

## Mental health response to COVID-19 outbreak in China

Junying Zhou<sup>1\*</sup>, M.D., Ph.D, Liu Liu<sup>2</sup>, M.D., Pei Xue<sup>1</sup>, M.D., Xiaorong Yang<sup>3</sup>, B.N.

1. Sleep Medicine Center, West China Hospital, Sichuan University, Chengdu, China

2. Department of Anesthesiology, Translational Neuroscience Center, West China Hospital, Sichuan University, Chengdu, China

3. Department of Outpatient, West China Hospital, Sichuan University, Chengdu, China

**\*Correspondence to:** Dr. Junying Zhou, MD, PhD, Sleep Medicine Center, West China Hospital, Sichuan University, Chengdu 610041, China; **Tel:** +86 189 8060 6836; **Email:** 29736033@qq.com

**Word count:** 898

### Declaration of interests

The authors declare no conflicts of interest.

### Acknowledgments

The authors would like to thank the clinic nurses in the Departments of Psychiatry, Neurology and Sleep Medicine, West China Hospital, Sichuan University.

1  
2  
3  
4 The 2019 coronavirus disease (COVID-19) transmission (1) has now widely and  
5  
6 rapidly spread around the world. On Mar 11, 2020, WHO announced that COVID-19  
7  
8 is a pandemic (2). The rapid transmission and potential mortality risk of the  
9  
10 COVID-19 infection might increase the risk of mental health problems among healthy  
11  
12 individuals in the public and worsen preexisting psychiatric problems in the  
13  
14 psychiatric patients, albeit the data are still being gathered. A constellation of difficult  
15  
16 feelings and psychological distress, including panic, worries and depression could be  
17  
18 triggered by the fear of possible infection, being quarantined at hospitals and home,  
19  
20 social isolation, and even the shortage of protective gears.  
21  
22  
23  
24  
25

26  
27 To date, there are a number of ongoing mental health surveys associated with the  
28  
29 COVID-19 outbreak being conducted in different vulnerable populations which  
30  
31 include the infected patients, medical staff, students, and the general population. Liu  
32  
33 et al. firstly reported a multicenter survey conducted in 1563 medical staff members  
34  
35 and found that the prevalence of depression and anxiety was 51% and 45%,  
36  
37 respectively (3). So far, the data on the mental health repercussion of the COVID-19  
38  
39 pandemic in the outpatient populations have not been available. Thus, we conducted a  
40  
41 questionnaire survey, from Feb 25 to Mar 9, 2020, in the outpatients who sought help  
42  
43 in the Departments of Psychiatry, Neurology and Sleep Medicine in West China  
44  
45 Hospital, Sichuan University (Chengdu, China). A self-reported questionnaire was  
46  
47 completed by all the consented outpatients via the WeChat-based survey program  
48  
49 "Questionnaire Star". A total of 2065 out of 3441 patients completed the survey,  
50  
51 including 589 new patients and 1476 existing patients. The prevalence rates of mental  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3  
4 health problems related to the COVID-19 outbreak, including anxiety (defined as a  
5  
6 total score of  $\geq 5$  on the Generalized Anxiety Disorder-7), depression (defined as a  
7  
8 total score of  $\geq 5$  on the Patient Health Questionnaire-9), and insomnia (defined as a  
9  
10 total score of  $\geq 8$  on the Insomnia Severity Index), were 25.5%, 16.9% and 26.2%  
11  
12 respectively. Furthermore, 20.9 % of the patients (n = 300) with pre-existing  
13  
14 psychiatric disorders (n = 1434) reported a deterioration of their mental health  
15  
16 condition related to the pandemic. In particular, the transport restriction, isolation at  
17  
18 home, and fear of cross-infection in hospital have inevitably become the major  
19  
20 concerns and barriers to treatment for these patients during the outbreak. Among the  
21  
22 new patients, our survey showed that 24.5% of them including those with anxiety (n =  
23  
24 46), depression (n = 37), insomnia (n = 79), and psychosis (n =21) could not get  
25  
26 timely diagnosis and treatment. Similarly, 22.0% of the existing patients with  
27  
28 diagnosed mental disorders including depression, bipolar disorders and schizophrenia  
29  
30 (n = 315) could not get their routine psychiatric care due to the suspended hospital  
31  
32 visits. Consequently, 18.1% of the patients (n = 259) had to self-reduce the dosage  
33  
34 and 17.2% of the patients (n = 247) stopped their medication because they could not  
35  
36 gain the access to their prescriptions during the outbreak. As the lifetime prevalence  
37  
38 of mental disorders is 16.6% in adults in China (4), millions of psychiatric patients  
39  
40 might potentially face the barriers to help seeking for timely management of their  
41  
42 mental health condition. The long-term repercussion of the viral pandemic on the  
43  
44 management of psychiatric patients warrants further investigation. Nonetheless, our  
45  
46 data reiterated the importance of implementing appropriate mental health measures in  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3  
4 the face of the COVID-19 pandemic.  
5

6  
7 In response to the COVID-19 outbreak, there have been ongoing measures and  
8  
9 concerned efforts in China that emphasized the importance of dealing with the  
10  
11 potential, concurrent mental health crisis. On January 26, 2020, the National Health  
12  
13 Commission has released the notification of principles for emergency psychological  
14  
15 crisis intervention for the COVID-19 pandemic (5). The mental health hotlines were  
16  
17 quickly established across China and provided the public with counseling and  
18  
19 psychological services. The telephone and internet have been widely used to deliver  
20  
21 the online mental health services, and the social media (e.g. WeChat, Weibo) has  
22  
23 provided the platform to share strategies, guidelines and education programmes for  
24  
25 managing potential mental distress. In addition, a series of self-help handbooks for  
26  
27 psychological care associated with COVID-19 have been swiftly published by the  
28  
29 Association for Mental Health, medical institutions and universities.  
30  
31  
32  
33  
34  
35  
36

37  
38 Furthermore, a number of hospitals in China have initiated the telemedicine  
39  
40 services for patients in need during the outbreak of COVID-19. On the 26th of  
41  
42 January 2020, West China Hospital of Sichuan University, as one of the leading  
43  
44 hospitals in China, rapidly opened a free online outpatient service, in which more than  
45  
46 one hundred medical doctors across different specialties were involved. This online  
47  
48 outpatient service was mainly catered to provide prescriptions to the existing patients  
49  
50 and to offer consultation to the new patients. Our hospital collaborated with the  
51  
52 courier companies (e.g. S.F. Express) to deliver medicine to patient's home for free.  
53  
54  
55  
56  
57  
58 To date, thousands of patients have received healthcare provided by this online  
59  
60

1  
2  
3  
4 outpatient service. Interestingly, there were only 7.4% of the patients with mental  
5  
6 disorders (n = 136) in our survey who have sought online help for medical care. Thus,  
7  
8 there is a need for promoting online mental health services across China to manage  
9  
10 mental problems during the pandemic.  
11  
12

13  
14 The long-term outcomes of the mental health interventions in both communities  
15  
16 and hospital settings would need further evaluation in order to determine on how we  
17  
18 could ameliorate the negative impact of viral outbreaks in the general public,  
19  
20 especially among those vulnerable patients with mental problems.  
21  
22  
23  
24  
25  
26

## 27 **References**

- 28  
29 1. Lu R, Zhao X, Li J, et al: Genomic characterisation and epidemiology of 2019 novel  
30  
31 coronavirus: implications for virus origins and receptor binding. *Lancet* 2020; 395(10224):  
32  
33 565-574  
34  
35
- 36  
37 2. WHO:[https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-](https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020)  
38  
39 [media-briefing-on-covid-19---11-march-2020](https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020)  
40  
41
- 42  
43 3. Liu S, Yang L, Zhang C, et al: Online mental health services in China during the COVID-19  
44  
45 outbreak. *Lancet Psychiatry* 2020; published online Feb 18. [https://doi.org/](https://doi.org/10.1016/S2215-0366(20)30077-8)  
46  
47 [10.1016/S2215-0366\(20\)30077-8](https://doi.org/10.1016/S2215-0366(20)30077-8)  
48  
49
- 50  
51 4. Huang Y, Wang Y, Wang H, et al: Prevalence of mental disorders in China: a cross-sectional  
52  
53 epidemiological study. *Lancet Psychiatry* 2019; 6(3): 211-224  
54  
55
- 56  
57 5. National Health Commission of China. Principles for emergency psychological crisis  
58  
59 intervention for the new coronavirus pneumonia (in Chinese).  
60

1  
2  
3  
4 <http://www.nhc.gov.cn/jkj/s3577/202001/6adc08b966594253b2b791be5c3b9467.shtml> (accessed  
5  
6  
7 Jan 26, 2020)  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

Peer Review Only