

Anxiety Linked to COVID-19

Subjects: Others

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The COVID-19 pandemic has incited a rise in anxiety, with uncertainty regarding the specific impacts and risk factors across multiple populations. A qualitative systematic research was conducted to investigate the prevalence and associations of anxiety in different sample populations in relation to the COVID-19 pandemic.

Keywords: anxiety ; COVID-19 ; mental health

1. Introduction

Infectious disease outbreaks have plagued human history for millennia, with an occurrence not unknown to man, the effects of these outbreaks have eluded many. With the complexities of society, there are a plethora of ways these events may cause mental turmoil. As defined by the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), anxiety is a state of excessive fear that translates to behavioural disturbances ^[1]. Anxiety has been linked to increased ulcers, back issues, migraines, and asthma ^[2]. In extreme cases, it is an independent risk factor for heart disease ^[3]. Perpetuated by stressful environments, anxiety threatens wellbeing when worry and fear regarding real or perceived threats hijacks an individual's ability to regulate these emotions. Infectious disease outbreaks often evolve into epidemics or pandemics, which bring about financial instability, quarantine and lockdowns, social isolation, and complete disturbance of the norm. It is in this state of pandemonium that mental health deterioration may occur.

Officially declared by the World Health Organisation (WHO) as a pandemic in March 2020 ^[4], COVID-19 has transformed the way the world functions and triggered an altered perception of the effects and consequences of infectious disease. Originating in Wuhan, China, COVID-19 has spread rapidly worldwide, with 4,574,089 globally reported deaths as of September 2021 ^[4]. An epidemiological measurement called the basic reproduction number, or R_0 , is the average number of secondary cases that are derived from a single primary infection, with any number over one causing exponential infection growth ^[5]. With an average R_0 of 3.38, COVID-19 is highly transmissible ^[6]. This transmissibility has resulted in astonishing rates of infection and has placed a massive demand on hospital resources, challenging even the most established healthcare systems ^[7]. The physical manifestations of COVID-19 are apparent in the overburdened hospitals and long-lasting adverse effects of the disease. The scale of infection has been linked to psychological distress, implying something sinister may be emerging, a mental health crisis ^[8].

Past infectious disease outbreaks, such as the severe acute respiratory syndrome (SARS), swine flu (H1N1), and Ebola, have, in each case, demonstrated an increased prevalence of anxiety ^{[9][10]}. In the last two years, similar findings have been widely published regarding the COVID-19 pandemic ^[11]. A delineation between the COVID-19 pandemic and past infectious disease outbreaks are apparent through the unprecedented implementation of lockdowns, social isolation, and quarantines effecting the global populace. The Australian Bureau of Statistics (ABS) reported that the incidence of anxiety had doubled in 2020 compared to previous years ^[12]. A longitudinal study conducted in the United Kingdom (UK) stipulated that one month into lockdown orders, mental distress levels well exceeded the predicted trajectories of previous years ^[13].

As the COVID-19 pandemic is ongoing, the long-term mental health effects are not yet known ^[14]. During the SARS outbreak, a range of literature concluded that the mental health consequences of SARS were not entirely immediate and lagged in comparison to the infectious outbreak ^{[9][15][16][17]}. Psychological distress among SARS survivors displayed a 64% prevalence one year after the initial outbreak ^[9]. These results may be indicative of the effects researchers can expect from the current pandemic.

Studies exploring different population groups affected by COVID-19 have identified some common risk factors associated with a higher likelihood of developing anxiety symptoms, including: younger age groups, being female, having pre-existing mental health issues, and lower socioeconomic status (SES) populations ^{[18][19]}. The effects of COVID-19 on healthcare workers, the general population, and other vulnerable groups such as pregnant women have been well documented.

Reviews conducted on the comparison between health care workers and the general population have been extensive. However, no review comparing multiple different groups, namely, that of healthcare workers, the general population, university students, and other vulnerable groups (pregnant women, the elderly, teachers, and police) currently exists.

2. Study Characteristics

The sample size assessed in the research, derived from the total sample size of each study included in the research, was $n = 755,180$ with approximately $n = 432,944$ females, $n = 280,089$ males, and $n = 42,147$ participants that identified as other or did not report their sex. The age range of individuals within the included papers was 18–100 years and encompassed participants from 32 countries, with the highest number of studies originating from China (26/87 studies). The majority of studies were cross-sectional in design (70 studies), followed by longitudinal studies (13 studies), cohort studies (3 studies), and one case-control. All studies utilised validated psychometric measures, with the most common measure being the generalised anxiety disorder (GAD) 7 item scale [20] (43 studies). Other psychometric measures utilised included the Depression Anxiety Stress Scale (DASS) [21], the Patient Health Questionnaire (PHQ) [22], and the State-Trait Anxiety Inventory (STAI) [23]. Key differences in these measures are the extent to which anxiety is assessed, with measures such as the GAD and STAI focusing on generalised anxiety disorder only and state-related anxiety, respectively. Measures such as the DASS and PHQ evaluate other mental health symptoms relating to stress and depression, and anxiety symptoms. A summary of the study characteristics and anxiety prevalence is detailed in **Table 1**.

Table 1. Characteristics and anxiety prevalence of the selected studies.

Reference	Study Design	Population Type	Country	Sample Size	Assessment Tools	Prevalence of Anxiety (%)
Aharon et al., 2020 [24]	Cross-sectional	General population	Israel and Italy	1015	PHQ-4, SF-8	50.2% of Italian and 42.2% of Israelis
Albagmi et al., 2012 [25]	Cross-sectional	General population	Saudi Arabia	3017	GAD-7	80% (mild), 11.4% (moderate), 8.2% (severe)
Alshekaili et al., 2020 [26]	Cross-sectional	Healthcare workers	Oman	1139	DASS-21	34.1%
Antonijevic et al., 2020 [27]	Cross-sectional	Healthcare workers	Serbia	1678	GAD-7	43.31% (minimal), 30.9% (mild), 12.99% (moderate), 12.8% (severe).
Ausin et al., 2020 [28]	longitudinal	General population	Spain	1041	GAD-2	N/A
Batterham et al., 2021 [29]	longitudinal	General population	Australia	1296	GAD-7, PHQ-9	77%
Bendau et al., 2020 [11]	Longitudinal	General population	Germany	2376	GAD-2, PHQ-4	N/A
Budimir et al., 2021 [30]	Cross-sectional	General population	Austria and UK	2011	GAD-7	18.9% UK and 6% Austria
Cai et al., 2020 [31]	case-control	Healthcare workers	China	2346	BAI	Frontline 15.7%, non-frontline 7.4%
Canet-Juric et al., 2020 [32]	longitudinal	General population	Argentina	6057	STAI	N/A
Cao et al., 2020 [33]	Cluster Sampling	University Students	China	7143	GAD-7	Mild (21.3%), moderate (2.7%), severe (0.9%)
Chen et al., 2021 [34]	Cross-sectional	General population (quarantined)	China	1837	STAI	16.3%
Chew et al., 2020 [35]	Cross-sectional	Healthcare workers	India, Indonesia, Singapore, Malaysia and Vietnam	1146	DASS-21	India (0.8%), Singapore (3.6%), Vietnam (6.7%), Indonesia (6.8%) and Malaysia (14.9%)

Reference	Study Design	Population Type	Country	Sample Size	Assessment Tools	Prevalence of Anxiety (%)
Dawel et al., 2020 ^[36]	longitudinal	General population	Australia	1296	GAD-7, PHQ-9, WHO-5	N/A
Denning et al., 2021 ^[37]	Cross-sectional	Healthcare workers	UK, Poland and Singapore	3537	HADS	20%
Di Blasi et al., 2021 ^[38]	longitudinal	General population	Italy	1129	DASS-21	N/A
Di Giuseppe et al., 2020 ^[39]	Cross-sectional	General population	Italy	5683	SCL-90	51.1%
Di Mattei et al., 2021 ^[40]	Baseline assessment	Healthcare workers	Italy	1055	DASS-21	69.4%
Fiorillo et al., 2020 ^[41]	longitudinal	General population	Italy	20,720	DASS-21, GHQ	Moderate (16.7%) and severe or extremely severe (17.6%)
Fisher et al., 2020 ^[42]	Cross-sectional	General Population	Australia	13,829	GAD-7, PHQ-9	21%
Fu et al., 2020 ^[43]	Cross-sectional	General population	China	1242	GAD-7, PHQ-9	27.6%
Fu et al., 2021 ^[44]	Cross-sectional	University students	China	89,588	GAD-7	41.1%
Gainer et al., 2021 ^[45]	Cross-sectional	Healthcare workers	US	1724	GAD-7, PHQ-9	36.5%
Garcia-Fernandez et al., 2020 ^[46]	Cross-sectional	Elderly population	Spain	1639	HARS	N/A
Garcia-Fernandez et al., 2020 ^[47]	Cross-sectional	General population	Spain	1635	HARS	N/A
Giardino et al., 2020 ^[48]	Cross-sectional	Healthcare workers	Argentina	1059	DASS-18	76.5%
Gundogmus et al., 2021 ^[49]	longitudinal	Healthcare Workers	Turkey	2460	DASS-21	29.6%
Hacimusalar et al., 2020 ^[50]	Cross-sectional	Healthcare, non-healthcare	Turkey	2156	STAI	89.5%
Halperin et al., 2021 ^[51]	Cross-sectional	University students	US	1428	GAD-7, PHQ-9	30.6%
Hammarberg et al., 2020 ^[52]	Cross-sectional	General population	Australia	13,762	GAD-7	21.8% females, 14.2% males
Hassannia et al., 2021 ^[53]	Cross-sectional	Healthcare workers and general population	Iran	2045	HADS	65.6%
He et al., 2021 ^[54]	Cross-sectional	Healthcare workers	China	1971	GAD-7	29.3%
Hennein et al., 2021 ^[55]	Cross-sectional	Healthcare workers	US	1092	GAD-7	15.6%
Huang et al., 2021 ^[56]	Cross-sectional	Healthcare workers	Singapore	1638	GAD-7	12.5%
Islaml et al., 2020 ^[57]	Cross-sectional	University students	Bangladesh	3122	DASS-21	Mild anxiety (71.5%), moderate (63.6%), severe (40.3%) and very severe (27.5%).
Jacques-Avino et al., 2020 ^[58]	Cross-sectional	General population	Spain	7053	GAD-7	31.2% females, 17.7% males

Reference	Study Design	Population Type	Country	Sample Size	Assessment Tools	Prevalence of Anxiety (%)
Jia et al., 2020 ^[59]	Cross-sectional	General population	UK	3097	GAD-7	57% (26% moderate to severe anxiety)
Jiang et al., 2020 ^[60]	Cross-sectional	General population	China	60,199	SAI	Mild (33.21%), moderate (41.27%) and severe (22.99%).
Johnson et al., 2021 ^[61]	longitudinal	Parents	Norway	2868	GAD-7	N/A
Kantor and Kantor, 2020 ^[62]	Cross-sectional	General population	US	1005	GAD-7	52.1% mild, 26.8% anxiety disorder
Karaivazoglou et al., 2021 ^[63]	Cross-sectional	General population	Greece	1443	HADS	20%
Khubchandani et al. 2021 ^[64]	Cross-sectional	General population	US	1978	GAD-2, PHQ-4	42%
Kim et al., 2021 ^[65]	longitudinal	University Students	US	8613	GAD	No significant changes were found in the rates of anxiety from before the pandemic.
Lai et al., 2020 ^[66]	Cross-sectional	Healthcare workers	China	1257	GAD-7	44.6%
Lei et al., 2020 ^[67]	Cross-sectional	General population	China	1593	SAS	8.3%
Li et al., 2020 ^[68]	Cross-sectional	Teachers	China	88,611	GAD-7	13.67%
Li et al., 2021 ^[69]	Cross-sectional	General population	China	1201	DASS-21	34.2%
Liu et al., 2021 ^[70]	Cross-sectional	Healthcare workers	China	1090	GAD-7	13.3%
Liu et al., 2020 ^[71]	Cross-sectional	Healthcare workers (paediatric)	China	2031	DASS-21	18.3%
Lu et al., 2020a ^[72]	Cross-sectional	General population and frontline workers	China	1417	GAD-7	52.1% of the general public and 56% of frontline workers
Lu et al., 2020b ^[73]	Cross-sectional	Healthcare workers	China	2299	HAMA	22.6% of medical staff showed mild to moderate anxiety and 2.9% were severe
Luceno-Moreno et al., 2020 ^[74]	Cross-sectional	Healthcare workers	Spain	1422	HADS	58.6% healthcare workers presented with an anxiety disorder.
Mattila et al., 2020 ^[75]	Cross-sectional	Healthcare workers	Finland	1995	GAD-7	30% mild anxiety, 10% moderate and 5% severe anxiety.
Meesala et al., 2021 ^[76]	Cross-sectional	General population	India	1346	CAS-7	N/A
Mosheva et al., 2020 ^[77]	Cross-sectional	Healthcare workers	Israel	1106	PROMIS	52.8%
Ngoc Cong Duong et al., 2020 ^[78]	Cross-sectional	General population	Vietnam	1385	DASS-21	14.1%
Nkire et al., 2021 ^[79]	Cross-sectional	General population	Canada	6041	GAD-7	46.7%
Odriozola-Gonzalez et al., 2020 ^[80]	Cross-sectional	University students and workers.	Spain	2530	DASS-21, IES	21.34%

Reference	Study Design	Population Type	Country	Sample Size	Assessment Tools	Prevalence of Anxiety (%)
Ozamiz-Etxebarria et al., 2021 ^[81]	Cross-sectional	Teachers	Spain	1633	DASS-21	49.5% (8.1% extreme severe and 7.6% severe)
Ozamiz-Etxebarria et al., 2020 ^[82]	longitudinal	General population	Spain	1933	DASS-21	26.9%
Pandey et al., 2020 ^[83]	Cross-sectional	General population	India	1395	DASS-21	Anxiety prevalence was 22.4% in the second week and 26.6% in the third week of lockdowns
Passavanti et al., 2021 ^[84]	Cross-sectional	General population	Australia, Iran, China, Ecuador, Italy, Norway and the US	1612	DASS-21	44.7% (5.2% mild, 17.4% moderate, 5.8% severe and 16.3% extremely severe).
Pieh et al., 2021 ^[85]	Cross-sectional	General population	UK	1006	GAD-7	39%
Peih et al., 2020 ^[86]	Cross-sectional	General population	Austria	1005	GAD-7	19%
Planchuelo-Gomez et al., 2020 ^[87]	longitudinal	General population	Spain	4724	DASS-21	49.66%
Robb et al., 2020 ^[88]	Cross-sectional	Elderly population	UK	7127	HADS	N/A
Rossi et al., 2020 ^[89]	Cross-sectional	Healthcare workers and general population	Italy	24,050	GAD-7	21.25% in the general population, 18.05% in second line healthcare workers and 20.55% in frontline workers.
Ruengorn et al., 2020 ^[90]	Cross-sectional	General population	Thailand	2303	GAD-7	56.9%
Serafim et al., 2021 ^[91]	Cross-sectional	General population	Brazil	3000	DASS-21	39.7%
Shen et al., 2020 ^[92]	Cross-sectional	Healthcare Workers	China	1637	SAS	10.02%
Sinawi et al., 2021 ^[93]	Cross-sectional	General Population	Oman	1538	GAD-7	22%
Solomou et al., 2020 ^[94]	Cohort study	General population	Cyprus	1642	GAD-7	41% mild, 23.1% moderate-severe
Sun et al., 2021 ^[95]	Cross-sectional	University Students	China	1912	GAD-7	34.73%
Tang et al., 2020 ^[96]	Cross-sectional	General population	China	1389	GAD-7	70.78%
Van der Velden et al., 2020 ^[97]	Longitudinal	General population	Holland	3983	GAD-7	No significant anxiety found
Wang et al., 2021a ^[98]	Case-control	General population	China	1674	ADS	27% in quarantined, 11.2% in general population
Wang et al., 2021b ^[99]	Cross-sectional	Healthcare workers	China	1063	GAD-7	48.7% in patients, 25.7% general population, 13.3% healthcare
Wang et al., 2020 ^[100]	Cross-sectional	General, covid and health	China	49,015	DASS-21	10.02%
Wanigasooriya et al., 2021 ^[101]	Cross-sectional	Healthcare workers	UK	2638	PHQ-4	34.31%

Reference	Study Design	Population Type	Country	Sample Size	Assessment Tools	Prevalence of Anxiety (%)
Warren et al., 2021 ^[102]	Cross-sectional	General population	United States	5023	PHQ-4	14.4%
Wathelet et al., 2020 ^[103]	Cross-sectional	University Students	France	69,054	STAI	27.47%
Wu et al., 2020 ^[104]	Cross-sectional	General population	China	24,789	STAI	51.6%
Yuan et al., 2020 ^[105]	Cross-sectional	Police	China	3517	HADS	8.79%
Zhang et al., 2020a ^[106]	Cross-sectional	Healthcare workers	China	2143	GAD-7	14.23%
Zhang et al., 2020b ^[107]	Cross-sectional	General population	China	123,768	GAD-7	3.4%
Zhou et al., 2020 ^[108]	Cross-sectional	Healthcare workers	China	1705	SAS	45.4%
Zilver et al., 2021 ^[109]	Cohort study	Pregnant women	Holland	1466	GAD-7	19.5%

Key: GAD-7, Generalised Anxiety Disorder—7 Item Scale; DASS-21, Depression Anxiety Stress Scale—21 Item; PHQ-4, Patient Health Questionnaire—4 Item; SAS, Self-Rating Anxiety Scale; HARS, Hamilton Anxiety Rating Scale; SCL-90, Symptom Checklist—90 Item; CAS, Coronavirus Anxiety Scale; PROMIS, Patient-Reported Outcomes Measurement Information System; STAI, State-Trait Anxiety Inventory; HADS, Hospital Anxiety and Depression Scale.

3. The General Population Group

The general population was the most common group studied amongst the studies included in the research, with 47 papers focusing on anxiety assessment. The 47 papers comprised of a sample size of $n = 421,598$ participants, with $n = 208,675$ females, $n = 178,187$ males, and $n = 34,736$ other or sex not reported. The prevalence of anxiety ranged from 3.4–97.47% across the 47 study populations. The overall pooled anxiety prevalence was 34%, although eight studies did not directly report the prevalence of anxiety in their populations.

Amongst the general population, three studies ^{[24][36][86]} demonstrated that the prevalence of anxiety during the COVID-19 pandemic had risen when compared to data from preceding years; that is, in 2017 anxiety rates were 6%, but after the pandemic hit, this figure inflated to 19% ^[86]. Conversely, Velden (2020) reported no significant increase in the prevalence of anxiety in a before and after study comparing mental health rates in 2019 and 2020 ^[97]. However, the authors did note that despite an absence of an increase in anxiety, the risk factors predisposing participants to mental distress had changed since the onset of the pandemic, leaving students, job seekers, those with children, and those who housekeep more at risk in 2020 compared to the previous year.

Geographical locations that were identified as COVID-19 epicentres had higher instances of anxiety compared to non-epicentre areas ^{[24][25][32][39][69][78][107]}. Moreover, COVID-19 prevalent areas that exemplified elevated testing rates reported decreased anxiety ^[96]. Those with increased contact with COVID-19 infected individuals exhibited stronger associations with anxiety ^{[42][84][91]}, especially if the individual was exposed to COVID-19 in a working environment such as healthcare ^{[53][64]}. Populations infected with COVID-19 expressed more anxiety than those who were not infected ^{[41][53][58][99]}. Job loss or financial hardship due to COVID-19 was often a predictor or factor for worse anxiety ^{[36][90]}.

Quarantine and lockdown orders proved detrimental to mental health, as demonstrated in ten studies ^{[24][34][39][42][79][82][83][96][98]}, with increased loneliness and isolation being the cause of significant increases in anxiety. In an Australian longitudinal study ^[29], there was a 23% increase in anxiety over a 12-week restriction period. Quarantining alone resulted in lower anxiety than people isolating with elderly dependents ^[32]. Three studies concluded that anxiety levels in populations decreased when rules were eased or when participants were exempted from participating in quarantines ^{[11][32][72]}.

Certain demographic groups were identified as having a higher prevalence of anxiety or being more at risk of developing adverse mental health issues. Twenty-two studies found that females consistently had higher levels of anxiety than males ^{[11][25][28][29][30][32][36][38][59][60][62][72][76][79][83][85][89][91][93][99][102][107]}. However, two studies found that males were more

anxious when living with dependents under 18 [47][58] and that younger males had higher instances of anxiety [53]. One study reported that males had higher rates of anxiety than females overall [104]. Two studies [79] and [98] did not delineate any significant differences between the sexes. Five studies reported that lower socioeconomic status was representative of greater anxiety [34][42][64][67][98]. Prior mental illness was also a contributing factor for worse mental health after COVID-19 [36][41][60][62][94]. Younger age groups displayed more anxiety than older age groups in sixteen studies [25][29][34][36][39][42][58][59][82][83][86][91][94][98][99].

Contrastingly, four studies identified an opposite trend, with elderly and older populations experiencing more anxiety than younger groups [43][76][79][87]. Six studies identified having a higher education being associated with worse anxiety [30][34][44][63][64][98], while two studies identified that lower education equated to increased anxiety [83][94]. Living alone or remotely and being unemployed were influences on increased anxiety [42][62][86][94]. Conversely, Fu and colleagues (2020) indicated that living in a city may be predictive of worse mental health [43]. Two studies reported no difference in anxiety levels between different demographics, including sex, age, education, or socioeconomic status [84][89].

4. Healthcare Worker Group

Healthcare workers constituted the subject of 25 of the 87 studies included in this research, with a total sample size of 43,387 participants. This sample consisted of $n = 32,185$ females, $n = 9675$ males, and $n = 1527$ participants who identified as other. The prevalence of anxiety ranged from 13.3%–100% in all study populations, with a pooled prevalence of 36%.

Five studies found that the prevalence of anxiety was higher in healthcare workers than in other professions, and this included clinical, non-clinical, and administrative healthcare workers [27][37][75][77][108]. A greater prevalence of anxiety was found in frontline healthcare responders compared to second-line or non-COVID-19 healthcare workers, and this was highlighted in twelve papers [26][27][31][40][45][48][50][66][71][73][106][110]. This was further endorsed, as healthcare staff not working in COVID-19 epicentres scored lower for anxiety [54]. Amongst clinical healthcare workers, more studies found that nurses suffered to a greater level from anxiety than physicians [50][66][70][92]. However, this was countered by Lie and colleagues [71], where it was found that physicians displayed more anxiety-like symptomology than nurses. Non-clinical healthcare workers, such as administrative staff and clerks, scored higher on anxiety psychometric measurements than clinical staff [35][48][55]. One study contradicted this, suggesting that anxiety in clinical staff was more significant than that that observed in non-clinical staff [73].

A lack of resources, including testing equipment and personal protective equipment (PPE), increased the likelihood of anxiety symptoms amongst hospital staff [101][110]. Additional anxiety was promoted by the worry of infecting family members with COVID-19 or being infected themselves [66][74], hence there was a strong association between job risk and anxiety [92]. Hacimusalar and colleagues found that situational anxiety was much higher in healthcare staff, whereas general anxiety was more common in the broader population [50]. During subsequent waves of COVID-19 infection, anxiety levels worsened among healthcare workers [49]. The increased demand in working hours exposed healthcare workers, both clinical and non-clinical, to be more at risk [71][110]. The occurrence of medical violence during peak COVID-19 periods also exacerbated mental health conditions. In ten studies, females were found to have increased levels of anxiety [35][45][48][54][66][74][92][101][106][110]. Five papers reported that younger healthcare workers such as trainees experienced more anxiety than older workers [45][48][66][70][110], but others reported that older healthcare workers were the more affected group [54][55][106]. The existence of a prior mental health illness or living alone were also reported as significant risk factors [55][70][101].

5. University Students

Eight papers focused on the prevalence of anxiety in university students [33][44][51][57][65][80][95][103]. The total sample size of the student group was $n = 183,390$, with $n = 113,504$ females, $n = 64,114$ males, and $n = 2772$ participants who identified as other. The prevalence of anxiety ranged from 0–71.5% in all study populations, with the pooled prevalence being 34.7%.

Islaml and colleagues (2020) reported that anxiety amongst university students had worsened compared to pre-pandemic rates and with the duration of lockdowns. Conversely, Kim et al., (2021) reported no significant changes in anxiety throughout lockdowns [65]. Two papers denoted adverse anxiety related to worry about academics and dissatisfaction with COVID-19 distance learning measures [33][57]. The impact of restrictions on daily life was proven detrimental to anxiety symptoms [33][80]. The implications of lockdowns resulted in increased loneliness and lack of social support, and both of these factors were uncovered to be responsible for a rapid increase in clinical anxiety scores [33][43]. Although restrictive

orders caused some populations to experience more anxiety, another study showed that self-efficacy as a result of isolation decreased anxiety [95]. Living in a COVID-19 hotspot or personally knowing an infected person were predictors of higher anxiety [51][103]. Sun and colleagues (2021) found that the threat of being infected with COVID-19 and the stigma associated with that caused university students to be more anxious about contracting the infection [95]. Being exposed to more news and to COVID-19 related social media was strongly associated with worsened anxiety [95][103]. Financial instability caused by the pandemic was a significant factor for increased anxiety in four studies [33][44][95][103]. Further, residing with more than five family members was also predictive of anxiety [51]. Five studies identified female students as having higher scores of anxiety compared to male students [44][51][95][103]. Two studies found that postgraduate students aged in their mid-to-late 20s had higher levels of anxiety when compared to undergraduates [44][57]. This was opposed by Odriozola-Gonzalez and colleagues (2020), where it was established that undergraduate students were more anxious than postgraduates [80].

References

1. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders: DSM-5; American Psychiatric Publishing, Inc.: Arlington, VA, USA, 2013.
2. Niles, A.N.; Dour, H.J.; Stanton, A.L.; Roy-Byrne, P.P.; Stein, M.B.; Sullivan, G.; Sherbourne, C.D.; Rose, R.D.; Craske, M.G. Anxiety and depressive symptoms and medical illness among adults with anxiety disorders. *J. Psychosom. Res.* 2015, 78, 109–115.
3. Roest Annelieke, M.; Martens Elisabeth, J.; de Jonge, P.; Denollet, J. Anxiety and Risk of Incident Coronary Heart Disease. *J. Am. Coll. Cardiol.* 2010, 56, 38–46.
4. WHO. WHO Coronavirus (COVID-19) Dashboard. Available online: <https://covid19.who.int/> (accessed on 15 August 2021).
5. Locatelli, I.; Trächsel, B.; Rousson, V. Estimating the basic reproduction number for COVID-19 in Western Europe. *PLoS ONE* 2021, 16, e0248731.
6. Alimohamadi, Y.; Taghdir, M.; Sepandi, M. Estimate of the Basic Reproduction Number for COVID-19: A Systematic Review and Meta-analysis. *J. Prev. Med. Public Health* 2020, 53, 151–157.
7. Liu, C.-Y.; Yang, Y.-Z.; Zhang, X.-M.; Xu, X.; Dou, Q.-L.; Zhang, W.-W.; Cheng, A.S.K. The prevalence and influencing factors in anxiety in medical workers fighting COVID-19 in China: A cross-sectional survey. *Epidemiol. Infect.* 2020, 148, 1–17.
8. Rajkumar, R.P. COVID-19 and mental health: A review of the existing literature. *Asian J. Psychiatry* 2020, 52, 102066.
9. Lee, A.M.; Wong, J.G.W.S.; McAlonan, G.M.; Cheung, V.; Cheung, C.; Sham, P.C.; Chu, C.-M.; Wong, P.-C.; Tsang, K.W.T.; Chua, S.E. Stress and psychological distress among SARS survivors 1 year after the outbreak. *Can. J. Psychiatry* 2007, 52, 233–240.
10. Lehmann, M.; Bruenahl, C.A.; Addo, M.M.; Becker, S.; Schmiedel, S.; Lohse, A.W.; Schramm, C.; Lowe, B. Acute Ebola virus disease patient treatment and health-related quality of life in health care professionals: A controlled study. *J. Psychosom. Res.* 2016, 83, 69–74.
11. Bendau, A.; Plag, J.; Kunas, S.; Wyka, S.; Strohle, A.; Petzold, M.B. Longitudinal changes in anxiety and psychological distress, and associated risk and protective factors during the first three months of the COVID-19 pandemic in Germany. *Brain Behav.* 2021, 11, e01964.
12. ABS. Labour Force, Australia. Available online: <https://www.abs.gov.au/statistics/labour/employment-and-unemployment/labour-force-australia/jul-2020> (accessed on 3 September 2021).
13. Pierce, M.; Hope, H.; Ford, T.; Hatch, S.; Hotopf, M.; John, A.; Kontopantelis, E.; Webb, R.; Wessely, S.; McManus, S.; et al. Mental health before and during the COVID-19 pandemic: A longitudinal probability sample survey of the UK population. *Lancet Psychiatry* 2020, 7, 883–892.
14. Wu, T.; Jia, X.; Shi, H.; Niu, J.; Yin, X.; Xie, J.; Wang, X. Prevalence of mental health problems during the COVID-19 pandemic: A systematic review and meta-analysis. *J. Affect. Disord.* 2021, 281, 91–98.
15. Chen, R.; Chou, K.-R.; Huang, Y.-J.; Wang, T.-S.; Liu, S.-Y.; Ho, L.-Y. Effects of a SARS prevention programme in Taiwan on nursing staff's anxiety, depression and sleep quality: A longitudinal survey. *Int. J. Nurs. Stud.* 2006, 43, 215–225.
16. Lancee, W.J.; Maunder, R.G.; Goldbloom, D.S. Prevalence of Psychiatric Disorders Among Toronto Hospital Workers One to Two Years After the SARS Outbreak. *Psychiatr. Serv.* 2008, 59, 91–95.

17. Mak, I.W.C.; Chu, C.M.; Pan, P.C.; Yiu, M.G.C.; Chan, V.L. Long-term psychiatric morbidities among SARS survivors. *Gen. Hosp. Psychiatry* 2009, 31, 318–326.
18. Bohlken, J.; Kostev, K.; Riedel-Heller, S.; Hoffmann, W.; Michalowsky, B. Effect of the COVID-19 pandemic on stress, anxiety, and depressive disorders in German primary care: A cross-sectional study. *J. Psychiatr. Res.* 2021, 143, 43–49.
19. Daly, M.; Sutin, A.R.; Robinson, E. Longitudinal changes in mental health and the COVID-19 pandemic: Evidence from the UK Household Longitudinal Study. *Psychol. Med.* 2020, 1, 1–10.
20. Williams, N. The GAD-7 questionnaire. *Occup. Med.* 2014, 64, 224.
21. Moher, D.; Liberati, A.; Tetzlaff, J.; Altman, D.G. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Med.* 2009, 6, e1000097.
22. Sun, Y.; Fu, Z.; Bo, Q.; Mao, Z.; Ma, X.; Wang, C. The reliability and validity of PHQ-9 in patients with major depressive disorder in psychiatric hospital. *BMC Psychiatry* 2020, 20, 474.
23. Marteau, T.M.; Bekker, H. The development of a six-item short-form of the state scale of the Spielberger State–Trait Anxiety Inventory (STAI). *Br. J. Clin. Psychol.* 1992, 31, 301–306.
24. Aharon, A.A.; Dubovi, I.; Ruban, A. Differences in mental health and health-related quality of life between the Israeli and Italian population during a COVID-19 quarantine. *Qual. Life Res. Int. J. Qual. Life Asp. Treat. Care Rehabil.* 2021, 30, 1675–1684.
25. Albagmi, F.M.; AlNujaidi, H.Y.; Al Shawan, D.S. Anxiety Levels Amid the COVID-19 Lockdown in Saudi Arabia. *Int. J. Gen. Med.* 2021, 14, 2161–2170.
26. Alshekaili, M.; Hassan, W.; Al Said, N.; Al Sulaimani, F.; Jayapal, S.K.; Al-Mawali, A.; Chan, M.F.; Mahadevan, S.; Al-Adawi, S. Factors associated with mental health outcomes across healthcare settings in Oman during COVID-19: Frontline versus non-frontline healthcare workers. *BMJ Open* 2020, 10, e042030.
27. Antonijevic, J.; Binic, I.; Zikic, O.; Manojlovic, S.; Tosic-Golubovic, S.; Popovic, N. Mental health of medical personnel during the COVID-19 pandemic. *Brain Behav.* 2020, 10, e01881.
28. Ausín, B.; González-Sanguino, C.; Castellanos, M.Á.; Muñoz, M. Gender-related differences in the psychological impact of confinement as a consequence of covid-19 in Spain. *J. Gend. Stud.* 2020, 30, 29–38.
29. Batterham, P.J.; Caele, A.L.; McCallum, S.M.; Morse, A.R.; Banfield, M.; Farrer, L.M.; Gulliver, A.; Cherbuin, N.; Rodney Harris, R.M.; Shou, Y.; et al. Trajectories of depression and anxiety symptoms during the COVID-19 pandemic in a representative Australian adult cohort. *Med. J. Aust.* 2021, 214, 462–468.
30. Budimir, S.; Pieh, C.; Dale, R.; Probst, T. Severe Mental Health Symptoms during COVID-19: A Comparison of the United Kingdom and Austria. *Healthcare* 2021, 9, 191.
31. Cai, Q.; Feng, H.; Huang, J.; Wang, M.; Wang, Q.; Lu, X.; Xie, Y.; Wang, X.; Liu, Z.; Hou, B.; et al. The mental health of frontline and non-frontline medical workers during the coronavirus disease 2019 (COVID-19) outbreak in China: A case-control study. *J. Affect. Disord.* 2020, 275, 210–215.
32. Canet-Juric, L.; Andres, M.L.; Del Valle, M.; Lopez-Morales, H.; Poo, F.; Galli, J.I.; Yerro, M.; Urquijo, S. A Longitudinal Study on the Emotional Impact Cause by the COVID-19 Pandemic Quarantine on General Population. *Front. Psychol.* 2020, 11, 565688.
33. Cao, W.; Fang, Z.; Hou, G.; Han, M.; Xu, X.; Dong, J.; Zheng, J. The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Res.* 2020, 287, 112934.
34. Chen, L.; Zhao, H.; Razin, D.; Song, T.; Wu, Y.; Ma, X.; HuexidaAji; Wang, G.; Wang, M.; Yan, L. Anxiety levels during a second local COVID-19 pandemic breakout among quarantined people: A cross sectional survey in China. *J. Psychiatr. Res.* 2021, 135, 37–46.
35. Chew, N.W.S.; Ngiam, J.N.; Tan, B.Y.-Q.; Tham, S.-M.; Tan, C.Y.-S.; Jing, M.; Sagayanathan, R.; Chen, J.T.; Wong, L.Y.H.; Ahmad, A.; et al. Asian-Pacific perspective on the psychological well-being of healthcare workers during the evolution of the COVID-19 pandemic. *BJPsych Open* 2020, 6, e116.
36. Dawel, A.; Shou, Y.; Smithson, M.; Cherbuin, N.; Banfield, M.; Caele, A.L.; Farrer, L.M.; Gray, D.; Gulliver, A.; Housen, T.; et al. The Effect of COVID-19 on Mental Health and Wellbeing in a Representative Sample of Australian Adults. *Front. Psychiatry* 2020, 11, 579985.
37. Denning, M.; Goh, E.T.; Tan, B.; Kanneganti, A.; Almonte, M.; Scott, A.; Martin, G.; Clarke, J.; Sounderajah, V.; Markar, S.; et al. Determinants of burnout and other aspects of psychological well-being in healthcare workers during the COVID-19 pandemic: A multinational cross-sectional study. *PLoS ONE* 2021, 16, e0238666.

38. Di Blasi, M.; Gullo, S.; Mancinelli, E.; Freda, M.F.; Esposito, G.; Gelo, O.C.G.; Lagetto, G.; Giordano, C.; Mazzeschi, C.; Pazzagli, C.; et al. Psychological distress associated with the COVID-19 lockdown: A two-wave network analysis. *J. Affect. Disord.* 2021, 284, 18–26.
39. Di Giuseppe, M.; Zilcha-Mano, S.; Prout, T.A.; Perry, J.C.; Orru, G.; Conversano, C. Psychological Impact of Coronavirus Disease 2019 Among Italians During the First Week of Lockdown. *Front. Psychiatry* 2020, 11, 576597.
40. Di Mattei, V.E.; Perego, G.; Milano, F.; Mazzetti, M.; Taranto, P.; Di Pierro, R.; De Panfilis, C.; Madeddu, F.; Preti, E. The "Healthcare Workers' Wellbeing (Benessere Operatori)" Project: A Picture of the Mental Health Conditions of Italian Healthcare Workers during the First Wave of the COVID-19 Pandemic. *Int. J. Environ. Res. Public Health* 2021, 18, 5267.
41. Fiorillo, A.; Sampogna, G.; Giallonardo, V.; Del Vecchio, V.; Luciano, M.; Albert, U.; Carmassi, C.; Carra, G.; Cirulli, F.; Dell'Osso, B.; et al. Effects of the lockdown on the mental health of the general population during the COVID-19 pandemic in Italy: Results from the COMET collaborative network. *Eur. Psychiatry J. Assoc. Eur. Psychiatr.* 2020, 63, e87.
42. Fisher, J.R.; Tran, T.D.; Hammarberg, K.; Sastry, J.; Nguyen, H.; Rowe, H.; Popplestone, S.; Stocker, R.; Stubber, C.; Kirkman, M. Mental health of people in Australia in the first month of COVID-19 restrictions: A national survey. *Med. J. Aust.* 2020, 213, 458–464.
43. Fu, W.; Wang, C.; Zou, L.; Guo, Y.; Lu, Z.; Yan, S.; Mao, J. Psychological health, sleep quality, and coping styles to stress facing the COVID-19 in Wuhan, China. *Transl. Psychiatry* 2020, 10, 225.
44. Fu, W.; Yan, S.; Zong, Q.; Anderson-Luxford, D.; Song, X.; Lv, Z.; Lv, C. Mental health of college students during the COVID-19 epidemic in China. *J. Affect. Disord.* 2021, 280, 7–10.
45. Gainer, D.M.; Nahhas, R.W.; Bhatt, N.V.; Merrill, A.; McCormack, J. Association Between Proportion of Workday Treating COVID-19 and Depression, Anxiety, and PTSD Outcomes in US Physicians. *J. Occup. Environ. Med.* 2021, 63, 89–97.
46. Garcia-Fernandez, L.; Romero-Ferreiro, V.; Lopez-Roldan, P.D.; Padilla, S.; Rodriguez-Jimenez, R. Mental Health in Elderly Spanish People in Times of COVID-19 Outbreak. *Am. J. Geriatr. Psychiatry Off. J. Am. Assoc. Geriatr. Psychiatry* 2020, 28, 1040–1045.
47. Garcia-Fernandez, L.; Romero-Ferreiro, V.; Padilla, S.; David Lopez-Roldan, P.; Monzo-Garcia, M.; Rodriguez-Jimenez, R. Gender differences in emotional response to the COVID-19 outbreak in Spain. *Brain Behav.* 2021, 11, e01934.
48. Giardino, D.L.; Huck-Iriart, C.; Riddick, M.; Garay, A. The endless quarantine: The impact of the COVID-19 outbreak on healthcare workers after three months of mandatory social isolation in Argentina. *Sleep Med.* 2020, 76, 16–25.
49. Gundogmus, I.; Unsal, C.; Bolu, A.; Takmaz, T.; Okten, S.B.; Aydin, M.B.; Ucar, H.; Gunduz, A.; Kul, A.T. The comparison of anxiety, depression and stress symptoms levels of healthcare workers between the first and second COVID-19 peaks. *Psychiatry Res.* 2021, 301, 113976.
50. Hacimusalar, Y.; Kahve, A.C.; Yasar, A.B.; Aydin, M.S. Anxiety and hopelessness levels in COVID-19 pandemic: A comparative study of healthcare professionals and other community sample in Turkey. *J. Psychiatr. Res.* 2020, 129, 181–188.
51. Halperin, S.J.; Henderson, M.N.; Prenner, S.; Grauer, J.N. Prevalence of Anxiety and Depression Among Medical Students During the Covid-19 Pandemic: A Cross-Sectional Study. *J. Med. Educ. Curric. Dev.* 2021, 8, 2382120521991150.
52. Hammarberg, K.; Tran, T.; Kirkman, M.; Fisher, J. Sex and age differences in clinically significant symptoms of depression and anxiety among people in Australia in the first month of COVID-19 restrictions: A national survey. *BMJ Open* 2020, 10, e042696.
53. Hassannia, L.; Taghizadeh, F.; Moosazadeh, M.; Zarghami, M.; Taghizadeh, H.; Dooki, A.F.; Fathi, M.; Alizadeh-Navaei, R.; Hedayatzadeh-Omran, A.; Dehghan, N. Anxiety and Depression in Health Workers and General Population During COVID-19 in IRAN: A Cross-Sectional Study. *Neuropsychopharmacol. Rep.* 2021, 41, 40–49.
54. He, Q.; Ren, J.; Wang, G.; Zhang, J.; Xiang, J.; He, D. Psychological effects of the COVID-19 outbreak on nurses working in tertiary women's and children's hospitals from Sichuan, China: A cross-sectional study. *Int. J. Disaster Risk Reduct.* 2021, 58, 102188.
55. Hennein, R.; Mew, E.J.; Lowe, S.R. Socio-ecological predictors of mental health outcomes among healthcare workers during the COVID-19 pandemic in the United States. *PLoS ONE* 2021, 16, e0246602.
56. Huang, J.; Liu, F.; Teng, Z.; Chen, J.; Zhao, J.; Wang, X.; Wu, Y.; Xiao, J.; Wang, Y.; Wu, R. Public behavior change, perceptions, depression, and anxiety in relation to the COVID-19 outbreak. *Open Forum Infect. Dis.* 2020, 7, ofaa273.

57. Islaml, M.S.; Sujun, M.S.H.; Tasnim, R.; Sikder, M.T.; Potenza, M.N.; van Os, J. Psychological responses during the COVID-19 outbreak among university students in Bangladesh. *PLoS ONE* 2020, 15, e0245083.
58. Jacques-Avino, C.; Lopez-Jimenez, T.; Medina-Perucha, L.; de Bont, J.; Goncalves, A.Q.; Duarte-Salles, T.; Berenguera, A. Gender-based approach on the social impact and mental health in Spain during COVID-19 lockdown: A cross-sectional study. *BMJ Open* 2020, 10, e044617.
59. Jia, R.; Ayling, K.; Chalder, T.; Massey, A.; Broadbent, E.; Coupland, C.; Vedhara, K. Mental health in the UK during the COVID-19 pandemic: Cross-sectional analyses from a community cohort study. *BMJ Open* 2020, 10, e040620.
60. Jiang, W.; Liu, X.; Zhang, J.; Feng, Z. Mental health status of Chinese residents during the COVID-19 epidemic. *BMC Psychiatry* 2020, 20, 580.
61. Johnson, M.S.; Skjerdingsstad, N.; Ebrahimi, O.V.; Hoffart, A.; Urnes Johnson, S. Mechanisms of parental distress during and after the first COVID-19 lockdown phase: A two-wave longitudinal study. *PLoS ONE* 2021, 16, e0253087.
62. Kantor, B.N.; Kantor, J. Mental Health Outcomes and Associations During the COVID-19 Pandemic: A Cross-Sectional Population-Based Study in the United States. *Front. Psychiatry* 2020, 11, 569083.
63. Karaivazoglou, K.; Konstantopoulou, G.; Kalogeropoulou, M.; Iliou, T.; Vorvolakos, T.; Assimakopoulos, K.; Gourzis, P.; Alexopoulos, P. Psychological distress in the Greek general population during the first COVID-19 lockdown. *BJPsych Open* 2021, 7, e59.
64. Khubchandani, J.; Sharma, S.; Webb, F.J.; Wiblishauser, M.J.; Bowman, S.L. Post-lockdown depression and anxiety in the USA during the COVID-19 pandemic. *J. Public Health (Oxf. Engl.)* 2021, 43, 246–253.
65. Kim, H.; Rackoff, G.N.; Zainal, N.H.; Schwob, J.T.; Newman, M.G.; Fitzsimmons-Craft, E.E.; Wilfley, D.E.; Shin, K.E.; Eisenberg, D.; Taylor, C.B. College Mental Health Before and During the COVID-19 Pandemic: Results From a Nationwide Survey. *Cogn. Ther. Res.* 2021, 46, 1–10.
66. Lai, J.; Ma, S.; Wang, Y.; Cai, Z.; Hu, J.; Wei, N.; Wu, J.; Du, H.; Chen, T.; Li, R.; et al. Factors Associated With Mental Health Outcomes Among Health Care Workers Exposed to Coronavirus Disease 2019. *JAMA Netw. Open* 2020, 3, e203976.
67. Lei, L.; Huang, X.; Zhang, S.; Yang, J.; Yang, L.; Xu, M. Comparison of Prevalence and Associated Factors of Anxiety and Depression Among People Affected by versus People Unaffected by Quarantine During the COVID-19 Epidemic in Southwestern China. *Med. Sci. Monit. Int. Med. J. Exp. Clin. Res.* 2020, 26, e924609.
68. Li, Q.; Miao, Y.; Zeng, X.; Tarimo, C.S.; Wu, C.; Wu, J. Prevalence and factors for anxiety during the coronavirus disease 2019 (COVID-19) epidemic among the teachers in China. *J. Affect. Disord.* 2020, 277, 153–158.
69. Li, W.W.; Li, Y.; Yu, H.; Miller, D.J.; Rouen, C.; Yang, F. Mental Health of Chinese People During the COVID-19 Pandemic: Associations With Infection Severity of Region of Residence and Filial Piety. *Front. Psychol.* 2021, 12, 633452.
70. Liu, Y.; Chen, H.; Zhang, N.; Wang, X.; Fan, Q.; Zhang, Y.; Huang, L.; Hu, B.; Li, M. Anxiety and depression symptoms of medical staff under COVID-19 epidemic in China. *J. Affect. Disord.* 2021, 278, 144–148.
71. Liu, Y.; Wang, L.; Chen, L.; Zhang, X.; Bao, L.; Shi, Y. Mental Health Status of Paediatric Medical Workers in China During the COVID-19 Outbreak. *Front. Psychiatry* 2020, 11, 702.
72. Lu, P.; Li, X.; Lu, L.; Zhang, Y. The psychological states of people after Wuhan eased the lockdown. *PLoS ONE* 2020, 15, e0241173.
73. Lu, W.; Wang, H.; Lin, Y.; Li, L. Psychological status of medical workforce during the COVID-19 pandemic: A cross-sectional study. *Psychiatry Res.* 2020, 288, 112936.
74. Luceno-Moreno, L.; Talavera-Velasco, B.; Garcia-Albuerne, Y.; Martin-Garcia, J. Symptoms of Posttraumatic Stress, Anxiety, Depression, Levels of Resilience and Burnout in Spanish Health Personnel during the COVID-19 Pandemic. *Int. J. Environ. Res. Public Health* 2020, 17, 5514.
75. Mattila, E.; Peltokoski, J.; Neva, M.H.; Kaunonen, M.; Helminen, M.; Parkkila, A.-K. COVID-19: Anxiety among hospital staff and associated factors. *Ann. Med.* 2021, 53, 237–246.
76. Meesala, N.; Harsha, G.; Kandikatla, P.; Karteekvarma, P.V.; Nadakuditi, S.R.; Kakaraparthi, S.K. Measuring the impact of COVID-19 on mental health as a preliminary procedure in primary care provision: A cross-sectional study using COVID-19 anxiety scale. *J. Fam. Med. Prim. Care* 2020, 9, 5554–5558.
77. Mosheva, M.; Hertz-Palmor, N.; Dorman Ilan, S.; Matalon, N.; Pessach, I.M.; Afek, A.; Ziv, A.; Kreiss, Y.; Gross, R.; Gothelf, D. Anxiety, pandemic-related stress and resilience among physicians during the COVID-19 pandemic. *Depress. Anxiety* 2020, 37, 965–971.

78. Ngoc Cong Duong, K.; Nguyen Le Bao, T.; Thi Lan Nguyen, P.; Vo Van, T.; Phung Lam, T.; Pham Gia, A.; Anuratpanich, L.; Vo Van, B. Psychological Impacts of COVID-19 During the First Nationwide Lockdown in Vietnam: Web-Based, Cross-Sectional Survey Study. *JMIR Form. Res.* 2020, 4, e24776.
79. Nkire, N.; Mrklas, K.; Hrabok, M.; Gusnowski, A.; Vuong, W.; Surood, S.; Abba-Aji, A.; Urichuk, L.; Cao, B.; Greenshaw, A.J.; et al. COVID-19 Pandemic: Demographic Predictors of Self-Isolation or Self-Quarantine and Impact of Isolation and Quarantine on Perceived Stress, Anxiety, and Depression. *Front. Psychiatry* 2021, 12, 553468.
80. Odriozola-Gonzalez, P.; Planchuelo-Gomez, A.; Irturia, M.J.; de Luis-Garcia, R. Psychological effects of the COVID-19 outbreak and lockdown among students and workers of a Spanish university. *Psychiatry Res.* 2020, 290, 113108.
81. Ozamiz-Etxebarria, N.; Berasategi Santxo, N.; Idoiaga Mondragon, N.; Dosil Santamaria, M. The Psychological State of Teachers During the COVID-19 Crisis: The Challenge of Returning to Face-to-Face Teaching. *Front. Psychol.* 2020, 11, 620718.
82. Ozamiz-Etxebarria, N.; Idoiaga Mondragon, N.; Dosil Santamaria, M.; Picaza Gorrotxategi, M. Psychological Symptoms During the Two Stages of Lockdown in Response to the COVID-19 Outbreak: An Investigation in a Sample of Citizens in Northern Spain. *Front. Psychol.* 2020, 11, 1491.
83. Pandey, D.; Bansal, S.; Goyal, S.; Garg, A.; Sethi, N.; Pothiyil, D.I.; Sreelakshmi, E.S.; Sayyad, M.G.; Sethi, R. Psychological impact of mass quarantine on population during pandemics-The COVID-19 Lock-Down (COLD) study. *PLoS ONE* 2020, 15, e0240501.
84. Passavanti, M.; Argentieri, A.; Barbieri, D.M.; Lou, B.; Wijayarathna, K.; Foroutan Mirhosseini, A.S.; Wang, F.; Naseri, S.; Qamhia, I.; Tangerang, M.; et al. The psychological impact of COVID-19 and restrictive measures in the world. *J. Affect. Disord.* 2021, 283, 36–51.
85. Pieh, C.; Budimir, S.; Delgadillo, J.; Barkham, M.; Fontaine, J.R.J.; Probst, T. Mental Health During COVID-19 Lockdown in the United Kingdom. *Psychosom. Med.* 2021, 83, 328–337.
86. Pieh, C.; Budimir, S.; Probst, T. The effect of age, gender, income, work, and physical activity on mental health during coronavirus disease (COVID-19) lockdown in Austria. *J. Psychosom. Res.* 2020, 136, 110186.
87. Planchuelo-Gomez, A.; Odriozola-Gonzalez, P.; Irturia, M.J.; de Luis-Garcia, R. Longitudinal evaluation of the psychological impact of the COVID-19 crisis in Spain. *J. Affect. Disord.* 2020, 277, 842–849.
88. Robb, C.E.; de Jager, C.A.; Ahmadi-Abhari, S.; Giannakopoulou, P.; Udeh-Momoh, C.; McKeand, J.; Price, G.; Car, J.; Majeed, A.; Ward, H.; et al. Associations of Social Isolation with Anxiety and Depression During the Early COVID-19 Pandemic: A Survey of Older Adults in London, UK. *Front. Psychiatry* 2020, 11, 591120.
89. Rossi, R.; Socci, V.; Pacitti, F.; Mensi, S.; Di Marco, A.; Siracusano, A.; Di Lorenzo, G. Mental Health Outcomes Among Healthcare Workers and the General Population During the COVID-19 in Italy. *Front. Psychol.* 2020, 11, 608986.
90. Ruengorn, C.; Awiphan, R.; Wongpakaran, N.; Wongpakaran, T.; Nochaiwong, S.; Health, O.; Mental Health Care Evaluation Survey Research, G. Association of job loss, income loss, and financial burden with adverse mental health outcomes during coronavirus disease 2019 pandemic in Thailand: A nationwide cross-sectional study. *Depress. Anxiety* 2021, 38, 648–660.
91. Serafim, A.P.; Duraes, R.S.S.; Rocca, C.C.A.; Goncalves, P.D.; Saffi, F.; Cappellozza, A.; Paulino, M.; Dumas-Diniz, R.; Brissos, S.; Brites, R.; et al. Exploratory study on the psychological impact of COVID-19 on the general Brazilian population. *PLoS ONE* 2021, 16, e0245868.
92. Shen, M.; Xu, H.; Fu, J.; Wang, T.; Fu, Z.; Zhao, X.; Zhou, G.; Jin, Q.; Tong, G. Investigation of anxiety levels of 1637 healthcare workers during the epidemic of COVID-19. *PLoS ONE* 2020, 15, e0243890.
93. Sinawi, H.A.; Al Balushi, N.; Al-Mahrouqi, T.; Al Ghailani, A.; McCall, R.K.; Sultan, A.; Al Sabti, H.; Al Maniri, A.; Murthi Panchatcharam, S.; Al-Alawi, M. Predictors of psychological distress among the public in Oman amid coronavirus disease 2019 pandemic: A cross-sectional analytical study. *Psychol. Health Med.* 2021, 26, 131–144.
94. Solomou, I.; Constantinidou, F. Prevalence and Predictors of Anxiety and Depression Symptoms during the COVID-19 Pandemic and Compliance with Precautionary Measures: Age and Sex Matter. *Int. J. Environ. Res. Public Health* 2020, 17, 4924.
95. Sun, S.; Goldberg, S.B.; Lin, D.; Qiao, S.; Operario, D. Psychiatric symptoms, risk, and protective factors among university students in quarantine during the COVID-19 pandemic in China. *Glob. Health* 2021, 17, 15.
96. Tang, F.; Liang, J.; Zhang, H.; Kelifa, M.M.; He, Q.; Wang, P. Covid-19 related depression and anxiety among quarantined respondents. *Psychol. Health* 2020, 36, 164–178.
97. van der Velden, P.G.; Contino, C.; Das, M.; van Loon, P.; Bosmans, M.W.G. Anxiety and depression symptoms, and lack of emotional support among the general population before and during the COVID-19 pandemic. A prospective national study on prevalence and risk factors. *J. Affect. Disord.* 2020, 277, 540–548.

98. Wang, C.; Song, W.; Hu, X.; Yan, S.; Zhang, X.; Wang, X.; Chen, W. Depressive, anxiety, and insomnia symptoms between population in quarantine and general population during the COVID-19 pandemic: A case-controlled study. *BMC Psychiatry* 2021, 21, 99.
99. Wang, X.; Tao, J.; Zhu, Q.; Wu, X.; Li, T.; Zhao, C.; Yang, W.; Wang, X.; Zhang, J.; Guan, N. Depression and anxiety symptoms to COVID-19 outbreak among the public, medical staff and patients during the initial phase of the pandemic: An online questionnaire survey by a WeChat Mini Program. *BMJ Open* 2021, 11, e046350.
100. Wang, Y.; Kala, M.P.; Jafar, T.H. Factors associated with psychological distress during the coronavirus disease 2019 (COVID-19) pandemic on the predominantly general population: A systematic review and meta-analysis. *PLoS ONE* 2020, 15, e0244630.
101. Wanigasooriya, K.; Palimar, P.; Naumann, D.N.; Ismail, K.; Fellows, J.L.; Logan, P.; Thompson, C.V.; Bermingham, H.; Beggs, A.D.; Ismail, T. Mental health symptoms in a cohort of hospital healthcare workers following the first peak of the COVID-19 pandemic in the UK. *BJPsych Open* 2020, 7, e24.
102. Warren, A.M.; Zolfaghari, K.; Fresnedo, M.; Bennett, M.; Pogue, J.; Waddimba, A.; Zvolensky, M.; Carlbring, P.; Powers, M.B. Anxiety sensitivity, COVID-19 fear, and mental health: Results from a United States population sample. *Cogn. Behav. Ther.* 2021, 50, 204–216.
103. Wathelet, M.; Duhem, S.; Vaiva, G.; Baubet, T.; Habran, E.; Veerapa, E.; Debien, C.; Molenda, S.; Horn, M.; Grandgenevire, P.; et al. Factors Associated With Mental Health Disorders Among University Students in France Confined During the COVID-19 Pandemic. *JAMA Netw. Open* 2020, 3, e2025591.
104. Wu, M.; Han, H.; Lin, T.; Chen, M.; Wu, J.; Du, X.; Su, G.; Wu, D.; Chen, F.; Zhang, Q.; et al. Prevalence and risk factors of mental distress in China during the outbreak of COVID-19: A national cross-sectional survey. *Brain Behav.* 2020, 10, e01818.
105. Yuan, L.; Zhu, L.; Chen, F.; Cheng, Q.; Yang, Q.; Zhou, Z.Z.; Zhu, Y.; Wu, Y.; Zhou, Y.; Zha, X. A Survey of Psychological Responses During the Coronavirus Disease 2019 (COVID-19) Epidemic among Chinese Police Officers in Wuhu. *Risk Manag. Healthc. Policy* 2020, 13, 2689–2697.
106. Zhang, L.; Wang, S.; Shen, J.; Wang, Y.; Huang, X.; Wu, F.; Zheng, X.; Zeng, P.; Qiu, D. The mental health of Chinese healthcare staff in non-epicenter of COVID-19: A cross-sectional study. *Ann. Palliat. Med.* 2020, 9, 4127–4136.
107. Zhang, X.-R.; Huang, Q.-M.; Wang, X.-M.; Cheng, X.; Li, Z.-H.; Wang, Z.-H.; Zhong, W.-F.; Liu, D.; Shen, D.; Chen, P.-L.; et al. Prevalence of anxiety and depression symptoms, and association with epidemic-related factors during the epidemic period of COVID-19 among 123,768 workers in China: A large cross-sectional study. *J. Affect. Disord.* 2020, 277, 495–502.
108. Zhou, Y.; Wang, W.; Sun, Y.; Qian, W.; Liu, Z.; Wang, R.; Qi, L.; Yang, J.; Song, X.; Zhou, X.; et al. The prevalence and risk factors of psychological disturbances of frontline medical staff in china under the COVID-19 epidemic: Workload should be concerned. *J. Affect. Disord.* 2020, 277, 510–514.
109. Zilver, S.J.M.; Broekman, B.F.P.; Hendrix, Y.M.G.A.; de Leeuw, R.A.; Mentzel, S.V.; van Pampus, M.G.; de Groot, C.J.M. Stress, anxiety and depression in 1466 pregnant women during and before the COVID-19 pandemic: A Dutch cohort study. *J. Psychosom. Obstet. Gynaecol.* 2021, 42, 108–114.
110. Huang, H.L.; Chen, R.C.; Teo, I.; Chaudhry, I.; Heng, A.L.; Zhuang, K.D.; Tan, H.K.; Tan, B.S. A survey of anxiety and burnout in the radiology workforce of a tertiary hospital during the COVID-19 pandemic. *J. Med. Imaging Radiat. Oncol.* 2021, 65, 139–145.