

## Online mental health services in China during the COVID-19 outbreak

At the start of 2020, the 2019 coronavirus disease (COVID-19), originating from Wuhan in Hubei province, started to spread throughout China. As a result of the rapidly increasing numbers of confirmed cases and deaths, both medical staff and the public have been experiencing psychological problems, including anxiety, depression, and stress.<sup>1,2</sup> Since January, 2020, the National Health Commission of China have published several guideline documents, starting with the notification of principles for emergency psychological crisis intervention for the COVID-19 epidemic on January 26, then the notice on establishing psychological assistance hotlines for the epidemic on February 2, and most recently, guidelines for psychological assistance hotlines during the COVID-19 epidemic on February 7.<sup>3</sup>

During the severe acute respiratory syndrome epidemic in 2003, internet services and smartphones were not widely available. Therefore, few online mental health services were provided for those in need.<sup>4</sup> The popularisation of internet services and smartphones, and the emergence of fifth generation (5G) mobile networks, have enabled mental health professionals and health authorities to provide online mental health services during the COVID-19 outbreak. Fast transmission of the virus between people hinders traditional face-to-face psychological interventions. By contrast, provision of online mental health services is safe. To date, several types of online mental health services have been implemented widely for those in need during the outbreak in China.

Firstly, as of Feb 8, 2020, 72 online mental health surveys associated with the COVID-19 outbreak could be searched for via the WeChat-based survey programme Questionnaire Star,

which target different populations, including medical staff (23 of the surveys), patients with COVID-19 (one survey), students (18 surveys), the general population (nine surveys), and mixed populations (21 surveys); in Hubei province (five surveys), other provinces (15 surveys), all provinces, municipalities, and autonomous regions (36 surveys), and unspecified areas of China (16 surveys). One such multicentre survey involving 1563 medical staff, with our centre at Nanfang Hospital, Southern Medical University (Guangzhou, China) as one of the study sites, found the prevalence of depression (defined as a total score of  $\geq 5$  in the Patient Health Questionnaire-9) to be 50.7%, of anxiety (defined as a total score of  $\geq 5$  in the Generalized Anxiety Disorder-7) to be 44.7%, of insomnia to be 36.1% (defined as a total score of  $\geq 8$  in the Insomnia Severity Index), and of stress-related symptoms (defined as a total score of  $\geq 9$  in the Impact of Events Scale-Revised) to be 73.4%. These findings are important in enabling health authorities to allocate health resources and develop appropriate treatments for medical staff who have mental health problems.

Secondly, online mental health education with communication programmes, such as WeChat, Weibo, and TikTok, has been widely used during the outbreak for medical staff and the public. In addition, several books on COVID-19 prevention, control, and mental health education have been swiftly published and free electronic copies have been provided for the public. As of February 8, 29 books associated with COVID-19 have been published, 11 (37.9%) of which are on mental health, including the "Guidelines for public psychological self-help and counselling of 2019-nCoV pneumonia", published by the Chinese Association for Mental Health.

Finally, online psychological counselling services (eg, WeChat-based resources) have been widely established

by mental health professionals in medical institutions, universities, and academic societies throughout all 31 provinces, municipalities, and autonomous regions in mainland China, which provide free 24-h services on all days of the week. Online psychological self-help intervention systems, including online cognitive behavioural therapy for depression, anxiety, and insomnia (eg, on WeChat), have also been developed. In addition, several artificial intelligence (AI) programmes have been put in use as interventions for psychological crises during the epidemic. For example, individuals at risk of suicide can be recognised by the AI programme Tree Holes Rescue,<sup>5</sup> by monitoring and analysing messages posted on Weibo, and alerting designated volunteers to act accordingly.

In general, online mental health services being used for the COVID-19 epidemic are facilitating the development of Chinese public emergency interventions, and eventually could improve the quality and effectiveness of emergency interventions.

We declare no competing interests.

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1 Xiang Y-T, Yang Y, Li W, et al. Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. *Lancet Psychiatry* 2020; published online Feb 4. [https://doi.org/10.1016/S2215-0366\(20\)30046-8](https://doi.org/10.1016/S2215-0366(20)30046-8).



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- 2 Kang L, Li Y, Hu S, et al. The mental health of medical workers in Wuhan, China dealing with the 2019 novel coronavirus. *Lancet Psychiatry* 2020; published online Feb 5. [https://doi.org/10.1016/S2215-0366\(20\)30047-X](https://doi.org/10.1016/S2215-0366(20)30047-X).
- 3 National Health Commission of China. Guidelines for psychological assistance hotlines during 2019-nCoV pneumonia epidemic. Feb 7, 2020 (in Chinese). <http://www.nhc.gov.cn/jkj/s3577/202002/f389f20cc1174b21b981ea2919beb8b0.shtml> (accessed Feb 7, 2020).
- 4 Chan SSC, So WKW, Wong DCN, Lee ACK, Tiwari A. Improving older adults' knowledge and practice of preventive measures through a telephone health education during the SARS epidemic in Hong Kong: a pilot study. *Int J Nurs Stud* 2007; **44**: 1120–27.
- 5 Wang Y. The Chinese suicides prevented by AI from afar. Nov 9, 2019. BBC World Service. <https://www.bbc.com/news/technology-50314819> (accessed Nov 9, 2019).