

The psychological impact of COVID-19 pandemic on physicians in Saudi Arabia: A cross-sectional study

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Abstract

Background/Aim: COVID-19 pandemic exposed physicians to extraordinary stress and made them vulnerable to various types of psychological illnesses. The aim of this study was to evaluate the impact that the COVID-19 pandemic had on the psychological well-being of physicians.

Materials and Methods: We performed a cross-sectional, survey-based study, targeting physicians in Saudi Arabia during the COVID-19 pandemic. The primary outcome was to assess the psychological impact that the pandemic had on physicians by using a questionnaire that was previously designed and used by Reynold's *et al.* to survey Canadians during the SARS outbreak in 2003. The questionnaire assessed respondents' understanding of the rationale for quarantine, quarantine behaviors (including difficulties and compliance), as well as socio-economic and psychological impacts through answers that are based on a Likert scale. We also assessed the possible risk factors for psychological disorders related to the pandemic.

Results: The study included 529 physicians from various regions in Saudi Arabia. The enrolled physicians were practicing different specialties and branches in medicine. We classified them based on their workplace in relation to COVID-19 exposure to: COVID-19 designated center vs. non-COVID-19 designated centers. Furthermore, we subdivided the physicians who work in COVID-19 designated centers to those who work in high-risk areas such as ER, ICU and COVID-19 isolation wards and other areas as low-risk areas. The most common feelings reported by the physicians during the pandemic were: worry (357, 67.5%), isolation (301, 56.9%) and fear (263, 49.7%). According to logistic regression analysis, physicians older than age 60 were less likely to feel isolated (OR = 0.08, 95% CI = 0.01-0.96, $P = 0.05$), female physicians were more likely to experience fear (OR = 2.96, 95% CI = 1.20 – 7.27, $P = 0.02$) and worry (OR = 2.87, 95% CI = 1.23 – 6.69, $P = 0.02$), while physicians with a previous exposure to similar traumatic events were less likely to experience fear (OR = 0.24, 0.10 – 0.64, $P = 0.004$) during the COVID-19 pandemic.

Conclusions: The COVID-19 pandemic had a negative psychological effect on physicians in Saudi Arabia. Gender, age, and previous exposure to similar traumatic events were predictive of psychological reactions to the pandemic in this population.

Keywords: COVID-19, physicians, psychological impact

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INTRODUCTION

In December 2019, the Severe Acute Respiratory Syndrome Corona Virus 2 (SARS-CoV-2) was recognized as the cause of a series of pneumonia cases in Wuhan, China. The resulting respiratory illness, named coronavirus-19 disease (COVID-19), was declared as a pandemic by the World Health Organization (WHO) on March 11th, 2020.^[1] It is estimated to have resulted in 1,225,360 cases in 183 countries as of April 5th, 2020.^[2] In Saudi Arabia, 2,385 cases were reported and 34 deaths were attributed to the illness.^[2] Various preventive measures have been implemented by the authorities to contain the spread of the virus, including closing schools and public places, imposing curfew as well as quarantining cities.^[3]

The virus mainly attacks the respiratory system, which results in a wide spectrum of clinical manifestation. It ranges from self-limited illness to acute respiratory distress syndrome (ARDS) and even death in the elderly and those with comorbidities.^[4,5] Exposure to such a pandemic may result in psychiatric disorders such as depression, panic disorders and anxiety. The residual negative psychological impact may last for years following the pandemic.^[6,7] Healthcare providers are on the frontlines of fighting the COVID-19 pandemic, and therefore, are at a greater risk of developing psychological complications related to the pandemic. Health care workers may be worried about contracting the infection themselves or passing it on to their loved ones, in addition to their concerns about stigmatization and quarantine consequences, as well as an increase in the workload.^[7] The aim of this study was to determine the psychological impact of the COVID-19 pandemic on physicians in Saudi Arabia. We also assessed the major concerns and possible risk factors that may contribute to such an impact.

MATERIALS AND METHODS

This was a cross-sectional study targeting physicians in Saudi Arabia through a snowball sampling technique. The enrolled physicians are practicing various specialties of medicine and were from different cities and regions of Saudi Arabia. Subjects were contacted through professional groups in the instant messaging system WhatsApp during the COVID-19 pandemic. The study recruitment period was between March 20th, 2020 and March 28th, 2020. At that time period, Qatif city, in the eastern region of Saudi Arabia, was the only city under mass quarantine. Residents were not allowed to leave the city and visitors were not allowed to enter. Using social media platforms for recruitment allowed us to obtain

an adequate sample from that quarantined region. The primary outcome was to determine the psychological impact of the COVID-19 pandemic on physicians in Saudi Arabia. We used a questionnaire that was previously designed and used by Reynold's *et al.* to survey Canadians during the SARS outbreak in 2003. The questionnaire assessed respondents' understanding of the rationale for quarantine, quarantine behaviors (including difficulties and compliance), as well as socioeconomic and psychological impacts through answers that are based on a Likert scale. The complete questionnaire is available at: www.region.durham.on.ca. Secondary outcomes included assessing the impact of practicing in a COVID-19- designated center (centers that were designated to receive and manage COVID-19 patients), living in a quarantine zone, having previous similar traumatic events (any previous outbreaks or a disaster - in our population, this may include the first Gulf war or other events of such a high magnitude) or suffering from a psychiatric illness (based on self-reporting of the underlying disorder without specifying the severity and need of pharmacotherapy). Furthermore, we aimed to study the mitigating effect of understanding the rationale of the preventive measures including quarantine and being provided with protective equipment and adequate information from public authorities. In addition, the concerns regarding stigma and the impact of social media were evaluated.

All survey answers were collected anonymously without identification information. The study protocol and survey were reviewed and approved by the institutional review board at Qatif Central Hospital, Saudi Arabia.

Statistical analysis

All baseline characteristics were presented as summary statistics where we used means or medians to summarize continuous variables and frequency estimates for categorical variables. Standard student *t*-test was used to compare means and Chi Square or Fisher's exact test were used to compare proportions, where appropriate. After collapsing the Likert scales that were used to describe dependent variables (fear, isolation, and worry) into a binary outcomes i.e., "yes" and "no", such that scores on the scale between 1 and 3 represented "no" and scores >3 on the scale represented "yes", we utilized simple and multiple logistic regression analysis to study associations between continuous outcomes and independent variables. Odds ratios (OR) were generated and precision of point estimates was presented using 95% confidence intervals (CIs). All data were analyzed using the statistical software STATA 11.2 (StataCorp, Texas, USA). The significance level was set at $P = 0.05$.

RESULTS

Of the 1223 physicians who were invited to participate, 529 (43%) completed the survey. The percentage of male subjects in the study population was 40.8%. The majority of participants were in the age range of 30-39 years ($n=280$; 53%) 280 [53%]. The majority of the participants were married ($n=402$; 76%) 402 [76%] and a considerable number of them had children ($n=366$; 69.7%). A total of 433 (81.9%) were non-smokers, 164 (31.2%) were exposed to previous similar traumatic events and 36 (6.8%) reported a history of psychiatric illness. The majority of the participants (70.2%) were working in a COVID-19- designated center, 212 (40.1%) of them reported working in high-risk areas such as the ER, ICU or COVID-19 isolation wards, while 159 (30.1%) reported working in other areas which were considered as areas of low-risk exposure to COVID-19 patients. The remaining participants 69 (13%) were working in centers with no exposure to COVID-19 cases and 89 (16.8%) were home-quarantined. The latter group include those who had been exposed to confirmed or suspected COVID-19 cases or were at home as a result of being under mass quarantine inside Qatif city and were unable to reach their workplaces as it was located outside the city [Table 1].

Training and perception of the risk of exposure to the infection

Half the respondents, 277 (52.3%) believed that their profession placed them at risk for exposure to the infection, getting infected themselves and/or passing it on to their loved ones. Nonetheless, 154 (29.1%) were willing to help COVID-19 patients despite that risk. Overall, a third of the subjects reported that they have all the necessary protective measures and adequate training to deal with such an outbreak (192 [36.3%] and 161 [30.4%], respectively) [Table 2].

Adequacy of information from public health authorities and social media

A considerable number of the study subjects 376 (71%) reported that they had received adequate information from the Ministry of Health (MoH) regarding quarantine, infection control measures ($n=286$; 54.1%) and an adequate daily report regarding the virus pandemic ($n=380$; 71.8%). Regarding social media, 165 (31.2%) participants reported that they rely on it as a source of information, 160 (30.3%) try to avoid it as it makes them anxious and 204 (38.6%) feel neutral towards it [Table 2].

Increased workload and scrutiny process

Among the participants, 86 (16.4%) reported an increase in their workload, and 80 (15.2%) had to do work that normally they would not do. On the other hand,

Table 1: Demographics and baseline characteristics of the study cohort

Characteristic	No. (%)
Age, yrs	
20-29	113 (21.30%)
30-39	280 (52.90%)
40-49	79 (14.90%)
50-59	45 (8.50%)
60 and older	12 (2.30%)
Female Gender	213 (59.20%)
Marital status	
Married	402 (76.00%)
un-married	127 (24.00%)
Having children	366 (69.70%)
History of a similar major traumatic event prior to COVID-19 pandemic	164 (31.24%)
History of psychiatric illness	36 (6.81%)
Smoker	96 (18.15%)
Workplace:	
COVID-19 designated center in high-risk area e.g.: COVID-19 isolation ward, ICU and ER	212 (40.08%)
COVID-19 designated center in low-risk area	159 (30.06%)
Center not affected by COVID-19	69 (13.04%)
Home-quarantined	89 (16.82%)
Fully quarantined	137 (25.90%)

102 (19.3%) reported both, while 257 (48.9%) reported none. Regarding the scrutiny process, 353 (66.7%) agreed that it is a necessary measure, 27 (5.1%) believed that it is not necessary and it makes them anxious, while for 149 (28.2%) it was not applicable [Table 2].

Fear of stigma

Around one-third of the subjects (31%) had concerns about being stigmatized due to their profession as healthcare workers. Some (13.8%) reported being concerned about their family members being avoided for the same reason [Table 2].

Feelings

Overall, 67.5% and 56.9% of participants reported feelings of being worried and isolated, respectively. Almost half (49.7%) of them were fearful [Supplementary Table 1]. According to logistic regression analysis, physicians older than age 60 were less likely to feel isolated (OR = 0.08, 95% CI = 0.01 - 0.96, $P = 0.05$), female physicians were more likely to experience fear (OR = 2.96, 95% CI = 1.20 - 7.27, $P = 0.02$) and worry (OR = 2.87, 95% CI = 1.23 - 6.69, $P = 0.02$), while physicians with a previous exposure to similar traumatic events were less likely to experience fear (OR = 0.24, 0.10 - 0.64, $P = 0.004$) during the COVID-19 pandemic [Table 3].

Mass quarantine: Understanding rationale, restriction of daily activities and concerns

Among 529 of the study participants, 137 physicians (25.9%) were under mass quarantine. Since the study was conducted early during the pandemic, Qatif city was the only city under

Table 2: Responses of the study participants to questions focused on their experience, perception, and concerns with the COVID-19 pandemic

Parameter	Number %
Duration of mass quarantine	Range: 6-88 Mean: 19.3 days Median: 19 days
Understanding of rationale for quarantine	
It is not a necessary measure	1 (0.73%)
Quarantine protects me	2 (1.46%)
Quarantine protects community	15 (10.95%)
Quarantine protect self, household and community	119 (86.86%)
Compliance	
Compliant with all household protective measures	8 (5.84%)
Compliant with all community protective measures	18 (13.14%)
Compliant with all protective measures	101 (73.72%)
None	10 (7.30%)
Restriction of daily life activity:	
Isolation from family	75 (55.15%)
Not leaving house to socialize	64 (47.06%)
Not able to continue study/go to work	37 (27.21%)
Not able to exercise and do sports	64 (47.06%)
Purchasing food and clothing	22 (16.18%)
None	17 (12.50%)
Concerns regarding support:	
Income reduction	21 (15.33%)
Inadequate supplies: e.g.: food, water.	27 (19.71%)
Medical/nursing care	40 (29.20%)
Social support	53 (38.69%)
None	27 (19.71%)
Information delivered by public health authorities:	
Effective communications from the government regarding quarantine's concept, rationale, and rules	376 (71.08%)
Adequate daily information regarding the virus	380 (71.83%)
Adequate information regarding the infection control measures	286 (54.06%)
None	17 (3.21%)
Information from social media	
I rely on it	165 (31.19%)
I try to avoid it, it makes me anxious	160 (30.25%)
I feel neutral	204 (38.56%)
Training, protection and exposure risk	
I have adequate training to deal confidently with the current situation	161 (30.43%)
I am provided with the protective equipment that I need	192 (36.29%)
I believe that my job is putting me at a greater exposure risk	277 (52.36%)
Because I want to help the COVID-19 patients, I am willing to accept the risks involved	154 (29.11%)
I do not have adequate training	172 (32.51%)
I am not provided with protective equipment	105 (19.85%)
Workload and stress	
Workload increased during outbreak	86 (16.38%)
I have to do work that normally I would not do	80 (15.24%)
Both	102 (19.43%)
None	257 (48.95%)
Scrutiny process:	
It is a necessary measure.	353 (66.73%)
It is not necessary; it makes me anxious.	27 (5.1%)
Not applicable	149 (28.17%)
Concerns regarding Stigma:	
I think people will avoid me because of my profession	164 (31.00%)
I think people will avoid my family members because of my profession	73 (13.80%)
I think people will avoid me because I had been quarantined	37 (6.99%)
I think people will avoid my family members because we had been quarantined	25 (4.73%)
None	319 (60.30%)
The increase of smoking since COVID-19 pandemic	
Yes	22 (22.92%)
No	74 (77.08%)

mass quarantine. The duration of the quarantine ranged from 6 days to 88 days with a mean of 19.3 days. Due to the presence of three outliers, the median was calculated

and it was 19 days. The majority of those quarantined ($n=119$; 86.7%) reported an understanding of the rationale of the quarantine as an infection control measure for both

Table 3: Multiple regression analysis for predictors of the feelings of worry, isolation and fear

Domain Parameter	Worry		Isolation		Fear	
	OR	95% CI, P	OR	95% CI, P	OR	95% CI, P
Age group	0.98	0.93-1.03, 0.46	0.68	0.43-1.05, 0.08*	0.84	0.55-1.30, 0.45
Gender	2.87	1.23-6.69, 0.02	0.64	0.26-1.57, 0.33	2.96	1.20-7.27, 0.02
Marital status	0.73	0.20-2.66, 0.64	0.90	0.26-3.11, 0.87	0.60	0.17-2.16, 0.43
Parenthood	0.66	0.20-2.25, 0.51	0.47	0.14-1.59, 0.23	0.82	0.25-2.70, 0.74
Previous similar trauma	0.49	0.18-1.32, 0.16	1.07	0.42-2.70, 0.89	0.24	0.10-0.64, 0.004
Psychiatric illness	1.66	0.27-10.16, 0.58	0.63	0.10-4.00, 0.62	0.58	0.09-3.68, 0.57
Duration of quarantine	0.98	0.93-1.03, 0.46	0.97	0.93-1.02, 0.29	0.99	0.94-1.04, 0.23
Work place	1.07	0.79-1.43, 0.67	0.85	0.63-1.13, 0.25	1.17	0.88-1.54, 0.28

Age groups: 30-39: OR=0.69, 95% CI=0.25-1.85, P=0.46, 40-49: OR=1.83, 95% CI=0.31-10.88, P=0.50, 50-59: OR=0.28, 95% CI=0.05-1.62, P=0.16 >60: OR=0.08, 95% CI=0.01-0.96, P=0.05

individuals and the community. More than half of the physicians under mass quarantine (n=75; 55.2%) reported being isolated from their families, 64 (47.2%) were not able to leave their houses to socialize, 37 (27.2%) were not able to go to work and continue training, 64 (47.1%) were not able to exercise or practice sports, 22 (16.2%) were not able to purchase food and clothing, while only a minority 17 (12.5%) reported no restrictions in their daily activities.

The most pressing concerns for physicians under mass quarantine were the following: worried about inadequate social support 53 (38.7%), inadequate medical care 53 (38.7%), inadequate food supply 27 (19.7%), and income reduction 21 (15.3%).

Compliance to household and community protective measures

Among the 137 physicians who were under mass quarantine, 101 (73.7%) were compliant with both household and community protective measures, while 18 (13%) to community measures only. We observed a higher rate of compliance to the protective measure among physicians who had children compared to those without children ($P = 0.04$) [Supplementary Table 2].

DISCUSSION

This study demonstrates that the COVID-19 pandemic has a significant psychological impact on the physicians who are practicing in Saudi Arabia. Two-thirds of the physicians demonstrated feelings of worry and isolation, while half of the physicians reported fear. Physicians older than age 60 were less likely to experience the feeling of being isolated (OR = 0.08, 95% CI = 0.01-0.96, $P = 0.05$) and those with a previous exposure to similar traumatic events were also less likely to experience fear (OR = 0.24, 0.10 – 0.64, $P = 0.004$). On the other hand, female gender was associated with fear (OR = 2.96, 95% CI = 1.20 – 7.27, $P = 0.02$) and worry (OR = 2.87, 95% CI = 1.23 – 6.69, $P = 0.02$). Although there were major concerns reported by physicians regarding the inadequate social support, as

well as the restrictions in various daily activities due to the quarantine, our study demonstrates high compliance rates with both household and community protective measures, including quarantine. Interestingly, physicians who had children were more compliant to these measures, while marital status, smoking habits, previous exposure to similar traumatic events or working in a COVID-19 affected center had no major influence on the compliance rate.

To our knowledge, this is the first study to evaluate the psychological impact of the COVID-19 pandemic on physicians in Saudi Arabia. A recent cross-sectional study conducted in China looking at mental health outcomes among healthcare providers during the COVID-19 pandemic, showed that about half the participants were suffering from symptoms of depression, distress, anxiety and insomnia. Women, nurses, and those working in centers in Wuhan were the most vulnerable.^[8]

Our study revealed that the three most commonly experienced feelings among Saudi physicians during the COVID-19 pandemic were: worry (67.5%), isolation (56.9%) and fear (49.7%). A similar study conducted by Reynolds *et al.* looking at the psychological impact of the SARS quarantine in Canada, revealed that the feeling of frustration, isolation and boredom were the feelings most experienced among the quarantined health care workers.^[9] Another study conducted by Cukor *et al.* looking at the prevalence of post-traumatic stress symptoms among the workers who were deployed at the World Trade Center following the attacks of September 11th 2001, showed that previous exposure to major trauma or disaster and concurrent psychiatric illness were recognizable risk factors^[10] Interestingly, in our study physicians who were exposed to a similar traumatic event were less likely to suffer from the feeling of fear.

In this study, about one-third of the participants (30.4%) reported that they had adequate training and 36.3% had the necessary protective measures to deal confidently with such

situations. A previous study looking at the SARS outbreak in Canada revealed that perceived adequacy of training and the availability of protective equipment were protective factors against the negative psychological outcome.^[11]

We found that about half the physicians surveyed (52.4%) believe that their profession rendered them at higher risk of exposure to the infection. Nonetheless, despite that perceived risk, a third (29.1%) were willing to help patients with COVID-19. Since the study was conducted earlier in the pandemic, half the physicians (48.9%) reported no increase in the workload and 60.3% showed no concerns regarding the stigmatization due to their profession or being quarantined. Furthermore, among physicians who were smokers, the number of cigarettes smoked had not increased during the pandemic. This is quite different from the studies that were conducted among the healthcare providers during the SARS outbreak in Canada, which reported an increase in substance misuse and fears of stigma and avoidance.^[11,12]

About a quarter of our study population were under mass quarantine (reside in Qatif city) during the time of the study. The mean duration of the quarantine was 19.3 days. As shown in previous studies, the duration of quarantine is a recognizable predictor of psychological consequences. The longer the duration of quarantine the greater the impact. Previous studies have shown that a quarantine for ten days and more is a predictor of negative psychological outcomes.^[7,9,11,13] It is noteworthy that the majority of physicians enrolled in our study (86.7%) showed an understanding of the rationale of the quarantine and about two-thirds (73.7%) were compliant to both household and community protective measures, although a significant percentage reported restriction of their daily activity during the quarantine, namely, being isolated from their family. At that time, some physicians residing within Qatif and working outside the quarantined area were asked to leave their spouses and children and live outside Qatif city. Physicians who stayed inside Qatif were not able to visit their parents and siblings (55%), not able to socialize (47.1%), or take part in sports (47.1%). More than a third (38.7%) cited inadequate social support as their major concern. Healthcare providers are considered a vulnerable group and at a greater risk of the negative psychological impact than the general population during outbreaks. This was similar to results of a study that was conducted by Reynolds *et al.* which evaluated the understanding, compliance and psychological status of patients during the SARS quarantine experience in Canada. Results from that study revealed that inability to socialize was the most reported difficulty. However, despite the

reported difficulties, the compliance to all measures was high.^[9] In our study, about two-thirds of physicians reported that public health authorities' information regarding the daily briefings, updates regarding the precautions have been taken (quarantine and curfew) and the infection control measures delivered by the Ministry of Health were adequate. Previous studies demonstrated that understanding the rationale of a quarantine and having adequate information delivered to physicians by the healthcare authorities were recognizable factors for increasing the rate of compliance to the quarantine and other infection control measures.^[12] Interestingly, one-third of the participants considered social media as a source of anxiety, and thus they tried to avoid it.

The World Health Organization's mental health department provided the general population and the healthcare workers with strategies to mitigate the negative psychological impact of the COVID-19 pandemic. For healthcare workers, engaging in regular physical activity, eating healthy food and ensuring sufficient rest are advisable. Further, in order to avoid the feeling of isolation, it is advisable to stay connected with families, friends and colleagues through the available virtual methods.^[14] In China, in order to contain the anticipated psychological damage, the national health institutions provided psychological assistance services to the public during the COVID-19 pandemic through the internet, phone services and smart device applications.^[8]

Our study has certain limitations: It was cross-sectional in design and the response rate (43%) was relatively low. Our study subjects were approached through social media platforms. Although this method could potentially be criticized due to its selectivity, we felt it was the most appropriate method to get a representative sample of physicians in the quarantined region. On the point of variation in response based on the region where subjects are residing, this would have been an important information to collect. However, our survey did not include this question. The relatively early recruitment during the pandemic may have influenced the feelings reported by physicians. As the number of COVID-19 cases increased over time and the community protective measures became more restrictive, it is expected that the psychological impact may have become more severe. However, the strength of this study comes from an early identification of the magnitude of the negative psychological impact of the pandemic and recognizing the possible risk factors that may help in early identification of the most vulnerable groups. This will allow for timely interventions such as appropriate psychological and social support.

In conclusion, the COVID-19 pandemic had a significant negative psychological impact on physicians in Saudi Arabia. However, further prospective studies are needed to evaluate the long-term psychological consequences.

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Conflicts of interest

There are no conflicts of interest.

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Supplementary Table 1: Reported dominating feelings by physicians during the pandemic using the Likert scale

Feeling	Not at all No.(%)	Not really No.(%)	Undecided No.(%)	Somewhat No.(%)	Very much No.(%)
Boredom	112 (21.17%)	109 (20.60%)	59 (11.15%)	157 (29.68%)	92 (17.39%)
Isolation	75 (14.18%)	107 (20.23%)	46 (8.70%)	183 (34.59%)	118 (22.31%)
Frustration	94 (17.77%)	123 (23.25%)	76 (14.37%)	140 (26.47%)	96 (18.15%)
Annoyance	90 (17.01%)	105 (19.85%)	94 (17.77%)	161 (30.43%)	79 (14.93%)
Worry	39 (7.37%)	7 (13.42%)	62 (11.72%)	193 (36.48%)	164 (31%)
Helplessness	133 (25.14%)	133 (25.14%)	96 (18.15%)	92 (17.39%)	75 (14.18%)
Anger	175 (33.08%)	136 (25.71%)	90 (17.01%)	80 (15.12%)	48 (9.07%)
Fear	80 (15.12%)	97 (18.34%)	89 (16.82%)	172 (32.51%)	9 (17.2%)
Nervousness	110 (20.79%)	110 (20.79%)	86 (16.26%)	134 (25.33%)	89 (16.82%)
Sadness	122 (23.06%)	110 (20.79%)	85 (16.07%)	138 (26.09%)	74 (13.99%)
Guilt	259 (48.96%)	105 (19.85%)	86 (16.26%)	50 (9.45%)	29 (5.48%)
Happiness	271 (51.23%)	110 (20.79%)	95 (17.96%)	48 (9.07%)	5 (0.95%)
Relief	286 (54.06%)	117 (22.12%)	85 (16.07%)	35 (6.62%)	6 (1.13%)

Supplementary Table 2: Factors identified by binary comparisons to be associated with compliance to protective measures

Parameter	<i>P</i>
Marital status	0.48
Having children	0.04
Smoking status	0.86
Similar trauma event	0.65
Psychiatric illness	0.47
Workplace in relation to COVID-19 exposure	0.84