

Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

The roles of a psychiatrist in the COVID-19 pandemic

David S Baldwin Robert Gordon Karl Marlowe

Abstract

The COVID-19 pandemic and its restrictions have strained personal psychological resilience, tested family relationships, fragmented local communities, disrupted schools and other educational institutions, exhausted health and social services, and drained national economies. Initial concerns necessarily focused on the ability of primary care services and general hospitals to cope with a potentially overwhelming wave of physically unwell patients. Attention is now being drawn to adverse effects of the pandemic on individual and societal mental health. Mental health services have important roles in mitigating the adverse effects of the pandemic and associated measures such as enforced isolation and regional lockdown on individual mental health, in supporting the recovery of psychologically affected individuals and an exhausted health workforce, and in fostering community resilience and cohesiveness.

Keywords COVID-19; mental health services; neuropsychiatry; pandemic; psychiatrist

Background

Prior to the SARS-CoV-2 (COVID-19) pandemic, previous coronavirus epidemics had been associated with high rates of psychiatric morbidity. There is accumulating evidence of higher rates of symptoms of common mental health problems such as anxiety and insomnia²⁻⁴ associated with the current pandemic, with some reports of severe psychiatric disorders including mania and psychosis. These may arise directly from the effects of infection with enforced isolation and quarantine after

David S Baldwin MA DM FHEA FRCPsych is a Professor of Psychiatry in the Faculty of Medicine of the University of Southampton, UK, Honorary Consultant Psychiatrist with Southern Health NHS Foundation Trust, UK and Honorary Professor of Psychiatry at the University of Cape Town, South Africa. Competing interests: Professor Baldwin is a Medical Patron of Anxiety UK and Clinical Advisor to the National Clinical Audit of Anxiety and Depression..

Robert Gordon BSc MB BS MRCPsych is a Specialist Registrar in Psychiatry in the Wessex Deanery, Southampton, UK. Competing interests: none declared.

Karl Marlowe MBChB MSc PgDCBT PgDOL FRCPsych is Chief Medical Officer and Consultant Psychiatrist at Southern Health NHS Foundation Trust, Tatchbury Mount, Southampton, UK. Competing interests: none declared.

Key points

- The COVID-19 pandemic and the associated restrictions together have adverse effects on mental health
- SARS-CoV-2 infection can lead to a broad range of neurological and psychiatric conditions
- Patients with psychiatric conditions may be a greater risk of infection and more severe illness
- Medicines used to counter the features of COVID-19 infection may interact with certain psychotropic drugs
- Mental health professionals can support distressed colleagues working in the general hospital

viral exposure, or indirectly from additional stressors such as complicated bereavement, job losses, intra-familial tension and sudden impoverishment. So how may a psychiatrist make a useful contribution, both in the midst and aftermath of a viral pandemic?

Neuropsychiatric disorders associated with Covid-19 infection

Central effects of viral infection and of its complications and treatments include the development of a range of neurological and psychiatric conditions, including anxiety disorders, delirium (which is probably the most commonly associated neuropsychiatric syndrome), demyelination, depressive disorders, encephalopathies, seizures and stroke. 1,8-10 The psychiatrist therefore has a role in assisting neurologists to determine whether incidental unusual mental state presentations within the context of established Covid-19 infection are best understood as either neurological or psychiatric in origin. They are also able to advise on the optimal management of patients experiencing acute confusional states which may be accompanied by marked agitation and psychotic symptoms such as troubling persecutory delusions and distressing visual hallucinations. High rates of anxiety, depressive and post-traumatic symptoms, 11 cognitive difficulties, ¹² and marked fatigue¹³ are all reported in people who recover after hospital admission for COVID-19: although the course of these features is not yet fully established, it is probable that mental health professionals will make important contributions to supporting the community rehabilitation of discharged inpatients, particularly those with 'long Covid' with its constellation of physical and psychological symptoms.

Psychological consequences of quarantine, isolation and 'lockdown'

Prolonged enforced isolation and quarantine have a range of untoward effects on psychological wellbeing: anxiety, irritability, poor concentration, fatigue and lowered mood are all common. Social isolation and the subjective sense of loneliness are both associated with suicidal thoughts and attempts. Population-based data accrued during the first month (straddling March—April 2020) of the UK-wide lockdown found that

certain groups were more likely to report suicidal thoughts and self-harm: including Black, Asian and minority ethnic (sometimes grouped under the contested acronym 'BAME') groups, and people experiencing socioeconomic disadvantage, disability, physical illness, mental disorders and a COVID-19 diagnosis. 17 The untoward effects of isolation can be minimised by keeping its duration as short as possible, by ensuring individuals understand fully why quarantine is essential, by ensuring adequate supplies of basic needs, and by reducing boredom and improving communication. The psychiatrist should work with other health professionals in helping populations understand that many of the experiences are shared by others and are likely to resolve as entry back into wider society becomes possible, as 'normalisation' of shared peer experiences may reduce adverse impacts. Simple advice on how to cope with social distancing requirements and to maintain or enhance mental well-being may help mitigate some of the untoward consequences of isolation (Table 1).18,19

Patients with mental health problems before the pandemic

The potential adverse psychological impact of viral infection in patients with established psychiatric illnesses is uncertain: individuals with known mental health problems may be particularly vulnerable to infection,^{3,20} this increased risk being independent of known physical health factors for COVID-19.³ There is a bi-directional impact, as those with mental health problems have increased morbidity. Comparative studies suggest that patients with pre-existing psychiatric illness are more likely to experience suicidal thoughts and to behave impulsively²¹; and less likely to use adaptive strategies such as taking exercise and contacting friends but more likely to increase their cigarette smoking.²² Patients with existing mental health problems are probably more likely to be affected adversely by 'social distancing' and to suffer from the economic constraints resulting

Simple steps to maintain well-being whilst 'social distancing'

- 1. Establish a regular daily routine to provide structure and purpose
- 2. Balance commitments over a week to ensure a good mix of work, rest and leisure
- 3. Continue important regular activities, adapting them to be carried out at home
- 4. Set daily goals to provide a sense of progress and achievement
- 5. Acquire new knowledge to give a sense of growth
- 6. Keep in touch with family and friends and talk about feelings and concerns
- 7. Volunteer time and skills to support others
- 8. Look after physical health through having a healthy diet and taking regular exercise
- 9. Identify potential triggers of low mood and take steps to reduce them
- 10. Avoid excessive consumption of alcohol-containing drinks

Table 1

from the pandemic.²³ Individuals from deprived social backgrounds are at greater risk of the more severe consequences of COVID-19 infection, and patients with mental health problems from these communities may be at even greater risk when compared with other ethnic groups.²⁴

Effects on mental health services

The effects of the pandemic on the risks of relapse or recurrence of illness, or the need for increased use of services in patients with known mental health problems are not fully established. 25,26 However, reports from mental health services in the United Kingdom have indicated initial falls in activity following the first national lockdown, but a subsequent increased demand for some services: with shifts from face-to-face appointments to on-line consultations, and a possible rise in mortality. 27-30 Virtual consultations can be challenging, but can offer advantages (e.g. greater convenience for patients who are undertaking caring roles, reduced appointment non-attendance rates) over the previous means for assessment in some situations.³¹ Psychiatrists therefore need to be vigilant in their concerted monitoring of known patients (with systematic monitoring of suicide risk and attempts), and able to work flexibly using novel approaches to meet potentially increased demands on mental health services. They should strive to minimise relapse and so prevent avoidable admissions to potentially hazardous hospital environments where physical distancing may be hard. They also need to be assertive when protecting staff and environmental resources, during a period when these might be vulnerable to diversion to more obviously 'frontline' physical health services.

Psychotropic drug prescribing during the pandemic

Safe and effective treatment of patients with psychotropic medication may sometimes be jeopardised because of the pandemic.³² Prescriptions of certain psychotropic drugs including lithium and clozapine - need to be accompanied by regular blood testing to monitor levels and optimise tolerability and safety, and adequate provisions must be made for continued venesection using 'Covid-secure' means with personal protective equipment (PPE). Prescription of long-acting injectable and depot intramuscular preparations of antipsychotic medicines involves regular physical contact between patients and administering staff, so will also be reliant on use of PPE in Covid-secure environments. Guidance (some of which is summarised in Box 1) on the use of commonly prescribed psychotropic drugs (including antidepressants, antipsychotics, anxiolytics, lithium and psychostimulants) during the pandemic is available through the Royal College of Psychiatrists.³³

Interactions with medicines used to treat COVID-19 infection

A psychiatrist should be aware of potential interactions with psychotropic medications, should a patient become infected. Many of the experimental approaches to treating Covid-19 infection — including use of azithromycin, hydroxychloroquine and remdesivir - are associated with risk of untoward interactions with concomitantly prescribed psychotropic medication. As examples, azithromycin is associated with QTc prolongation on the ECG, a phenomenon seen with a number of antipsychotic and antidepressant drugs, and its combination with

Summarised guidance on psychotropic drug prescribing to adults during the pandemic era

Antidepressant, anxiolytic or antipsychotic medication. Careful consideration should be given to whether now is the best the time to withdraw or change medication. For many patients it is likely that advice will be given to continue on regular medication until this can be reviewed in a face-to-face setting and the patient can be involved in shared decision making with their usual doctor or healthcare provider.

Benzodiazepines and/or rapid tranquilisation. Patients should have increased physical health monitoring and this should be reflected in the patient's individualised care plan.

Lithium. Febrile patients may become dehydrated and lithium levels may rise, putting patients at greater risk of toxicity. Look for signs of potential toxicity such as coarse tremor. If these are present obtain an urgent lithium level.

Clozapine. It is highly unlikely that during this period it will be possible to start patients on clozapine treatment safely unless normal haematological monitoring can be assured.

Patients with cognitive impairment. It is likely that people with underlying cognitive impairment will be at increased risk of delirium if suffering from COVID-19 related illness. It will be important when deciding on the best management plan (both non-pharmacological and pharmacological) to consider all the relevant factors including risk to self and to others.

Injectable treatments. If the patient describes COVID-19 symptoms, and is due to have their depot/long-acting injectable (LAI) administered, consult the prescriber and consider an alternative short term treatment plan, such as deferring treatment for 2 weeks (if currently psychologically well and risk of rapid relapse is considered low) or switching to oral formulations (refer to guidance about dosage equivalence). If the decision is made to defer depot/LAI, ensure a clear plan/risk assessment is agreed and documented regards follow up with continued monitoring of mental and physical health, with the agreed date of when to review and next administer depot/LAI.

For a full account, visit https://www.rcpsych.ac.uk/about-us/responding-to-covid-19/responding-to-covid-19-guidance-for-clinicians/community-and-inpatient-services/providing-medication

Box 1

these medicines may further increase the risk of cardiac problems; the antidepressants amitriptyline, bupropion, duloxetine, fluoxetine and paroxetine can inhibit the metabolism of hydroxychloroquine so raising its levels and increasing its risk of QTc prolongation; and remdesivir may enhance the metabolism of the antipsychotic drug clozapine, thereby potentially reducing its efficacy.³⁴

Supporting distressed health professionals

During peaks of the pandemic, health professionals can find themselves working at pace outside their primary training and expertise, with rapidly changing guidance and limited equipment and other resources: troubled by doubt, uncertainty and disquiet. Health care workers may also be particularly affected by requirements for isolation and quarantine, perhaps because of concerns about being away from the workplace at a time of heightened demand. 15 The pandemic places many healthcare professionals in previously unanticipated situations, needing to make swift difficult decisions on rather limited evidence under duress, sometimes having to choose between similarly affected patients when allocating limited resources, whilst trying to balance their commitment to providing clinical care with their own physical and mental needs, and those of family members. These pressing challenges may cause some to experience 'moral injury' (psychological distress resulting from actions which violate individual moral or ethical code) and may contribute to subsequent mental health problems.³⁵ Continuous professional development peer groups provide space and time for informal support and can reduce professional isolation. Consultation-liaison psychiatric services and occupational mental health services may therefore be important in attending to distressed colleagues, and in supporting managerial systems (from induction processes to 'postvention' support of distressed staff) designed to support a psychologically robust workforce.³⁶

Fostering community resilience and cohesiveness

The COVID-19 pandemic arose during 'an age of anxiety', with pressing global concerns relating to widening inequality, environmental degradation, terrorism, racism, xenophobia and societal polarisation: it is probable that adverse consequences of the pandemic on individual mental health will combine synergistically with these factors to engender a pervasive societal sense of unease.³⁷ Psychiatrists and other mental health professionals should therefore contribute to efforts to recognise that individual distressed mental states must be placed in a wider social context, and to foster understanding of how the individual and the collective are mutually dependent.

Conclusion

Few would have anticipated that a simple virus could wreak such world-wide damage. The global transmission of Covid-19 has transformed societies and imposed major challenges to health services. The adverse consequences of the pandemic, with its necessary accompanying restrictions, on individual psychological well-being are becoming more apparent. Psychiatrists and other mental health professionals have a key role in providing advice on the management of patients with emergent neuropsychiatric syndromes associated with viral infection, in caring for patients with mental health problems who are at increased risk of infection and of the deleterious consequences of isolation and lockdowns, in supporting other health professionals who may be distressed and exhausted by the nature and volume of their work, and in helping battered communities to recover from this unexpected onslaught.

REFERENCES

- 1 Rogers JP, Chesney E, Oliver D, et al. Psychiatric and neuro-psychiatric presentations associated with severe coronavirus infections: a systematic review and meta-analysis with comparison to the COVID-19 pandemic. *Lancet Psychiatry* 2020; 7: 611–27.
- 2 Wang C, Pan R, Wan X, et al. 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 Publ Health* 2020; **17:** 1729.
- 3 Taquet M, Luciano S, Geddes JP, Harrison PJ. Bidirectional associations between COVID-19 and psychiatric disorder: retrospective cohort studies of 62354 COVID-19 cases in the USA. *Lancet Psychiatry*, 2020 Nov 9; 2020. https://doi.org/10.1016/S2215-0366(20)30462-4.
- 4 Lin L-Y, Wang J, Ou-Yang X-Y, et al. The immediate impact of the 2019 novel coronavirus (COVID-19) outbreak on subjective sleep status. Sleep Med, 2020; https://doi.org/10.1016/j.sleep.2020.05. 018
- 5 Iqbal Y, Al Adbulla MA, Abrahim A, et al. Psychiatric presentation of patients with acute SARS-CoV-2 infection: a retrospective review of 50 consecutive patients seen by a consultation-liaison psychiatry team. BJPsych Open 2020; 6. e109-e109.
- 6 Smith CM, Komisar JR, Mourad A, Kincaid BR. COVID-19associated brief psychotic disorder. BMJ Case Rep 2020; 13: e236940.
- 7 Ferrando SJ, Klepacz L, Lynch S, et al. COVID-19 psychosis: a potential new neuropsychiatric condition triggered by novel coronavirus infection and the inflammatory response? *Psychosomatics* 2020; 61: 551–5.
- 8 Varatharaj A, Thomas N, Ellul MA, et al. Neurological and neuropsychiatric complications of COVID-19 in 153 patients: a UK-wide surveillance study. *Lancet Psychiatry* 2020; 7: 875–82.
- 9 Asadi-Pooya AA, Simani L. Central nervous system manifestations of COVID-19: a systematic review. *J Neurol Sci* 2020; 413: 116832.
- 10 Nalleballe K, Onteddu SJ, Sharma S, et al. Spectrum of neuropsychiatric manifestations in COVID-19. *Brain Behav Immun* 2020; 88: 71–4.
- 11 Mazza MG, De Lorenzo R, Conte C, et al. Anxiety and depression in COVID-19 survivors: role of inflammatory and clinical predictors. *Brain Behav Immun* 2020; 89: 594–600.
- 12 Halpin SJ, McIvor C, Whyatt G, et al. Postdischarge symptoms and rehabilitation needs in survivors of COVID-19 infection: a cross-sectional evaluation. *J Med Virol*, 2020; https://doi.org/10. 1002/jmv.26368.
- 13 Zhou H, Lu S, Chen J, et al. The landscape of cognitive function in recovered COVID-19 patients. J Psychiatr Res 2020; 129: 98–102.
- 14 Leigh-Hunt N, Bagguley D, Bash K, et al. An overview of systematic reviews on the public health consequences of social isolation and loneliness. *Publ Health* 2017; 152: 157–71.
- 15 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.
- 16 Calati R, Ferrari C, Brittner M, et al. Suicidal thoughts and behaviors and social isolation: a narrative review of the literature. J Affect Disord 2019; 245: 653–67.
- 17 lob E, Steptoe A, Fancourt D. Abuse, self-harm and suicidal ideation in the UK during the COVID-19 pandemic. *Br J Psychiatr* 2020; 217: 543—6.
- **18** Tappenden I, Tomar R. Mental health impacts of social isolation in older people during COVID pandemic. *Prog Neurol Psychiatr* 2020; **24:** 25–9.

- 19 Diamond R, Willan J. Coronavirus disease 2019: achieving good mental health during social isolation. Br J Psychol 2020; 217: 408–9
- **20** Wang Q, Xu R, Volkow ND Increased risk of COVID-19 infection and mortality in people with mental disorders: analysis from electronic health records in the United States. World Psychiatry ([n/a]).
- 21 Hao F, Tan W, Jiang L, et al. Do psychiatric patients experience more psychiatric symptoms during COVID-19 pandemic and lockdown? A case-control study with service and research implications for immunopsychiatry. *Brain Behav Immun* 2020; 87: 100-6.
- 22 Solé B, Verdolini N, Amoretti S, et al. Effects of the COVID-19 pandemic and lockdown in Spain: comparison between community controls and patients with a psychiatric disorder. Preliminary results from the BRIS-MHC STUDY. J Affect Disord 2020; 281: 13–23.
- 23 Gayer—Anderson C, Latham R, El Zerbi C, et al. Impacts of social isolation among disadvantaged and vulnerable groups during public health crises, Evidence briefings. ESRC, 2020.
- **24** Kapilashrami A, Bhui K. Mental health and COVID-19: is the virus racist? *Br J Psychiatr* 2020; **217**: 405–7.
- 25 Kaufman KR, Petkova E, Bhui KS, Schulze TG. A global needs assessment in times of a global crisis: world psychiatry response to the COVID-19 pandemic. BJPsych Open 2020; 6: e48
- 26 Holmes EA, O'Connor RC, Perry VH, et al. Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *Lancet Psychiatry* 2020; 7: 547–60.
- 27 Chen S, Jones PB, Underwood BR, et al. The early impact of COVID-19 on mental health and community physical health services and their patients' mortality in Cambridgeshire and Peterborough, UK. *J Psychiatr Res* 2020; 131: 244-54.
- 28 Stewart R, Broadbent M, Das-Munshi J. Comparison of mental health service activity before and shortly after UK social distancing responses to the COVID-19 pandemic: february-March 2020. *medRxiv*, 2020; 2020. 09.26.20202150.
- 29 Stewart R, Broadbent M, Das-Munshi J. Excess mortality in mental health service users during the COVID-19 pandemic described by ethnic group: South London and Maudsley data. *medRxiv*, 2020; 2020. 07.13.20152710.
- 30 Stewart RE, Martin E, Broadbent M. Mental health service activity during COVID-19 lockdown: South London and Maudsley data on working age community and home treatment team services and mortality from February to mid-May 2020. medRxiv, 2020; 2020. 06.13.20130419.
- **31** Chen JA, Chung W-J, Young SK, et al. COVID-19 and telepsychiatry: early outpatient experiences and implications for the future. *Gen Hosp Psychiatr* 2020; **66:** 89–95.
- **32** Luykx JJ, van Veen SMP, Risselada A, et al. Safe and informed prescribing of psychotropic medication during the COVID-19 pandemic. *Br J Psychiatr* 2020; **217:** 471–4.
- 33 Royal College of Psychiatrists. COVID-19: providing medication. In: Guidance for clinicians. Royal College of Psychiatrists, 2020.

- **34** Bishara DC, Kalafatis C, Taylor D. Emerging and experimental treatments for COVID-19 and drug interactions with psychotropic agents. *Ther Adv Psychopharmacol* 2020; **10**. 045125320935306-2045125320935306.
- **35** Greenberg N, Docherty M, Gnanapragasam S, Wessely S. Managing mental health challenges faced by healthcare workers during covid-19 pandemic. *BMJ* 2020; **368**: m1211.
- **36** Tracy DK, Tarn M, Eldridge R, et al. What should be done to support the mental health of healthcare staff treating COVID-19 patients? *Br J Psychiatr* 2020; **217:** 537–9.
- 37 Kesner L, Horáček J. Three challenges that the COVID-19 pandemic represents for psychiatry. Br J Psychiatr 2020; 217: 475–6.

Acknowledgments

The authors would like to thank Dr Mary Houston for her administrative assistance in compiling the bibliography.