

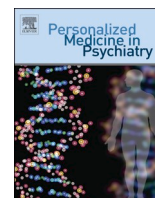


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Expert opinion in anxiety disorder: Corona-phobia, the new face of anxiety

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ABSTRACT

The Covid-19 pandemic changed our lives quickly and abruptly. This occurred in a radical and, often, unexpected way. During 2020, in favor of social distance, restrictions on leaving home, participating in social activities, and even working impacted our lives. The health agenda in the face of the pandemic encompasses a huge range of areas that must be covered, but it is necessary to draw the attention to the general population mental health, which gives worrying evidence. The pandemic has been described by epidemiologists in terms of waves of infection. The world is now facing the second wave of infection and the experts already worry for the third one. However, another wave has occurred in between and within the waves of infection; it is the wave of mental health problems caused directly by the infection or by its secondary consequences.

The Covid-19 pandemic changed our lives quickly and abruptly. This occurred in a radical and, often, unexpected way. During 2020, in favor of social distance, restrictions on leaving home, participating in social activities, and even working impacted our lives. The health agenda in the face of the pandemic encompasses a huge range of areas that must be covered, but it is necessary to draw the attention to the general population mental health, which gives worrying evidence [1–3]. The pandemic has been described by epidemiologists in terms of waves of infection. The world is now facing the second wave of infection and the experts already worry for the third one. However, another wave has occurred in between and within the waves of infection; it is the wave of mental health problems [1,4] caused directly by the infection or by its secondary consequences.

Covid-19 has been increasingly recognized as a systemic disease that affects far beyond the respiratory tract [5]. The virus enters the body by binding to an incoming receptor, ACE2 (angiotensin-converting enzyme 2), which is in the lung and in several other organs, including the brain [6,7]. The neuroinvasion occurs through the bloodstream [6,7], since the blood-borne virus crosses the blood–brain barrier, and through immune activation [7]. Thus, the Sars-CoV-2 enters the brains crossing the brain-blood barrier but it also enters the mind of individuals since the pandemic is exposing a large part of the population to extremely

unfavorable environmental conditions, which can trigger mental disorders or psychological symptoms even in individuals with less susceptible genetics or adequate levels of resilience. Unfavorable environmental conditions include the personal or acquaintances' infection, the change in routine due to measures of social distance, changes in work or in the relationships affective; and the interruption of treatment due to access difficulties [5,8]. Prolonged coexistence at home may increase maladjustments family dynamics [9]. Added to this, economic reductions and unemployment may worsen tensions in family. The deaths of loved ones in a short time, together with the difficulty performing farewell rituals, can make the experience challenging, preventing the adequate reframing of losses and increasing stress [9]. The origin of mental disorders, indeed, indicates that their appearance depends on complex mechanisms. Changes in the functioning of the cerebral circuits are affected by the interaction of exposure to environmental stressors, and also depend on a biological susceptibility of the individual himself. Furthermore, due to a phenomenon called epigenetics, environmental factors can alter gene expression.

There is a clear increase in anxiety, depression, post-traumatic stress, and allostatic load in the population even excluding psychiatric symptoms directly resulting from virus infection, treatment instituted (for example, high-dose corticosteroids), or discomfort (such as the patient's

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uncertainty and loneliness in rooms hospital or ICU with isolation) [7,10]. One study compared the prevalence rates of anxiety and depressive disorder of 2019 with those of April-May 2020 in the USA [3]. In the latter period, individuals were three times more likely to have anxiety disorders, depression, or both, with more than one in three individuals presenting one or both disorders [3]. The initial presence of anxiety symptoms increased the risk of depression during the 2020 follow-up period [3]. This highlights the epidemic potential in terms of mental health during the pandemic as well as post-pandemic. The epidemic of mental disorders has extremely potential worrying for society, both from the point of view of individual health as for collective health. Measures are in need to be adopted throughout the current pandemic to avoid a bigger problem, which would be a health crisis. This learning was accumulated in studies that followed mental health of communities after previous pandemics [10] and international disasters of large proportions [10,11].

1. The pandemic as a source of stress

Allostatic load [12] reflects the cumulative effect of experiences in daily life that involve ordinary events as well as major challenges and includes, as a consequence, health-damaging behaviors (e.g., poor sleep, lack of exercise, smoking, alcohol consumption, fatty diet). It ensues when environmental challenges exceed the individual ability to cope [13] and represents a transition to an extreme state where stress response systems are repeatedly activated and buffering factors are not adequate. The situations which can lead to develop allostatic load are: (a) frequent stressors which determine a status of chronic stress and repeated physiological arousal; (b) lack of adaptation to repeated stressors; (c) inability to shut off the stress response after a stressor is terminated; (d) an allostatic response insufficient to deal with the stressor [14]. In the current pandemic we can argue that individuals are frequently exposed to stressors, they can have difficulties in adapting to such repeated stressful solicitations, may have an allostatic response insufficient to deal with the stressor. In addition, in post-pandemic, a part of the population will be probably unable to shut off the stress response although the pandemic is ended.

In addition to the possible stressors which can imbalance the individuals' allostasis in the current pandemic described above (e.g. risk of infection, isolation, loneliness, economic problems), we should consider the ever-increasing avalanche of news without scientific basis about Covid-19 [15].

In response to stressors, different physiological systems interact at varying degrees of activity [12]: the neuroendocrine and immune systems respond promote adaptation to threats or adversities; the hypothalamic-pituitary-adrenal axis plays a role in the pathophysiology of allostatic load; brain architecture and neurochemical functions are affected by both genomic and non-genomic mechanisms; immunosuppressive effects occur in the long run as well as alterations in body functions, involving cardiovascular and gastrointestinal systems, endocrine-metabolic balances and sleep [14]. As part of an imbalance in the complex inter-relations between systems, anxiety may rise.

2. The corona-phobia

Individuals may react differently to a health-threatening condition, such as COVID-19, based on their illness behavior [16] that is the varying ways in which people respond to bodily indications, monitor and interpret symptoms, make attributions, take remedial actions [17]. Some reactions in the COVID-19 pandemic have been already described in the literature and pertain to: dysfunctional worry (i.e., difficulties concentrating, trouble sleeping, constantly checking news and social media, marked loss of work productivity, and difficulties finding joy in everyday situations) [18] health anxiety (i.e., a transient, generic worry about COVID-19 infection and bodily preoccupations that tend to respond to medical reassurance, even though new worries may

subsequently ensue), disease phobia (i.e., a specific worry for COVID-19 infection which does not respond to medical reassurance), hypochondriasis (i.e., persistent fears, or the idea, of having a COVID-19 based on misinterpretation of bodily symptoms, despite adequate medical evaluation and reassurance) [16].

Research is needed to understand how individual factors can specifically impact behaviors in response to Covid-19 and understand how to advice people to regulate their behaviors. We will here make an attempt to systematize suggestions and advices to general population, patients, and health professionals based on personal and professional experiences and on the literature. Of course, the following recommendations are in need of being verified in research in terms of clinical utility:

1. **Try to understand what you can and cannot control.** During the pandemic, many people feel they have lost control about their lives. This feeling can be very uncomfortable. In this moment of uncertainty, try to base your decisions based on trusted sources of information and guidelines – like those that come from academic institutions or government sources.
2. **Realize your risk factors.** During the pandemic, people may have different individual health risk factors which should activate different behaviors. For instance, if you are over 65, or have lung diseases or other chronic organic diseases, you will have to follow more restrictions than others. Thus, it can be useful to consult your general practitioner or the medical doctor who is taking care of your chronic medical condition, ask for an assessment of your risk level and for advices on how to proceed.
3. **Avoid self-medication.** It is very bad to keep a medication unattended and, even worse, change the dose or discontinue use without medical guidance. Consider the possibility to ask for a psychological support to handle the present difficult life situation and acquire skills which will be useful also in the post-pandemic era. At distance psychological interventions, thus taking the advantage of internet, are widely available and could be a nice solution in respect of distancing rules.
4. **Engage in optimal experiences.** Cross-sectional studies demonstrated that optimal experiences can occur in any daily context, such as work, study, sports, arts, and leisure. Optimal experiences pertain to the individual preferential cultivation of a specific set of interests, relations, values, and goals throughout life. It is not simply a pleasurable experience; it is something that summarizes what an individual has been striving for. Thus, during pandemic identify your own optimal experiences and pursue them with the aim to build or empower your own psychological well-being [19]. Optimal experiences may include reading an interesting book, making a long walk in the nature, having a nice conversation with a family member.
5. **Do not isolate yourself.** Help people who, due to health problems, should not leave the house. Help your relatives or even a neighbor, shopping in markets or pharmacies on behalf of them. The rule speaks of social distance, not social isolation. Telephone, video calls with friends and relatives can be used to overcome isolation.
6. **To worry is normal.** Accept the concerns and anxiety as part of life but monitor not to experience excessive concerns or anxiety based on the situation.
7. **Avoid excessive unhealthy behaviors.** Due to the stressful condition related to Covid-19, some individuals may turn to unhealthy behaviors, which include lack of exercise, unhealthy diet (fatty and sugar rich), use of alcohol or substances, circadian alterations of sleep-wake rhythms (and sometimes consequent use of hypnotics), smoking, and excessive use of social media [20]. Try not to fall in these traps.
8. **Maintain a daily life structure.** It is not because there are concerns and fears that you will make it worse them losing your daily life structure. Make a timetable for everything - leisure, work, meals, gymnastics and sleep – in your daily life. Always try to wake up at the

same hour, even if you do not have to take your kids to school or go to school or to the work, and respect the schedule you made for your activities.

We are all changing our lives and perspectives. We have to take care of our physical health and, above all, mental health. A crisis is always a learning moment, and we are all learning. Every crisis brings the opportunity to improve, solve new problems, and keep our mental health.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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