



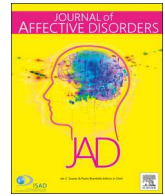
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## Journal of Affective Disorders

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## Correspondence

## Effects of quarantine on mental health of populations affected by Covid-19



## ARTICLE INFO

**Keywords:**  
SARS-CoV-2  
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## ABSTRACT

**Background:** To prevent the spread of the The novel coronavirus (2019-nCoV), some classic public health measures are being taken, such as social distancing and quarantine

**Method:** Studies were identified using large-circulation international journals found in two electronic databases: Scopus and Embase.

**Results:** The prolonged confinement is evidently related to psychological damage, considering that individuals would be subjected to stressors for a longer period of time . In some cases, these psychic losses lasted for many months after the end of this confinement

**Conclusions:** It is necessary to develop and implement actions to minimize the population psychological distress in meeting the needs of the communities affected by COVID-19 Thus, as it occurred in China, it is necessary that the other affected nations promote the publication of regulations that guide the implementation of mental health services and the allocation of resources, in order to ensure that individuals are monitored by competent professionals, thus reducing the psychological damage that can be motivated by the social isolation period during the quarantine.

The novel coronavirus (2019-nCoV) which emerged in Wuhan, China, spread to other continents, becoming a pandemic. This virus can be transmitted by respiratory tract fluids, and there are no specific therapies or vaccines to combat it. Thus, to prevent the spread of the disease, some classic public health measures are being taken, such as social distancing and quarantine (Wilder-Smith and Freedman, 2020).

Defined as a measure to contain the mobility of people who are supposedly exposed to an etiological agent, but not necessarily sick, quarantine (Cetron and Landwirth, 2005) can be seen as a positive effort to contain the COVID-19 outbreak worldwide, but insufficient with regard to comprehensive care of population (Xiang et al., 2020).

From a psychological perspective, citizens in a state of confinement can feel constraint and express fixation on the state of the disease (Brooks et al., 2020), as well as psychosomatic symptoms such as insomnia, anxiety, loneliness feelings and depression (Li et al., 2020). In this context, the quarantine was described by Brooks and partners (2020) as an unpleasant experience for the population, despite the benefits to the public health, if properly applied.

Certainly, the current COVID-19 pandemic has been one factor responsible for psychological distress in different population segments (Li et al., 2020). The rapid infection spread and the high number of confirmed deaths have been responsible for the symptoms of anxiety, depression and stress reported by the public and the medical team (Xiang et al., 2020).

Studies claim that individuals quarantined reported negative psychological implications, such as symptoms of post-traumatic stress, confusion and anger (Brooks et al., 2020). As a result, some concerns were described as motivating agents for physical and emotional exhaustion, for instance: the duration of this confinement, frustration, boredom, financial losses, social stigma and inadequate receipt of supplies and information (Brooks et al., 2020). Quarantine also motivated other concerns, for example, the fear of infecting other people,

especially family members, and apprehension of manifesting symptoms of the disease (Reynolds et al., 2008).

These distressing feelings, responsible for the perception of isolation from the rest of society, are constantly related to the deprivation of usual practices, such as participating in social gatherings and visiting family and friends (Reynolds et al., 2008). In addition, with the unexpected interruption of work, professional activities were not subjected to long-term planning, generating financial losses capable of raising levels of stress and anxiety (Brooks et al., 2020).

In view of this scenario, the prolonged confinement is evidently related to psychological damage, considering that individuals would be subjected to stressors for a longer period of time (Brooks et al., 2020). In some cases, these psychic losses lasted for many months after the end of this confinement (Brooks et al., 2020). Regarding the problems originated by the quarantine, many individuals stated that the flawed transmission of information was one of the factors responsible for the increase in fear about the disease (Brooks et al., 2020). This circumstance was aggravated by the dissemination of fake information or without scientific evidence, creating a greater sense of panic and anxiety (Bao et al., 2020).

In biological disasters, such as COVID-19 outbreak, doubt, fear and stigmatization are recurrent and often associated with resistance and objections to medical and psychological treatments (Xiang et al., 2020). The current pandemic aggravates this scenario, as it is an infection with no definite cure, full of uncertainties.

In addition, due to the infectious disease profile, psychologists, psychiatrists and social workers should not come into contact with patients in treatment, especially those who are in isolation conditions, to prevent further infections by the virus. In this scenario, clinical teams of doctors and nursing professionals become the main agents for promoting the mental health of individuals affected by COVID-19 (Duan and Zhu, 2020); (Liu et al., 2020). However, these teams may not

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be sufficient to provide mental health care to sick individuals, since they already deal with great pressure to mitigate the physical effects of the disease, beyond supporting a large workload. Besides these factors, there is a lack of specialized training in psychiatry or clinical psychology (Duan and Zhu, 2020).

The National Health Commission of China (NHC), published the guide 'Principles for Emergency Psychological Crisis Intervention for COVID-19 Pneumonia Epidemic', which guided the government and civil society to psychological interventions during the pneumonia epidemic caused by the novel coronavirus. In this sense, national mental health associations and academic societies have organized teams with specialized professionals and promoted online publications of educational content, in form of videos and written publications, aimed at specific social groups – such as health professionals – and in different age groups of the population – like the elderly (Li et al., 2020). In addition, digital platforms are used to carry out therapy in cases where the stress generated by the current situation of the pandemic has caused insomnia and anxiety or worsened cases of depression (Li et al., 2020).

Therefore, it is clear that it is necessary to develop and implement actions to minimize the population psychological distress in meeting the needs of the communities affected by COVID-19 (Xiang et al., 2020). Thus, as it occurred in China, it is necessary that the other affected nations promote the publication of regulations that guide the implementation of mental health services and the allocation of resources, in order to ensure that individuals are monitored by competent professionals, thus reducing the psychological damage that can be motivated by the social isolation period during the quarantine.

#### Authors' contributions

MLRN designed the review, developed the inclusion criteria, screened titles and abstracts, appraised the quality of included papers, and drafted the manuscript.

CVCL, JAS, LVA, LMS, MMN and SAO reviewed the study protocol and inclusion criteria and provided substantial input to the manuscript.

MLRN and ELC reviewed the study protocol. CVCL, JAS, LVA, LMS, MMN and SAO read and screened articles for inclusion. All authors critically reviewed drafts and approved the final manuscript.

#### Declaration of Competing Interest

The authors declare that they have no competing interests.

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#### References

- Bao, Y., Sun, Y., Meng, S., Shi, J., Lu, L., 2020. 2019-nCoV epidemic: address mental health care to empower society. *Lancet* 395, e37–e38. [https://doi.org/10.1016/S0140-6736\(20\)30309-3](https://doi.org/10.1016/S0140-6736(20)30309-3). <https://doi.org/>
- Brooks, S.K., Webster, R.K., Smith, L.E., Woodland, L., Wessely, S., Greenberg, N., Rubin, G.J., 2020. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *Lancet* 395, 912–920. [https://doi.org/10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8). <https://doi.org/>
- Cetron, M., Landwirth, J., 2005. Public health and ethical considerations in planning for quarantine. *Yale J. Biol. Med.* 78, 325–330.
- Duan, L., Zhu, G., 2020. Psychological interventions for people affected by the COVID-19 epidemic. *Lancet. Psychiatry* 7, 300–302. [https://doi.org/10.1016/S2215-0366\(20\)30073-0](https://doi.org/10.1016/S2215-0366(20)30073-0). <https://doi.org/>
- Li, W., Yang, Y., Liu, Z.-H., Zhao, Y.-J., Zhang, Q., Zhang, L., Cheung, T., Xiang, Y.-T., E12, B., 2020. Progression of mental health services during the COVID-19 outbreak in China. *Int. J. Biol. Sci.* 2020, 1732–1738. <https://doi.org/10.7150/ijbs.45120>. <https://doi.org/>
- Liu, S., Yang, L., Zhang, C., Xiang, Y.-T., Liu, Z., Hu, S., Zhang, B., 2020. Online mental health services in China during the COVID-19 outbreak. *Lancet. Psychiatry* 7, e17–e18. [https://doi.org/10.1016/S2215-0366\(20\)30077-8](https://doi.org/10.1016/S2215-0366(20)30077-8). <https://doi.org/>
- Reynolds, D.L., Garay, J.R., Deamond, S.L., Moran, M.K., Gold, W., Styra, R., 2008. Understanding, compliance and psychological impact of the SARS quarantine experience. *Epidemiol. Infect.* 136, 997–1007. <https://doi.org/10.1017/S0950268807009156>. <https://doi.org/>
- Wilder-Smith, A., Freedman, D.O., 2020. Isolation, quarantine, social distancing and community containment: pivotal role for old-style public health measures in the novel coronavirus (2019-nCoV) outbreak. *J. Travel Med.* 1–4. <https://doi.org/10.1093/jtm/taaa020>. <https://doi.org/>
- Xiang, Y.T., Yang, Y., Li, W., Zhang, L., Zhang, Q., Cheung, T., Ng, C.H., 2020. Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. *Lancet Psychiatry* 7, 228–229. [https://doi.org/10.1016/S2215-0366\(20\)30046-8](https://doi.org/10.1016/S2215-0366(20)30046-8). <https://doi.org/>

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