



REVIEW ARTICLE

Microbiology

PUBLIC MENTAL HEALTH DURING COVID-19 PANDEMIC AND PREVENTIVE APPROACHES

KEY WORDS: COVID-19, Public mental health, Anxiety, Depression, Stress

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ABSTRACT

The COVID-19 pandemic is a foremost health disaster affecting several nations, with over 43,766,712 confirmed cases and 1,163,459 confirmed deaths reported to date, 28 October 2020 as per WHO. Before COVID-19 pandemic public mental health was previously a neglected health concern globally, with close to one billion individuals existing with a mental illness. Such widespread outbreaks are associated with numerous psychological problems and adverse mental health consequences including anxiety, nervousness, depression, stress, frustration, ambiguity, insomnia during COVID-19 outbreak occurred progressively. Current review address about the impact of COVID-19 pandemic on the mental health in the pervasive population and preventive approaches to deal with existing scenario.

INTRODUCTION:

At the end of December, 2019, a new disease of unknown aetiology appeared in Wuhan city of China, which was quickly recognized as coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). As a result of the emergence of COVID-19, a scenario of socio-economic crisis, psychological and signs of mental illness rapidly occurred worldwide¹. Most of the public activities have been restricted in almost every single country, nearly all non-essential individual movements were restricted due to quarantine, although the local hospitals received abruptly thousands of critically COVID-19 infected patients and were enforced to implement their emergency practices². In such circumstance, the common population as well as most of the front-line healthcare workers became exposed to the emotional impact of COVID-19 infection, due to both the pandemic and its consequences worldwide^{3,4}. As it has been suggesting that social distancing practice is one way of limiting infectious disease. At midnight of 24th March 2020, The honourable prime minister of India had announced a 21 days' countrywide lock-down starting from the 25th of March 2020 to the 14th of April 2020, addressing that it was an important and effective measure for breaking down the cycle of COVID-19 infection. Perhaps lockdown confirmed that hundreds of millions of persons were efficiently restricted to home, this may have been effective in helping to curb the spread of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), but it has not, feasibly, been encouraging to the emotional and mental health of public. The psychological responses to COVID-19 pandemic might differ from a panic behaviour or collective hysteria to pervasive emotional state of desperation and hopelessness which are associated with negative outcomes including suicidal behaviour⁵⁻⁶. For instance, some suicide episodes have been well documented amongst all classes of socio-economic layers during period of COVID-19 pandemic⁷⁻⁸. A suicide case of an elite officer in capital city of India due to fear of COVID-19 have also been

reported and by a well-known Bollywood figure due to unidentified reasons are typical examples which have created a countrywide dispute about the mental health issues during the COVID-19 era⁹. Unescapable fear and public anxiety which are classically associated with disease outbreaks as well as insufficient anxiety-provoking information which is provided by social broadcasting¹⁰. An increasing tendency of depression and mental illnesses is being frequently reported amid all classes and age groups, which goes unnoticed in developing nations. Although, many psychological problems and significant negative effect on mental health such as anxiety, stress, frustration, hopelessness, desperation, uncertainty during COVID-19 outbreak arisen progressively. Collective psychological issues are related to the mass quarantine which was enforced in order to diminish the COVID-19 spread. Psychiatrists around the world should be conscious of these manifestations, their correlates, and strategies to manage them that encompass both the needs of specific populations². Given this background, this review discussed out about the impact of the COVID-19 pandemic on the mental health in overall community and tactics to overcome.

FACTORS IMPACTING MENTAL HEALTH AND PREVENTIVE APPROACHES:

Mental health is a critical aspect which is essential to be addressed during this pandemic as all approaches of communication revolve around the virus. The government, medical, educational institutions, organizations and even people require to focus into psychological intervention and take essential measures during such stressful conditions¹¹. Apart from stay isolated to control the infection, it is essential to notify and prepare them to handle the mental health problems that they may endure during this period¹². Factors impacting mental health and preventive approaches given below which helps to overcome during COVID-19 era (Table 1).

Table 1: Factors Impacting Mental Health During Covid-19 Infection And Preventive Approaches:

S.N.	FACTORS	IMPACT ON MENTAL HEALTH	PREVENTIVE APPROACHES
1	Unambiguous fears related to infection	<ul style="list-style-type: none"> Fear about the novel and unknown infectious agents causing augmented nervousness in public. 25 COVID-19 infections can take an emotional toll. People who have been exposed to the risk of infection may develop ubiquitous fears about their health, worries to infect others close ones and fear infecting family members. 	<ul style="list-style-type: none"> It's common to feel fearful and nervous during this time. Speaking about your feelings will lower your distress. Individuals have to Stick to truthful sources such as the CDC, the World Health Organization, and your confined public health authorities. Recognize the fear. Remember that you are not isolated in feeling insecure. It's vital to stay informed, particularly about

		<ul style="list-style-type: none"> • Pregnant women and individuals with young children are the most at risk to develop the fear of becoming infected or transmitting the virus. 	<p>what's happening in your community, so you can follow advised safety precautions and do your part.</p>
2	Ubiquitous anxiety	<ul style="list-style-type: none"> • Societal isolation related to certain boundaries and lockdown procedures are directly related deep anxiety. • Anxiety in a pandemic period may include the perceived lower social support, separation from loved ones, loss of freedom, uncertainty and boredom. • Anxiety may be directly related to sensorial deprivation and pervasive loneliness, in this case first insomnia but later depression and post-traumatic stress occurred. 	<ul style="list-style-type: none"> • Constantly watching news and media about COVID-19 will make you more anxious and upset. Choose a limited time each day when you have to spend time on COVID19 updates. • Planning your daily routines helps in adapting quickly and managing anxiety. • Distribute your timings as work and non-work times in an organized way. Make your mind-set in the similar manner. • Recognize an interest, hobby or activity that carries happiness and joy to you and do it. • Occupied in short bursts with lively breaks will benefit to keep your clarity of thought.
3	Solitude	<ul style="list-style-type: none"> • Persistent solitude may be significantly associated with augmented misery and suicidal behaviour. Loneliness is progressively enhanced by nervousness, anxiety or collective hysteria¹³ • Cerebral functions and decision making are firstly diminish by hyperarousal and anxiety and later by disabling feelings of loneliness. Additionally, societal seclusion and loneliness are also associated with drug abuse¹⁴. 	<ul style="list-style-type: none"> • A number of community teams have developed interactive platforms. Be active and dynamic in groups you like. Spend time with loved ones. • Pen down your views, emotions and thoughts on a regular basis. Choose a new hobby. • Learn a bit new every day. Keep your mind engaged. • Tried to be connected with friends, family, and colleagues over social media or the phone.
4	Stress	<ul style="list-style-type: none"> • Quarantine and loneliness seem to derive by the limitation from day-to-day activities, pause of social necessities, lack of ability to take part in social networking actions enhancing the stress and risk of hopelessness¹⁵. • Stress and worrying is meticulously associated with fatigue and reduced performance in healthcare workers.²⁶ Moreover, additional terrible effects such as poor concentration, anger, irritability, feelings of dependency associated with stress¹⁶. 	<ul style="list-style-type: none"> • Prioritize your physical and mental health Workout regularly, eat healthy food and sleep thoroughly. • It is a decent idea to meditate. Meditation is a powerful and natural treatment which improves concentration and reduces mental stress, depression and anxiety. • These practices help in strengthening your immune system.
5	Desperation	<ul style="list-style-type: none"> • Misery, monotony, societal segregation and frustration are directly linked to quarantine, unusually reduced societal communication with near and dear ones, and loss of usual habits resulting desperation. • Desperation can lead to range of behavioural and physical changes such as changes in sleep, appetite, energy level, concentration, daily behaviour or self-esteem¹⁷. 	<ul style="list-style-type: none"> • Individuals with habits like smoking and alcohol consuming, are desperate to have cigarettes or alcohol. Take this positively as a challenge to change habits by engaging yourself in Yoga or some positive affirmations. • Distract yourself with new hobbies or family discussions when you feel the urge to smoke or drink.
6	Negative twists	<ul style="list-style-type: none"> • It has been well documented that prolong days of social seclusion or quarantine for particular illnesses may cause negative effects on psychological and emotional wellbeing¹⁸. • Intolerable anger correlated to the imposition of quarantine may lead to negative outcomes. 	<ul style="list-style-type: none"> • Do not Google symptoms of any disease, trust doctors. • Avoid frequently checking the latest COVID statistics. • Do not be hesitant to seek help. • Keep time aside every day for breathing exercises and meditation.
7	Frustration and boredom	<ul style="list-style-type: none"> • Frustration and boredom sufferings linked to quarantine restrictions which is directly related to stoppage of collective necessities, not taking part in routine work, irritation, obstruction, loss of self-esteem and self-confidence. • Unfortunately, in this situation impossibility along with other specific characteristics such as the experience of childhood mistreatment as well as extreme physical processing patterns may significantly and independently expect suicidal behaviour¹⁹. 	<ul style="list-style-type: none"> • Remember, it takes time to adapt. • choose a physical activity of your choice like dance, yoga or even simple stretches. Spend at least one hour per day on your physical health. • It is important to be rational regarding the expectations we set for ourselves as well as for those in care of us. Do not have high expectations of others like close one's because they are sailing in the same boat.

7	Panic threshold	<ul style="list-style-type: none"> • Panic is a serious sense of apprehension about a danger that is observed as damage of physical and mental wellbeing or values of the civilization²⁰. • Panic and distress outbreak is a different episode of anxiety. It is typically characterized by pounding heart, sweating, trembling, dizziness, shortness of breath, feelings of choking, chest pain, derealisation, nausea, stomach ache, depersonalization, feeling of losing control, overwhelming fear of death, tingling, and chills²¹. • Panic fallouts in egotism such as intolerance, xenophobia and have faith in in every newscast article seen in social media. 	<ul style="list-style-type: none"> • Keep in mind; you are not alone. • Be honest about undergoing panic and fear. • Consult the doctor or the person you trust to share your emotional state, feelings and something uplifting.
8	Apprehension about the Future	<ul style="list-style-type: none"> • The existing COVID-19 pandemic has heightened uncertainty over the employment, economy, finances, relations, and of course, physical and mental health²². • We desire security as human beings, we want to feel safe and have a sense of control over our lives and well-being. • Fear and uncertainty about the future can leave us feel tensed, nervous, and helpless over the direction of our life. • It can drain emotionally and trap us in a downward spiral of endless “what-ifs” and worst-case scenarios about what tomorrow may bring. • During nation-wide lockdown, lots of daily wagers have lost their jobs which have significantly affected their socioeconomic as well as mental health. 	<ul style="list-style-type: none"> • It is common to have apprehensions and panic regarding the future. However, worrying does not help. • Avoid speculation and focus on facts. Do not believe everything you read. Confirm your suspicions. • Remember, humanity has seen worse, and every time we have bounced back. We will, again. Being hopeful is the key. • Importance of unity, promoting local brands and helping each other can be stressed. Doing good, for the others, makes one feel good too.

DISCUSSION:

Impact on mental health such as stress, fear, desperation, anxiety, negative feelings, induced by the prompt spread of COVID-19 pandemic, which have been essentially recognized and accepted as a public health priority for both authorities and policy makers²³. The Ministry of Health and Family Welfare, Govt. of India, has delivered health advisories, videos, art work and also conducting encouraging webinars on tackling mental health issues and improving physical activities of over-all community. Particulars provided over the website , provides all the necessary information related to the pandemic which support to reduce panic or any other ambiguity. This government website includes readable material and instructional videos related to current pandemic and the compulsory actions to be undertaken. The government sites provide vital real-time information concerning the actual count of cases found to be positive, the number of recovered cases and the number of deaths due to COVID-19. This reliefs peoples to identify authentic official information rather than freaking over wrong information. Information also provides a section on “Myth Busters” which helps individuals to come over anxiety, nervousness, fear and desperation²⁴. Education and training regarding mental health issues should be provided to primary responders, health organization leaders and health care professionals. The government authorities have launched a central helpline number for COVID-19: - +91 11-23978046, for any inquiry about COVID 19 as well as various helpline numbers on state level to facilitate and provide quick and genuine information. Moreover, A Bengaluru based leading medical institution the “National Institute of Mental Health and Neuro-Sciences” (NIMHANS), has launched a toll-free help desk number “+9180-45110007. Additional info can be acquired at 'https://www.mohfw.gov.in/' a government-administered website on COVID-1925. Preferably, the incorporation of mental health concerns into Covid-19 care should be addressed at the administrative level over states and local planning;

mechanisms for identifying, referring, and treating severe psychosocial consequences and guaranteeing the capacity for consulting with specialists²⁶.

CONCLUSION:

This review article describes more or less of the obligatory information with reference to the challenges of mental health and the feasible rapid solutions. Executing public based tactics to support mental strength and psychologically vulnerable persons during the COVID-19 disaster is fundamental for overall community. It is completely required that every single individual take a charge of their mental and physical health to stopover the ongoing COVID-19 pandemic.

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REFERENCE:

1. Bao Y, Sun Y, Meng S, Shi J, Lu L. 2019-nCoV epidemic: address mental health care to empower society. *Lancet* 2020;22 (395):37-38.
2. Yang Y, LiW, Zhang Q, Zhang L, Cheung T, Xiang Y. Mental health services for older adults in China during the COVID-19 outbreak. *Lancet Psychiatry*. 2020;7 (4):19
3. Thakur V, Jain A. COVID 2019-suicides: a global psychological pandemic. *Brain Behavior Immun* 2020;S0889-1591:30643-7.
4. Zhai Y, Du X. Loss and grief amidst COVID-19: a path to adaptation and resilience. *Brain Behavior Immun* 2020;S0889-1591:30632.
5. Barbisch D, Koenig KL, Shih FY. Is there a case for quarantine? Perspectives from Ebola. *Disaster Med Public Health Prep* 2015;9:547-53.
6. Rubin GJ, Wessely S. Coronavirus: the psychological effects of quarantining a city. *BMJ Opinion* 2020;368:m313.
7. Rajkumar RP. COVID-19 and mental health: a review of the existing literature. *Asian J. Psychiatr*. 2020;52, 102066. <https://doi.org/10.1016/j.ajp.2020.102066>.
8. Goyal K, Chauhan P, Chhikara K, Gupta P, Singh MP. Fear of COVID 2019: first suicidal case in India. *Asian J. Psychiatr*. 2020;49:101989. <https://doi.org/10.1016/j.ajp.2020.101989>.
9. Dhingra S. (2020). Railways adds 500 passengers to Shramik Special trains, no details on social distancing steps. *The Print, India*. Available at: <https://theprint.in/india/railways-adds-500-passengers-to-shramikspecial-trains-no-details-on-social-distancing-steps/419071/> [Retrieved: May 11, 2020].
10. Maunder R, Hunter J, Vicent L, Bennett J, Peladeau N, Leszcz M, et al. The immediate psychological and occupational impact of the 2003 SARS outbreak in a teaching hospital. *CMAJ* 2003;168:1245-51.
11. Banerjee D. The COVID-19 outbreak: crucial role the psychiatrists can play.

- Asian J. Psychiatr. 2020;50:1020-14. <https://doi.org/10.1016/j.ajp.2020.102014>.
12. Dickerson, D., 2020. Seven tips to manage your mental health and well-being during the COVID-19 outbreak. *Nature*. <https://doi.org/10.1038/d41586-020-00933-5>.
 13. Cava MA, Fay KE, Beanlands HJ, McCay EA, Wignall R. The experience of quarantine for individuals affected by SARS in Toronto. *Public Health Nurs* 2005;22:398–406.
 14. Wu P, Fang Y, Guan Z, Fan B, Kong J, Yao Z, et al. The psychological impact of the SARS epidemic on hospital employees in China: exposure, risk perception, and altruistic acceptance of risk. *Can J Psychiatry* 2009;54:302–11.
 15. Lee M, You M. Psychological and behavioral responses in South Korea during the early stages of coronavirus disease 2019 (COVID-19). *Int J Environ Res Public Health* 2020;17:2977.
 16. Orsolini L, Latini R, Pompili M, Serafini G, Volpe U, Vellante F, et al. Understanding the complex of suicide in depression: from research to clinics. *Psychiatry Investig* 2020;17:207–21.
 17. Reynolds DL, Garay JR, Deamond SL, Moran MK, Gold W, Styra R. Understanding, compliance and psychological impact of the SARS quarantine experience. *Epidemiol Infect* 2008;136:997–1007.
 18. Stickley A, Koyanagi A. Loneliness, common mental disorders and suicidal behavior: findings from a general population survey. *J Affect Disord* 2016;197:81-7
 19. Pompili M, Innamorati M, Lamis DA, Erbutto D, Venturini P, Ricci F. The associations among childhood maltreatment, “male depression” and suicide risk in psychiatric patients. *Psychiatry Res* 2014;220:571-578.
 20. Goode E. Moral Panic the Encyclopaedia of Juvenile Delinquency and Justice 2020: 1-3
 21. Berman C. Jones & Bartlett Learning; 2009. 100 Questions & Answers About Panic Disorder.
 22. Duan L, Zhu G. Psychological interventions for people affected by the COVID-19 epidemic. *Lancet Psychiatry* 2020;7: 300–2.
 23. Amerio A, Bianchi D, Santi F, Costantini L, Odone A, Signorelli C, et al. Covid-19 pandemic impact on mental health: a web-based cross-sectional survey on a sample of Italian general practitioners. *Acta Biomed* 2020;91: 83–8. <https://www.mygov.in/covid-19/>
 24. Hiremath, Pavan et al. COVID 19: Impact of lock-down on mental health and tips to overcome.” *Asian journal of psychiatry* 2020 (51): 102088. doi: 10.1016/j.ajp.2020.102088
 26. Pfefferbaum B, Schonfeld D, Flynn BW, et al. The H1N1 crisis: a case study of the integration of mental and behavioural health in public health crises. *Disaster Med Public Health Prep* 2012;6:67-71.