Marco Sarchiapone[1-2], Jorge Lopez-Castroman[3], Carla Gramaglia[4], Enrique Baca-Garcia[5-9], Francesca Baralla[1], Maria Luisa Barrigón[5], Silvia Bartollino[1], Julian Beezhold[10-11], Julio Bobes[12], Raffaella Calati[13-14], Narcís Cardoner[15], Erminia Colucci[16], Philippe Courtet[17], Lavinia Duica[18], Christine Dunkley[19], Laura Dunkley[20], Ricardo Gusmão[21], Catarina Jesus[22], Fabrice Jollant[23-27], Alexandr Kasal[28-29], Anisur Rahman Khan[30], Philip Jules Simon Michielsen[31], Péter Osváth[32], Stephen Palmer[33-34], Nuhamin Petros[35], Mihai Pirlog[36], Anna Plaza Estrada[37], Pilar Saiz[12], José Carlos Santos[38], Alexandra Tubiana Potiez[39], Christina Van Der Feltz-Cornelis[40], Tereza Vitcheva[35], Petr Winkler[28], Patrizia Zeppegno[4]

Increased risk for mental disorders and suicide during the COVID-19 pandemic. Position statement of the Section on Suicidology and Suicide Prevention of the European Psychiatric Association

[1] Department of Medicine and Health Sciences, University of Molise, Campobasso, Italy.
[2] Chair, Section of Suicidology and Suicide Prevention of the European Psychiatric Association.
[3] University of Montpellier, INSERM and Nimes University Hospital, France.
[4] Department of Translational Medicine, University of Piemonte Orientale, Novara, Italy.
[5] Department of Psychiatry, University Hospital Jimenez Diaz Foundation, Madrid, Spain.
[6] Department of Psychiatry, The Autonomous University of Madrid, Spain.
[7] CIBERSAM (Centro de Investigación en Salud Mental), Carlos III Institute of Health, Madrid, Spain.
[8] Universidad Católica del Maule, Talca, Chile.
[9] Department of psychiatry, Centre Hospitalier Universitaire de Nîmes.
[10] Mental Health Liaison Service, Norfolk and Norwich University Hospital, Norwich, UK.
[11] Norwich Medical School, University of East Anglia, UK.
[12] Department of Psychiatry, Universidad de Oviedo, Centro de Investigación Biomédica en Red de Salud Mental, Instituto de Investigación Sanitaria del Principado de Asturias, Servicio de Salud del Principado de Asturias, Oviedo, Spain.
[13] Department of Psychology, University of Milan-Bicocca, Milan, Italy.
[14] Department of Adult Psychiatry, Nîmes University Hospital, Nîmes, France.
[15] Department of Mental Health, University Hospital Parc Taulí-I3PT, Department of Psychiatry and Forensic Medicine, Universitat Autònoma de Barcelona. Centro de Investigación Biomédica en Red de Salud Mental, Carlos III Health Institute, Barcelona, Spain.
[16] Department of Psychology, School of Science and Technology, Middlesex University, London, UK.
[17] Department of Emergency Psychiatry and Acute Care, University Hospital of Montpellier, Montpellier, France.
[18] "Lucian Blaga" University of Sibiu, "Dr Gh. Preda" Psychiatric Hospital in Sibiu, Romania.
[19] School of Psychology, Bangor University, Wales.
[20] Research Department Derbyshire Healthcare NHS Foundation Trust, UK.
[21] Hospital Magalhães de Lemos, Faculty of Medicine, EpiUnit, Public Health Institute, University of Porto, Porto, Portugal.
[22] Serviço de Psiquiatria e Saúde Mental, Centro Hospitalar do Oeste, Portugal.
[23] University of Paris (Paris-Descartes University), Paris, France.
[24] GHU Paris Psychiatrie et Neurosciences, Sainte-Anne Hospital, Paris, France.
[25] McGill Group for Suicide Studies, McGill University, Montréal, Canada.
[26] CHU de Nîmes, Nîmes, France.
[27] National Observatory on Suicide, France.
[28] Department of Public Mental Health, National Institute of Mental Health, Czech Republic.
[29] Faculty of Social Sciences, Charles University in Prague, Prague, Czech Republic.
[30] Department of Sociology, East West University, Bangladesh.
[31] Department of Psychiatry, Erasmus Medical Center, Rotterdam, the Netherlands & Mental Health institute, GGZ Westelijk Noord-Brabant, Halsteren, the Netherlands.
[32] Department of Psychiatry and Psychotherapy, Clinical Center, Medical School, University of Pécs, Pécs, Hungary.
[33] Wales Academy for Professional Practice and Applied Research, University of Wales Trinity Saint David, Wales, UK.
[34] Centre for Stress Management, London, UK.
[35] National Centre for Suicide Research and Prevention of Mental Ill-Health, Karolinska Institute, Stockholm, Sweden.
[36] Medicine and Pharmacy University of Craiova, Neuropsychiatric Hospital in Craiova, Romania.
[37] CPB Mental Health Services. Crisis Intervention and Suicide Prevention Program. Barcelona, Spain.
[38] Nursing School of Coimbra, Health Sciences Research Unit, Coimbra, Portugal.
[39] Department of Psychiatry and Clinical Psychology U6, Centre Psychothérapique de Nancy, Laxou, France.
[40] Department of Health Sciences, HYMS, University of York, UK.

*email: marco.sarchiapone@me.com

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Abstract

In March 2020, the World Health Organization (WHO) declared the COVID-19 outbreak a pandemic. The Section on Suicidology and Suicide Prevention of the European Psychiatric Association (EPA) wants to raise awareness about the potential increase in mental health disorders and suicides as a result of the socio-economic impact of the COVID-19 pandemic, and of the necessary restrictive measures adopted worldwide to contain its spread. Even if fear, worries and symptoms of anxiety, depression and stress can be considered a natural response to this global crisis, some individuals are overexposed to its potential negative effects, such as healthcare workers, COVID-19 and psychiatric patients, prisoners, members of the LGBTQ+ community, migrants (including migrant workers), ethnic minorities and asylum seekers and internally displaced populations. Nevertheless, social support, resilience, a supportive work environment and other protective factors may buffer the impact of this crisis on mental health. These unprecedented times are calling for unprecedented efforts. Evidence-based and coordinated actions to prevent the risk of increased mental health disorders and suicide are needed. However, most of the data about COVID-19 impact on mental health comes from online surveys using non-probability and convenience sample in which females are often over-represented. For this reason the quality of future research should be also improved.

Keywords

mental health, suicide risk, suicidal behaviour, suicide prevention, COVID-19, pandemic

INTRODUCTION

In March 2020, the World Health Organization (WHO) declared the COVID-19 outbreak a pandemic. By 1 July 2020, the global number of confirmed cases was well above ten million and there were more than 500,000 confirmed deaths (WHO, 2020a). The Americas is the most affected region, with the US (2,573,393 cases and 126,573 deaths, by 1 July 2020) and Brazil (1,368,195 cases and 58,314 deaths) ranking at the first and second place for the number of confirmed cases. Europe previously was the epicentre of the pandemic, with countries such as the UK (311,969 cases and 43,575 deaths), Spain (248,970 cases and 28,346 deaths) and Italy (240,436 cases and 34,744 deaths) still ranking among those with the highest number of cases and deaths.

Many national and international agencies, associations and experts (Brooks et al., 2020; Fiorillo & Gorwood, 2020; Holmes et al., 2020; United Nations, 2020; WHO, 2020b) are seriously concerned about the direct and indirect effects of the COVID-19 pandemic on mental health. The Section on Suicidology and Suicide Prevention of the EPA wants to raise awareness about the potential increase in suicidal thoughts and behaviour (STB) as a result of the socio-economic impact of the pandemic and of the necessary restrictive measures adopted worldwide to contain its spread.

Preliminary findings confirm an emerging psychological distress in the general population. In Chinese studies (Qiu et al., 2020; Wang et al., 2020), 35-54% of samples reported a negative impact of the outbreak on their mental health, with 16.5% showing moderate to severe depressive symptoms, 28.8% moderate to severe anxiety symptoms and 8.1% moderate to severe stress levels (Wang et al., 2020).

A 7% prevalence of post-traumatic stress disorder (PTSD) symptoms was also reported in China's hardest-hit areas one month after the COVID-19 crisis (N. Liu et al., 2020). One-third of an Italian sample (Mazza et al., 2020), assessed two weeks after the beginning of the lockdown, showed high (17%) or very high (15.8%) levels of depression. Furthermore, 19% of the participants reported high (7.2%) or very high (11.5%) anxiety symptoms and 27% high (14.6%) or very high (12.6%) levels of stress. A similar prevalence was also found in the general Spanish population with 18.7% exhibiting depressive, 21.6% anxiety and 15.8% PTSD symptoms (Gonzalez-Sanguino et al., 2020). A very recent meta-analysis of 62 studies, with 162,639 participants (both from the general population and healthcare workers) from 17 countries, calculated a 33% pooled prevalence of anxiety and 28% pooled prevalence of depression (Luo et al., 2020). Furthermore, case studies (A. Bhuiyan et al., 2020; A. I. Bhuiyan et al., 2020; Sahoo et al., 2020; Thakur & Jain, 2020) are already describing COVID-19-related suicides.

It is currently too early to have reliable figures on the real impact of the COVID-19 pandemic on STB. Nevertheless, until multiple figures across different countries are obtained, two scenarios can be hypothesised. The first would be an increase in the numbers of suicides, suicide attempts and suicidal thoughts due to the joint increase in suicide risk factors. Another possibility would be initial

stability or even a decrease in suicidal acts as observed in the New York area after the 9/11 attacks (Claassen et al., 2010). Indeed, national tragedies may lead to a transient feeling of shared suffering that may not have the same consequences as the usual social disconnection pain experienced by suicidal individuals. This phase could then be followed by an increase in STB rates in the context of a global and probably sustained economic recession as noted after 2008 (Stuckler et al., 2009).

METHODS

This paper is the result of a collaborative effort of the members of the EPA Section on Suicidology and Suicide Prevention in order to summarise current data on the possible impact of the pandemic on mental health and suicide risk and to provide future directions for both research and preventive interventions.

An electronic literature search was performed in May 2020 through PubMed and Google Scholar databases – medRxiv preprint server was also searched. The search was regularly updated afterwards. The search included the terms "coronavirus", "COVID-19", "mental health", "depression", "anxiety", "stress" and "suicide".

A literature search was performed to identify systematic reviews, meta-analyses and key studies, on the impact of outbreaks, economic crises, natural disasters, bereavement and other stressful life experiences on mental health and suicide risk.

The lead author circulated a draft of the manuscript for review by the members of the EPA Section on Suicidology and Suicide Prevention. All authors contributed, accordingly with their expertise, with comments, amendments and drafting additional sections of the manuscripts. The final consensus was reached before submitting the manuscript.

Groups at risk of mental health problems and suicidality

Though the crisis is affecting the global population, it is possible to identify some groups who may be at higher risk for mental health disorders and suicide.

People with pre-existing psychiatric conditions are particularly vulnerable to the negative direct and indirect effects of the pandemic (Druss, 2020; Moreira et al., 2020; Newby et al., 2020), leading to relapses or worsening of symptoms and exposing them to higher suicide risk. For example, Hao et al. (2020) assessed the psychological impact of COVID-19 lockdown measures in 76 Chinese psychiatric patients and 109 healthy controls. Psychiatric patients reported significantly more worries about their physical health than the healthy controls. Around 32% of the psychiatric patients fulfilled the diagnostic criteria for PTSD and around 12% showed moderate to severe suicidal ideation. In a UK survey on young people with mental health needs, 51% reported that their mental health had become a bit worse and 32% that it had become much worse (YoungMinds, 2020). Many participants reported increased anxiety, sleep problems, panic attacks and more frequent urges to self-harm among those with previous self-harm tendancies. Moreover, in a large Chinese survey around 20% of patients with a pre-existing psychiatric disorder reported worsening of their psychological state and interruption of psychiatric care during the pandemic (J. Zhou et al., 2020). Indeed, the pandemic and the related public health responses are affecting mental healthcare access and quality (Simpson et al., 2020; YoungMinds, 2020) and the reduced social contacts are making it more difficult to identify suicidal crises (National Centre for Suicide Research and Prevention, 2020).

Even if fear, worries and symptoms of anxiety and stress can be considered a natural response to this global crisis, some individuals are overexposed to this traumatic experience, so are at higher risk to develop PTSD symptoms (Boyraz & Legros, 2020) and at increased risk of STB (Krysinska & Lester, 2010; Panagioti et al., 2012). In many cases, COVID-19 patients and their relatives are facing this life-threatening condition without the possibility to receive and provide the needed family support. According to a systematic review, around 20% of intensive care unit survivors develop PTSD symptoms (Davydow et al., 2008). Bo et al., using an online survey involving 730 COVID-19 patients in Wuhan, found that 96.2% of them reported PTSD symptoms (Bo et al., 2020). Studies on respiratory viral infections have identified an association between infection and risk for suicide (Okusaga et al., 2011). Additionally, recent biological data suggests that SARS-CoV-2 can affect the central nervous system through biological pathways implicated in suicidal behaviours: the renin-angiotensin system, inflammation system, and nicotine receptors (Conejero et al., 2020). Increased neutrophil-to-lymphocyte ratio recently emerged as a peripheral inflammatory biomarker for suicidal behaviour in major depression and bipolar patients (Ekinci & Ekinci, 2017; Ivkovic et al., 2016; Velasco et al., 2020) and seen to be an independent risk factor for critical illness in patients with COVID-19 infection (Ciccullo et al., 2020; J. Liu et al., 2020; Yan et al., 2020). Bereavement related to COVID-19 presents some of the factors recognised as predictors of complicated grief (Lobb et al., 2010), which in turn raises

the suicide risk (Latham & Prigerson, 2004; Mogensen et al., 2016). Indeed, the quality of the caregiving experience and social support may be significantly compromised.

As might be expected, frontline health workers represent one of the categories at the highest risk. They are working tirelessly to respond to the pandemic, often in overwhelmed facilities and with a shortage of personal protective equipment, medicines, ventilators and other medical equipment. These work conditions surge the risk for burn out and the concerns about their own health and the health of their families. In a sample of medical and nursing staff in Wuhan, immediately after the beginning of the outbreak, almost 30% of the participants reported moderate or severe mental health disturbances (Kang et al., 2020). More, in particular, 14.8% reported moderate or severe symptoms of depression, 12.3% of anxiety, and 35% of post-traumatic stress (Lai et al., 2020). Other research pointed out that the medical staff working in close contact with infected patients (i.e., departments of respiratory, emergency, infectious disease, and intensive care unit) were twice as likely to suffer for anxiety and depression, compared to the administrative staff (Lu et al., 2020). Similarly, COVID-19 was found to have a greater impact on the mental health of Spanish healthcare workers, than non-healthcare workers (Garcia-Fernandez et al., 2020), especially if considering nurses and physician trainees. The mental health of young physicians is also strongly affected (Li et al., 2020). All these results confirm the conclusions of a recent meta-analysis individuating in having contact with affected patients, being nurses, younger or less experienced workers and the parents of dependent children predisposing factors for mental health problems during the pandemic (Kisely et al., 2020).

Following the SARS epidemic in Hong Kong in 2003 the suicide rate in older people showed a sharp upturn from a previous downward trend (Chan et al., 2006). Older people and those with severe underlying medical conditions are now constantly described as being at higher risk for developing more serious complications from COVID-19. This vulnerability requires complete isolation, even though family support is very important to them anyway. Thus, the fear of infection and the isolation from family with a consequent lack of support may increase the risk of developing psychiatric symptoms (anxiety, depression and STB), especially among older people who are living alone (Blazer, 2020) and individuals with multiple chronic diseases (Smith et al., 2020).

Prisoners represent a high-risk group for mental health problems and suicide (Fazel et al., 2016; Fazel et al., 2017). Furthermore, prisons and other custodial settings are particularly vulnerable to the spreading of infectious diseases (Kinner et al., 2020). In Italy, riots and attempts to break out were reported in several prisons immediately after emergency restrictions were imposed, such as the suspension of family visits. Forty officers were injured and 12 prisoners died mostly after an overdose of drugs looted from the prison infirmary (Parlatore, 2020). Overcrowded facilities, along with decreased social support amid the suspension of family visits, and diminished availability of mental health services may increase the suicide risk in this specific population. Furthermore, suspension of jury trials and delays to court hearings is extending the time spent on remand, a condition associated with high suicide risk (Hewson et al., 2020).

The LGBTQ+ population is also reported to be a vulnerable group for mental health problems (Ploderl & Tremblay, 2015), suicide (Haas et al., 2011), self-harm and suicidal ideation (Liu & Mustanski, 2012). Physical distancing as well as difficulties in accessing health services may negatively impact the mental health of LGBTQ+ people during the pandemic (Brennan et al., 2020). In a rapid online survey among US men who have sex with men (Sanchez et al., 2020), about 70% of participants reported a decreased quality of life and increased anxiety. Moreover, a substantial proportion of participants were already experiencing economic difficulties related to COVID-19 such as losing a job (19%), a decreased number of paid work hours (32%) or difficulties in paying rent (17%). Another piece of research involving a longitudinal cohort study of sexual and gender minority people found increased depression and anxiety symptoms, especially among participants previously with no pre-existing symptoms (Kavcic et al., 2020).

Risk factors for mental health problems and suicidality

The psychological distress experienced is due to many different factors. Fears and worries about individual health and the health of loved ones, as well as concerns about the negative socio-economic consequences of the pandemic, are amplified by the global media exposure to the crisis (Garfin et al., 2020; Reger et al., 2020). Media coverage of the COVID-19 pandemic in a constant news flow of changing facts can often be overwhelming. The WHO named "infodemic" as an over-abundance of information, not always accurate, disseminated mostly through social media, which makes it hard to find trustworthy sources and reliable guidance. Even if timely and accurate information about the pandemic and the recommended preventive actions are needed, excessive media exposure may have implications on mental health

over time. In the survey conducted by Holman, Garfin & Silver (2014) after the Boston Marathon bombings, six or more daily hours of bombing-related media exposure in the week after the bombings was associated with higher acute stress symptoms than direct exposure to the bombings (continuous acute stress symptom total: media exposure b = 15.61 vs. direct exposure b = 5.69). In an online survey on social media exposure during the COVID-19 pandemic in Wuhan, China, more than 80% of participants reported frequent social media exposure (Gao et al., 2020) was positively associated with anxiety and anxiety-depression symptoms when compared with less social media exposure. It is important to note that anxiety, depression and trauma-related symptoms may in turn increase media consumption so perpetuating a cycle of high distress and media use (Thompson et al., 2019).

Physical distancing, remote working, school closures and other restrictive measures have significantly affected the general population's daily routines and social relationships (Okoloba et al., 2020; The Lancet Child Adolescent, 2020; Van Lancker & Parolin, 2020; Wasserman et al., 2020a; Wasserman et al., 2020b). In particular, exposure to quarantine measures produces negative psychological effects both in adults and children, including PTSD symptoms (Brooks et al., 2020; Sprang & Silman, 2013). Indeed, social isolation and loneliness are significantly associated with poor mental health, the engagement in physical health risk behaviours, and the use of more negative strategies to cope with stress (Hawkley & Cacioppo, 2010; Leigh-Hunt et al., 2017; Matthews et al., 2019) and are considered a major risk factor for STB (Calati et al., 2019).

Sleep disturbances are associated with mental health problems (Baglioni et al., 2016) and STB (Pigeon et al., 2012; Porras-Segovia et al., 2019). During the lockdown, important circadian rhythms modifications have also been reported, with an increased quantity of sleep, but also higher use of digital media near bedtime and decreased quality of sleep (Cellini et al., 2020; Hartley et al., 2020; Huang & Zhao, 2020; Kaparounaki et al., 2020). Unsurprisingly, COVID-19-related worries, being infected by the virus, pre-existing mental health illness and loneliness were associated with higher levels of insomnia (Kokou-Kpolou et al., 2020; Voitsidis et al., 2020). Furthermore, healthcare workers were found to be particularly affected by poor quality sleep (Huang & Zhao, 2020; Lai et al., 2020).

Movement restrictions and other stressors related to the pandemic could lead to an exacerbation of interpersonal family conflicts, the most common trigger of children suicide (Soole et al., 2015). Additionally, the current increase of domestic violence against women and children is becoming a source of great concern (Chandan et al., 2020; End Violence Against Children, 2020; European Parliament Committee on Women's Rights and Gender Equality, 2020). Not only have lockdown measures forced many women and children to stay at home with their abusers, but they also made access to support services difficult. Domestic violence has been found to increase the risk for mental health problems in women (Golding, 1999) and children (Evans et al., 2008), and domestic violence (Colucci & Heredia Montesinos, 2013), intimate partner violence (Devries et al., 2013; Zeppegno et al., 2019) and childhood trauma (Mandelli et al., 2011; Sarchiapone et al., 2007; Zatti et al., 2017) have been associated with suicidal behaviour.

The International Monetary Fund (2020) foresees a global economic crisis due to the pandemic at least as bad as the 2008 financial crisis. Reviews and meta-analyses of ecological studies on previous economic crises consistently reported a detrimental effect on mental health and increased suicide rates (Oyesanya et al., 2015; Parmar et al., 2016; Van Hal, 2015). Unemployment, but also job insecurity, indebtedness, financial difficulties and inequalities, were described as indicators associated with negative mental health outcomes (Frasquilho et al., 2016).

Belonging to a low social class and socio-economic deprivation are associated with increased risk for mental health problems and suicide (Hong et al., 2011; Pinto-Meza et al., 2013; Platt, 2016). Socio-economically disadvantaged children and adolescents are reported to be two to three times more likely to develop mental health problems (Reiss, 2013). The results of a survey, conducted in the UK, US and Germany, shows that the socio-economic impact of the pandemic is highly unequal and is exacerbating existing inequalities. Workers on temporary, non-salaried and flexible contracts were reported to have a higher probability to lose their job, compared to workers with permanent, salaried, fixed-hour contracts (Adams-Prassl et al., 2020). Disparities in testing, treatment, and outcomes of COVID-19 have been reported (Azar et al., 2020; Batty et al., 2020; Dorn et al., 2020; Wang & Tang, 2020). These inequalities are attributable to barriers that prevent socio-economically disadvantaged people to follow recommendations and timely access care, such as a lack of health insurance or adequate resources to cover medical expenditures (Azar et al., 2020; Wang & Tang, 2020), poor language and literacy skills to understand and appropriately respond to pandemic messaging (Batty et al., 2020; Smith & Judd, 2020) or living and working conditions not allowing physical distancing (Dorn et al.,

2020; Smith & Judd, 2020).

Unemployment is consistently reported as a strong risk factor for suicide (Matsubayashi et al., 2020; Reeves et al., 2012; Stuckler et al., 2009). Kawohl et al. (2020) used the World Bank Open Data to estimate the effects of the currently expected rise in the unemployment rate on worldwide suicide rates and estimated that economic factors related to the pandemic may be responsible for the loss of 9,570 lives by suicide worldwide.

An additional risk factor is represented by alcohol and drug use. Alcohol and drug consumption usually rises as a result of stressful life experiences and economic crises (de Goeij et al., 2015; Nagelhout et al., 2017) and there are already some statistics showing an increase in alcohol sales and consumption during this pandemic (BBC World, 2020; Koopmann et al., 2020; Osservatorio Nazionale Alcol - Centro Nazionale Dipendenze e Doping (ISS), 2020). In the same way, the global crisis may facilitate access to lethal means, one of the most important risk factors for suicidal behaviour (WHO, 2014). Examples include medication stockpiling (Romano et al., 2020) and the surge in sales of firearms reported in some countries (Mannix et al., 2020; Yaffe-Bellany, 2020).

Protective factors and potential benefits of restrictive measures

Even if there is only preliminary data, it is still possible to identify some protective factors promoting better mental health during this global crisis.

Social support has been defined as "having or perceiving to have close others who can provide help or care, particularly during times of stress" (Eisenberger, 2013). In this sense, it plays an essential role in promoting mental health (Southwick et al., 2016) and is a protective factor against suicide (Kleiman & Liu, 2013; Mackin et al., 2017). Preliminary findings show that social support may buffer the effects of the pandemic on depression and anxiety symptoms (White & Van Der Boor, 2020). Wasserman, van der Gaag and Wise (2020a; 2020b) advocated the use of the term "physical distancing" instead of the most used "social distancing", so to avoid, especially in vulnerable groups, the negative perception of being excluded, rejected or isolated. Similarly, Courtet et al. (2020) immediately advocated for fostering social connection through social networks and remote tools when people were confined. Indeed, the development of social networks through WhatsApp, Facebook and other online platforms, virtual events, as well as the possibility to join online religious services, are described as successful examples of increased social support for older people during the pandemic (Brooke & Jackson, 2020).

Higher perceived control over coronavirus infection was reported to be associated with lower levels of depression, anxiety and stress (Newby et al., 2020). This highlights the importance of providing adequate and reliable information about the disease and the adopted public health responses, to avoid unnecessary fears and confusion, and to reduce discrimination (Brooks et al., 2020).

Resilience also plays a major protective role. In a sample of Slovenian adults assessed at the beginning of the outbreak, more resilient participants had 7 times higher odds of flourishing mental health and 9.3 times lower odds of high-stress levels compared to those who were less resilient (Kavcic et al., 2020).

Continuing to work, regular physical exercise, less time spent on social media and having access to an outdoor area were also associated with a better reported mental health (Haesebaert et al., 2020; Moreira et al., 2020; White & Van Der Boor, 2020; Zhang et al., 2020).

Unsurprisingly, individuals with pre-existing mental health problems who did not interrupt the psychotherapeutic treatment due to the outbreak exhibited better mental health compared to those who interrupted the treatment (Moreira et al., 2020).

When considering healthcare workers, perceived social support and organisational factors such as adequacy of received training, a supportive work environment, access to psychological interventions, and adequate supplies of protective equipment, were also found to play a protective role (Kisely et al., 2020).

In accordance with the traumatic impact of the COVID-19 pandemic, almost all studies hypothesise negative mental health outcomes. Surveys are formulated to uncover psychological symptoms of distress. Nonetheless, there are a number of potential benefits associated with the pandemic that should be taken into account. First of all, the lockdown, still ongoing in a large number of countries, has provided a lot of extra time for some. For parts of the population, there is less stress derived from work, and no daily commutes. This time can be used for healthy activities, such as getting enough sleep, healthier eating, physical exercise, reducing smoking and alcohol intake, quality time with family or close ones, or just contemplation (Di Renzo et al., 2020; Scarmozzino & Visioli, 2020; Tull et al., 2020). For some people affected by anxiety disorders, the lockdown might also be experienced

as a relief since the avoidance is externally enforced. Indeed, in an Italian sample, the avoidant attachment feature of "discomfort with closeness" was reported to be a protective factor against psychological distress during the lockdown (Moccia et al., 2020). Moreover, a large epidemiological survey in the UK has found that after an initial rise, anxiety and depression levels decreased during lockdown (University College London, 2020). For some people, it has also been an opportunity to create a sense of community, getting to know the neighbourhood and regain contact with friends and family. The environmental benefits on air quality and acoustic pollution should also be considered (Braithwaite et al., 2019). All these aspects could have a positive impact, although probably of limited duration, on the mental health and the risk of suicidal events.

Mental health promotion and suicide prevention

Evidence-based and coordinated public health actions to reduce the risk for suicide should be strengthened and adapted to the current situation (Gunnell et al., 2020; Zalsman et al., 2016).

Active labour market programmes can mitigate the effects of unemployment in suicide rates (Reeves et al., 2015; Stuckler & Basu, 2013). Governments should provide stronger welfare programmes with financial safety nets (Gunnell et al., 2020; Steeg et al., 2020) paying special attention to vulnerable populations.

During this crisis, the access to lethal means should be carefully considered due to the increased risk of suicide. Governments should restrict the access to commonly used and highly lethal suicide means (Gunnell et al., 2020), as well as promote awareness campaigns against the xenophobia and stigma related to COVID-19 (Gunnell et al., 2020; Mamun & Griffiths, 2020), thus improving mental health literacy.

Concerning the media, the negligent coverage of suicides, mainly celebrity suicides, is associated with an increase in suicides in the general population (Niederkrotenthaler et al., 2020). Both WHO guidelines on suicide reporting and the specific guidelines for this crisis should be followed (International Association for Suicide Prevention & Suicide Awareness Voices of Education, 2020; WHO, 2017).

It is also important to emphasise that the current crisis should ideally prompt governments to review the methods of collecting data on STBs in its general population, in order to obtain more robust and fast statistics. Indeed, delays by several months or years and underestimation will not make it possible to finely judge the consequences of a health crisis (and of any subsequent economic, health or climate crises) and steer effective measures of prevention. Two important pitfalls should additionally be emphasised. The first is represented by the fact that an increase in suicidal thoughts necessarily translates into an increase in suicidal acts. For this reason, a separate measurement of suicidal thoughts and acts is necessary. The second would be to forget the numerous suicide attempts carried out at home without subsequent presentation to the hospital or mental health care. This represents a significant number of subjects, up to 40% in a recent study in France (and even more in younger people) (Jollant et al., 2020), often not counted in the national medical information systems. In the context of COVID-19 pandemic, this number may increase as individuals may be reluctant to go to A&E.

Professionals are at a higher risk but are also the major hope for resolving the public health crisis. They should be able to care for themselves using helpful coping strategies and their support networks (WHO, 2020c). They should also find new ways of delivering care, developing clear remote assessment and care pathways for people who are suicidal (Gunnell et al., 2020).

All over the world, mental health services had to undergo a drastic reorganisation due to the reduction of the number of beds in hospitals, the closure of community facilities and services, the difficulties posed by residential facilities, the issues in treating psychiatric patients who also are infected and the increased demand for care (Chevance et al., 2020; de Girolamo et al., 2020). The challenge of providing mental health services while respecting physical distancing promoted the use of telemental health and telepsychiatry (Whaibeh et al., 2020; X. Zhou et al., 2020). The effectiveness of these interventions is comparable to conventional treatment (Chakrabarti, 2015; Shore, 2013). Furthermore, self-guided digital interventions directly targeting suicidal ideation have proven effective immediately post-intervention (Torok et al., 2020). This supports the use of telemental health and digital tools since most of the patients and mental health providers possess the needed digital literacy and competencies. Nevertheless, attention should be paid to disparities in access to these services when dealing with vulnerable groups (Torous et al., 2020).

Multilevel interventions are expected to provide more beneficial results (Hofstra et al., 2020). For example, an ongoing study exploring active outreach by phone combined with digital monitoring of actual uptake of treatment provision and suicidal behaviour seems a

promising multilevel intervention model (Hofstra et al., 2019). Interventions such as regular proactive telephone contact, empowered social support systems and those involving general practitioners may play an important role in suicide prevention, especially among older people who are living alone.

One potential challenge for health professionals working with patients is encountering barriers to communication. The Emotional Pain Communication Model (Dunkley et al., 2018) suggests that patients at risk of suicide may withhold their pain from their care team. This may be enhanced if the staff members indicate they are short of time or if the client perceives they will not be taken seriously. Pandemic pressures may enhance this effect, particularly if the patient sees their own mental health crisis as a low priority in comparison with COVID-19 patients. The model describes how staff members may circumvent this reluctance by noticing signs of emotional pain that are unspoken, and if they can communicate 'co-bearing' (sharing the person's pain.) However, this is harder for staff when face-to-face contact is limited, and particularly if the facial expression of both parties is obscured by a face mask.

WHO (2014) has indicated gatekeeper training as one of the main suicide prevention strategies while recommending to tailor its content and approach to the population. The Suicide First Aid Guidelines research and evidence-based associated resources developed in the last decade have built on this recommendation (Colucci et al., 2018; Colucci et al., 2010; Jorm et al., 2018). The guidelines were developed through a structured consultative process (supported by the Delphi expert-consensus method), which involved key suicide prevention and/or transcultural mental health professional and lived experience experts. Through this approach, warning signs and first-aid actions were identified and included in the guidelines and accompanying infographic and training videos to be used for gatekeeper training for suicide prevention. These guidelines have been used in the past to provide training in the Philippines, Japan and among people from migrant and refugee backgrounds. COVID-19 and the connected strategies to stop widespread have highlighted even more the importance of developing community-based suicide prevention strategies, such as gatekeepers training, that can be delivered at low-cost while potentially be quickly scalable through online/virtual platforms. During the lockdown, short introduction webinars to the Suicide First Aid Guidelines for India (https://www.mhinnovation.net/resources/suicide-first-aid-guidelines-india) have been delivered, in collaboration with NIMHANS (Bangalore, India). The development of longer pieces of training based on the Suicide First Aid Guidelines for people from immigrant and refugee backgrounds is also ongoing (Colucci et al., 2018), in collaboration with Save the Children. Further development of low-cost scalable community-based Suicide First Aid Guidelines for specific populations, and associated resources and training delivered face to face or virtually, might become even more important in the current and future epidemic or pandemic scenarios.

CONCLUSIONS

These unprecedented times are calling for unprecedented efforts. Mental health promotion and suicide prevention interventions should be considered pivotal for the mitigation of the socio-economic and psychological consequences of the pandemic on both vulnerable groups and the wider community. Nevertheless, cost-effective interventions and strategies should be based on high-quality data and research (Holmes et al., 2020). Most of the findings discussed in this review came from online surveys using non-probability and convenience sampling in which females are often over-represented. For this reason they are prone to substantial bias (Pierce et al., 2020). To enhance the validity of these conclusions, future research should carefully choose the design and methods and use random samples. Multidisciplinary research teams improve the approach, and the design should be rigorous and ethically sound. The focus on vulnerable groups and people with lived experience, harmonised data and measures, and research network optimisation can be principles of good research practice (Holmes et al., 2020; Okoloba et al., 2020; Repišti et al., 2020). Furthermore, the knowledge and strategies developed as a result of the current pandemic should ideally be useful to be prepared for and guide responses to future epidemics and pandemics, but also future economic, climatic, political or conflict-related crises.

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