COVID-19 pandemic and lockdown measures impact on mental health among the general population in Italy. An N=18147 web-based survey.

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Abstract

Background

The psychological impact of the COronaVIrus Disease 2019 (COVID-19) outbreak and lockdown measures on the Italian population are unknown.

The current study assesses rates of mental health outcomes in the Italian general population three to four weeks into lockdown measures and explores the impact of COVID-19 related potential risk factors.

Methods

A web-based survey spread throughout the internet between March 27th and April 6th 2020. 18147 individuals completed the questionnaire, 79.6% women.

Selected outcomes were post-traumatic stress symptoms (PTSS), depression, anxiety, insomnia, perceived stress and adjustment disorder symptoms (ADS). Seemingly unrelated logistic regression analysis was performed to identify COVID-19 related risk factors.

Results

37 Respondents endorsing PTSS, depression, anxiety, insomnia, high perceived stress and adjustment
38 disorder were 6604 (37%), 3084 (17.3%), 3700 (20.8%), 1301 (7.3%), 3895 (21.8%) and 4092
39 (22.9%), respectively. Being woman and younger age were associated with all of the selected
40 outcomes. Quarantine was associated with PTSS, anxiety and ADS. Any recent COVID-related
41 stressful life event was associated with all the selected outcomes. Discontinued working activity
42 due to the COVID-19 was associated with all the selected outcomes, except for ADS; working
43 more than usual was associated with PTSS, Perceived stress and ADS. Having a loved one
44 deceased by COVID-19 was associated with PTSS, depression, perceived stress and insomnia.

45 **Conclusion**

46 We found high rates of negative mental health outcomes in the Italian general population three
47 weeks into the COVID-19 lockdown measures and different COVID-19 related risk factors. These
48 findings warrant further monitoring on the Italian population's mental health.

49

Background

51 The psychological impact of the COronaVIrus Disease 2019 (COVID-19) outbreak and related
52 lockdown measures among the Italian population are unknown. The COVID-19 pandemic is a
53 global health emergency that could potentially have a serious impact on public health, including
54 mental health (World Health Organization, 2020a; Xiang et al., 2020). Since clusters of atypical
55 pneumonia of unknown etiology were discovered in the city of Whuan, Hubei province, in late
56 December 2019, the viral disease has continued to exponentially spread throughout China and
57 worldwide. Italy has been the first European country that had to face the pandemic. On March 9th
58 2020, lockdown measures were enforced by the government on entire national territory.
59 Lockdown measures included travel restrictions, the mandatory closure of schools, nonessential
60 commercial activities and industries. People were asked to stay at home and socially isolate
61 themselves to prevent being infected.

62 As previously reported, health emergencies such as epidemic can lead to detrimental and long-
63 lasting psychosocial consequences, due to disease related fear and anxiety, large-scale social
64 isolation, and the overabundance of (mis)information on social media and elsewhere (Dong and
65 Bouey, 2020). At the individual level, epidemics are associated with a wide range of psychiatric
66 comorbidities including anxiety, panic, depression and trauma-related disorders (Tucci et al.,
67 2017). The psychosocial impact of health emergences seems to be even higher during quarantine
68 measures (Brooks et al., 2020). Quarantine has been associated with high stress levels
69 (DiGiovanni et al., 2004), depression (Hawryluck et al., 2004), irritability and insomnia (Lee et
70 al., 2005). Furthermore, being quarantined is associated with acute stress (Bai et al., 2004) and
71 trauma-related (Wu et al., 2009) disorders, particularly in specific at-risk populations such as
72 health workers (Lai et al., 2020).

73 Concerning the COVID-19 pandemic, a study on 1210 respondents in China found rates of 30%
74 of anxiety and 17% of depression (Wang et al., 2020). Further, in a nationwide survey including
75 more than 50.000 Chinese respondents, almost 35% of the participants reported trauma-related
76 distress symptoms, with women and young adults showing significantly higher psychological
77 distress (Qiu et al., 2020).

78 Together, these findings strongly suggest the need to accurately and timely assess the magnitude
79 of mental health outcomes in the general population exposed to COVID-19 pandemic, with
80 particular regard to the implementation of preventive and early interventions strategies for those at
81 higher risk. However, no study to date has investigated mental health outcomes and associated
82 risk factors in the Italian population. This could be of additional relevance considering the
83 implementation of the strict lockdown and social distancing measures imposed on the entire
84 national territory.

85 The aim of the current study was to assess rates of mental health outcomes in the Italian general
86 population three to four weeks into lockdown measures and to explore the impact of COVID-19
87 related potential risk factors. This study aims at providing evidence that could potentially inform
88 subsequent research strategies and mental health delivery in Italy and Europe.

89

Methods

91 *Study Design*

92 A cross-sectional web-based survey design was adopted. Approval for this study was obtained
93 from the local IRB at University of L'Aquila. On-line consent was obtained from the participants.

94 Participants were allowed to terminate the survey at any time they desired. The survey was
95 anonymous, and confidentiality of information was assured.

96 Data on mental health were collected between March 27th and April 6th 2020 using an on-line
97 questionnaire spread throughout the internet, using sponsored social network advertisement
98 together with a snowball recruiting technique. The investigated timeframe corresponds to the
99 contagion peak in Italy, according to epidemiogical data confirmed by the World Health
100 Organization (World Health Organization, 2020). The survey was developed using the free
101 software Google Forms[®].

102

103 *Participants*

104 All Italian citizens ≥ 18 years were eligible. A total of 18147 individuals completed the
105 questionnaire, of which 14447 (79.6%) women, median age was 38 (IQR=23). Because of the
106 web-based design, no response rate could be estimated as it was not possible to estimate how
107 many persons were reached by social network advertisement.

108

109 *Mental health outcomes*

110 Post-Traumatic Stress Symptoms (PTSS), depression, anxiety, insomnia, perceived stress and
111 adjustment disorder symptoms (ADS) were assessed using the Italian versions of the following
112 instruments and cut-offs or scoring:

113 - the Global Psychotrauma Screen, post-traumatic stress symptoms subscale (GPS-PTSS)
114   (Olff et al. *in press*): PTSS were considered of clinical relevance if more than 3 out of five
115   5 symptoms were reported as present;
116 - the 9-item Patient Health Questionnaire (PHQ-9) (Spitzer et al., 1999), using the cut-off
117   for severe depression at ≥15;
118 - the 7-item Generalized Anxiety Disorder scale (GAD-7) (Spitzer et al., 2006), using the
119   cut-off for severe anxiety at ≥15;
120 - the 7-item Insomnia Severity Index (ISI) (Morin et al., 2011), using the cut-off at ≥22 for
121   severe insomnia;
122 - the 10-item Perceived Stress Scale (PSS) (Cohen and Hoberman, 1983), using a quartile
123   split to separate the higher quartile from the remaining participants;
124 - the International Adjustment Disorder Questionnaire (IADQ) (Shevlin et al., 2020), using
125   the standard scoring system. IADQ comprises a brief checklist of potentially stressful
126   events, such as financial, work, health or housing problems. The IADQ checklist was
127   modified in order to ascertain if the reported problem was due to COVID-19. ADS were
128   rated as present if a stressful life event correlated to COVID-19 was present, together with
129   preoccupation and failure to adapt symptoms and a relevant impact on global functioning.

130

131 *Independent variables*

132 Standardized age, gender and region of residence (Northern Italy: Aosta Valley, Piedmont,
133 Liguria, Lombardy, Trentino-Alto Adige, Veneto, Friuli-Venezia Giulia, Emilia-Romagna;
134 Central Italy: Tuscany, Umbria, Marche, Lazio; Southern Italy: Abruzzo, Molise, Apulia,
135 Campania, Basilicata, Calabria, Sicily and Sardinia) were inserted as independent variables.

136 Region of residence was inserted in order to account for the different incidence of COVID-19
137 among Italian regions. COVID-19 related independent variables were: 1) being under quarantine
138 either because infected or in close proximity to infected people; 2) any changes in working
139 activity compared to "working as usual" (e.g., smart-working, working activity discontinued due
140 to lockdown measures, higher workload due to COVID-19); 3) having a loved one infected,
141 hospitalized or deceased due to COVID-19; 4) any stressful events comprised in the IDAQ
142 checklist, purposely modified in order to capture only stressful events due to COVID-19. The
143 IADQ checklist comprises 8 questions about any potential stressful life event occurred in the
144 recent past, with a yes/no response, including financial, working, educational, housing,
145 relationship, own or loved one' s health and caregiving problems. In order to separate COVID-19
146 related stressful life events from non-COVID-19 related events, responses to the checklist were
147 modified as follows: "no"; "yes"; "yes, due to COVID-19". Responses were collapsed in a binary
148 variable where 1="any stressful life evet only if due to COVID-19" and 0="no stressful life events
149 or presence of a stressful life event not due to COVID-19".

150

151 *Confounders*

152 A history of childhood trauma and any previous mental illness, as assessed by the dedicated GPS
153 module; education level, occupation (employed, unemployed, student, retired) and being in a
154 relationship.

155

156 *Statistical Analysis*

157 Frequency analysis were performed in order to ascertain the prevalence of each outcome,
158 separately for Northern, Central and Southern Italy.

159 A seemingly-unrelated multivariate logistic regression model was fitted in order to explore the
160 impact of the proposed covariates and confounders on the selected outcomes. Seemingly unrelated
161 regression models are systems of equations that allow to jointly model several outcomes,
162 assuming correlation among their errors. Because of the very low missing data rates (<3%),
163 missing data were treated with listwise deletion in regression analysis.

164 Data analysis was performed using Stata v. 16® (StataCorp). Seemingly unrelated logistic
165 regression was performed using the -suest- postestimation command after running a panel of
166 logistic regressions.

167

168 **Results**

169 Socio-demographic characteristics of the sample, along with rates of mental health outcomes, are
170 reported in Table 1. Of the 18147 respondents, 6666 (37.14%) reported ≥3/5 PTSS, with a median
171 total GPS symptom score of 7 (IQR=6, range 0-17); 3099 respondents (17.3%) reported severe
172 depressive symptoms, with a PHQ total median score of 8 (IQR=6, range 0-17); 3732 (20.8%)
173 respondents reported severe anxiety symptoms, with GAD median score of 8 (range 0-21,
174 IQR=10); 1306 (7.3%) respondents reported severe insomnia symptoms, with ISI median total
175 score of 10 (range 0-28, IQR=12); PSS total score median was 25 (range 4-44, IQR=13), 75th
176 percentile was 31, with 3933 (21.9%) respondents scoring above this threshold; 4129 (23.0%)
177 respondents reported a IADQ scoring compatible with the suspect of a presence of an adjustment
178 disorder.

179   Seemingly unrelated logistic regression analyses are reported in Table 2. Being a woman was
180   associated with all of the selected outcomes (PTSS: OR=2.12 [1.94, 2.31]; depression: OR=1.39
181   [1.24, 1.56]; anxiety: OR=1.77 [1.59, 1.97]; perceived stress: OR=2.06 [1.85, 2.30]; insomnia:
182   OR=1.50 [1.26, 1.78]; adjustment disorder: OR=1.64 [1.45, 1.84]). Younger age was associated
183   with PTSS, depression, anxiety and perceived stress (respectively: OR=1.49 [1.39, 1.60]; 1.55
184   [1.42, 1.69]; 1.72 [1.59, 1.87]; 1.76 [1.62, 1.90]). Compared to Northern Italy, participants from
185   Southern Italy showed higher odds of all of the selected outcomes, except for ADS (PTSS:
186   OR=1.36 [1.26, 1.47]; depression: OR=1.25 [1.13, 1.37]; anxiety: OR=1.29 [1.18, 1.41];
187   perceived stress: OR=1.20 [1.10, 1.32]; insomnia: OR=1.41 [1.24, 1.62]). Being under quarantine
188   because infected or in close proximity to infected people was associated with PTSS, Anxiety and
189   ADS (respectively: OR=1.74 [1.21,2.49]; 1.52 [1.05,2.22]; 2.28 [1.44,3.61]). Having experienced
190   a stressful life event due to COVID-19, as assessed by the modified IADQ checklist, was
191   associated with all of the selected outcomes (PTSS: OR=1.46 [1.37,1.56]; depression: OR=1.58
192   [1.45,1.72]; anxiety: OR=1.64 [1.51,1.78]; perceived stress: OR=1.82 [1.68,1.97]; insomnia:
193   OR=1.58 [1.40,1.79]). OR of IADQ-Checklist on ADS was not estimated due to the perfect
194   prediction, because having an IADQ checklist event is a prerequisite for having a suspected
195   Adjustment Disorder. Working activity discontinued due to COVID-19 was associated with all of
196   the selected outcomes except for ADS (PTSS: OR=1.15 [1.05,1.27]; depression: OR=1.40
197   [1.23,1.59]; anxiety: OR=1.16 [1.03,1.31]; perceived stress: OR=1.19 [1.06,1.34]; insomnia:
198   OR=1.22 [1.03,1.46]), while working more than usual due to the COVID-19 was associated with
199   PTSS, perceived stress and ADS (respectively: OR= 1.42 [1.18,1.71]; 1.71 [1.38,2.12]; 1.39
200   [1.04,1.87]). Having a loved one deceased by COVID-19 was associated with PTSS (OR=1.68
201   [1.30,2.16]), depression (OR=1.41 [1.03,1.93]), perceived stress (OR=1.34 [1.01, 1.78], insomnia
202   (OR=1.74 [1.18, 2.54]), while having a loved one diagnosed with COVID-19 was associated with
203   PTSS (OR=1.22 [1.05, 1.42]).

204

205   **Discussion**

206   In this study, we report for the first time on the mental health outcomes related to COVID-19
207   outbreak and related lockdown measures on the general population in Italy. To the best of our
208   knowledge, this is the first study to report on mental health outcomes related to the COVID-19
209   outbreak in Europe on such a large sample size. This study shows relatively high rates of PTSS,
210   Depression, Anxiety, Insomnia, Perceived stress and ADS, with young women having higher odds
211   of endorsing a mental health outcome. These outcomes were associated with a number of COVID-
212   19-related risk factors, including being under quarantine, having a loved one deceased by COVID-
213   19, working activity discontinued due to lockdown measures, or experiencing other stressful
214   events (i.e. working, financial, relationship or housing problems) due to the pandemic or
215   lockdown measures. These findings were adjusted for previous psychiatric illness and a history of
216   childhood trauma, suggesting that the COVID-19 pandemic is exerting an independent effect on
217   the population mental health.

218

219   *Previous literature*

220   Compared to an early report on the mental health outcomes related to COVID-19 in China on
221   1210 respondents (Wang et al., 2020), we found lower rates of anxiety, similar rates of depression
222   and higher levels of perceived stress, notwithstanding differences in assessment tools. The
223   negative association with age and the positive association with female gender was confirmed,
224   suggesting that young women may be at heightened risk for mental disorders. Compared to
225   another large web-based survey from China on 52730 respondents that evaluated peritraumatic

226   stress-related symptoms, we found similar rates of PTSS (Qiu et al., 2020). Another study on 285
227   participants from hardest-hit Hubei province found substantially lower rates of PTSS, around 7%
228   (Liu et al., 2020). Such disparities could be due to different assessment tools used and differences
229   in sample size. A study on 7143 medical students in China (Cao et al., 2020) found severe anxiety
230   rates, assessed as GAD≥15, to be 0.9%, compared to our 20.9%. This inconsistence could be due
231   to the particular population investigated, having a high education level. Indeed, higher education
232   was associated with better outcomes in our study. Furthermore, cultural, social and health care
233   system differences between China and Italy could explain differences in reported mental health
234   outcomes.

235   Coherently with previous reports from China, female gender (Liu et al., 2020; Qiu et al., 2020;
236   Wang et al., 2020) and younger age (Qiu et al., 2020; Wang et al., 2020) were consistently
237   associated with higher risk for different mental health outcomes. If confirmed in other populations
238   worldwide, these findings could be of great importance for subsequent intervention strategy for
239   global mental health related to COVID-19.

240   *Relevance*

241   Monitoring populations' mental health is critical during a pandemic, as generalized fear and fear-
242   induced over-reactive behaviour among the public could impede infection control (Dong and
243   Bouey, 2020). Further, the current strict lockdown measures and the home confinement of
244   unknown duration represent an unprecedented stressful event potentially leading to significant
245   long-term health costs. Epidemiological monitoring and targeted intervention should be therefore
246   timely implemented to prevent further mental health problems. Indeed, once the outbreak will be
247   over, its negative socio-economic consequences may have a detrimental effect on the population's
248   mental health, as suggested by our finding of an heightened risk of mental health issues due to
249   COVID-19 related working difficulties and by earlier studies related to the last economic crisis
250   (Wahlbeck et al., 2011).

251

252   *Limitations and future directions*

253   This study has some important limitations due to the sampling technique. Relying on social
254   networks voluntary recruitment and re-sharing could have introduced an important selection bias,
255   firstly excluding people not on social networks, and secondly introducing a self-selection bias, as
256   suggested by the highly unbalanced gender ratio observed. This latter bias could have affected
257   also two other large web-based surveys in China, that reported on samples with a 64.7% and
258   67.3% proportion of woman (Qiu et al., 2020; Wang et al., 2020). For these reasons, rates of
259   mental health outcomes should be interpreted with caution. Secondly, this survey was based on
260   self-report instruments that could introduce a systematic bias and return different rates compared
261   to interview-based measures.

262   This study has also several strengths, including a very large sample size and the sampling
263   timeframe that corresponded to the pandemic peak in Italy.

264   Future studies will need to monitor the trajectory of mental health outcomes, in order to define
265   mental health interventions at a population level.

266

267   **Conclusions**

268   We found high rates of negative mental health outcomes in the Italian general population three to
269   four weeks into the COVID-19 pandemic and lockdown measures. COVID-19 related factors
270   were associated with these outcomes independently from previous mental illness or childhood
271   trauma. These findings warrant further monitoring on the Italian population's mental health and
272   could serve to inform structured interventions in order to mitigate the impact on mental health of
273   the outbreak.

274

275   **Authors contribution**

276   Conceptualization: RR, VS, FP, GDL; Methodology: RR; Formal Analysis: RR; Data Curation:
277   RR, SM, GDL; Writing - Original Draft: RR, VS; Writing - Review & Editing: RR, VS, DT,
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284   **Conflicts of interests**

285   The authors have no conflict of interest to disclose.

286   **Contribution to the field**

287   The COronaVIrus Disease 2019 (COVID-19) pandemic is a global health emergency that could
288   potentially have a serious impact on public health, including mental health. The psychological
289   impact of the COVID-19 outbreak and related lockdown measures among the Italian population
290   are unknown. In this web-based study, we report for the first time on the psychological impact of
291   COVID-19 outbreak on the general population in Italy. This study shows high rates of post-
292   traumatic symptoms, Depression, Anxiety, Insomnia, Perceived stress and Adjustment Disorder
293   associated with a number of COVID-19-related risk factors. This study represents the first
294   European report on mental health in the time of the COVID-19, and it could have a strong impact
295   on subsequent research and clinical intervention strategy for global mental health related to
296   COVID-19.

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360

361 **Table 1. Demographic characteristics and rates of mental health outcomes in the sample**

	Total	North	Centre	South
	No. / Median (% / IQR)	*No. / Median (% / IQR)*	*No. / Median (% / IQR)*	*No. / Median (% / IQR)*
Age	38 (23)	38 (23)	38 (24)	38 (31)
Gender				
Women	14207 (79.5)	6310 (79)	3729 (79.4)	4168 (80.6)
Men	3653 (20.5)	1681 (21)	966 (20.6)	1006 (19.4)
Education				
≤Undergraduate	8538 (47.8)	3770 (47.2)	2243 (47.8)	2525 (48.8)
≥Postgraduate	7674 (43)	3411 (42.7)	2112 (45)	2151 (41.6)
Lower education	1649 (9.2)	810 (10.1)	340 (7.2)	499 (9.6)
Occupation				
Housewife	1139 (6.4)	367 (4.6)	244 (5.2)	528 (10.2)
Unemployed	2094 (11.7)	793 (9.9)	484 (10.3)	817 (15.8)
Employed	10881 (60.9)	5349 (66.9)	2867 (61.1)	2665 (51.5)
Retired	291 (1.6)	124 (1.6)	77 (1.6)	90 (1.7)
Student	3456 (19.3)	1358 (17)	1023 (21.8)	1075 (20.8)
Currently on Quarantine	141 (0.8)	101 (1.3)	21 (0.5)	19 (0.4)
Working activity change				
As usual	2320 (13.5)	977 (12.6)	633 (14)	710 (14.5)
Smart-working	6688 (38.9)	3088 (39.9)	1847 (40.9)	1753 (35.7)
Discontinued	7500 (43.7)	3347 (43.2)	1870 (41.4)	2283 (46.5)
More than usual	665 (3.9)	335 (4.3)	168 (3.7)	162 (3.3)
Loved one's status				
None	16312 (91.8)	6987 (87.6)	4431 (94.7)	4894 (95.5)
Infected	789 (4.4)	519 (6.5)	139 (3)	131 (2.6)
Deceased	253 (1.4)	183 (2.3)	30 (0.6)	40 (0.8)
Hospitalized	424 (2.4)	284 (3.6)	80 (1.7)	60 (1.2)
GPS PTSS≥3	6604 (37)	2876 (36)	1560 (33.2)	2168 (41.9)
PHQ ≥15	3084 (17.3)	1349 (16.9)	703 (15)	1032 (20)
GAD ≥15	3700 (20.8)	1613 (20.2)	854 (18.3)	1233 (23.9)
ISI ≥22	1301 (7.3)	542 (6.8)	280 (6)	479 (9.3)
PSS 75th percentile	3895 (21.8)	1720 (21.5)	918 (19.6)	1257 (24.3)
ADS	4092 (22.9)	1900 (23.8)	1032 (22)	1160 (22.4)

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363 GPS: Global Psychotrauma Screen; PHQ: Patient Health Questionnaire; GAD: Generalized Anxiety Disorder scale; ISI: Insomnia severity Index; PSS:
Perceived Stress Scale; ADS: Adjustment Disorder Symptom; IQR: Interquartile range.

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Table 2: Seemingly Unrelated Logistic Regression

	PTSS OR [95%CI]	Depression OR [95%CI]	Anxiety OR [95%CI]	Perceived Stress OR [95%CI]	Insomnia OR [95%CI]	ADS OR [95%CI]
Age[§]	1.49*** [1.39,1.60]	1.55*** [1.42,1.69]	1.72*** [1.59,1.87]	1.76*** [1.62,1.90]	1.01 [0.97,1.05]	1.05 [0.75,1.47]
Gender						
Men	1.00 (ref)					
Women	2.12*** [1.94,2.31]	1.39*** [1.24,1.56]	1.77*** [1.59,1.97]	2.06*** [1.85,2.30]	1.50*** [1.26,1.78]	1.64*** [1.45,1.84]
Region						
North	1.00 (ref)					
Centre	0.93 [0.86,1.01]	0.87* [0.78,0.97]	0.90* [0.82,1.00]	0.90* [0.82,0.99]	0.9 [0.77,1.05]	0.91 [0.81,1.02]
South	1.36*** [1.26,1.47]	1.25*** [1.13,1.37]	1.29*** [1.18,1.41]	1.20*** [1.10,1.32]	1.41*** [1.24,1.62]	0.95 [0.85,1.06]
COVID-19-Related Stressful Event	1.46*** [1.37,1.56]	1.58*** [1.45,1.72]	1.64*** [1.51,1.78]	1.82*** [1.68,1.97]	1.58*** [1.40,1.79]	n.a. n.a.
Currently On Quarantine	1.74** [1.21,2.49]	1.49 [0.98,2.26]	1.52* [1.05,2.22]	1.42 [0.97,2.07]	1.23 [0.69,2.18]	2.28*** [1.44,3.61]
Working Activity Change						
As Usual	1.00 (ref)					
Smart-Working	1.01 [0.91,1.12]	0.99 [0.86,1.14]	0.97 [0.85,1.10]	1.02 [0.90,1.15]	0.9 [0.74,1.10]	1.07 [0.91,1.25]
Discontinued	1.15** [1.05,1.27]	1.40*** [1.23,1.59]	1.16* [1.03,1.31]	1.19** [1.06,1.34]	1.22* [1.03,1.46]	1.1 [0.95,1.28]
More Than Usual	1.42*** [1.18,1.71]	1.26 [0.98,1.63]	1.25 [1.00,1.57]	1.71*** [1.38,2.12]	1.29 [0.93,1.80]	1.39* [1.04,1.87]
Loved One's Condition						
None	1.00 (ref)					
Infected	1.22* [1.05,1.42]	1.05 [0.87,1.28]	0.91 [0.75,1.10]	0.88 [0.73,1.05]	1.02 [0.77,1.35]	0.96 [0.79,1.17]
Deceased	1.68*** [1.30,2.16]	1.41* [1.03,1.93]	1.22 [0.91,1.65]	1.34* [1.01,1.78]	1.74** [1.18,2.54]	1.21 [0.87,1.68]
Hospitalized	1.22 [1.00,1.48]	1.09 [0.84,1.41]	1.25 [0.99,1.57]	1.1 [0.87,1.39]	1.1 [0.76,1.60]	1.16 [0.91,1.49]
In A Relationship	1.14*** [1.06,1.22]	0.92 [0.84,1.00]	1.11* [1.02,1.22]	1.11* [1.02,1.21]	1.08 [0.94,1.23]	1.07 [0.97,1.19]
Education						
≥Postgraduate	1.00 (ref)					
≤Undergraduate	1.12** [1.04,1.20]	1.30*** [1.19,1.43]	1.28*** [1.18,1.39]	1.25*** [1.15,1.36]	1.31*** [1.15,1.50]	1.05 [0.95,1.16]
Lower Education	1.25*** [1.11,1.41]	1.62*** [1.40,1.87]	1.51*** [1.32,1.74]	1.47*** [1.28,1.69]	1.76*** [1.46,2.13]	1.21* [1.01,1.44]
Occupation						
Employed	1.00 (ref)					
Housewife	1.28*** [1.11,1.47]	1.35** [1.12,1.63]	1.31** [1.11,1.55]	1.21* [1.03,1.44]	1.39** [1.11,1.74]	1.05 [0.83,1.32]
Unemployed	1.05 [0.94,1.17]	1.59*** [1.40,1.80]	1.39*** [1.23,1.57]	1.22** [1.08,1.37]	1.33** [1.12,1.58]	1.09 [0.93,1.27]
Retired	0.9 [0.66,1.22]	1.17 [0.79,1.75]	1.02 [0.69,1.51]	1.39 [0.96,2.01]	0.88 [0.52,1.48]	0.46* [0.22,0.97]
Student	0.79*** [0.71,0.88]	1.60*** [1.41,1.83]	1.02 [0.90,1.16]	1.28*** [1.13,1.44]	1.02 [0.86,1.22]	1.16 [0.84,1.62]
Childhood Trauma	1.06 [0.99,1.13]	1.41*** [1.30,1.54]	1.29*** [1.19,1.39]	1.01 [0.93,1.09]	1.50*** [1.33,1.70]	1.10* [1.01,1.21]
Prior Psychiatric Diagnosis	1.59*** [1.48,1.71]	2.19*** [2.01,2.39]	2.10*** [1.94,2.28]	1.73*** [1.59,1.87]	1.76*** [1.56,1.98]	1.25*** [1.13,1.39]

*p<0.05; **p<0.005; ***p<0.001; PTSS: Post-Traumatic Stress Symptoms; ADS: Adjustment Disorder Symptom; § Age is standardized and reversed, younger age has an OR>1 if associated with heightened risk.