in the context of the COVID-19 pandemic  Have been to a public healthcare center (including GP)  Have been tested  Have been to private doctor/healthcare center  Have gone to the emergency room  Negative  Tor those tested, result of the test			13,044	21.51
place in the context of the COVID-19 pandemic  Have been to a public healthcare center (including GP)  Have been tested  Have been tested  Have been to private doctor/healthcare center  Have gone to the emergency room  Negative  Negative  Have been to a public healthcare center (including GP)  2286  3.77  1.60  Have gone to the emergency room  863  1.42  For those tested, result of the test			3,399	5.60
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	place in the context	Have been to a public healthcare center (including GP)	2286	3.77
Have gone to the emergency room 863 1.42  For those tested, result of the test	pandemic	Have been tested	1108	1.82
For those tested, result of the test		Have been to private doctor/healthcare center	973	1.60
ror those tested,		Have gone to the emergency room	863	1.42
result of the test Positive 454 42.23		Negative	621	57.76
	result of the test	Positive	454	42.23

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

Table 4: Impact of the pandemic on HCWs. Number of cases (number of responses

2 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	ANSW	VER CATEGORIES	No. CASES	TOTAL %
Having worked directly	No	2939	58.34		No	2817	56.29
with COVID- 19 patients	Yes	2098	41.65	Ethical	No, I follow protocols	1256	25.09
Fear of working with COVID-	No	1122	24.13	Ethical concerns	Yes, with selection of patients and/or protocols for selection of patients or therapeutic indications	473	9.41
19 patients	Yes	3528	75.87		Yes, others	460	9.19
	No fear	1122	14.58		Having worked without sufficient protection	112	25.68
	Scared of transmitting the virus to other non-COVID patients	1150	14.95	Problems faced by healthcar	With patient triage or protocols for patient triage or therapeutic indication	71	16.28
Fear of working with	Scared of transmitting the virus to own family, colleagues, etc.	3300	42.90		With the protocol for case management.	51	11.46
COVID- 19 patients	Scared of being obliged to take medical decisions representing an ethical dilemma for me (patient selection, application of protocols)	482	6.26	e profession als, grouped	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

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
	329		having to/wanting to go to work in the first line and not being able/wanting to do it.  With the prioritization of dispensing protective material (face masks, EPIs) or tests.  With the impact of the outbreak and/or lockdown on some populations (chronic or mental-health patients, elder.y, etc.)  Others (non-specified)  With problems due to organizational changes.  With management of information given to patients/their families, and related problems (including confidentiality issues).  With colleagues'	having to/wanting to go to work in the first line and not being able/wanting to do it.  With the prioritization of dispensing protective material (face masks, EPIs) or tests.  With the impact of the outbreak and/or lockdown on some populations (chronic or mental-health patients, elder.y, etc.)  Others (non-specified)  With problems due to organizational changes.  With management of information given to patients/their families, and related problems (including confidentiality issues).  With colleagues' attitudes

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

## Statistically associated with:

	Statistically associated with:									
Factors:	Depression Index	Anxiety Index	Stress Index	PTSD Index	Evitation Index	Intrusion Index	Hyperarousal Index			
Risk	p	p	p	p	р	p	р			
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-

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			

	age 41 of 42 QUESTIONS BMJ Or	Oen SCORING CODE
	How old are you? Which gender do you identify with? In which country do you live?	male, female, non binary, I prefer not to say
	In which postal code do you live? How would you define your civil status?	single, married, divorced, widow, in a couple
1	Where do you live?	my own house/apartment, shared house/apartment, in a rented room, institutionalized, I am homeless
2	What level of education do you have? (check the maximum obtained)	primary education, secondary education, further education, bachelor
_ >		degree, masters degree, doctoral degree skilled job, unskilled job, caring for others/home, I have a company,
2	What is your job?	I am self-employed, I am a healthcare worker (or working in a healthcare setting, I am unemployed, others
4	Questions for the Scale of socio-economic precariousness	For index scoring, sum of all points multiplied by 2.
5	Who provides financially at home?	>2 of us = 0 p, 2 of us = 1 p, only me = 2p
5	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, 1 was fired/the company made a labour force adjustment plan/ I have lost some jobs
7	Do you have savings?	previously contracted/arranged = 2 p yes= 0 p, yes, some= 1 p, no = 2 p
2	Do you have a mortgage to pay?  Do you have rent to pay?	no = 0 p; yes, one =1 p; yes, more than $1 = 2$ p no = 0 p, yes =2 p
ر	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
١	O you have to take care of somebody? (multiple choice question)	$no=0\ p;\ yes\ (any\ answer:\ children\ <16\ y.o.,\ >16\ y.o,\ parents,\ siblings,\ others)=1\ p\ per\ positive\ answer.$
1	Habits and COVID-19-related health status during confinement	
1	(If having children): In which grade do you think the confinement is being ifficult for children (and therefore for the family?	scale of potential answer, 0 being= not at all and 10= a lot
	_	yes; yes, I am teleworking; no, I work in essential services; no, I
١.	ere you staying at home, during this time?	need to work; no, my employer does not allow me to no; yes, of getting infected; yes, of going to the shops; yes, of
١.	Are you scared or worried?	infecting others; yes, that people close to me get infected the children; my parents/close elderly people; my colleagues;
	Who are you scared of infecting?	anyone
H	)	no; yes, I eat more; yes, I drink more (alcoholic drinks); yes, I smoke more; yes, I consume more illegal drugs; yes, I consume
ı	Do you think you are consuming more since the outbreak began?	more drugs to calm myself down (sleeping pills, muscle relaxants, tranquilizers)
ľ	7	TV; Radio; Newspaper; Social media (Whatsapp, Twitter,
	Through which channel do you receive information about the outbreak?	Telegram etc.); Other channels  It's too much: I would like the Government to explain less; It's too
l	8	much: I would like the media to explain less; It's too little : I would
ľ	9	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
,	What do you think of the information you are receiving?	it's poorly adjusted to reality; It's alright; I do not think anything about it
_	9	no; yes, my life has changed; yes, my personality had changed; yes,
2	Do you think this situation has changed you?	the way I see society/the way we lived yes, with a confirmed case (test positive); yes, with a probable non-
)	Have you been in contact with someone infected by SARS-CoV-2?	confirmed case (test negative or test not done); I do not know no; persistent cough (for one week or more); headache; persistent
	<u>-</u>	fever (for one week or more); extreme fatigue/tiredness; sore throat;
,	3 ince February, have you had any of these symptoms?	muscle pain; loss of appetite/weight; loss of smell, smell blindness; loss of taste; diarrhea; dizziness; shortness of breath; chest pain;
).	Now do you feel now?	nasal congestion/running nose
	How do you reel now?	well, normal, I do not feel at 100%, bad have called a telephone number set up for the management of
۷.	In the last 14 days, have you used any healthcare resources put in place for the	COVID cases; have gone to the emergency room; have used an app set up for management of COVID cases; have been to a public
2	COVID-19 pandemic?	healthcare center (including GP); have been to private
)	you were tested, what was the result?	doctor/healthcare center; have been tested; none of the above positive, negative
_	For HealthCare workers	physician, nurse, nurse assitant, technician, caretakr, researcher,
2	What is your job?	kitchen personnel, cleaning personnel, administrative personnel,
2	9	others no; not as far as I know; yes, I have been/am in a COVID team; yes,
2	Have you been working with COVID patients directly?	on duty no; yes, o being infected; yes, of dying; yes, of transmitting the virus
٠,	1\textsquare you scared of working with COVID patients?	to other non-COVID patients; yes, of transmitting the virus to my
3	The you seared of working with COVID patients:	people (family/colleagues): yes, of being obliged to take medical decisions representing an ethical dilemma for me (patient selection,
3	2	application of protocols) no; no, I think I need to follow the protocols; yes, with selection of
,	ave you had ethical concerns while working?	patients and/or protocols for selection of patients or therapeutic indications; yes, others
٠.	Questions related to mental-health	Scoring
3.	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
3	ast week I was aware of dryness of my mouth	points multiplied by 2.
٠.	last week I experienced breathing difficulty (excessively rapid breathing, breat	hlessness in the absence of any physical exertion and absence of any
3	ast week I experienced trembling (eg in the hands) last week I was worried about situations in which I might panic ad make a foo strate week I felt I was close to panic	
,	last week I was aware of the action of my heart in the absence of physical exer last week I felt scared without any good reason	tions (sense of heart rate increase, heart missing a beat)
≺ '	Ouestions 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
,	O control of the state of the s	
3	<b>7</b>	points multiplied by 2.
3	last week I found it hard to wind down  Ast week I tended to over-react to situations	points multiplied by 2.
3	Ast week I tended to over-react to situations Ast week I felt that I was using a lot of nervous energy	points multiplied by 2.
1	st week I tended to over-react to situations fast 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	
1	Ast week I tended to over-react to situations  ast week I felt that I was using a lot of nervous energy  last week I found myself getting agitated	was doing
3 1 1	pt week I tended to over-react to situations stat week I felt that I was using a lot of nervous energy jest week I found myself getting agitated jast week I found it difficult to relax last week I was intolerant of anything that kept me from getting on with what I	
1 1 1	of tweek I lended to over-react to situations stat week I felt that I was using a lot of nervous energy act week I found myself getting against sat week I found it difficult to relax last week I found it difficult to relax last week I was interested and anything that kept me from getting on with what I last week I was fruit I was rather touchy	was doing  For each of the questions below: never = 0 p, sometimes = 1 p, often = 2 p, almost always = 3 p. For the index sooring, sum of all
3 1 1 1	the twels. Hended to over-react to situations where the state of the s	was doing  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
3 1 1 1 1	by tweld. I lended to over-react to situations with week I feth that I was using a lot of norwous energy just week. I found myself getting agitated just week. I found in difficult to relax last week. I was intolerant of anything that kept me from getting on with what I alt week. I felt that I was rather touchy  Questions related to depression- How these sentences apply to you?  The week I couldn't seem to experience any positive feeling at all just 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 gets week. I felt that I had nothing to look forward to gets week. I felt work-hearted and but	was doing  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
3 1 1 1 1 1 1	It week I lended to over-react to situations where week I fet that I was using a lot of nervous energy jest week I found myself getting againted jest week I found indifficult to relax last week I was imloctant of anything that kept me from getting on with what I just week I was imloctant of anything that kept me from getting on with what I just week I felt that I was rather touchy  Ousetions related to depression—How these sentences apply to you?  Set week I couldn't seem to experience any positive feeling at all just week I couldn't seem to experience any positive feeling at all just week I found it difficult to work up the initiative to do things last week I feth that I had nothing to look forward to	I was doing  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.
1.	It week I lended to over-react to situations true week I feth ulw as using a lot of nervous energy jest week I found myself getting againted sat week I found uffittent to relax last week I was imloctant of anything that kept me from getting on with what I lended to week I feth that I was rather touchy  Ductions related to depression—How these sentences apply to you?  The week I couldn't seem to experience any positive feeling at all set week I fet found it difficult to work to when initiative to do things last week I feth that I had nothing to look forward to east week I feth down-hearted and blue that week I feth that I had nothing continues to the continue of the week I was must be become enthusiastic about anything last week I feth that I had nothing continues to the continues that week I feth that I had nothing continues to the continues to	I was doing  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.  For each of the questions below: 0= not at all, 1= a little bit, 2=
1	It week I fended to over-react to situations where the week I feth ulwas using a lot of nervous energy ant week I found myself getting aguitated ast week I found unfürfult to relax last week I was intolerant of anything that kept me from getting on with what I ast week I was intolerant of anything that kept me from getting on with what I ast week I feth ulwas rather touch used in the week I feth ulwas rather touch ast week I feth unfürfult to work up the initiative to do things that week I feth drut had nothing to look forward to ast week I feth drut had nothing to look forward to ast week I feth drut had nothing to look forward to ast week I feth drut had nothing to look forward to ast week I feth drut had nothing to look forward to deat week I feth drut had nothing to look forward to deat week I feth drut had nothing to look forward to deat week I feth drut had nothing to look forward to deat week I feth drut had nothing to look forward to deat week I feth drut had nothing to look forward to deat week I feth drut had nothing to look forward to down-beared and blue deat week I feth drut had nothing to look forward to down-beared and blue down-beared and blue down-beared on the week look and the wee	I was doing  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.
1 1 1 1	It week I lended to over-react to situations trive week I fet had twas using a lot of norvous energy ant week I found myself getting aguitted sate week I found inflictult to relax ist week I was intolerant of anything that kept me from getting on with what I be tweek I was intolerant of anything that kept me from getting on with what I but week I fet that I was rather touchy  the week I couldn't seem to experience any positive feeling at all set week I found it difficult to work up the initiative to do things that week I found it difficult to work up the initiative to do things that week I fet down-hearted and blue and week I fet down-hearted and blue that week I fet that life was meaninadess  Questions related to PSTD symptoms- How these sentences apply to out  Questions related to Intrusion symptoms	I was doing  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.  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
1.	It week I lended to over-react to situations trive week I fet that I was using a lot of norvous energy ast week I found myself getting againted sate week I found it difficult to relax ist week I was intolerant of anything that kept me from getting on with what I at week I was intolerant of anything that kept me from getting on with what I at week I fet that I was rather touchy  Duestions related to depression. How these sentences apply to you?  Let week I found it difficult to work up the initiative to do things for tweek I found it difficult to work up the initiative to do things for tweek I fet down-bearted and blue ast week I fet down-bearted and blue for week I fet down-bearted and blue for week I was unable to become enthusiastic about anything tast week I fet that the was meaningless  Ouestions related to PSTD symptoms. How these sentences apply to you?  Questions related to Intrusion symptoms  But week I any though staying askeep.	I was doing  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.  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
1 1 1 1	It week I lended to over-react to situations witt week I feth tall was using a lot of norvous energy ast week I found myself getting agitated ast week I found inflient to relate ist week I was intolerant of anything that kept me from getting on with what I at week I was intolerant of anything that kept me from getting on with what I at week I feth that I was rather touchy  Duestions related to depression. How these sentences apply to you?  The week I couldn't seem to experience any positive feeling at all at week I feth that I had nothing to look forward to the week I feth that I had nothing to look forward to the week I feth that I had nothing to look forward to the week I was unable to become enthusiastic about anything gate week I feth that I was meaninestes Unsetions related to PSTD symptoms. How these sentences apply to you?  Questions related to Intrusion symptoms  It week any reminder brought back feelings about it last week I had though staying asleep yet week other things kept making me think about it.	I was doing  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.  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
1 1 1 1	It week I lended to over-react to situations were week I feit had was using a lot of nervous energy ant week I found myself getting aguited ast week I found indifficult to rela- tion to the state of t	I was doing  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.  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
1 1 1 1	It week I fended to over-react to situations were week I fend mysself getting againted just week I found mysself getting againted just week I found midfrells to resk just week I was imiolerant of anything that kept me from getting on with what Just week I was imiolerant of anything that kept me from getting on with what Just week I was imiolerant of anything that kept me from getting on with what Just week I feit that I was rather touch set week I feit that I was rather touch just week I feit that I had nothing to look forward to just week I feit that I had nothing to look forward to just week I feit that I had nothing to look forward to just week I feit that I had nothing to look forward to just week I feit that I had nothing to look forward to just week I feit that I had nothing to look forward to just week I feit that I had nothing to look forward to just week I feit that I had nothing to look forward to just week I feit that I had nothing to look forward to just week I feit that I had nothing to look forward to just week I feit that I had nothing to look forward to just week I feit that I had nothing to look forward to just week I feit that I had nothing to look forward to just week I feit that I had nothing to look forward to just week I had trought by had to look feeling about it just week I had trought kept making me think about it. Just week I hought about it when I didn't men to just week I found myself acting or feeling like I was back at that time just week I found myself acting or feeling like I was back at that time just week I found week of stong feeling about it	I was doing  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.  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
1 1 1 1	It week I found in difficult to each control to situations where the control is the control is the control in the control is the control in the control is the control in t	I was doing  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.  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.
1 1 1 1 5 5	It week! I fended to over-react to situations with week! I fend that was using a lot of incrous energy and week! Gound myself getting aguitated set week! Gound infiftient to relax last week! I was intolerant of anything that kept me from getting on with what I alt week! I was intolerant of anything that kept me from getting on with what I act week! I felt that I was rather touchy Duestions related to depression- How these sentences apply to you?  Pet week! I found it difficult to work up the initiative to do things list week! I felt that I had nothing to look forward to the week! I felt that I had nothing to look forward to the week I felt that I had nothing to look forward to the week! I was unable to become enthusistic about anything sizt week! I felt that I five am neminiped. Ousetions related to PSTD symptoms- How these sentences apply to gur?  Ousetions related to Intrusion symptoms  I week any reminder brought back feelings about it set week! Intel though saying alsoler yet week other things kept making me think about it set week! Intel would saying alsoler yet week other things kept making me think about it set week! Industry about it won I called like! was back at that time set week! Land waves of strong feelings about it pasted was the All of the Mark of the was the was the consideration of centing like! was back at that time set week! Land waves of strong feelings about it pastessines related to Avoidance symptoms  ent week! Land waves of strong feelings about it in was real and was the feel of was the libenty in the or was not not a was the real of the back of the was the make and the set week to a was the real of the back of the was the make at week I found to Avoidance symptoms  ent week! Land was of strong feelings about it or was real as week! I found it should not awant tred  if the feel the control of the was real and the set week the of the hold of the was the order of a was the real of the set of the way the mean to a was the real of the set of the order of the set of the order of the order o	I was doing  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.  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.
4 4 4 5 5 5	It week I found in difficult to each control to situations where the control is the control is the control in the control is the control in the control is the control in t	I was doing  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.  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.
1 1 1 1 5 5	It week I found in vest react to situations with week I feel that I was using a lot of increvous energy ast week I found myself getting aguitated set week I found myself getting aguitated six week I found it difficult to resk. I sat week I was intolerant of anything that kept me from getting on with what I at week I feel that I was rather touchy  Directions related to depression. How these sentences apply to you?  Directions related to depression. How these sentences apply to you?  Let week I found it difficult to work up the initiative to do things for the week I feel that I had nothing to look forward to contract week I feel that I had nothing to look forward to contract week I feel that I had nothing to look forward to contract week I feel that I had nothing to look forward to contract week I feel that I had nothing to look forward to contract week I feel that I had nothing to look forward to contract week I feel that I had nothing to look forward to contract week I feel that I had nothing to look forward to contract week I feel that I had nothing to look forward to contract week I feel that I was meminicated to week I found this was meminicated to week I hought about it had to look to week I hought about it or was real ast week I found myeef acting or feeling like I was back at that time last week I had was of stong feelings about it but week I found to Avoidance symptoms  at week I and the Avoidance symptoms  at week I feel that I hadn't happened or wasn't real to both the week I flow it hadn't happened or wasn't real to the week I flow it it hadn't happened or wasn't real to the week I feel as it hadn't happened or wasn't real to the week I flow it it hadn't happened or wasn't real to the week I flow it was had a lot of feelings about it, but I didn't deal of the week I flow it was ware that I still had a lot of feelings about it, but I didn't deal to found the week I feel in the wasn't make I	I was doing  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.  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.
1 1 1 1 5 5	It week I fonded to over-react to situations with week I feel that I was using a lot of norvous energy ast week I found myself getting agitated set week I found myself getting agitated set week I found it difficult to rests. I sat week I was intolerant of anything that kept me from getting on with what I at week I feel that I was rather touchy  Directions related to depression. How these sentences apply to you?  Directions related to depression. How these sentences apply to you?  Let week I couldn't seem to experience any positive feeling at all set week. I feel that I had nothing to look forward to the week I feel that I had nothing to look forward to the week I feel that I had nothing to look forward to the week I feel that I had nothing to look forward to the week I feel that I had nothing to look forward to the week I feel that I had nothing to look forward to the week I feel that I had nothing to look forward to the week I feel that I had nothing to look forward to the week I feel that I had nothing to look forward to the week I feel that I had nothing to look forward to week I feel that I had nothing to look forward to week I feel that I was meaningless.  Oustions related to Intrusion symptoms  I week I feel that I had nothing the look feelings about it had tweek I floud plan bout it when I didn't mean to last week I had unweek aftent for feeling about it, but I didn't deal set week I feel are I had had happened or wasn't real week I feel out A voidance symptoms  at week I avoided letting myself get upset when I flought about it or was real get week I feel as it hadn't happened or wasn't real week I feel as it hadn't happened or wasn't real week I feel as it hadn't happened or wasn't real week I feel as it hadn't happened or wasn't real week I feel as it hadn't happened or wasn't real week I feel as it hadn't happened or wasn't real week I feel as it hadn't happened or wasn't real week I feel as it hadn't happened or wasn't real week I feel as it hadn't happened or wasn't real week I feel as the work I ha	I was doing  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.  For each of the questions below: 0= not at all, 1= a linle bit, 2= moderately, 3= quite a bit, 4=extremely. For the index scoring, sum of all points multiplied by 2.
4 4 4 5 5 5	It week I fended to over-react to situations where the content of	I was doing  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.  For each of the questions below: 0= not at all, 1= a linle bit, 2= moderately, 3= quite a bit, 4=extremely. For the index scoring, sum of all points multiplied by 2.
4 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	It week. It lended to over-react to situations were treed. If find they sus sing a lot of nervous energy just week. I found myself getting againted star week. If found indifficult to reals last week. I was intolerant of anything that kept me from getting on with what I last week. I was intolerant of anything that kept me from getting on with what I last week. I felt that I was rather touchy  Duestions related to depression. How these sentences apply to you?  Set week I couldn't seem to experience any positive feeling at all yet week. I found it difficult to work up the initiative to do things last week I felt down-hearted and blue that week. I felt down-hearted and blue that week I felt that I fill was meaningless.  Questions related to PSTD symptoms. How these sentences apply to good?  Questions related to Intrusion symptoms  Let week any reminder brought back feelings about it work week to the properties of the properties of the control of the properties of the control of the properties of the control of the properties of the properties of the control of the properties of the pro	I was doing  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.  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.

	ER CATEGORIES  Married	women 51.04	men 60.21	BIMIJ	Oper	ys men)	<42 y.o.	42- 52 y.o. 56 74	5P6d.9	<u>e.44.∠</u>	O i 4
Civil status	Married Divorced In couple	11.75 18.49	7.94 17.39	5.68 39.77	16.17 23.52		2.52 38.02	11.33 18.34	15.14 10.91	63.22 13.08 6.85	
status	Single Widow	14.51	12.89	38.63 1.13	30.88		27.15 0.08	12.85	10.06	7.2 9.63	
1	Owned appartment/house Shared appartment/house	91.08 7.7	90.89 7.9	64.36 26.43	72.46 23.18		79.44 18.43	94.22 4.9	95.08 4.11	94.48 4.33	
Iousing	Rented room Centre/institution	1.05 0.13	1.07 0.09	8.04 0,00	0,00		2.01 0.05	0.81	0.67	0.83	p<0.01
2	Primary Education	0.02 3.52	0.03 4.63	1.14 5.68	4.34 5.79		0.05 1.53	0.01 3.3	0.02 4.24	0.03 6.1	
aximum ducation Degree	Secondary Education High School	5.18 29.92	6.17 35.46	3.4 29.54	28.98	p<0.01	4.83 27.54	4.49 30.98	5.19 34.17	7.19 33.11	p<0.01
ducation Degree	Degree Master PhD	44.99 13.47 2.9	36.96 12.77 3.98	31.81 26.13 3.4	33.33 21.73 8.69		38.72 24.32 3.03	43.92 14.3 2.99	43.48 9.7 3.2	44.26 5.65 3.67	
-	Qualified job Non qualified job	36.95 3.51	34.15 3.78	35.22 9.09	37.68 2.89		48.19 4.39	48.76 4.46	41.3	7.86 1.15	
5 Employment	Job in Healthcare Home/people care	10.9	4.67	9.09	1.44 2.89	p<0.01	12.16	10.58	9.21 3.25	4.64 12.86	0<0.01
5	Self-employed Company owner	8.03 3,00	11.41 7.36	9.09 1.13	15.94 1.44	p~0.01	7.72 2.39	11.45 5.66	11.4 5.9	5.59 3.05	0~0.01
7	Unemployed Other	5.29 26.03	4.54 32.63	12.5 23.86	11.59 26.08		7.63 16.54	12.73	5.61 18.8	62.13	
People financially providing at home	2	8.03 66.29 25.67	7.05 68.57 24.37	14.77 54.54 30.68	16.41 55.22 28.35		13.59 70.39 16012,00	3.99 71.65 24.35	7.26 64.94 27.78	6.43 61.18 32.38	
5	No Yes, of people of <16 y.o.	36.55 25.99	47.61 21.93	58.94 13.68	34.66 25.33		45.98 33.96	16.26 48.69	31.39 13.52	67.82 3.07	
are of someone	Yes, of people of >16 y.o. Yes, siblings	13.02	10.35	6.31	6.66	<0.01	4.81 1.57	12.58	23.54	6.73	< 0.01
10	Yes, parents Yes, others	16.1 6.95	12.66 6.46	10.52 6.31	17.33 13.33		8.41 5.24	16.92 4.66	23.03 7.17	10.92 10.16	
11	None 1 option selected	40.62 25.9	51.34 22.11				48.85 13.12	18.85 21.03	35.96 39.98	70.47 24.24	
Burden of care	2 options selected 3 options selected	28.23 4.77 0.41	22.83 3.39 0.30			< 0.01	34.82 2.82 0.31	49.43 9.88 0.73	19.32 4.31 0.38	4.51 0.61 0.11	<0.01
12	4 options selected 5 options selected No	0.04 76.13	0.01 72.73	63.63	65.21	•	0.04	0.04	0.02 73.65	0.02 88.18	
13	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	
Loss of job	Yes, the company made a temporary labour force	9.70	10.01	9.09	7.24	<0.01	14.5	13.04	9.9	2.17	<0.01
Loss4of job 15	Adjustment plan Yes, I have lost some jobs	4.93	7.61	15.9	14.49	~0.01	6.75	7.17	6.68	2.54	~0.01
1.5	Previously contracted/arranged Yes, I was fired	0.96	0.68	2.27	0,00		1.79	0.96	0.67	0.16	
16	Yes, others No	8.08 22.00	8.77 18.00	9.09 30,00	13.04 26,00	. م مر	8.3 20.34	9.12 24.48	8.93 22.21	6.83 15.82	.0.01
17	Yes Some No	34.00 44.00 58.75	40.00 42.00 59.47	23,00 48,00 80.68	28,00 46,00 57.97	<0.01	36.22 43.43 64.04	32.37 43.14 39.65	33.65 44.13 54.68	40.55 43.62 76.91	< 0.01
Mortgage to pay	Yes, one Yes, more than one	36.17 5.07	34.37 6.14	18.18 1.13	36.23 5.79	<0.01	31.76 4.18	50.8 9.54	39.81 5.49	20.66	< 0.01
Rent to pay	No Yes	76.00 24.00	76.00 24.00	51,00 49,00	66,00 34,00		56.64 43.35	75.05 24.94	83.23 16.76	87.08 12.91	< 0.01
Spending less	Yes A little No	59.85 22.34 17.80	62.61 21.56 15.82	59.09 13.63 27.27	69.56 17.39 13.04		64.15 19.89 15.95	58.86 23.74 17.38	60.4 22.72	59.52 21.87	
ock or social	No No yet, but will need to	17.80 91.42 4.71	90.8 5.19	27.27 80.68 10.22	13.04 81.15 8.69		15.95 88.95 6.34	17.38 88.41 6.43	16.87 90.73 5.08	18.59 96.48 1.81	<0.01
ther assistance	Yes <7	3.85 26.19	3.99 17.04	9.09 22.47	10.14 17.39		4.7 21.17	5.15 30.35	4.18 26.04	1.7 22.72	
Index of socio- economic hpp vation -score	7-8.5 8.5-10	20,00 32.09	10.22 32.95	20.12 33.59	10.14 43.47	<0.01	33.2 17.38	28.42 18.8	32.07 19.27	36.36 24.3	p<0.01
	>10 No, I am forced to go to work	21.71 0.33 0.69	39.77 0.55	23.8 2.29	28.98 1.44		28.24 0.54	22.41 0.56 0.79	22.6 0.4	16.59 0.1	
2,3 <sub>1g home</sub>	No, I need to work  No, I work on essential services  Yes	0.69 13.73 54.13	1.51 12.39 57.73	1.14 13.79 43.67	7.24 62.31	<0.01	0.75 16.36 43.85	0.79 17.77 39.51	0.88 15.19 48.13	1.3 4.47 87.39	p<0.01
24	Yes, teleworking No	31.1 22.14	27.79 38.44	39.08 26.26	27.53 37.68		38.48 21.77	41.35 23.06	35.37 26.82	6.71 35.04	
25	Yes, going shopping Yes, to infect others	18.9 23.89	13.39 17.68	17.17 30.3	10.14 24.63	<0.01	17.82 28.52	18.59 24.76	16.69 22.13	16.19 13.85	p<0.01
26	Yes, to get infected Elders	35.04 36.23	30.47 34.25	26.26 43.33	27.53		31.87 42.05	33.57 35.33	34.33 36.86	34.9 22.98	
26 to infect	Anyone Children	48.63 13.32 1.81	51.26 12.97 1.50	50,00 3.33 3.33	70.58 5.88 0,00		41.27 14.28 2.38	41.49 21.55	54.17 7.21 1.74	69.79	p<0,01
27	Colleagues at work No Yes, alcohol	1.81 55.2 5.57	64.77 6.74	3.33 41.22 8.77	0,00 50,00 9.75		2.38 42.95 8.88	1.61 51.97 7.23	1.74 59.86 5.01	0.74 77.68 2.47	
stances	Yes, food Yes, illegal drugs	26.26 0.25	19.40 0.73	22.8 5.26	20.73 2.43	<0.01	33.04 1.07	27.44 0.28	22.72 0.16	13.4 0.09	p<0.01
<del>29</del>	Yes, drugs to calm down Yes, tobacco	4.83 7.85	2.44 5.89	8.77 13.15	6.09 10.97		4.24 9.79	4.99 8.06	4.27 7.95	3.07	
Media to get	Social media TV Radio	30.09 37.48 14.94	27.20 35.18 16.67	35,00 28.33 10,00	30.88 31.61 12.5		7.49 50.54 13.74	5.45 50.41 20.14	3.41 50083,00 22.9	1.49 48.38 25.1	
nation about	Radio Newspapers Other	14.94 12.83 4.63	15.18 5.74	10,00 15,00 11.66	12.5 11.76 13.23		13.74 19.17 9.03	20.14 16.7 7.27	22.9 17.07 6.52	25.1 20.19 4.82	
31	It's ok The Government explains too	19.28	18.40	6.33	13.18		9.76 1.44	17.8	28.13	26.74	
haghts about the	much The Government explains too	2.65 9.06	4.55 8.60	0,00	9.89		8.99	2.28 8.56	3.88 9.7	6.66 8.53	
information	less Media explain too much	12,49	13.43	11.97	8.79	<0.01	9.69	10.46	14.32	19.21	<0.01
33"	Media explain too less Too negative Poorly adjusted to the reality	2.8 20.47 27.34	3.11 21.90 25.60	5.63 25.35 30.98	8.79 18.68 29.67		2.68 41.88 21.13	2.69 26.09 25.61	3.53 0.24 33.57	2.96 0.11 31.12	
Managed of the	I do not think anything about it No	5.87 18.11	4.36	5.63 23.07	8.79 23.25		4.38 17.23	6.47 19.43	6.6 21.13	4.64 28.05	
Impact of the numeric on people out ective)	Yes, my personality Yes, my vision of the society/ ho	5.18 51.74	3.71 47.05	9.4 43.58	5.81 50,00	<0.01	8.17 50.98	5.55 51.86	3.29 52.4	2.02 46.36	<0.01
Contract with	Yes, my life	24.95 79.01	19.34 82.93	23.93 70.32	20.93 82.6		23.6 75,00	23.14 76.77	23.17 79.62	23.56 88.72	
SARS-CoV-2	yes, with a probable non- confirmed case Yes, with a confirmed case	10.16	9.01 8.04	16.48	5.79 11.59	<0.01	13.05	11.61	9.79 10.58	5.14	<0.01
37	No Headache	22.92 17.06	35.72 13.02	13.18 11.29 13.7	37.75 8.16		11.93 15.55 17.59	20.98 18.01	28.09 16.29	46.06 10.81	
38	Sore throat Nasal congestion/running nose	10.51 9.1	7.95 9.37	9.27 10.08	13.26 12.24		10.81 12.06	10.59 9.05	9.47 8.28	7.96 6.2	
39 resence of	Extreme fatigue/tiredness  Persistent cough (for one week or	7.47 6.96	5.30 6.50	10.48 6.85	4.08 7.14		7.92 6.71	7.57 6.94	6.76 6.92	4.77 6.81	
resence of ymptoms (since (r) ary)	Muscle pain Diarrhea Dizziness	6.55 5.37 3.14	5.15 5.32 1.95	8.87 8.46 8.06	4.08 6.12 2.04		6.54 6.74 3.92	6.78 5.63 2.97	6.43 5.06 2.53	3.36 1.54	
	Shortness of breath Chest pain	2.27 1.96	1.95 1.74	3.62 1.2	2.04		2.88 2.38	2.48 2.28	1.88	1.19 0.93	
41	Loss of smell, smell blindness Persistent fever (for one week	1.93	1.66	2.41	0,00		2.15	2.05	1.76	1.31	
12	or more) Loss of appetite/weight	1.38	1.10	2.01	0,00		1.38	1.3	1.26	1.28	
oodid they feel	Loss of taste Well Normal	1.74 64.92 22.84	70.28 21.6	1.2 52.87 18.39	0,00 60.86 24.63		1.79 68.25 19.31	1.79 67.4 19.85	1.66 64.28 23.86	1.28 65.97 26.65	
question naire	Normal Not at 100% Bad	22.84 11.76 0.46	7.83 0.27	18.39 25.28 3.44	24.63 13.04 1.44		19.31 11.93 0.5	19.85 12.26 0.46	23.86 11.39 0.45	26.65 7.13 0.23	<0.01
14	None Have used an app set up for	63.97	64.91	55.33	78.57		63.21	62.37	62.73	68.55	
<b>4</b> 5	management of COVID cases Have called a telephone number	20.9	22.99	26.21	17.14		20.53	22.12	23.33	20.05	
Use of healthcare Lyperces put in the context	set up for the management of COVID cases	5.9	4.89	4.85	1.42		6.56	6.59	5.49	3.83	
plate in the context of the COVID-19	Have been to a public healthcare center (including GP)	3.97	3.27	2.91	1.42	<0.01	3.97	3.96	3.56	3.58	<0.01
of the COVID-19	Have been tested Have been to private	2.1	1.14	3.88 1.94	0,00		2.33	2.06	1.85	1.07	
48	doctor/healthcare center  Have gone to the emergency	1.69	1.39	4.85	0,00		1.76	1.36	1.48	1.82	
or those tested,	room Negative Positive	61.14	42.48 57.51	50,00 50.00	100,00		62.05	59.21 40.78	54.25 45.74	51.7	
	Nurse Physician	38.85 33,70 17,96	57.51 13,62 42,67	50,00 25,00 12,50	0,00 0,00 0,00		37.94 34,33 16,22	40.78 29,26 17,26	45.74 28,42 22,22	48.29 28,59 43,70	
50	Others (including working on a private pharmacy)	17,96	13,88	0,00	0,00		15,98	17,26	10,58	8,15	
51	Technician Administrative personnel	11,19	13,36	0,00 25,00	0,00		11,97 7,59	13,85 11,87	10,81 13,53	6,67 4,89	
52	Nurse assistant Researcher	10,56	3,89 3,24	37,50 0,00	0,00	<0.01	9,54 3,22	9,82	11,26	6,07	<0.01
	Caretaker Cleaning personnel	0,18 0,28	2,59 0,39	0,00	0,00		0,67 0,30	0,55 0,41	0,60	0,15 0,00	
53	Kitchen personnel  Laundry personnel	0,28 0,09	0,39	0,00	0,00		0,30 0,12 0,06	0,41	0,15 0,23	0,30	
ing worked directly with	No	56,88	56,32	50,00	100,00	<0.01	50,23	53,55	60,78	72,67	< 0.01
GQVID-19 patients	Yes No	43,12 21,97	43,68 36,04	50,00	0,00	-0.01	49,77 18,70	46,45 20,17	39,22 25,18	27,33 31,70	-0.01
With COVID-19	No Yes	21,97 78,03	36,04 63,96	_		<0.01	18,70 81,30	20,17 79,83	25,18 74,82	31,70 68,30	<0.01
6 <sup>patients</sup>	No fear	16,81	28,40	21,43	0,00		11,61	14,50	17,70	22,00	
57	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	
8 Far of working	Scared of transmitting the virus to own people (family,	55,81	47,14	35,71	100,00	•	46,58	45,97	44,23	38,32	
Pear of working	colleagues) Scared of being obliged to take					<0.05					<0.01
with COVID-19	medical decisions flepresentinfl	+/	hm	ionen	hani	com	/site	/ahc	out-/a	uidal	lino
with COVID-19 Opatients Of Pevil  Opatients	medical decisions tepresenting of the calculations application of	.L[%//	DIFF	Johan	. ~ · · · · · · · · ·		/ 34-60	/ 00100	July 9	UINC	ime

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	1
		the abstract	
		(b) Provide in the abstract an informative and balanced summary of what	2
		was done and what was found	
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	5-6
8		recruitment, exposure, follow-up, and data collection	
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection	5
I	-	of participants	
Variables	7	Clearly define all outcomes, exposures, predictors, potential	5-6
	,	confounders, and effect modifiers. Give diagnostic criteria, if applicable	
Data sources/	8*	For each variable of interest, give sources of data and details of methods	5-7
measurement	O	of assessment (measurement). Describe comparability of assessment	
measarement		methods if there is more than one group	
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 the study size was arrived at  Explain how quantitative variables were handled in the analyses. If	N/A
Qualititative variables	11	applicable, describe which groupings were chosen and why	IN/A
Chatistical models ada	12		6-8
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	6-8
		strategy	
		(e) Describe any sensitivity analyses	N/A
Dagulta		(i) Destrict any sensitivity analyses	1,711
Results Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers	5, 8
1 articipants	13	potentially eligible, examined for eligibility, confirmed eligible, included	3, 6
		in the study, completing follow-up, and analysed	NT/A
		(b) Give reasons for non-participation at each stage	N/A
D 11 11	4.4.	(c) Consider use of a flow diagram	-
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical,	8-11
		social) and information on exposures and potential confounders	
		(b) Indicate number of participants with missing data for each variable of	29-34
		interest	I
Outcome data	15*	Report numbers of outcome events or summary measures	8-11,

Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted	8-11,
		estimates and their precision (eg, 95% confidence interval). Make clear	29-37
		which confounders were adjusted for and why they were included	
		(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	11-12
		bias or imprecision. Discuss both direction and magnitude of any	
		potential bias	
Interpretation	20	Give a cautious overall interpretation of results considering objectives,	11-17
		limitations, multiplicity of analyses, results from similar studies, and	
		other relevant evidence	
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	19
		study and, if applicable, for the original study on which the present	
		article is based	
	_		_

<sup>\*</sup>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.