



PHYSICAL AND MENTAL HEALTH DURING THE PANDEMIC - INDIA

Nikita K Devraj

ABSTRACT

The WHO declared COVID-19 outbreak a global **Pandemic** in 2020. This paper aims to highlight the negative physical health and mental health consequences of the pandemic and the lockdown imposed. India enforced the largest COVID-19 national lockdown in the world and closed international borders. **Mental Health** includes our emotional, psychological, and social well-being. **Physical Activity** is defined as any bodily movement produced by skeletal muscles that result in energy expenditure. Physical activity has a profoundly positive impact on psychological health. A questionnaire was sent to participants (N=100) from India and their responses were recorded for the purpose of studying the life changing impact of the Pandemic on the Mental and Physical Health. The responses were recorded and the changes in mental state, dietary habits, self reflection, and physical transformations were analyzed. The case studies and the research conducted prove that the Pandemic has led to people becoming more aware of **lifestyle** habits, healthier **diet** alternatives, regularly practicing mind calming activities and physical fitness. The importance of Mental Health is spreading across the globe.

KEYWORDS :

INTRODUCTION

India under Lockdown

The World Health Organization declared COVID-19 outbreak a global pandemic on March 11, 2020. Following the rapid and uncontrollable course of the pandemic, many governments decided to massively restrict public and private life to prevent further spread of the virus. COVID-19 pandemic has led to a worldwide crisis. At present, everyone is focusing on the prevention of COVID-19 infection, preparing and discussing issues related to physical health consequences. It is important to understand the life-threatening negative physical health and mental health consequences of the pandemic.

April 2020, India reported 18,985 confirmed Covid-19 cases and 603 deaths in 31 states and union territories. The largest COVID-19 national lockdown in the world was enforced. India was quick to close its international borders and announce an immediate "tough and timely" lockdown. The term 'Lockdown' refers to anything from mandatory geographic quarantines to non- mandatory recommendations to stay at home, closures of a range of different businesses, bans on events, gatherings and travel.

Mental Health

Mental health includes our emotional, psychological, and social well-being. It affects how individuals think, feel, and act. Mental health helps determine how people deal with stress, social situations and decision making processes. About 14% of the global burden of disease has been attributed to neuropsychiatric disorders – Depression, Mental Disorders, Alcohol consumption and Substance-use disorders. Such estimates have drawn attention to the importance of mental disorders for public health. Mental health and well-being are critical to a happy, satisfactory and meaningful life. The most common thread underlying most of these obstacles that stand in the way of mental wellbeing is the basic lack of understanding and stigma around mental health. In addition to this there exists a common medical conceptualization of the mind.

Mental health affects progress towards the achievement of several Millennium Development Goals, such as promotion of gender equality, reduction of child mortality, improvement of maternal health, and reversal of the spread of HIV/AIDS. Mental disorders increase risk for communicable and non-communicable diseases, and can contribute to unintentional or intentional injury. Mental health awareness needs to be integrated into all aspects of health and social policy. There can be no health without mental health.

Case Study - Switzerland

The Case Study explained in this section focuses on mental health of students in Switzerland during the pandemic. Students' levels of stress, anxiety, loneliness, and depressive symptoms got worse, compared to measures before the crisis. COVID-19 specific stressors including isolation in social networks, lack of interaction and emotional support, worries about health, family, friends, future careers and physical isolation were associated with negative mental health trajectories. The research conducted studied and analyzed the distributions and means of responses on thirteen COVID-19-related stressors. The following effects are evaluated with one-sample, two-sided t-tests ($H_0: M = 0$). Responses from participants collected in September 2019 (Pre-Pandemic) and April 2020 (Post-Pandemic) reported a significant increase in depressive symptoms of 4.70 ($SD = 7.21$), an increase in anxiety of 0.75 ($SD = 3.47$), an increase in stress of 2.76 ($SD = 5.78$), and an increase in loneliness of 0.14 ($SD = 0.33$).

In a nutshell, these test comparisons indicated that students on average reported lower levels of mental health during the COVID-19 Pandemic than before the crisis.

Physical Health

Physical Activity is defined as any bodily movement produced by skeletal muscles that result in energy expenditure. Physical activity in daily life can be categorized into occupational, sports, conditioning, household, or other activities. Exercise is a subset of physical activity that is planned, structured, and repetitive and has as a final objective.

Overwhelming evidence exists that lifelong exercise is associated with a longer health span, delaying the onset of over forty chronic conditions/diseases and improve quality of life. The first short presentation concerns the effects of endurance exercise training on cardiovascular fitness, and how it relates to improved health outcomes. The second short section contemplates emerging molecular connections from endurance training to mental health.

Case study - Italy

The Case Study reflecting the physical level changes in individuals collected responses from 2524 Italian - 1426 females (56.4%) and 1098 males (43.6%). The questionnaire measured the total weekly physical activity energy expenditure before and during quarantine (Total - the sum of walking, moderate-intensity physical activities, and vigorous-intensity physical activities) Participants had to give information (before and during the lockdown) related to physical activity levels including walking activity and

sedentary behaviors. Vigorous-intensity physical activities are workouts demanding a hard physical effort that increases the breathing rate more frequently than normal (heavy lifting, use of home gym machines, work out/courses on the online platform, others fitness instruments). Moderate-intensity physical activities can include carrying a light load or performing aerobic exercises at a modest intensity. Examination of the total physical activity in MET- minutes/week demonstrated a statistically significant difference in results collected between before and during COVID-19 pandemic.

The physical activity levels of participants classified before COVID-19 as highly active (Mean: 4400 vs. 2432 MET-min/wk, $*p < 0.0001$); and moderately active (Mean: 1354 vs. 1077 MET-min/wk, $*p < 0.0001$), plummeted during the pandemic lockdown. These results suggest that the limitations imposed by quarantine, have induced that part of population that usually performed moderate and high levels of physical activity to decrease their regular and habitual level during this period. On the other hand, individuals classified before the Pandemic as low active (Mean: 408.1 vs. 755.3 MET-min/wk, $p < 0.0001$) substantially increased total weekly physical activity energy expenditure during the forced period.

Relationship between Physical Health and Mental Health

Evidence shows a strong link between mental health and physical health. Physical activity has a profoundly positive impact on psychological health, by enhancing self-esteem and resilience to stress and reducing depression and anxiety.

Self-reported data from a national random sample of 7674 adult respondents collected during the 2008 U.S. Health Information National Trends 2007 Survey (HINTS) were analyzed in 2012. Mental health was plotted against the number of hours of physical activity per week using a fractional 2-degree polynomial function. The optimal range of physical activity associated with poorer mental health was examined by age, gender, and physical health. General mental health was modeled against weekly hours of physical activity. Results showed the physical activity threshold for better mental health was 2.5–7.5 hours/week. Higher and Lower physical activity were associated with poorer mental health.

Objective of this Study

This Research Article aims to study the impact of the Covid-19 Pandemic and the Lockdown imposed to battle this Virus. The objective of this study conducted is to prove the life changing impact of the Covid-19 Pandemic on the Mental and Physical Health of Indians under Lockdown. It aims to highlight the changes in mental state, diet, cooking habits, social behavior, self reflection, physical transformations and everyday habits after the onset of the Corona Virus.

Methodology

100 participants (N=100; Male – 46%, Female – 52%, Prefer not to say – 2%) from India were studied and their responses recorded for the purpose of this study. A questionnaire (17 questions + Personal Details) was sent to the participants. These questions recorded their mental health, lifestyle changes, physical activity levels, dealing with the 'new normal' and negative news all around them and the world. The survey was conducted online and participants were required to fill the form sent. The responses were collected and analyzed for proving the objective of the study and gaining information on the overall Mental health and Physical health of the sample collected. The results acquired are presented in the form of Pie Charts.

The Questionnaire is attached below –

<https://docs.google.com/forms/d/e/1FAIpQLSdpV8hRoXcYa->

P64Pr7OMjzjw2n5ozU0F0QDWHxc2-fQ5wwZA/ viewform?usp=sf link

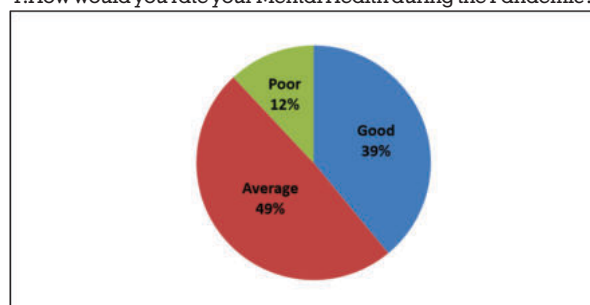
Personal Details of the Participants -

Participants Age (Years)	Frequency
0 – 10	0
11 – 20	62
21 – 30	3
31 – 40	4
41 – 50	20
51 – 60	11
61 – 70	0
	N = 100

RESULTS

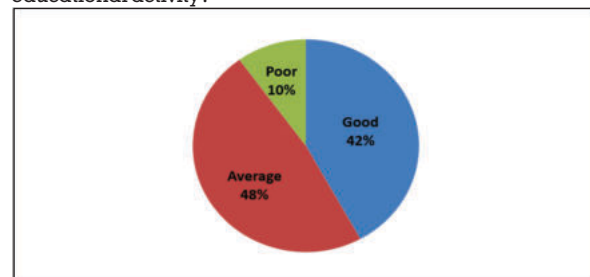
The following questions study the Mental Health and changes in Mental state of the participants during the course of the Pandemic -

1. How would you rate your Mental Health during the Pandemic?



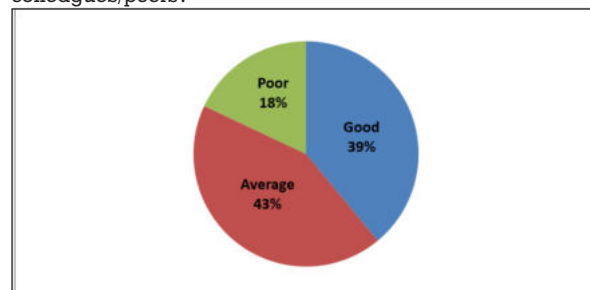
The results show almost half of the participants studied experienced average Mental Health during the course of the Pandemic. 12% participants reported poor Mental Health. 39 participants studied revealed good Mental Health. These conditions were a result of minimal social life, lifestyle changes and health worries, everyday tasks getting increasingly harder to do and life coming to a standstill.

2. How did you deal with too much free time/no formal educational activity?



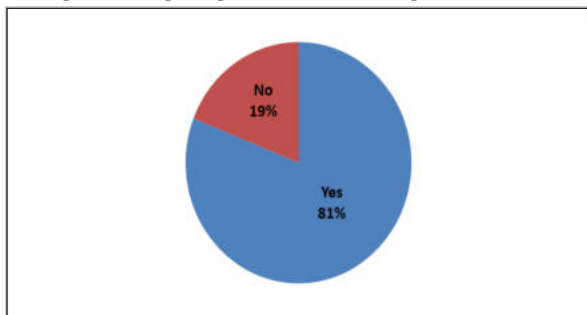
A majority of participants (48) reported average coping with the Pandemic downtime. 42% of the respondents said they made good use of this time. 10 people reported dealing poorly with this time and feeling mentally drained. Educational and professional work environment made a shift to online platforms. These changes made more than half the participants feel overwhelmed.

3. How did you deal with minimal social interactions with colleagues/peers?



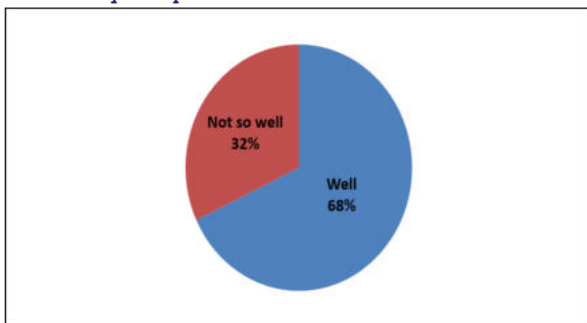
The Pie Chart illustrates 18% of people who participated in this study reported they dealt with minimal social interaction poorly. They reported feeling isolated and lonely. 39 people stated dealing with minimal interactions well. Alone time focused on self development. Majority of participants (43%) said they were average at dealing with no to little social life.

4. Did you develop deeper bonds with family?



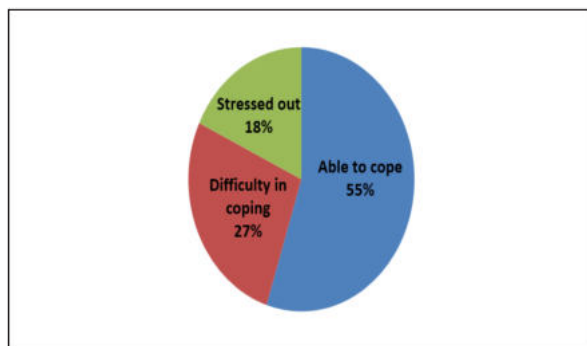
Families used this time to develop their bonds and take a break from professional commitments. Over 80% of participants used the lockdown time to bond with family members. They shared family activities including movies, shows, board games etc.

5. How did you cope with a lot of 'Me-time'?



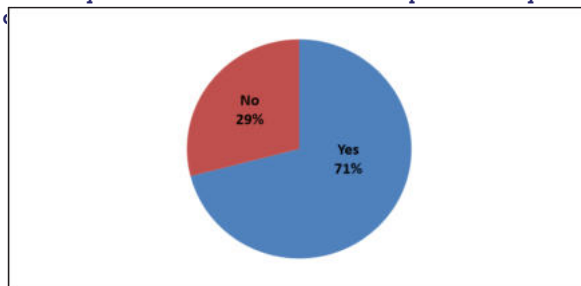
32 Participants studied did not deal too well with 'Me-time'. The statements read missing out on social life, everyday life coming to a standstill, missing college or work life and more. 68% participants reported dealing well with 'Me time'. This downtime was used for developing new skills and focused on fulfilling self development goals.

6. How did all the Negative Pandemic news impact your Mental Health?



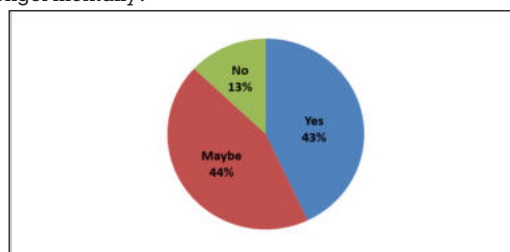
This question aims at understanding how people coped with negative news like Covid-19 cases increasing, lockdown imposed, curfews and restrictions placed, professional and social life paused and an overall state of panic. 55% of participants said they were able to cope with the news around them. 27 participants faced difficulties coping. 18% of the participants felt anxious and stressed.

7. Did you use this down time to pursue any self



Over 70% of participants reported using this time to work on themselves – Physically and/or Mentally. They focused on Mental and Physical Health improvement. Goals included physical transformations, reading unfinished books, journaling, working on hobbies, finding new hobbies, catching up with old friends and family and other self growth goals.

8. Did you use this Pandemic free time to make yourself stronger mentally?



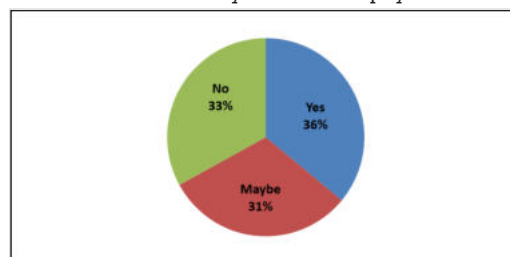
85% of respondents said they have/may have worked on their mental strength and health. People had adopted various methods to make themselves stronger and help them deal with the Pandemic, Lockdown and virus news.

Initiatives taken by participants included –

- Meditation
- Yoga, Spiritual Practices, self reflection
- Psychiatrists and Counseling
- Exercise/workout – Cardio, Strength training
- Sports
- Healthier lifestyle and Diet control
- Gardening and Watering plants
- Singing
- Reading
- Online courses and Youtube videos
- Watching online content (Movies, Shows)
- Skill development (Video editing, Graphic Designing, Interior Designing, Drawing and Coloring, stitching)
- Developing new hobbies
- Digital Detoxification
- Social Work
- Music
- Video Games

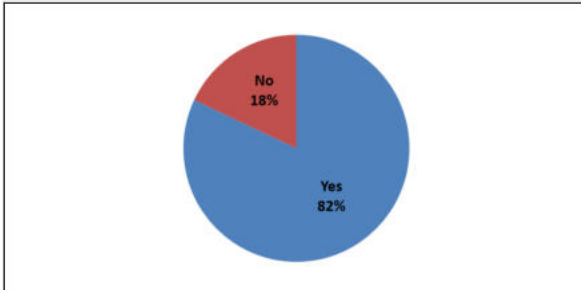
The following questions studied the Physical Health and Wellness, Changes in Lifestyle and Diet, Cooking habits, Physical activity behavior and Transformations

9. Did the Pandemic benefit you in terms of physical wellness?



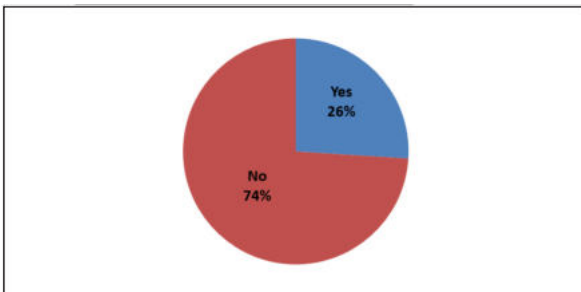
Majority of participants (36%) said the Pandemic lockdown time was beneficial for their Physical wellness. They reported learning and trying new exercise methodologies, mind calming practices, healthy dietary changes and improving lung capacity. 31% said they might have worked on and improved physical wellness and positive lifestyle changes. 33 people said they did not work or improving the physical aspect of their lives.

10. Did the Pandemic induce home cooked food behavior?



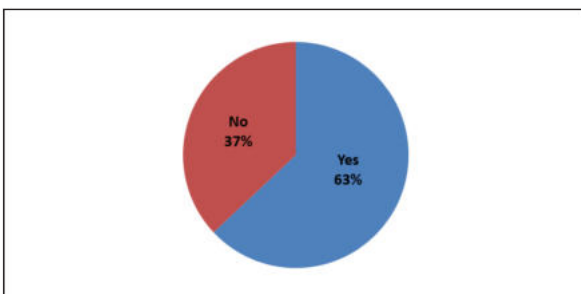
82 participants stated they made healthy and positive dietary changes. They focused on tweaking their diet and replacing outside food with home cooked food. New recipes and trying new immunity boosting dishes was incorporated into their daily schedule. Organic ingredients (fruits, vegetables, grains, pulses, spices) contributed to a larger proportion of the food. Balanced meals and nutrients became a priority.

11. Did the Pandemic increase your frequency of food delivery from restaurants?



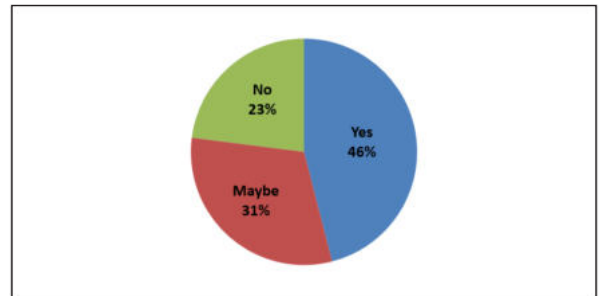
74% of people selected 'No'. Their frequency of food delivery from outside did not go up as a result of the lockdown. They ordered the same or lesser quantities of restaurant food. 26 participants said this lockdown increased their consumption of outside food. Most of these participants were working individuals with lesser time and resources to cook their own meals. Home delivering food is less time consuming and was hence preferred over home cooking meals.

12. Did you learn and implement any new exercise methodologies?



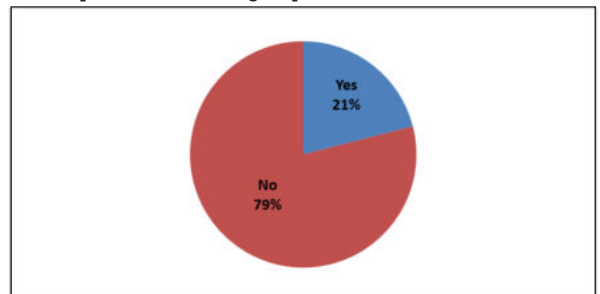
A larger percentage of participants (63%) learnt and implemented new exercise methodologies. Zumba, Strength Training, Boxing etc. were learnt and practiced. Exercises to improve lung capacity were included in their Pandemic learning.

13. Did you do exercises to improve breathing and immunity?



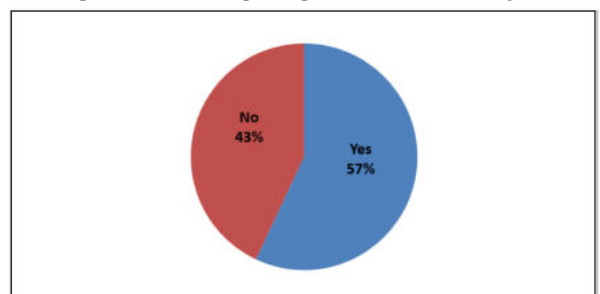
With the Corona Virus spreading to the lungs and affecting breathing, individuals focused on improving their lung capacity. Breathing exercises like Yoga, Pranayama etc. were practiced. Immunity was given priority with improvements in diet, consuming immunity building pills and Ayurvedic measures. A significant percentage of participants (46) said they practiced breathing exercises and worked on boosting their immunity.

14. Did you attend online group fitness activities?

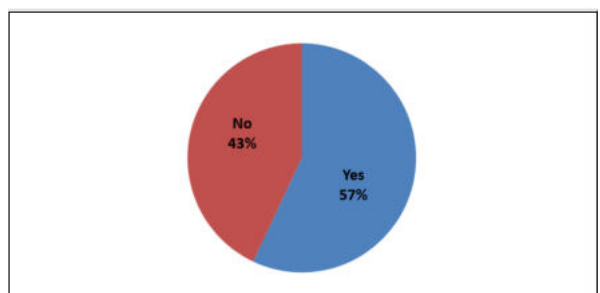


21 people said they attended online fitness initiatives to stay consistent and motivated towards their fitness goals. Other participants who worked on their goals practiced with self discipline and intrinsic motivation to accomplish their goal physical fitness level.

15. Did you achieve or improve your fitness/wellness goals?



16. Are you physically better off now than before the Covid-19 Pandemic?



The last two questions were aimed at analyzing the transformation and progress of individuals studied. 57% of participants said they achieved or improved their Pandemic fitness goals. Different individuals set various objectives for

themselves during this time and a majority of the participants (57) studied devoted this time to achieving or being a few steps closer to the goal. These people said they were physically better off after the onset of the Covid-19 pandemic than before.

CONCLUSION

To conclude, prolonged self-isolation is shown to have a negative impact on the psychological response, promoting post-traumatic stress symptoms, confusion, and anxiety. Reviews show a consistent effect of social relationships on decreased mortality risk. Physical inactivity can contribute to adverse health changes such as premature ageing, obesity, cardiovascular vulnerability, muscle atrophy, bone loss and decreased aerobic capacity. It is observed from the case studies and the study conducted that the Pandemic has led to significant Mental and Physical changes to individuals from all over the world. People have become more aware of lifestyle habits and the importance of maintaining a healthy diet.

The participants of the study conducted aimed at mental, physical and diet transformations and worked towards materializing their main objectives. They have shown improved Mental and Physical Health awareness. In addition to mind calming activities and physical fitness initiatives, they have also made changes to their diet and lifestyles. The importance of Mental Health has spread to a larger population across the globe. Balanced, organic, healthy and nutritious, immunity boosting and home cooked meals have made a major comeback. Regular physical activity has proved to be an important preventive strategy for physical and mental health.

“Stay active to feel better”

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