

Research Paper

## Efficacy of practicing positive psychological interventions, yoga, and mindfulness meditation in COVID-19 lockdown

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### ABSTRACT

Yoga and mindfulness meditation are in trend for researchers as the effectiveness of its practices is not only limited to eastern countries but widely spreading in the western countries of the world. Historical evidence has reflected that yoga is not only practiced as a remedy for specific illnesses rather as a practice to enrich physical, mental, and spiritual well-being (Kirkwood, 2005). It is supported by research as studies show that yoga can provide a varied range of psychological benefits, (Khalsa, 2004; Lipton, 2008) both in reducing negative affect (Kirkwood, 2005; Chong, et al, 2011) and in nurturing positive wellness.(Cohen, 2007; Sharma, et al, 2008). In line with yoga and meditation positive psychological interventions (PPIs) also aim at prevention of psychological problems and enhancing overall well-being of individuals. The present study focuses on effectiveness of practicing yoga, mindfulness meditation and major positive psychological interventions like Three good things, Gratitude journal and Savouring positive experiences; during the crises like situation when majority of the population is going through distress and experiencing negative emotions. Considering the present pandemic situation due to COVID-19 where people are locked in their houses or stuck away from homes there is a tremendous increase in stress, anxiety, depression, and negative thoughts hence, these practices can help them stay positive and feel better about present life. The research chapter will present the benefits of practicing yoga, mindfulness meditation and PPIs by reviewing the previous studies to understand its effectiveness and how regular practice of these interventions can be helpful in increasing positive emotional experiences during lockdown.

**Keywords:** Covid-19, Yoga, Mindfulness, Meditation, Positive Psychology, Lockdown, Coronavirus

The effects and after effects of pandemics are no less perilous than effects of any war. The effects of infectious disease spreads in history gives a clear picture of what effect the COVID-19 pandemic can have today. Such situations not only affect the lives of people getting infection but it has large impact on the overall population of the world. Some of the effects of lockdown and quarantine have already started getting attention, people's health, physical and mental is deteriorating with the stress, fear, depression, trauma about uncertainty

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of future and other losses like financial crises, loss of job, fear of not meeting essential requirements and many more. As per the survey of the Indian Psychiatric Society (2020) there is a 20% increase in mental illness cases due to the worries about work, health, finance, and strain in relationships. It also added that the lockdown has caused rise in mental health distress and depression leading to one in five Indians suffering from mental illness. Dr. Amit Malik, Co-founder and CEO of the Inner Hour said that “there are two types of people right now, one who already has psychological difficulties or symptoms which might be getting worse or new symptoms are showing, and the other group has never experienced any psychological symptoms and now they are seeing new symptoms.”. Along with the mental health issues people are facing distress with physical health as those who already have some existing problem would worry about reaching out to doctor or availability of medicines during emergency conditions. There are changes in lifestyle of people due to lockdown so many worry about gaining weight, and bothered due to no physical activity while some are sad for not having the liberty to freely go out and work from home has its own undesirable effects on physical and mental health.

But with certain interventions and practices the worsening effect of lockdown can be prevented or at least minimalized. The present chapter has focused on positive effects of practicing yoga, mindfulness meditation and positive psychological interventions by reviewing the previous studies. These practices has potential to boost immunity in humans as well as aid in staying positive to sustain in this pandemic.

### **OVERVIEW OF POSITIVE PSYCHOLOGY AND ITS INTERVENTIONS**

Positive psychology is a branch of psychology that focuses on the positive aspects like happiness, well-being, hope, optimism, gratitude, strengths and aims to bring better out of every human being. Martin Seligman, one of the pioneers of positive psychology defines it as the study of human strength, resilience, and optimal human functioning. He emphasized on the discovery of a set of human strengths like courage, work ethic, honesty, optimism, interpersonal skills, and perseverance that are likely to protect against mental illness. According to Lopez & Snyder (2003) the major concern of positive psychology must be to "develop the strengths and manage the weaknesses". Positive psychology is both a scientific and a clinical enterprise. It is concerned with understanding and facilitating; 1) Happiness and well-being, 2) Positive traits and engagement in absorbing activities; and 3) The development of meaningful positive relationships, social systems and institutions. (Lopez & Snyder, 2009; Seligman, 2002). A goal of positive psychology is to understand and explain happiness and subjective well-being and to precisely predict the factors that influence such states (Seligman, 2002). In the counseling field, positive psychology is concerned with increasing subjective well-being and happiness, rather than curing the of illnesses (Carr, 2004). In other words the primary aim of positive psychology is preventing problems like depression, anxiety, substance abuse etc. and later comes the therapeutic goal of curing these symptoms.

The goals of enhancing well-being, happiness, positive affect is achieved by practicing techniques such as showing gratitude, using savouring, social interactions, various cognitive experiences; all these together are called Positive Psychological Interventions. (PPIs; Parks & Schueller, 2014). PPIs are intended to endorse positivity in people’s everyday life and by doing so they help them to deal with the negative events and moods they might experience (Seligman, Rashid, & Parks, 2006). Sin and Lyubomirsky (2009), defines PPIs as focusing on increasing positivity rather than decreasing negativity and long term effects. Majorly, there

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are seven categories of PPIs; 1) savoring, 2) gratitude, 3) kindness, 4) empathy, 5) optimism, 6) strengths, and 7) meaning (Parks & Layous, in press).

Researches have shown increase in positive affect and decrease in negative affect of the subjects studied. For instance, people who practice savoring show more happiness and life satisfaction, as well as fewer depressive symptoms (Bryant, 2003). Savoring is a technique based on mindfulness principle, its aim is to focus and be aware of the activity, specific experience one is involved in. Similarly, expressing gratitude through various practices, engaging in acts of kindness, practicing empathy that promotes and strengthens social relationships, staying optimistic, focusing on one's strengths and focusing on what is meaningful in one's life has several benefits ranging from increase in life satisfaction, happiness, overall well-being, quality of life and decline in anxiety and depression like symptoms.

### ***Researches on positive psychological interventions***

Although researches on positive psychological interventions conducted through control and experimental group studies among various population show inconsistent results, there are many researches and meta-analysis where use of PPIs have shown significant positive outcomes in participants. A meta-analysis of 51 studies by Sin & Lyubomirsky (2009) on the effectiveness of PPIs discovered that they enhance well-being as well as weaken the depressive symptoms. A similar meta-analysis of 39 studies of clinical and non-clinical populations assessing the subjective well-being, psychological well-being, and depression with a three to six months follow-up indicated sustainable effects. (Bolier, et al, 2013). The effectiveness of three PPIs namely *three good things*, *gratitude visit* (writing and personally giving a gratitude letter) and *using signature strengths in a new way* was studied by Seligman et al. (2005) on 577 participants. The one month, three months and six months follow ups of participants who completed three good things, or using signature strengths in new ways showed increase in happiness and decrease in depressive symptoms. The benefits of gratitude activity were even faster after the intervention and at the one week and one month follow-up. In a similar study where participants were involved in writing things that they were thankful about for 3 week period showed increase in life satisfaction and positive affect while there was decrease in negative affect compared to the control group participants.

Gratitude is such a virtue that is looked for to enhance the well-being of humans and it is supported by prehistoric religious scriptures as well as modern scientific researches. (Watkins, et al, 2003). Worthen & Isakson (2007) has classified the use of gratitude practice into categories such as; effective coping with challenging situations, enhancing happiness and life satisfaction, reinforcing social bonds, health benefits and expand the civic, moral, and spiritual dimensions. One of the widely researched intervention is gratitude list in which a person has to make a list of five things happened during the day for which they are grateful. This technique has shown increase in positive affect (Martínez-Martí et al., 2010), life satisfaction ((Manthey et al., 2016), happiness (Mongrain and Anselmo-Matthews, 2012) and reduced stress (Kerr et al., 2015), depressive symptoms (Southwell, 2012) and negative affect (Chan, 2013). A survey of American teens and adults by Gallup (1998) showed that almost 90% of participants who expressed gratitude felt extremely happy or somewhat happy. Conscious efforts of practicing gratitude gives more meaningful, productive and fulfilling life.(Emmons & Crumpler, 2002). In a study by Emmon & Crumpler, undergraduate students were asked to log their emotions, physical symptoms, coping behaviours, and health behaviours for 10 weeks. Then the participants were divided into three groups and the

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respective task assigned to group one, group two and group three were to write down hassles or minor stressors that have occurred during the week, events that affected them during the week and events for which they feel grateful. The results showed that participants in the gratitude activity felt better about their life and were more optimistic about coming week as compared to the other two groups. Another important observation of the study was participants in the gratitude group spent relatively more time in doing the activity than the neutral and hassle group participants.

A slight variation to gratitude intervention is the activity of three good things an another effective positive psychological intervention researched by Martin Seligman. Individuals using this intervention have to maintain a journal of writing three good events happened in a day and along with this few additions can be practised like also reflecting on why you considered those events as good, what does the event mean to you, how can you increase the probability of having more such events. A research by Dr. Sexton on frontline staff at healthcare centre using 2-weeks intervention of practicing three good things showed 22% decrease in burnout and this sustained even 1 year later. A drop of 40% in depression, better work-life balance, fewer delays, as well as decrease in conflicts with colleagues was also reported by the respondents.(Roberts, 2018). An extensive study was conducted by Fleming A. on Positive Psychology's "Three Good Things in Life" intervention by assessing Happiness, Positive and Negative Affectivity, Optimism/Hope, and Well-Being- to understand the pre and post intervention results for *Happiness measure: The Revised Oxford Happiness Scale*, *Positive and Negative Affectivity measure: Positive and Negative Affectivity Scale (PANAS)*, *Well-Being measure: Satisfaction with Life Scale*, *Hope measure: The Life Orientation Test – Revised*. The participants were asked to maintain a journal of *three good things* that happened in a day for one week. The results were quite interesting as there was increase in happiness post intervention, no noticeable change in scores of satisfaction with life & life orientation test, and decrease in Positive affects post intervention as well as increase in negative affects. The effect of these interventions is very subjective as the impact of one's personality, life stage and environmental surrounding cannot be ignored while assessing positive and negative affect.

The third intervention focused in this article is the use of savouring positive experiences to enhance positive emotional experiences. The practice of savouring-being aware of positive experiences is in line with the Broaden & build theory of positive emotions. Savouring is defined as the practice of involving in attending, appreciating, and enhancing the positive experiences of their lives (Bryant and Veroff, 2007). Ryant and Veroff (2007) have proposed several cognitive and behavioral savouring strategies thought to be instrumental for augmenting and prolonging positive experiences, including sharing the experience with others (seeking out people with whom to enjoy an event or telling others how much you value the moment), behavioral expression (laughing or showing affect), counting blessings(creating gratitude), self-congratulation (creating pride), memory building (purposefully trying to remember the positive event), and sensory-perceptual sharpening (focusing on the physical sensations of a pleasant experience).

According to Fredrickson's Broaden & Build theory positive emotions are important as they build resilience, social support, balance out the negative emotions, broaden creativity and thoughts, and produces more positive emotional experiences thus creating an upward spiral. Jennifer Smith (2016) tested the effectiveness of savouring positive experiences on resilience and well-being among older adults (60 years and beyond). In her study the participants were

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given pre and post tests for Savoring ability, Savoring strategies, Resilience & stress, Happiness & depression, and Life satisfaction. The one week intervention involved focusing on a positive experience twice a day by thinking of something positive either of past, present or future, then paying attention to positive emotions elicited by those experience and then appreciating that experience. Analysis of results indicated that those with increased savouring ability in post intervention assessment reported increase in resilience and psychological well-being as indicated by increase in life satisfaction, happiness and decrease in depression. Paul Jose et al. have also empirically studied the effectiveness of savouring positive experiences on positive emotions. The participants of their study belonged to 17-53 years of age group, from various parts of Europe. They were asked to complete a 30 days mood diary measures which included momentary positive events (frequency, intensity & impact of positive events was measured), momentary savouring (sharing positive moments with others, counting blessings and sensory-perceptual sharpening), and momentary happy mood (rating of feeling happy in last one hour). The results suggest that higher the experience of positive emotions as well as more of savouring momentary positive experiences is related with increased positive emotional experiences.

Summarizing the three PPIs discussed here shows that they are quite effective in enhancing psychological well-being, resilience, positive affect, and life satisfaction across various age groups, conditioned they are followed and practiced regularly and mindfully. These interventions are empirically supported but there is a scope for further research with various age groups and ethnicity as the concept of happiness, life satisfaction, and subjective-wellbeing can differ across cultures. Yet the interventions can be effective in staying positive during adverse life situation which is discussed further in this chapter.

### **YOGIC PRACTICES AND ITS IMPACT ON HEALTH**

The practice of yoga that originated in India, is a combination of different postures called asanas, breathing techniques known as pranayama, meditative techniques called dhyana, chants called mantras chanting and wisdom teachings known as sutras, objective of all of which is to encourage the harmony of body, mind, and soul (Taylor, 2012). Further to define yoga therapy, it is the process of empowering individuals to progress towards improved health and well-being through the application of the philosophy and practice of Yoga. (Satchidananda in yoga sutras of Patanjali). Revisiting the historical background of yoga, we realise that it has its origins in ancient Indian philosophy via numerous modern schools or types of yoga like Iyengar, Viniyoga, Sivananda, each of which had its own distinct emphasis regarding the relative content of physical postures and exercises, breathing techniques, deep relaxation, and meditation practices that cultivate awareness and ultimately helps human mind to cultivate more profound states of consciousness. The academic and scientific research interest in yoga for treatment of health conditions are increasing at a high rate as over 30 million people worldwide claim to practice yoga for health related benefits (Dangerfield, 2009). The physical postures (asanas) may increase patient's bodily flexibility, coordination, and strength, while the breathing practices (pranayama) and meditation (dhyana) may calm and focus the mind to develop greater awareness and diminish anxiety and thus result in higher quality of life (Kirkwood, 2005). Other beneficial effects might involve a reduction of distress, blood pressure, and improvements in resilience, mood, and metabolic regulation (K. Yang, 2007).

As the present chapter aims to summarize the evident effects of yoga interventions on various components of mental and physical health the considered reviews suggest a number of areas

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where yoga may be beneficial, but more scientific research backing by multiple case studies are required for virtually all of them to firmly establish such benefits on record by evidence. The heterogeneity among interventions and conditions studied has hampered the use of meta-analysis as an appropriate tool for summarizing the literature. (Büssing, et al, 2012) Still many meta-analyses are there which indicate beneficial effects of yoga interventions, and there are clinical trials of relatively high quality indicating beneficial effects of yoga for pain-associated disability and for matter even for the mental health. To prove the tremendous benefits of regularly practicing yoga which was founded in India, even the United Kingdom researchers made a report compiling its advantages. The UK's national healthcare services promote yoga as a safe and effective way to promote physical activity, improving strength, balance and flexibility as well as a potential benefit for people with high blood pressure, heart disease, aches and pains, depression and stress. A summary of researches from 2012 indicates that there is relatively strong evidence to suggest that yoga may have beneficial effects for pain associated disability and mental health. (Büssing, et al, 2012). Another set of studies have reported yoga's potential role in the prevention and treatment of numerous health conditions.

Yoga may well be effective as a supportive adjunct to mitigate some medical conditions, but not yet a proven stand-alone, curative treatment. Larger-scale and more rigorous research with higher methodological quality and adequate control interventions is highly encouraged because yoga may have potential to be implemented as a beneficial supportive/adjunct treatment that is relatively cost-effective, may be practiced at least in part as a self-care behavioral treatment, provides a life-long behavioural skill, enhances self-efficacy and self-confidence and is often associated with additional positive side effects. (Büssing, et al, 2012).

### **MINDFULNESS MEDITATION AND ITS EFFECTIVENESS**

The present chapter also gives an overview of mindfulness meditation practice and its beneficial effects on health especially during crises situation. Mindfulness involves the self-regulation of attention with an approach of curiosity, openness, and acceptance. Mindfulness is not about getting relaxed or achieving a particular state; rather, it refers to being present to what is happening in the unfolding moment to moment experience, without pre-conceptions or judgements (Sedlmeier et al., 2012). It has been found to be beneficial to more adaptive coping strategies and research also suggests that it plays a part in more careful selection of situations, both of which may have a positive impact on well-being (Weinstein, Brown, & Ryan, 2009). Although there are several disciplines and practices that cultivate mindfulness (e.g., yoga, tai chi, qigong; Siegel, 2007), the majority of theoretical writing and empirical research on the subject has focused on mindfulness developed by mindfulness meditation. Meditation refers to: A family of self-regulation practices that focus on training attention and awareness in order to bring mental processes under greater voluntary control and thereby foster general mental well-being and development and/or specific capacities such as calmness, clarity, and concentration (Walsh & Shapiro, 2006, p. 228). Talking about different kinds of meditation practices include Tibetan and Zen. Buddhist meditation styles also cultivate mindfulness, the term mindfulness meditation is typically used synonymously with Vipassana, a form of meditation that derives from Theravada Buddhism (Gunaratana, 2002; Young, 1997). Vipassana is a Pali word for insight or clear awareness and is a practice designed to gradually develop mindfulness or awareness (Gunaratana, 2002). Mindfulness is systematically cultivated in Vipassana practice by applying one's attention to one's bodily sensations, emotions, thoughts, and surrounding environment (Bodhi, 2000; Germer, Germer 2005; Gunaratana, 2002; Wallace, 2001; Young, 1997).

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Considering that it could be assumed that all meditation practices equally benefit the practitioner, but true research rather intriguingly suggests that different styles of meditation practice elicit different brain activity patterns (Cahn & Polich, 2006; Lutz, Dunne, & Davidson, 2007; Valentine & Sweet, 1999). For example, mindfulness meditation more than concentrative forms of meditation (e.g., focusing on a mantra) has been shown to stimulate the middle prefrontal brain associated with both self-observation and metacognition (Cahn & Polich, 2006; Siegel, 2007) and foster specific attentional mechanisms (Valentine & Sweet, 1999). With the advancement of neurological technology, mindfulness researchers are examining distinct components of mindfulness meditation such as focused attention, open monitoring (nonjudgmental moment-to-moment observation of one's experience), and loving-kindness, compassion practice, and their specific physiological outcomes.

Meditation is thought to work via its effects on the sympathetic nervous system, which increases heart rate, breathing, and blood pressure during times of stress. Yet meditating has a spiritual purpose, too. According to Burke Lennihan, a registered nurse who teaches meditation at the Harvard University Centre for Wellness meditation helps in lowering blood pressure, it can also elevate creativity, intuition and connection with the self. (Dr. Fabiny, 2014). Few researches have demonstrated the benefits of mindfulness meditation, like in one research conducted by Dr. Stahl and his team of Harvard researchers, studied volunteers participated in an 8-week mind-body relaxation program offered through the Benson-Henry Institute for Mind Body Medicine at Massachusetts General Hospital. The program taught a range of mind body skills which had various beneficial effects on health. Another study by Dr. Stahl, who is now at Dartmouth-Hitchcock Medical Centre, teaches his own patients' mindfulness and meditation skills in his internal medicine practice and encourages people to practice daily. He says that one does not need to enrol in a formal program, or even spend a lot of time as practicing 10 to 15 minutes a day will do but that has to be consistent. Intriguing new research suggests that regularly eliciting the relaxation response — a natural counterbalance to the stress response — can act on our genes in ways that may evoke multiple health benefits and help reduce the harmful effects of stress. Small studies of various stress reduction techniques, as well as comprehensive programs, suggest that it's quite possible to improve many measures of health by making the strong mind-body connection work in one's favour.

### **HEALTH IMPACTS DURING THE COVID-19 OUTBREAK AND LOCKDOWN**

The coronavirus pandemic has forced people across the globe to shut themselves inside the doors. The condition of being in quarantine, isolation and lockdown has started affecting the health and well-being especially the mental health of people. The World Health Organization (WHO) has already warned that there can be a negative effect on people's mental health and well-being due the actions taken by various countries to control the coronavirus spread. Hans Kluge, the director of the European branch of the WHO expressed that it is natural to feel stressed, anxious, lonely at challenging times like physical distancing, isolation, shutting of educational institutions and workplaces. The anxiety, fear, stress not only about getting infected by COVID-19 but about the uncertainty of future, loosing jobs, paying salaries, rents and EMIs, worry about the parents/children staying away has started causing symptoms of depression, feeling lonely, poor quality of life and decreased life satisfaction. In India, the mental health counselling helplines have started and the response they are getting is so massive, helpline setup by NIMHANS has reported receiving more than 7000 calls (Rahman, 2020), another two helplines started by Maharashtra government has received 35,000 calls in just three weeks. Majority of the callers have query about anxiety, they complain about

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anxiety related to future, jobs, health as well as wellbeing of family. (Shaikh, 2020). Lancet published a study that reviewed literature on the psychological impact of quarantine, isolation of people exposed to previous epidemics such as SARS, suggests that people in lockdown are prone to consequences such as confusion, anger, post traumatic symptoms, depression, stress, insomnia as well as emotional exhaustion. (Rahman, 2020) The previous studies conducted on health effects of isolation and quarantine also suggests that people in isolation and quarantine are more vulnerable to psychological complications like anxiety, hopelessness, delirium, depression, psychological trauma including PTSD as well as cognitive impairment (Damir Huremović). A study conducted at the time of MERS (Middle Eastern respiratory syndrome) showed that 40% of people isolated and quarantined who developed MERS needed psychiatric treatment while those with no illness and not in isolation did not require any psychiatric help (Kim H-C, et al, 2018). The mental and emotional health was affected critically during the earlier pandemics like Spanish flu, Ebola, SARS, H1N1/swine flu as there was loss of emotional resilience even in people who were out of danger, people had been victim of sudden loss, helplessness and anxiety. The survivors of the epidemics were victims to effects not less than any war aftermaths. The health professionals suffered from grief and frustration and they were haunted by the memories of the pandemics even after years (Eghigian, 2020) The history of pandemics gives an insight into the vulnerability of the condition into every segment of human life but it is important to take some preventive measures that can possibly reduce the harsh effects of COVID-19 on physical and mental health.

As discussed above some of the positive psychological interventions can help in at least preventing people from having mental health symptoms if not in completely curing them. The suggested PPIs that can be practiced by people in quarantine and lockdown are gratitude journal; noting down or expressing gratitude, three good things; writing three events that were good during the day, and savouring; reflecting and being aware about positive experiences of past, present or future. The intention of practicing three good things is to increase ability to perceive positive emotions. Human have tendency to pay more attention on negative events and during critical conditions there is a possibility of rise in such tendency but practicing Three Good Things can help to focus on positive events thus counteracting the natural tendency to focus on negatives. The effectiveness of savoring is observed less when there are frequent pleasant events but momentary savouring during less positive events has shown great increase in positive mood. Hence, the practice of savouring is very ideal during the present COVID-19 pandemic. If people are able to regularly practice at least one of these interventions it can help in building resilience by improving positive affect and reducing depressive or anxiety symptoms.

Along with the PPIs practising yoga as well as mindfulness meditation can help in increasing immunity and maintain one's mental and physical health. Yogic practices have proved to be effective in curing as well as in preventing various ailments while consistent practice of mindfulness meditation has shown improved satisfaction with life, increased meaning and purpose of life, reduction in stress, and anxiety thus overall improved quality of life.

### **CONCLUSION**

The review of yogic practices, mindfulness meditation, and positive psychological interventions as well as understanding of the present health conditions due to lockdown has provided an insight into the importance of taking preventive measures to maintain physical and mental health. Along with the precautionary measures recommended by WHO and



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Ministry of Ayush if people also practice yoga, meditation and any of these PPIs then it can have various long-term positive effects. Since various researches show that yoga has a promising anti-inflammatory effect in the body and an overall pattern has been found to show that practicing yoga reduces pro-inflammatory markers, also other researches shown that mindfulness meditation is said to improve the human immunity and self-reported measures of disease symptomatology. With the routinely practice of these interventions it is possible to avoid anxiety, depression, negative thoughts, and it can increase positive affect. The psychological factors can affect body and vice versa so it is important to take care of body as well as maintain positive affect to avoid any physical or psychological problems during or after lockdown. Thus, it is recommended to follow these practices to stay positive and prevent future trauma and illness.

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