JOURNAL OF PSYCHOPATHOLOGY 2020;26:134-140
doi: 10.36148/2284-0249-399

Original article

The impact of the COVID-19 emergency in a community mental health setting of a metropolitan hospital

Matteo Porcellana[1], Carla Morganti[1], Luca Boccalari[1], Ivan Limosani[1], Valerio Manzo[1], Luigi Zerbinati[3], Matteo Corradin[2], Mauro Moreno[2], Mauro Percudani[1]

[1] Department of Mental Health and Addiction Services, Niguarda Hospital, Milan, Italy; [2] Healthcare Management, Niguarda Hospital, Milan, Italy; [3] Institute of Psychiatry, Department of Biomedical and Speciality Surgical Sciences, University of Ferrara, Italy

SUMMARY

Objectives

To evaluate the relationship between traumatic aspects of the COVID-19 emergency and clinical correlates in a sample of consecutive outpatients in a Community Mental Health setting in Milan, Italy.

Methods

One hundred and forty subjects aged between 18 and 75 years were assessed with the Clinical Global Impression – Severity (CGI-S), Brief Psychiatric Rating Scale (BPRS-18), the 22-item Impact of Event Scale-Revised (IES-R) and the Self Report Questionnaire (SRQ-20). Data analysis were performed using SPSS version 16.0. Basic statistics were used to describe the demographic and clinical characteristics of the participants. The associations between sociodemographic and clinical variables were explored first by performing Pearson's correlation analysis followed by multivariate regression. IES-R total score was used as the dependent variable while sociodemographic variables, SRQ-20, CGI-S and BPRS total score were used as independent variables.

Results

A considerable proportion of participants reported symptoms of distress measured by IES-R: 47 (33.6%) mild, 45 (32.1%) moderate and 37 (26.4%) severe. SRQ-20 total score was positive in 82 (58.6%) patients, particularly in the female population (p = 0.009) with an age between 45-65 years (p = 0.020). In multiple regression analysis, being actively working (Beta = 0.15, p = 0.03) and SRQ-20 (Beta = 0.56, p = 0.00) significantly predicted IES-R total score.

Conclusions

Our data evidenced high level of distress among patients in contact with mental health services during Covid-19 emergency period suggesting the importance of maintaining continuous monitoring for a careful assessment of their condition from both a psychopathological and medical point of view.

Key words: trauma spectrum, quarantine, mental health, coronavirus-2019 disease

Received: April 20, 2020
Accepted: May 29, 2020

Correspondence
Mauro Percudani
Department of Mental Health and Addiction Services, Niguarda Hospital, piazza Ospedale Maggiore 3, 20162 Milan, Italy
Tel.: +39 02 6444-1
E-mail: mauro.percudani@ospedaleniguarda.it

Conflict of interest
The Authors declare no conflict of interest

How to cite this article: Porcellana M, Morganti C, Boccalari L, et al. The impact of the COVID-19 emergency in a community mental health setting of a metropolitan hospital. Journal of Psychopathology 2020;26:134-40. https://doi.org/10.36148/2284-0249-399

Introduction

In December 2019, the Chinese city of Wuhan reported a novel pneumonia caused by coronavirus disease (COVID-19), which has spread domestically and internationally [1,2]. On January 30, 2020, the World Health Organization held an emergency meeting and declared the global COVID-19 outbreak a public health emergency of international concern [3].

According to data released by the Italian National Health Commission, the number of confirmed cases in mainland Italy increased to 212.532 infected, 27.402 deaths as of May 05, 2020 [4]. The Italian Government in response, implemented extraordinary measures to limit viral transmission on the 8th March 2020. These included restricting movement of persons with the intent to minimise transmission of the virus from infected individuals to healthy ones.

The psychological response to an event of this magnitude is complex. Different studies show that in an early phase of the severe acute respiratory syndrome (SARS) outbreak, a range of psychiatric morbidities could occur, including persistent depression, anxiety, panic attacks, psychotic symptoms and even suicide [5]. Brooks et al. [6] reviewed 3166 papers for the psychological impact of quarantine, 24 included studies reported negative psychological effects including post-traumatic stress symptoms, confusion, and anger.

Quarantine is often an unpleasant experience for those who undergo it. The loss of freedom, uncertainty and boredom can, on occasion, have dramatic effects. The potential benefits of mandatory mass quarantine needs to be weighed carefully against the possible psychological consquences [7]. Successful use of quarantine as a public health measure requires us to reduce, as far as possible, the negative effects associated with it.

Two recent online surveys have been conducted to establish psychological distress and identify risk and protective factors among Italian people during the COVID-19 pandemic [8,9]. In the first one [8], the sample consisted of 2766 participants. Female gender, negative affect, and detachment were associated with higher levels of depression, anxiety and stress. Having an acquaintance infected was associated with increased levels of both depression and stress, whereas a history of stressful situations and medical problems was associated with higher levels of depression and anxiety. Furthermore, those family members infected and young adults who had to work not from home, presented higher levels of anxiety and stress. In the second one [9], 62% of the individuals, with a total sample of 500 subjects, reported no psychological distress, whereas 19.4 and 18.6% displayed mild and moderate to severe psychological distress. Moreover, specific affective temperament and attachment features predicted the extent of mental health burden.

Lombardy is the largest and the most affluent Region in Italy with around 10 million inhabitants as well as the most dramatically affected by COVID-19 contagion and related disease. The Regional Health Authority mandates that access to mental health community services is to be guaranteed**,** in that mental health is a priority for the general population and patients alike. Recommendations for occupational and health safety in community clinical practice was provided to patients and hospital staff, including support for telemedicine activities and remote psychosocial interventions [10]. Public Mental Health Services in Lombardy include 27 Departments for Mental Health and Addiction Services and a number of private residential facilities. A single Department consists of a network of psychiatric services covering hospital, community and residential activities in a given area. Public psychiatry services provide all prevention and therapeutic activities, these include emergency response and hospital admissions, community and rehabilitation activities both in outpatient services and inpatient residential facilities, and support for social inclusion [11].

Regarding community mental health care services, the activity has been maintained for patients suffering from clinically severe disorders, and/or affected by relevant socio-economic or forensic issues. For these patients, access to services has been maintained focusing on clinical monitoring and drug administration. Home interventions and off-site activities are only provided in urgent situations [10].

Aim of the study

Our aim is to evaluate the relationship between traumatic aspects of the COVID-19 emergency and clinical correlates in a sample of consecutive outpatients in a Community Mental Health setting in Milan, Italy.

Materials and methods

Participants

The present investigation is a non-experimental, exploratory and descriptive study. The sample included 140 consecutive outpatients recruited over a 2-week period, April 6th to April 19th 2020, seeking treatment at the Community Mental Health Service n. 2-9 of the ASST Great Metropolitan Hospital Niguarda, Milan.

Inclusion criteria for patients included, age between 18 and 75 years; ICD-10 diagnosis of neurotic, stress-related, and somatoform syndromes (F40-48); affective syndromes (F30-39) or schizophrenia, schizotypal, and delusional disorders (F20-29); personality disorders (F60-69). Exclusion criteria included severe systemic or neurological illnesses; inability to give consent or to perform self-report scales.

Instruments and assessments

Patient's sociodemographic and clinical data were collected using a structured interview. The patient's clinical condition was assessed with Clinical Global Impression – Severity of illness (CGI-S), a scale that assesses the severity of the disease at the time of the interview

with a score ranging from 0 (normal) to 7 (extremely ill) [12] and the 18-item Brief Psychiatric Rating Scale (BPRS-18) [13,14].
The immediate psychological consequences were evaluated with reliable and valid self-reported questionnaires used in community study, including the 20-item Self-Report Questionnaire (SRQ-20) [15] and the Impact of Event Scale-Revised (IES-R) [16,17].
The IES-R was developed to assess the prevalence of post-traumatic stress disorder; it has 22 items with a Liker rating scale from 0 to 4; the maximum score is 88.
The SRQ-20 was developed to investigate the general state of mental health; it has 20 items with a 'yes' or 'no' response; the maximum score is 20.
The total scores of these measurement tools were interpreted as follows: IES-R, normal (0-8), mild (9-25), moderate (26-43), and severe (44-88); and SRQ-20, normal (0-6), positive (> 7). These categories were based on values established in literature [2].

Statistical analysis

Data analysis was performed using SPSS (Statistical Package for the Social Science) version 16.0. Basic statistics were used to describe the demographic and clinical characteristics of the participants.
Chi-square test was used to compare the severity of distress symptoms (IES-R) and general state of mental health (SRQ-20) between two or more groups.
The associations between sociodemographic and clinical variables were explored, firstly by performing Pearson's correlation analysis and followed by multivariate regression. IES-R total score was used as the dependent variable while sociodemographic variables, SRQ-20, CGI-S and BPRS-total score were used as independent variables.

Results

Seventy-seven (55%) of the 140 subjects were women and the mean age was 50.35 years (range 24-75; sd 10.9).
Ten participants (7.1%) suffered from a neurotic, stress-related, and somatoform syndromes (F40-48), 58 (41.4%) from affective syndromes (F30-39). Schizophrenia, schizotypal, and delusional disorders (F20-29) were reported in 28.6% (n = 40) and personality disorder in 32 (22.9%).
Sociodemographic characteristics, as well as mean scores in BPRS, IES-R, SRQ-20 and CGI-S, are summerized in Table I.
The proportion of subjects across IES severity categories did not differ by gender ($\chi2 = 2.74$, $p = 0.43$), marital status ($\chi2 = 2.25$, $p = 0.521$), living situation ($\chi2 = 3.09$, $p = 0.377$), occupation ($\chi2 = 1.20$, $p = 0.75$) or diagnosis ($\chi2 = 10.13$, $p = 0.34$); a significant relationship was found between age and IES-R severity scores ($\chi2 = 18.27$, $p = 0.03$) (Tab. II).
About General State of Mental health (SRQ-20), a significant relationship was found between SRQ-20 severity score and gender ($\chi2 = 7.42$, $p = 0.009$), age ($\chi2 = 9.85$, $p = 0.020$), diagnosis ($\chi2 = 8.28$, df = 3, $p = 0.042$) (Tab. III).
By Pearson's correlation analysis (Tab. IV), we obtained a positive statistically significant correlation between IES-R total score and age ($p = 0.035$); SRQ-20 ($p < 0.001$) and BPRS total score ($p = 0.02$). Moreover, SRQ-20 total score correlated with age ($p = 0.011$), BPRS total score ($p < 0.001$) and CGI-S ($p < 0.001$).
In multiple regression analysis, being actively working (Beta = 0.15, $p = 0.03$) and SRQ (Beta = 0.56, $p = 0.00$) significantly predicted IES total score (Tab. V).

Discussion

To our knowledge, no study has investigated psychological response to the ongoing COVID-19 outbreak in a community mental health setting so far. In line with Moccia et al. [9] the time frame was chosen to assess participants' response during an early phase of the COVID-19 outbreak, following the Italian Government declaration of lockdown (March 8th, 2020) and the WHO announcement of the COVID-19 as a pandemic.
The results of our study show that, in the examined sample, a considerable proportion of participants reported symptoms of distress measured by IES-R and SRQ-20 positive screening according to Wang and colleagues [18] where 53.8% of respondents rated the psychological impact of outbreak as moderate and severe; whereas in Moccia and colleagues' study [9] only 38% of the general Italian population perceived a form of psychological distress.
Furthermore, there was a correlation between age, IES-R severity categories and SRQ-20 where patients between 45 and 65 years presented greater levels of distress and higher prevalence of "positive" in SRQ-20. The literature reports mixed results for this variable, indicating a greater psychological impact for both young adults and elderly [19,20]. A possible explanation for our results, is that the sample included mainly employed subjects with a mean age of 50.35 years, that have been forced to completely change their lifestyles.
In our sample the female group presented higher scoring of SRQ-20 (64.6 *vs* 35.4% positive), suggesting differences in coping strategies and response to stress. Gender differences in psychopathology is well known in literature [21]. Females seem more likely than males to suffer from disorders characterized by hyperarousal symptoms, including post-traumatic stress disorder [22]. Male gender also represented a protective factor for mild psychological distress in the Moccia et al. study [9]. Female

TABLE. I. *Sociodemographic characteristics and mean scores in BPRS, IES-R, SRQ-20 and CGI-S.*

Characteristic	Group	N (%)
Gender	Female	77 (55%)
	Male	63 (45%)
Marital Status	Single	75 (53.6%)
	Married	39 (27.9%)
	Separated/divorced	24 (17.1%)
	Widowed	2 (1.4%)
Living situation	Alone	53 (37.9%)
	Partner and/or children	55 (39.3%)
	Other relatives	27 (19.3%)
	Others	5 (3.5%)
Occupation	Employed	73 (52.1%)
	Unemployed	51 (36.5%)
	Retired	7 (5%)
	Student/housewife	9 (6.4%)
Education	Primary school diploma	3 (2.1%)
	Middle school diploma	35 (25%)
	High school diploma	70 (50%)
	Graduate/post-graduate	32 (22.9%)
	Mean	**Sd**
BPRS		
Total score	38.20	8.85
IES-R		
Total score	30.80	15.37
SRQ-20		
Total score	7.89	5.08

CGI-S	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Sample	0	27	37	62	13	1	0
N = 140		(19.3%)	(26.4%)	(44.3%)	(9.3%)	(0.7%)	

BPRS: Brief Psychiatric Rating Scale; IES-R: The Impact of the Event Scale-Revised; SRQ-20: Self Report Questionnaire; CGI-S: Clinical Global Impression – Severity.

gender predicted higher levels of stress also in the Mazza et al. study [8]. Similarly, a recent survey conducted in China one month after the COVID-19 outbreak reported higher post-traumatic stress symptoms in women [23].

The present study also found an association between higher scores on SRQ-20 and diagnosis of Affective and Personality Disorder. In line with our result, Moccia et al. [9] have found that depressive temperament was a risk factor for moderate to severe psychological distress, concluding that specific affective temperament and attachment features predict the extent of mental health burden.

BPRS total score correlated with SRQ-20 and IES-R using Pearson's correlation analysis. Several studies have highlighted that mental health patients are particularly vulnerable both to COVID-19 itself and its complications, as well as to the adverse psychological effects of measures such as self-isolation and disruption to their normal care and lifestyle [6,24].

Other studies have highlighted that people with a mental disorder and patients in contact with mental health services represent a population at risk for COVID-19 infection [25]. The low awareness of these patients regarding risk and the transmission of the infection, as well as the

TABLE II. *Severity categories of distress measurements in total sample and subgroups.*

IES-R, distress symptoms	Normal, N (%)	Mild, N (%)	Moderate, N (%)	Severe, N (%)
	11 (7.9)	47 (33.6)	45 (32.1)	37 (26.4)
Gender				
Male	7 (63.6)	23 (48.9)	19 (42.2)	14 (37.8)
Female	4 (36.4)	24 (51.1)	26 (57.8)	23 (62.2)
P value 0.433				
Age				
18-34	2 (18.2)	8 (17.0)	3 (6.7)	0 (0)
35-44	3 (27.3)	11 (23.4)	11 (24.4)	3 (8.1)
45-65	6 (54.5)	21 (44.7)	28 (62.2)	29 (78.4)
> 65	0 (0)	7 (14.9)	3 (6.7)	5 (13.5)
P value 0.032				
Marital status				
Single	6 (54.5)	36 (76.6)	33 (73.3)	26 (70.3)
Married	5 (45.5)	11 (23.4)	12 (26.7)	11 (29.7)
P value 0.521				
Living situations				
Alone	2 (18.2)	20 (42.6)	15 (33.3)	16 (43.2)
Others	9 (81.8)	27 (57.4)	30 (66.7)	21 (56.8)
P value 0.377				
Occupation				
Employed	6 (54.5)	23 (48.9)	22 (48.9)	22 (59.5)
Unemployed	5 (45.5)	24 (51.1)	23 (51.1)	15 (40.5)
P value 0.752				
Diagnosis				
Affective disorder	8 (72.7)	21 (44.7)	15 (33.3)	14 (37.8)
Anxiety disorder	0 (0)	2 (4.3)	3 (6.7)	5 (13.5)
Personality disorder	1 (9.1)	10 (21.3)	11 (24.4)	10 (27.0)
Psychotic disorder	2 (18.2)	14 (29.8)	16 (35.6)	8 (21.6)
P value 0.340				

low adherence to precautionary measures, including social distancing; frequent hand-washing; circulation restriction; home isolation, may contribute to this risk. In fact, in our sample, the psychotic disorder group, shows low severity scores of SRQ-20 that means a poor awareness of their own disorder but also for the pandemic related problems. Maintaining continuous monitoring of patients in contact with mental health service is essential for a careful assessment of their condition from both a psychopathological and medical point of view [10].

Finally, in multiple regression analysis, being actively working and SRQ-20 score significantly predicted IES-R total score. Unsurprisingly, the general state of mental health measured by SRQ-20 predicted severity of distress. Accordingly, Wang and colleagues [18] evidenced that female gender, student status, specific physical symptoms including myalgia; dizziness, and poor self-rated health status were significantly associated with a greater psychological impact of the outbreak and higher levels of stress, anxiety, and depression ($p < 0.05$).

Regarding occupational status as predictor of distress, as aforementioned, it seems that the quarantined workers have been forced to completely change their own lifestyle and have been exposed to the risk of losing their employment. In addition, having to go out to work was associated with higher levels of stress also in the Mazza et

TABLE III. *General state of mental health according to Self Report Questionnaire in total sample and subgroups.*

SRQ-20	Negative, N (%)	Positive, N (%)
	58 (41.4)	82 (58.6)
Gender		
Male	34 (58.6)	29 (35.4)
Female	24 (41.4)	53 (64.6)
***P value 0.009*		
Age		
18-34	7 (12.1)	6 (7.3)
35-44	18 (31.0)	10 (12.2)
45-65	27 (46.6)	57 (69.5)
> 65	6 (10.3)	9 (11.0)
P value 0.020		
Marital status		
Single	43 (74.1)	58 (70.7)
Married	15 (25.9)	24 (29.3)
P value 0.705		
Living situations		
Alone	20 (34.5)	33 (40.2)
Others	38 (65.5)	49 (59.8)
P value 0.596		
Occupation		
Employed	31 (53.4)	42 (51.2)
Unemployed	27 (46.6)	40 (48.8)
P value 0.864		
Diagnosis		
Affective disorder	27 (46.6)	31 (37.8)
Anxiety disorder	3 (5.2)	7 (8.5)
Personality disorder	7 (12.1)	25 (30.5)
Psychotic disorder	21 (36.2)	19 (23.2)
P value 0.042		

TABLE V. *Associations between sociodemographic/clinical variables and post-traumatic symptoms.*

IES total	Model F = 7.24; p = 0.00; R^2 = 41.2%				
	B	SE(B)	Beta	t	p
Age	0.17	0.10	0.13	1.68	0.09
Years of treatment	-0.14	0.13	-0.08	-1.09	0.27
CGI-S	-2.65	1.49	-0.16	-1.77	0.07
Sex	1.14	2.11	0.03	0.54	0.58
Marital status (conjugated)	-3.85	2.73	-0.11	-1.40	0.16
Being employed	4.47	2.13	0.15	2.09	0.03
Living with someone	4.14	2.47	0.13	1.68	0.09
BPRS-total	0.26	0.16	0.15	1.59	0.11
SRQ-20	1.67	0.22	0.56	7.38	0.00

al. study [8] and further studies have highlighted that those who perform essential jobs, including Health-care workers, have been exposed to a greater risk of contagion, and more frequently have developed PTSD symptoms [26].

Conclusions

Our data evidenced high levels of distress among patients in contact with mental health services during COVID-19 emergency period, strongly suggesting the importance of maintaining continuous monitoring for a careful assessment of these patients from both a psychopathological and medical point of view.

During this period, it is not only an ethical imperative but also a public health responsibility to keep the network of community psychiatry services operational, particularly for the most vulnerable subjects [27,28].

This study has several limitations. Firstly, since the survey was completed during the quarantine period, no conclusion can be drawn regarding the long-term psy-

TABLE IV. *Bivariate correlations between the variables.*

	Age	Years of treatment	CGI-S	IES total	SRQ-20	BPRS Total
Age	1	0.25**	0.03	0.17*	0.21*	0.14
Years of treatment	0.25**	1**	0.10	-0.01	0.01	0.16
CGI-S	0.03	0.10	1**	0.09	0.27**	0.67**
IES-total	0.17*	-0.01	0.09	1	0.60**	0.26**
SRQ-20	0.21*	0.01	0.27**	0.60**	1	0.39**
BPRS-total	0.14	0.16	0.67**	0.26**	0.39**	1

**p < 0.05; **p < 0.01*

chological effects. Larger, controlled, prospective studies are needed. Secondly, the reliability of self-administered questionnaires may be partially biased.

Authors' contribution

The Authors contributed equally in the preparation and revision of the manuscript.

Acknowledgements

The Authors wish to thank all the clinical staff of the Community Mental Health Centre "Cherasco", Niguarda Hospital and Maruska C. Nizzi for the medical writing support.

References

1 Li Q, Guan X, Wu P, et al. Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia. N Eng J Med 2020. https://doi.org/10.1056/NEJMoa2001316

2 Lai J, Ma S, Wang Y, et al. Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. JAMA Network Open 2020. https://doi.org/10.1001/jamnetworkopen.2020.3976

3 World Health Organisation. Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCov) (https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov)

4 Istituto Superiore di Sanità. Task force COVID-19 del Dipartimento Malattie Infettive e Servizio di Informatica (www.epicentro.iss.it).

5 Xiang YT, Yang Y, Li W, et al. Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. Lancet Psychiatry 2020;7:228-9.

6 Brooks SK, Webster RK, Smith LE, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. Lancet 2020;395:912-20.

7 Rubin GJ, Wessely S. The psychological effects of quarantining a city. BMJ 2020;368:m313.

8 Mazza C, Ricci E, Biondi S, et al. A nationwide survey of psychological distress among Italian people during the COVID-19 pandemic: immediate psychological responses and associated factors. Int J Environ Res Public Health 2020;17:3165. https://doi.org/10.3390/ijerph17093165

9 Moccia L, Janiri D, Pepe M, et al. Affective temperament, attachment style, and the psychological impact of the COVID-19 outbreak: an early report on the Italian general population. Brain Behav Immun 2020. https://doi.org/10.1016/j.bbi.2020.04.048

10 Percudani M, Corradin M, Moreno M, et al. Mental health service in Lombardy during COVID-19 outbreak. Psychiatry Research 2020. https://doi.org/10.1016/j.psychres.2020.112980

11 Fattore G, Percudani M, Pugnoli C, et al. Mental health care in Italy: organisational structure, routine clinical activity and costs of a Community Psychiatric Service in Lombardy Region. Int J Soc Psychiatry 2000;46:250-65.

12 Guy W. ECDEU assessment manual for psychopharmacology. US Department of Health and Welfare 1976, pp. 534-7.

13 Overall JE. The Brief Psychiatric Rating Scale in psychopharmcology research. In: Pichot P, Olivier-Martin R, Eds. Psychol Measurem Psychopharmacol 1974;67-78.

14 Morosini P, Rancone R, Impallomeni M, et al. Presentazione dell'adattamento italiano della Brief Psychiatric Rating Scale. Rivista di Riabilitazione psichiatrica e psicosociale 1995;1:48-54.

15 Beusemberg M, Orley J. A user's guide to the Self Reporting Questionnaire (SRQ). Division of Mental Health World Organization, Geneva, Psychiatry, 1994.

16 Weiss DS, Marmar CR. The impact of event scale-revised. In: Wilson JP, Keane TM, Eds. Assessing psychological trauma and PTSD. New York: Guilford Press 1997, pp. 399-411.

17 Craparo G, Faraci P, Rotondo G, et al. The impact of event scale-revised: psychometric properties of the Italian version in a sample of flood victims. Neuropsych Dis Treat 2013;9:1427-32.

18 Wang C, Pan R, Wan X. Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. Int J Environ Res Public Health 2020;17:1729.

19 Qiu J, Shen B, Zhao M, et al. A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: implication and policy recommendations. Gen Psychiatr 2020;33;e100213.

20 Taylor MR, Agho KE, Stevens GJ, et al. Factors influencing psychological distress during a disease epidemic: data from Australia's first outbreak of equine influenza. BMC Publiv Health 2008;8:347.

21 Salk RH, Hydel JS, Abramson LY. Gender differences in depression in representative national samples: meta-analyses of diagnoses and symptoms. Psychol Bull 2017;143:783-822. https://doi.org/10.1037/bul0000102

22 Bangasser DA, Eck SR, Sanchez EO. Sex differences in stress reactivity in arousal and attention systems. Neuropsychopharmacology 2019;44:129-39. https://doi.org/10.1038/s41386-018-0137-2

23 Liu N, Zhang F, Wei C, et al. Prevalence and predictors of PTSD during COVID-19 outbreak in China hardest hit areas: gender differences matter. Psychiatry Res 2020;287:112921.

24 Smith K, Ostinelli E, Cipriani A. COVID-19 and mental health: a transformational opportunity to apply an evidence-based approach to clinical practice and research. Evid Based Ment Health 2020;23:45-6.

25 Zhu Y, Chen L, Ji H, et al. The risk and prevention of novel coronavirus pneumonia infections among inpatients in psychiatric hospitals. Neurosci Bull 2020;36:299-302.

26 Reynolds JR, Garay SL, Deamond MK, et al. Understanding, compliance and psychological impact of the SARS quarantine experience. Epidemiol Infect 2008;136:997-1007. https://doi.org/10.1017/S0950268807009156

27 Yang Y, Li W, Zhang L, et al. Mental health services for older adults in China during the COVID-19 outbreak. Lancet Psychiatry 2020;7:e19.

28 Starace F; on behalf of the Italian Society of Epidemiological Psychiatry (SIEP) board members, Ferrara M. COVID-19 disease emergency operational instructions for Mental health departments issued by the Italian Society of Epidemiological Psychiatry. Epidemiol Psychiatr Sci 2020;29:e116. https://doi.org/10.1017/S2045796020000372