

COVID-19 PANDEMIC: STRENGTHENING THE IMMUNITY BY REENGINEERING AMONG MENTAL HEALTH TANGLES

PANDEMIA DE COVID-19: FORTALECIMENTO DA IMUNIDADE ATRAVÉS DA REENGENHARIA ENTRE OS EMARANHADOS DA SAÚDE MENTAL

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RESEARCH REPORT | RELATO DE PESQUISA

ABSTRACT

Currently, all of us are experiencing the unforeseen circumstances of the coronavirus disease 2019 (COVID-19) that have developed a spectrum of effects, which can be best understood in terms of psychological, physical, and immunity problems among people. For this reason, we are particularly interested in the role of mental health in strengthening the immune system in times of COVID-19. What protective factors help maintain and support the good mental health and well-being of any person who faces extreme pandemic-like situations? The Pandemic has had significant and variable impacts on people's mental health and immunity system. Every family who faces the Pandemic directly or indirectly experiences partial or no control over their thinking, emotions, actions, and coping related to COVID-19 and deaths. To achieve good mental health and a strong immunity system, maintaining the homeostasis of mind and body, engagement in close connections, and social support, using low-stressor techniques, nearness to the environment, practicing Yoga and meditation, infusing positivity, and following healthy lifestyles are necessary for people. In addition, there is an emphasis placed on various approaches to the 4 M's, which include mental health, mental immunity, mindset, and stressor, to jettison all mental health tangles and minimize the impact of the COVID-19 Pandemic. Thus, mental health and immunity can be restored by controlling the overwhelming thoughts, emotions, and actions of COVID-19 through the inculcation of life-savior techniques and the 4 M's as a part of daily life.

Keywords: COVID-19, lifestyles, immunity, mental health, mindfulness, positivity, Yoga, stress

RESUMO

Atualmente, todos nós estamos enfrentando as circunstâncias imprevistas da doença do coronavírus 2019 (COVID-19) que desenvolveu um espectro de efeitos, que pode ser melhor compreendido em termos de problemas psicológicos, físicos e de imunidade entre as pessoas. Por esse motivo, estamos interessados sobre como a saúde mental fortalece o sistema imunológico em tempos de COVID-19. Quais são os factores de protecção que ajudam a manter e apoiar a boa saúde mental e o bem-estar de qualquer pessoa que enfrente situações extremas de pandemia? A pandemia teve impactos significativos na saúde mental e no sistema imunitário das pessoas. Qualquer família que enfrentou a pandemia, directa ou indirectamente, sentiu um controle parcial ou até nenhum sobre os seus pensamentos, emoções, acções e enfrentamento face ao COVID-19 e às mortes. Alcançar uma boa saúde mental e um forte sistema imunológico, mantendo a homeostase da mente e do corpo, envolvimento em conexão próxima, apoio social, uso de técnicas anti-estressor, proximidade com o meio ambiente, praticando ioga e meditação, promovendo positividade e seguindo um estilo de vida saudável são necessários para as pessoas. Além disso, há uma ênfase em várias abordagens aos 4 M's, que incluem saúde mental, imunidade mental, mentalidade e estressores, para descartar todos os emaranhados de saúde mental e minimizar o impacto do COVID-19. Assim, a saúde mental e a imunidade podem ser restauradas controlando os pensamentos, emoções e acções avassaladores do COVID-19 por meio da inculcação de técnicas salvadoras de vidas e dos 4 M's como parte da vida diária.

Palavras-chave: COVID-19, estilo de vida, imunidade, saúde mental, mindfulness, positividade, Yoga, stress

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*“On the other side of the clouds, there is
a bright blue sky”*

Melanie Litoski

The novel coronavirus has accentuated and caused us to analyze the significance of strong immune systems and mental health worldwide. There is a deep connection between the immune system and mental health. People seem less aware of it until the coronavirus infects millions of people comprehensively. In the first three months of 2020, many people have experienced or witnessed an increase in cases of mental health issues: a) during and after recovering from Corona, b) people who isolated themselves inside their houses due to lockdowns in the entire country.

According to the World Health Organization (2019), “Mental health is a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively, and is able to contribute to his or her community”. At every stage of life (i.e., from childhood to late adulthood), mental health is considered a very crucial aspect for the development of a person during the COVID-19 Pandemic. Life experiences (such as drug abuse, sexual abuse, and posttraumatic stress disorder), biological factors (such as genes and brain chemistry), and family psychiatric history are all factors that contribute to mental health issues (Maral, 2019). As stated by the National Alliance on Mental Illness and the National Institute of Mental Health (2021), one in five adults’ experiences mental health issues each year, and 4.5% of adults suffer from severe psychological issues across the U.S. There are a total of 7 components for good mental health, which include physical, intellectual, environmental, vocational, social, emotional, and spiritual. As per the needs of the current situation, COVID-19, anyone can work more (i.e. physical, emotional, spiritual, and intellectual) and less (i.e. social, envi-

ronmental, and vocational) on some aspects of mental health. There is a need to balance all these mental health components to bring more wellness and adapt to changing inside and outside bodily environments. Generally, during the second and third waves of COVID-19, many people started to understand the words “immunity” and “antibodies” and how they protect the body from the deadly virus of COVID-19. Immunity can be defined as an individual’s capability to thwart pathogens. The human immune system can fight viruses and bacteria in the following ways: a) through proliferative response by the rapid production of white blood cells, b) through natural killer cells, and c) through T-helper cells (Chaplin, 2010). The following section will describe the relationship between mental health components and the human immune system.

Psychiatric illness and immunity

During the Pandemic, it was more common for people to experience different types of psychological symptoms like mood (anxiety, guilt, hopelessness, loneliness, loss of interest in pleasure or any activity, emotional distress, mood swings, sadness, panic attacks); behavioral (agitation, excessive crying, /screaming, irritability, restlessness, online or offline social isolation, restlessness, self-harm, drug use, numbness, hyperarousal, nightmares, phobia, fear, obsession); sleep (disturbance in circadian rhythms-insomnia, excessive sleep, restless sleep, early awakening); and cognitive (inattentiveness, suicidal ideation, overthinking, short-term memory loss, false memory creation, disorientation,). Those people who encounter or recover from COVID-19 have long-term inflammation and trauma effects on their mental health and which further impact their entire immune system (del Rio, et.al., 2020; Hwang, et. al., 2020; Maral, et. al., 2022; Serafini, et. al., 2020).

As stated by the psychoneuroimmunologist Kiecolt-Glaser (2002), people’s changing

states of mind affect the body's immunity. Her research from 1982 to 1992 shows that every year, a medical student's immunity level decreases with increasing stress levels during examination periods. Similarly, a meta-analysis (i.e., 300 studies) on stress and health shows discerning patterns of stress levels, duration, and immunity levels. When people experience stress for a few days/months/years their immunity rolls downhill. Chronic stress over the long term ravages the immune system and makes it more vulnerable to illnesses or diseases (Segerstrom, et.al. 2004).

Furthermore, studies show that the elderly and sick people are more susceptible to stress-related immune system changes. Chronic or subclinical mild depression suppresses the immune systems of older adults in their early 70s. More than that, social isolation and loneliness played a significant role in weakening the immune systems of first-year college students (Grolli, et.al.2021; Pietrabissa, et.al. 2020).

Chronic or severe stress can negatively affect the functioning of white blood cells, weakening the immune system (Segerstrom,et.al., 2004; Morey, et.al. 2015). Deep breathing is a more prevalent technique in Indian society for reducing the effects of stress on the mind and immune system. Why is breathing so effective at reducing stress in Indian culture? Research studies show that different types of breathing are interlinked with various emotions. Hence, how we breathe can change our experience of how we feel emotions. When we are anxious or angry, our breathing becomes fast, shallow, irregular, and short; when we are happier, our breathing becomes deep, regular, and slow. When we start focusing on the patterns or rhythms of breath, it helps us begin to feel those corresponding emotions. So, breathing exercises can also positively affect the mind and help the body's immune system work better (Ma, et.al, 2017). A new study has been done at the Stanford University School of Medicine by Krasnow and his lab researchers

(2022), who have discovered a small group of nerve cells in the brainstem that link respiration to emotional states, attention, anxiety, and excitement. These clusters of neurons relay information from the brain's respiratory control center to the area in charge of creating alertness within the brain.

Positivity and immunity

As long as we have good mental health, our mind works with immense power to heal our bodily illnesses and boost our body's immune system. Positive thinking coupled with good mental health makes a person superhuman that can deal effectively with pathogens or external intruders. Thus, understanding our mental health gives the mind the power to take care of our bodily immunity. Positive self-talk is very important to achieve wellness and good mental health. Positive thinking exercises include being open to humor, identifying inner negativity and trying to let it go, focusing on good deeds, maintaining gratitude, practicing positive self-talk, focusing on peace of mind through mindfulness and meditation training, connecting with people, and being active. Self-awareness, self-acceptance, and self-work help to develop a balanced perspective toward problems. Hope is a critical element of this Pandemic that helps people stay motivated in their lives to achieve their desired destination, i.e., good mental health and an immune system. According to Charles Snyder's "Hope Theory," people can achieve their goals through focused thoughts, developing strategies in advance, and motivation. Hope is an affirmative emotion concomitant to the immediate and long-term future of positivity in life. In the current pandemic situation, everyone has one valuable goal of hope to conquer and build up a strong immunity system by maintaining good mental health. For positivity in life during pandemics, two types of happiness (i.e., hedonic and eudaemonic) help achieve well-being that

directly benefits the immune system (Snyder, 2002). Figure 1 depicts the cluster of words cloud of mental health, immunity, mind-body, and positivity of life importance in the COVID-19 outbreak.



Fig. 1 Words cloud of immunity and mental health tangles in COVID-19

Life styles and immunity system

A healthy lifestyle such as exercising (i.e. Yoga and meditation), eating healthy food and getting 6–8 hours of sleep enhances the power of the mind and mental health and can further improve the immune system of the body with a resilient mindset (Choudhary, et.al., 2021). Regular and repeated practise of alternate breathing techniques (such as Anulom-Vilom, Bhramari, Sudarshan Kriya) and yoga asanas such as Child pose (Balasana), Easy pose (Sukhasana), Corpse pose (Savasana), Cat pose (Marjariasana), Simhakriya give us higher self-esteem/energy level/will-power/happiness. Simhakriya is one of the yoga asanas that is thought to be very important for strengthening our immune and breathing

systems during this difficult time when the Pandemic is spreading worldwide. Several recent research studies and personal interviews show that the elderly (people aged 90 and up) recover faster from COVID-19 infection due to good mental health and healthy lifestyles (Maral, et.al. 2021 & 2022; Singh, et.al. 2020).

The mind-body connection not only works together but also impacts each other. Just as our thoughts and beliefs impact our body system, the activities we perform, such as exercise, can impact our mind or mental health. It is necessary to pay close attention and think about how our mental health affects the immune system and how to energize and maintain our mind's energy flow to enhance immunity. The coronavirus pandemic is deteriorating mental health, and various stressors negatively impact or lower the immune systems of people who have had exposure/experience directly or indirectly (Dawel, et. al., 2020). That's why the month of May 2021, celebrated as National Mental Health Awareness of anxiety/trauma and its negative impact on mental well-being, emotional, and physical health of vulnerable populations such as the handicapped, children, and women (in 1949, mental health month was established in America to promote the necessity of mental health wellness and to celebrate the speedy recovery of mental illness cases) in the midst of the Pandemic (Pedrosa, et.al. 2020; Dawel, et. al., 2020). As we know, we are still surfing on COVID-19 second or third wave, and mental health awareness month brings an opportunity to discuss the significance of good mental health and its positive impact on the immunity system.

CONCLUSION

A global state of emergency has been declared as a result of the unprecedented nature of the COVID-19 outbreak in such a short period of time. The spread of this infectious virus has caused public health

issues, but also an untold number of cases of psychiatric and mental illness cases. Because of the spread of COVID-19, the importance of mental immunity is in the current needs of every person globally. Positive thinking, self-talk, lifestyle choices, and mindfulness and meditation training can help people achieve the good mental health they desire and further strengthen their mental immunity. Protection from psychological symptoms, behavioural issues, sleeping difficulties, and cognitive dysfunctions can all be greatly aided by a strong mental immune system. In older adults and children, too much stress, like COVID-19, acts as a stimulator for psychological issues more than in adults. Lastly, cleaning up oneself by focusing on the four M's (mental health, mental immunity, mindset, and mindfulness) is an easy way to attenuate or get rid of mental disorders and get better. Therefore, the science of breathing techniques emerges as a unique tool for everyone to preserve the long-term homeostasis of the mind-body connection with strong mental immunity. Future studies are needed to understand the potential role of breathing styles (i.e. Sudarshan Kriya) and yoga asanas concerning the 4 M's in treating various psychological disorders and stress-induced illnesses.

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REFERENCES

Chaplin, D. (2010). Overview of the immune

- response. *Journal Of Allergy And Clinical Immunology*, 125(2), S3-S23. <https://doi.org/10.1016/j.jaci.2009.12.980>
- Choudhary, S., Pandey, P., & Maral, P. (2021). Role of mindfulness and self-efficacy in resilience among young and older people. *Turkish Journal of Physiotherapy and Rehabilitation*; 32(3). 26415 – 26436. https://www.researchgate.net/publication/355972029_Role_of_Mindfulness_and_Self-efficacy_in_Resilience_among_young_and_older_people
- Dawel, A., Shou, Y., Smithson, M., Cherbuin, N., Banfield, M., Caele, A., Farrer, L., Gray, D., Gulliver, A., Housen, T., McCallum, S., Morse, A., Murray, K., Newman, E., Harris, R., & Batterham, P. (2020). The effect of COVID-19 on mental health and wellbeing in a representative sample of australian adults. *Frontiers in Psychiatry*, 11. <https://doi.org/10.3389/fpsy.2020.579985>
- Rio, C., Collins, L., & Malani, P. (2020). Long-term health consequences of COVID-19. *JAMA*, 324(17), 1723. <https://doi.org/10.1001/jama.2020.19719>
- Grolli, R., Mingoti, M., Bertollo, A., Luzardo, A., Quevedo, J., Réus, G., & Ignácio, Z. (2021). Impact of COVID-19 in the mental health in elderly: Psychological and biological updates. *Molecular Neurobiology*, 58(5), 1905-1916. <https://doi.org/10.1007/s12035-020-02249-x>
- Hwang, T., Rabheru, K., Peisah, C., Reichman, W., & Ikeda, M. (2020). Loneliness and social isolation during the COVID-19 Pandemic. *International Psychogeriatrics*, 32(10), 1217–1220. <https://doi.org/10.1017/S1041610220000988>
- Kiecolt-Glaser, J., McGuire, L., Robles, T., & Glaser, R. (2002). Psychoneuroimmunology: Psychological influences on immune function and health. *Journal Of Consulting And Clinical Psychology*, 70(3), 537-547. <https://doi.org/10.1037/0022-006X.70.3.537>

- org/10.1037/0022-006x.70.3.537
- Krasnow, M. (2022). *Neural circuit of breathing*. Krasnow Lab. <https://krasnow-mark.squarespace.com/>
- Ma, X., Yue, Z. Q., Gong, Z. Q., Zhang, H., Duan, N. Y., Shi, Y. T., Wei, G. X., & Li, Y. F. (2017). The effect of diaphragmatic breathing on attention, negative affect and stress in healthy adults. *Frontiers in Psychology*, 8, 874. <https://doi.org/10.3389/fpsyg.2017.00874>
- Maral, P, Punetha, D. (2022). Older adult life in COVID-19 Pandemic: Focus on social isolation, loneliness, and minimization of risks. *Industrila Psychiatry Journal*. 31(1), 168-171. https://doi.org/10.4103/ipj.ipj_219_20
- Maral, P. (2019). Risk factors of posttraumatic stress disorder that arises from an earthquake. *International Journal of Health Sciences And Research*, 9(4), 322-331. https://www.ijhsr.org/IJHSR_Vol.9_Issue.4_April2019/45.pdf
- Maral, P. & Pande, N., (2020). Progressive development of posttraumatic stress disorder and its holistic evolution of natural treatments. In: R. Nicholson, ed., *Natural Healing as Conflict Resolution*, (pp.73-99). <http://doi:10.4018/978-1-7998-3665-0.ch004>
- Mental Health Month 2021 - National council for mental wellbeing [Internet]. Thenationalcouncil.org. <https://www.thenationalcouncil.org/mental-health-month>
- Morey, J., Boggero, I., Scott, A., & Segerstrom, S. (2015). Current directions in stress and human immune function. *Current Opinion in Psychology*, 5, 13–17. <https://doi.org/10.1016/j.copsyc.2015.03.007>
- Nami.org. [cited 2021 Oct 21]. Available from: <https://www.nami.org/mhstats>
- Pedrosa, A., Bitencourt, L., Fróes, A., Cazumbá, M., Campos, R., Brito, S., & Silva, A. (2020). Emotional, behavioral, and psychological impact of the COVID-19 pandemic. *Frontiers In Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.566212>
- Pietrabissa, G., & Simpson, S. (2020). Psychological consequences of social isolation during COVID-19 Outbreak. *Frontiers In Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.02201>
- Segerstrom, S. C., & Miller, G. E. (2004). Psychological stress and the human immune system: a meta-analytic study of 30 years of inquiry. *Psychological Bulletin*, 130(4), 601–630. <https://doi.org/10.1037/0033-2909.130.4.601>
- Serafini, G., Parmigiani, B., Amerio, A., Aguglia, A., Sher, L., & Amore, M. (2020). The psychological impact of COVID-19 on the mental health in the general population. *QJM: Monthly Journal of the Association of Physicians*, 113(8), 531–537. <https://doi.org/10.1093/qjmed/hcaa201>
- Singh, S., Roy, D., Sinha, K., Parveen, S., Sharma, G., & Joshi, G. (2020). Impact of COVID-19 and lockdown on mental health of children and adolescents: A narrative review with recommendations. *Psychiatry Research*, 293, 113429. <https://doi.org/10.1016/j.psychres.2020.113429>