

# “THE EFFECT OF TRAVEL RESTRICTION DURING COVID-19 EPIDEMIC ON THE DAY TODAY LIFE AND MENTAL HEALTH ON INDIAN- A SURVEY”

<sup>1</sup>Nitin Gupta, <sup>1</sup>Nalin Somani, <sup>1</sup>Shishir Bisht

<sup>1</sup>Department of Mechanical Engineering DIT University, Dehradun 248001, India

Email id: [nalin.somani41@gmail.com](mailto:nalin.somani41@gmail.com), [ghotnitin@gmail.com](mailto:ghotnitin@gmail.com)

## **Abstract:**

*Covid-19 epidemics started in china due to corona virus and rapidly spread all over the world. This study is mainly focused to access the stress conditions of the people of India on their mental health and the various issues faced in their day to day activity due to travel restriction in COVID-19 Lockdown. The work has been focused on the various factors like anxiety, watching the news related to covid-19 on television, difficulties faced out due to travel restrictions in medical emergency condition or in some common medical issues and the stress due to financial instability. An online survey was conducted using snowball sampling technique. A total of 347 responses were received within the 10 days. Bilingual google form was circulated to cover maximum people through the online. The online survey result shows that the 46% of the people faced the stress due to financial instability, 27% people were reported that the stress due to anxiety and 19% people were depressed in the lockdown.*

**Key Words:** COVID-19, Travel restrictions, Financial stress, Mental stress, Anxiety.

## **1. INTRODUCTION:**

The COVID-19 pandemic that spread like wildfire since last December has affected human life as well as economies across the world. This epidemic has created a long time impact on almost every sector like travel, transportation, airline, hotels, education, economy, etc. As per the WHO reports [1-5] COVID-19 started in December 2019, like a viral outbreak in Wuhan city of central Hubei province of China. World Health Organization (WHO) along with Chinese authorities started working together and the etiological agent was soon established to be a new virus and was named Novel Corona Virus (2019-nCoV). Meanwhile, China announced on 11th January about its first COVID-19 related death of a 61-year-old man, exposed to the seafood market

[WHO Report 1]. Over a period of few weeks, this virus has crossed the china boundaries and infected many people around the various country [WHO Report 2020, 2].After looking the situation of the spread and deaths, WHO declared it a Public Health Emergency of International Concern on 30th January 2020 [2-3].

This virus is the most widely spread disease around the globe till date which have created various issue related to the physical and mental health to the people[6-8]. People have faced the situation of the lockdown which restricted them to stay in their houses; which lead to concern of the various aspects of physical and mental health. As per the best of author knowledge, no one has reported the study which has evaluated the mental health perspectives of people during the COVID-19 pandemic [9-13]. So, it becomes important to study the mental health impacts on various populations (general population, healthcare workers etc.) for planning effective intervention strategies for them. [14-15]

This work is mainly focused to get the various information related to the effect of travel restriction in the day to day life of human-being due to this covid-19 lockdown. For that, an online survey was conducted using snowball sampling technique. A total of 347 responses were received from across India to analyse the effect of lockdown on the mental, physical and financial health of the human-being.

## **2.DATA COLLECTIONS**

**2.1 Terminology:** The snowball sampling technique was used to collect the information from the various age groups between 10 years to 80 years. Google form consisting of some general questions was created to perform an online survey. Snow ball method was used to share the google form link. Responders were requested to circulate the form to the next person through social media platforms like Facebook, WhatsApp and e-mails or even through text messages. The google form was designed in such a way that the common person who have little bit knowledge about mobile, can operate it. To cover the maximum responder, the Google form was designed in both Hindi and English languages. The consent was taken from the responder and some common information like name and age were kept as non-mandatory questions. Table 1 represent the various questions marked for the online survey. Table 1 also shows that the pattern of the question varying from scaling to dropdown. Response methods are also mentioned in the

table, where some of the questions were asked to give answer in typing as well as some of them were based on selecting the scale and options.

**Table 1: Questions that were asked in the Google form (Both the Hindi as well as English)**

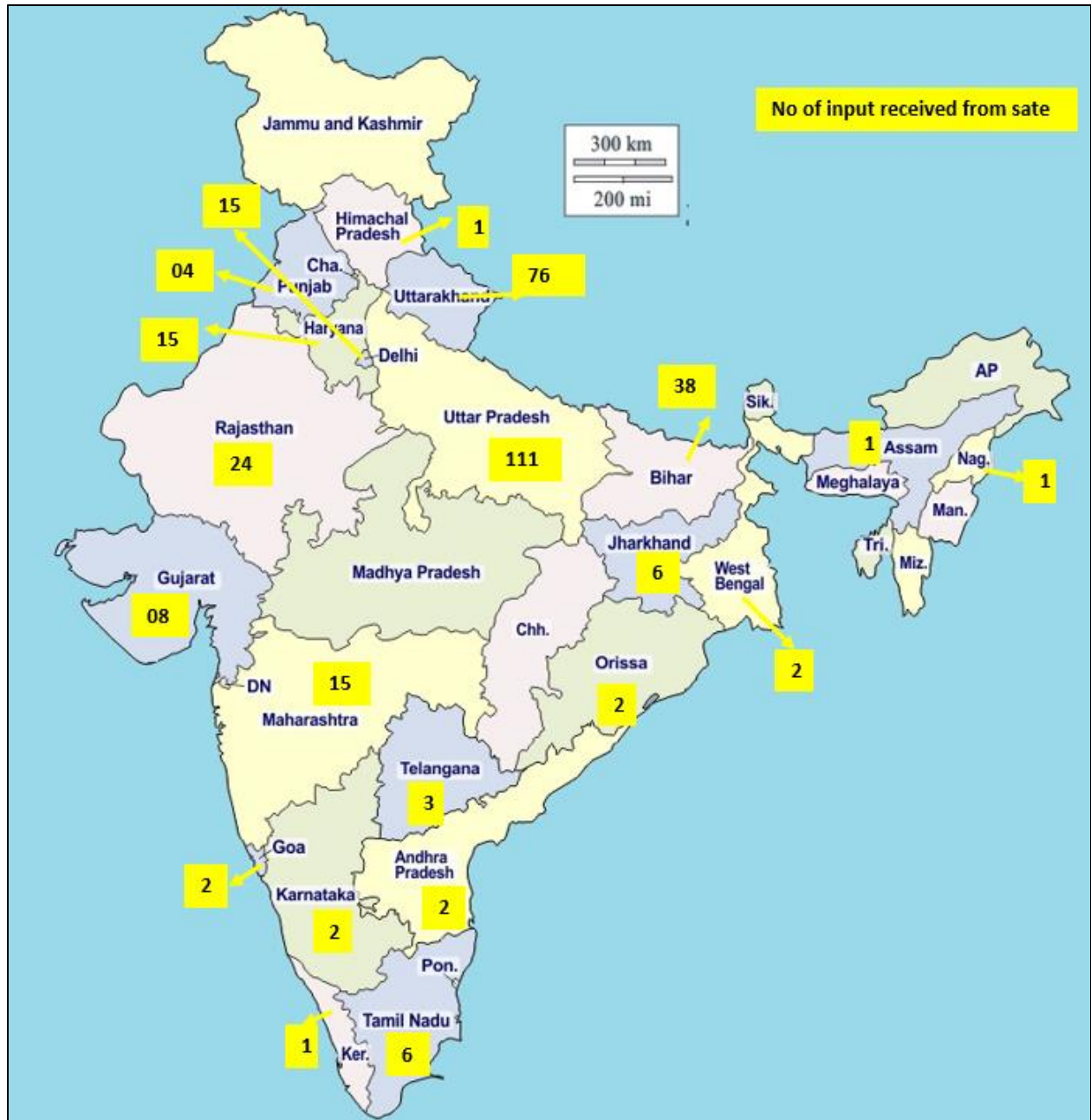
| Sr.no | Question   | Question Type | Response Method |
|-------|--|---------------|-----------------|
| 1     | Your Name  | Optional      | Typing text     |
| 2     | Your age   | Optional      | Typing text     |
| 3     | Your marital status  | Compulsory    | Dropdown        |
| 4     | Your educational Level   | Compulsory    | Drop down       |
| 5     | Your Location (District) During Lock down [ लॉकडाउनकेदौरानआपकिसजिलेमेंमौजूदथे?   | Optional      | Typing text     |
| 6     | How many persons currently live with you in your home during lock down? लॉकडाउनकेदौरानआपकेघरमेंवर्तमानमेंकितनेलोगआपकेसाथरहतेहैं?   | Optional      | Typing text     |
| 7     | How many hours per day did you typically (on average) spend outside of your home/residence before the lock down? [प्रतिदिनकितनेघंटेआपआमतौरपर (औसतन) लॉकडाउनसेपहलेअपनेघर / निवासकेबाहरबितातेथे?]    | Compulsory    | Drop down       |
| 8     | Approximately How many hours did you spend to watch the news related to the coronavirus in lockdown Phase 1 and 2? [लगभगकितनेघंटेआपनेलॉकडाउनचरण 1 & 2 मेंकोरोनोवायरससेसंबंधितसमाचारदेखनेमेंबिताए?] | Compulsory    | Drop Down       |
| 9     | Approximately How many hours did you spend to watch the news related to the coronavirus in lockdown Phase 3 and 4? [लगभगकितनेघंटेआपनेलॉकडाउनचरण 3 & 4 मेंकोरोनोवायरससेसंबंधितसमाचारदेखनेमेंबिताए?] | Compulsory    | Drop Down       |

|    |   |            |   |
|----|---|------------|---|
| 10 | Normally How many hours per day are you seeing the news related to corona virus in this lockdown ?Lockdown Phase 5 (from 1 June till today)<br>[आमतौरपरप्रतिदिनकितनेघंटेआपइसलॉकडाउनमेंकोरोनावायरससेसंबंधितसमाचारदेखरहेहैं।लॉकडाउनचरण 5 (1 जूनसेआजतक)]   | Compulsory | Drop Down   |
| 11 | What do you think that this lock down is a good idea?<br>(आपकेनजरियेसेकयायेलॉकडाउनअच्छाविचारहै ?)   | Compulsory | Drop Down   |
| 12 | How stressed did you feel before the lock down started?<br>(लॉकडाउनशुरूहोनेसेपहलेआपनेकितनातनावमहसूसकिया?)   | Compulsory | 0 to 5 scale  |
| 13 | How stressed are you feeling in lock down phase 5, although the corona cases are still rising?<br>(चरण 5 केलॉकडाउनमेंआपकितनातनावमहसूसकररहेहैं, हालांकिकोरोनामामलाअभीभीबढ़रहाहै?)  | Compulsory | 0 to 10 scale   |
| 14 | Have you faced any specific challenges during the lock down period related to your health? Please select as many as from the list below.<br>(क्याआपनेअपनेस्वास्थ्यसेसंबंधितलॉकडाउनअवधिकेदौरानकिसीविशेषचुनौतियोंकासामनाकियाहै?<br>कृपयानीचेदीर्घसूचीमेंसेअधिकसेअधिककाचयनकरें।)                           | Compulsory | Choose as many as you faced<br>(Options)<br>with others |
| 15 | Have you faced any specific medical problem during lock down? Please select as many as from the list below.<br>(People currently living with you)<br>[क्याआपकोलॉकडाउनकेदौरानकिसीविशेषचिकित्सासमस्याकासामनाकरनापड़ाहै?<br>कृपयानीचेदीर्घसूचीमेंसेअधिकसेअधिककाचयनकरें।<br>(वर्तमानमेंआपकेसाथरहनेवालेलोग)] | Compulsory | Choose as many as you faced<br>(Options)<br>with others |
| 16 | Scale from 1 to 5 that How much problems did you face   | Compulsory | 0 to 5 Scale  |

|    |   |            |   |
|----|---|------------|---|
|    | due to travel restriction during a medical problem?<br>[मेडिकलसमस्याकेदौरानयात्राप्रतिबंधकेकारणआपकोकितनीसमस्याओंकासामनाकरनापड़ा?]   |            |   |
| 17 | Has your any close family member faced any specific medical issue during lock down? Please select as many as from the list below.[क्याआपकेकिसीकरीबीपरिवारकेसदस्यकोलॉकडाउनकेदौरानकिसीविशिष्टचिकित्सासमस्याकासामनाकरनापड़ाहै? कृपयानीचेदीर्घसूचीमेंसेअधिकसेअधिककाचयनकरें] | Compulsory | Choose as many as you faced (Options) with others |
| 18 | Scale from 1 to 5 that How much problems did you face due to travel restriction during a medical problem?<br>[मेडिकलसमस्याकेदौरानयात्राप्रतिबंधकेकारणआपकोकितनीसमस्याओंकासामनाकरनापड़ा?]   | Compulsory | 0 to 5 scale                                      |
| 19 | How stress did you feel due to Travel restriction in your day today work? (Within your state)<br>अपनेदिनकेकाममेंयात्राप्रतिबंधकेकारणआपकोकितनातनावमहसूसहुआ? (राज्यकेभीतर)  | Compulsory | 0 to 10 scale                                     |
| 20 | How stress did you feel due to Travel restriction in your day to day work? (If you need to go Outside your state)<br>(अपनेदिनकेकाममेंयात्राप्रतिबंधकेकारणआपकोकितनातनावमहसूसहुआ?<br>(यदिआपकोअपनेराज्यकेबाहरजानेकीआवश्यकताहै)   | Compulsory | 0 to 10 scale                                     |

The data collection was initiated on 20 June 2020 at 3:00 pm IST and closed on the 30 June 2020 at 6:00pm IST. The data was collected from across all the state of India. The data were recorded in various socio demographic variables that included the age group, gender, marital status, education, geographical location. Figure 1 represent the number of the responder from the various geographical locations of the India. This also shows that the maximum number of

participant were belonging to the northern region of the India. Almost persons from each state has participated in the survey.



**Figure 1: Graphical representation of the Indian map with number of cases in individual state (Map is not in scale, just used for the geographical purpose of various responder)**

Total 20 questions were asked to answer. The online survey report has been investigated in the followings terms.

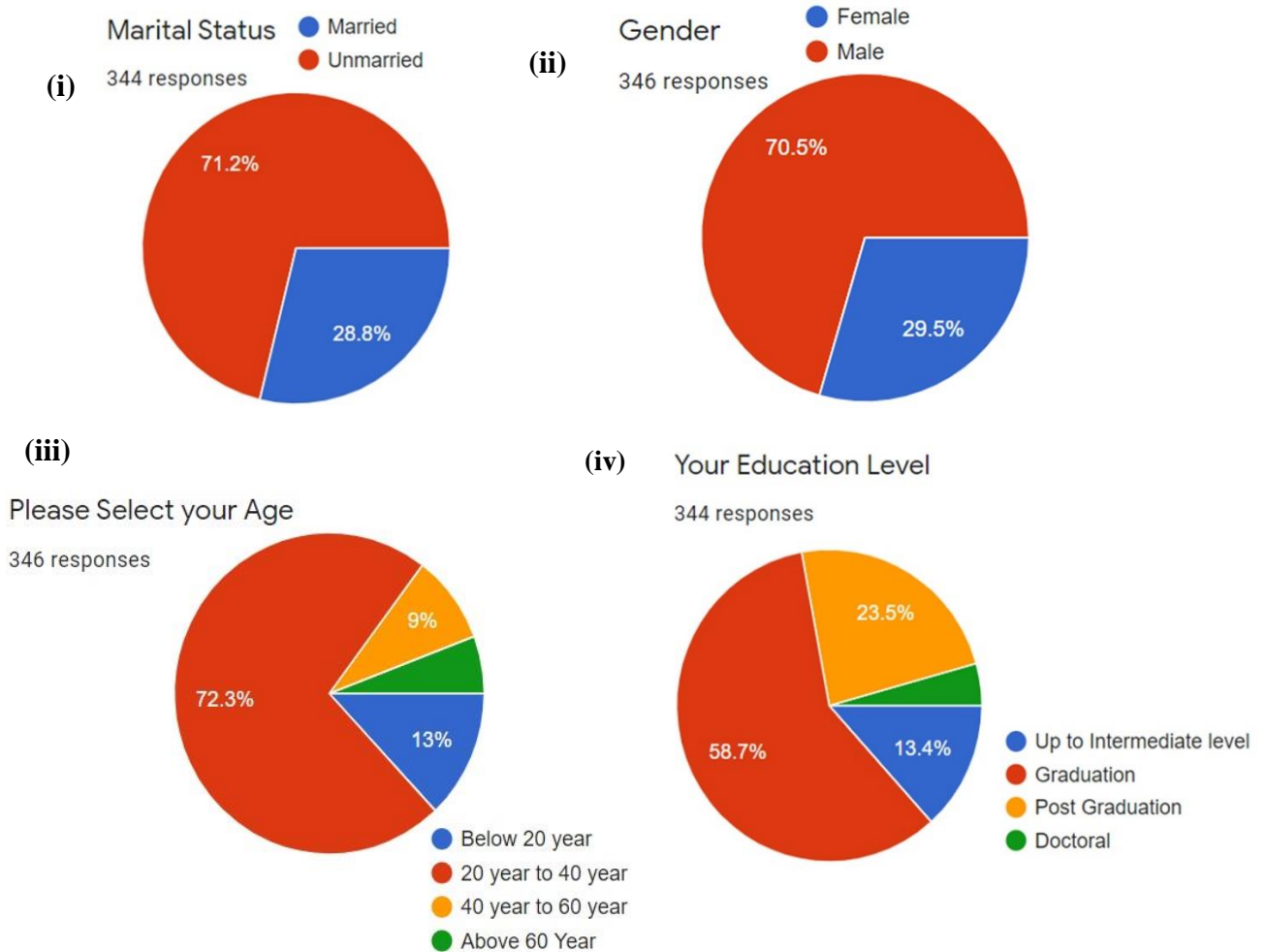
1. General information of the responders. (ages, gender, education, marital status)
2. Effects of the Travel restriction on the daily activity.
3. Effects of watching news related to COVID-19 epidemics.
4. Effect of travel restriction on the medical emergency conditions.
5. Effects of Travel restriction on health conditions
  - a. Anxiety and panic
  - b. Depression
  - c. Challenging family relations
  - d. Gender based violence
  - e. Financial stress and pressure
  - f. Others issue (not mentions on the lists)
6. Effect of Travel restriction (within the states and outside the state in medical emergency)
7. Medical problem faced during the lockdown periods
8. Mental stress faced before and after the lockdown (travel restriction)

### **3. RESULTS AND DISCUSSION:**

An online survey was conducted on the Indian population during the covid-19 epidemic. A total 347 Response were collected through the Google form. This section deals with the various responses recorded from the population of different states for various categories as mentioned earlier.

**3.1 General information of the responders (ages, gender, education, marital status):** Total 347 participant around the states of India have participated in the online survey. The Personal information related to Name, ages, marital status were kept as non-mandatory categories. The participants were asked to opt the age's groups which was divided into the four categories, below 20 years, 20 years to 40 years, 40 to 60 year, and above 60 years. Out the 347 approximate 72.3 % Participants were belonging to the age group of 20 to 40 years, which indicates that this age group of population of India; is having frequent use of internet and feeling free to involve in online activity. Whereas the 2<sup>nd</sup> highest, 13% people were belonged to the ages group of below 20 years. In this survey only 9 % people were participated in between the 40 year to the 60 year ages group. And the rest of the people belongs to the above 60 year of age. The less number of the online survey by the people above 60 years may also indicate that this age's group is not

comfortable with the online process of data sharing. Figure 2(i) shows the graphical representation of the age's group of the responders. Similarly figure 2(ii) and figure 2(iii) represents the information about the gender and marital status. Out of the all participants, approximately 71 % people are male and rest of them are women. Approximately 71% population reported as married. Very interestingly, although these data were kept as non-mandatory but almost everyone who participated in the survey have filled this data.

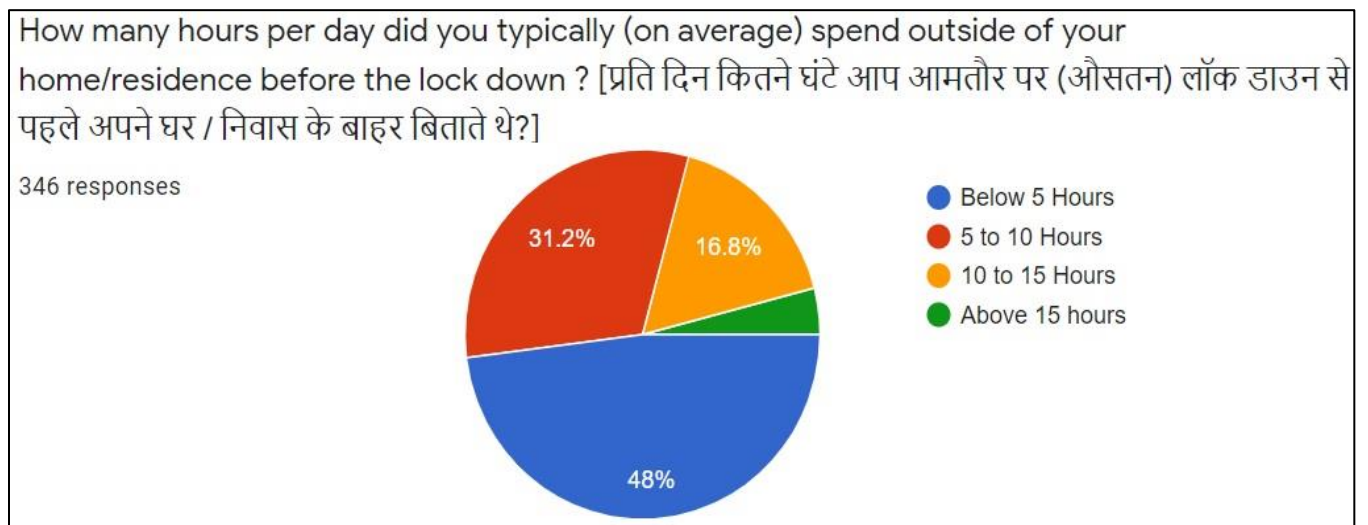


**Figure 2: General Information of the participants in Online Survey (i) Ages group (ii) Gender (iii) Marital Status (iv) Educational Level**



Figure 2(iv) indicates the educational level of the responder. Out of 347 numbers, approximately 59% and 23.5% population belongs to graduation and post-graduation category respectively. Similarly, approximate 14 % people belongs to the below intermediate levels.

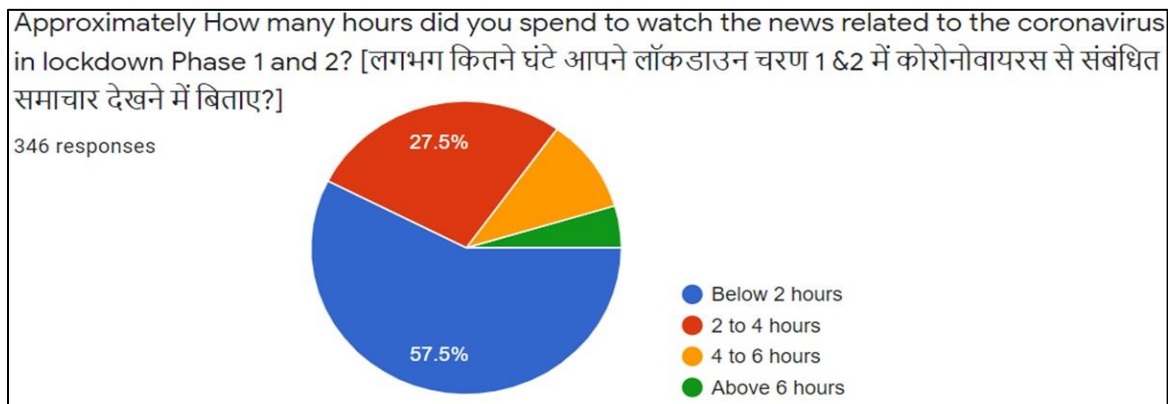
**3.2 Effects of the Travel restriction on the daily activity:** To know the effect of the travel restriction on the day to day activity on the people of the India, some simple questions were asked like minimum how many hours did you typically (on an average) used to stay outside your home before the lockdown. Total four options were given to the responder, Below 5 hours, from 5 hours to 10 hours, from 10-15 hours and above 15 hours. The online responses that has recorded shows that approximately 32% people were used to stay outside around 5 to 10 hours per day, whereas 48 % People has reported that they used to stay outside below 5 hours per day. Approximately 16.5% responder accepted that they were spending between 10 to 15 hours outside the home. The remaining responders were used to stay outside more than 15 hours per day. This data represents that the travel restriction has totally changed the day to day work process related to travelling, office work, site visits etc. of the people in India. Figure 3 represent the graphical representation of the responder data about the hour spent outside the home during normal days. Suddenly those who are used to spent more than 10 hours per days were feel very stressful for being in the home.

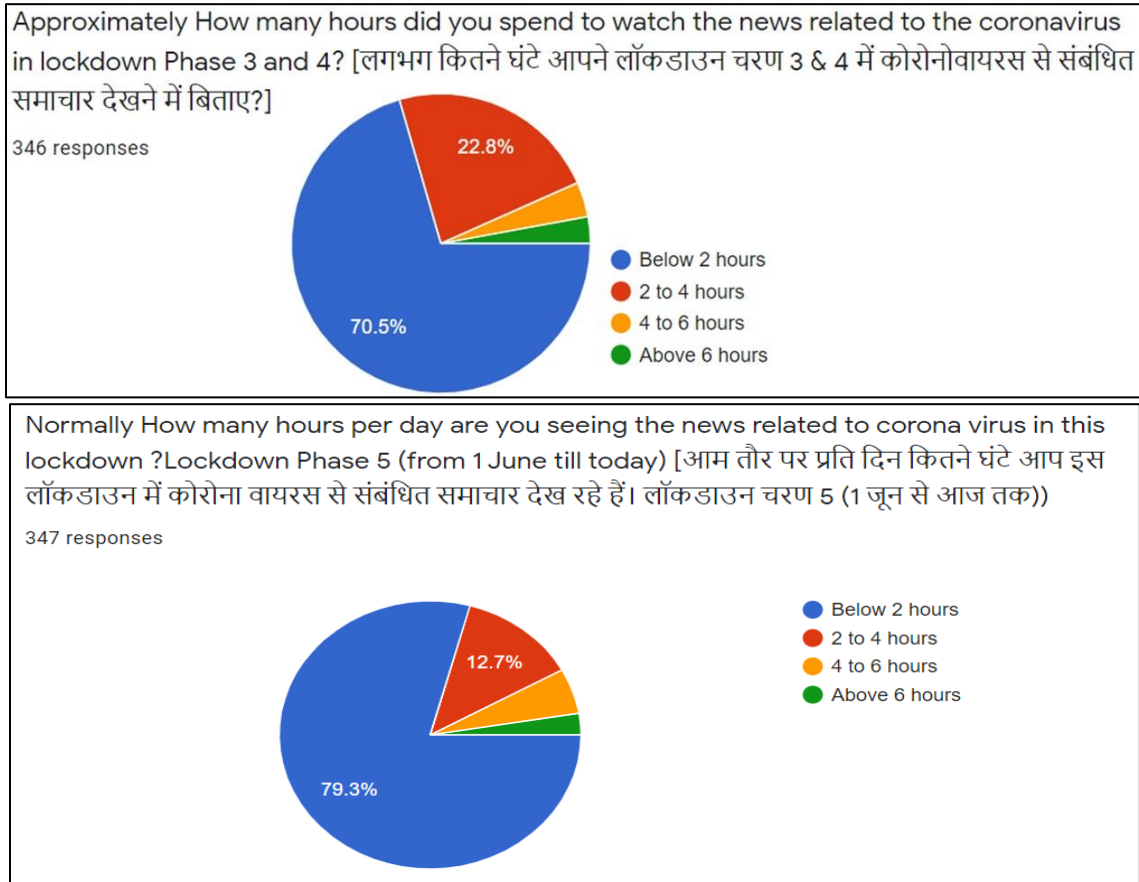


**Figure 3: Data Received for the average hour spent outside of home/residence**

**3.3 Effects of lockdown on watching news related to COVID-19 epidemics:** This Covid-19 epidemic is the most dangerous pandemic in the current century. We are leaving in the 21<sup>st</sup>

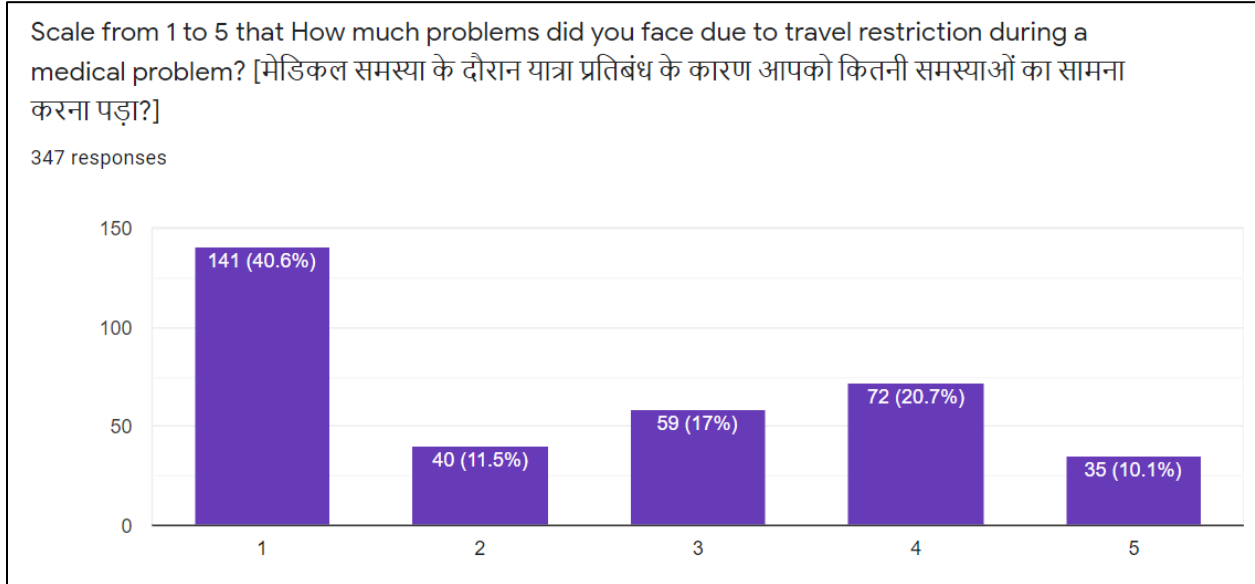
century where the information about the globe are on our finger tips. There is almost zero communication gap. Till now the researchers, scientists are still working to understand the structure, growth, vaccine and pattern of this virus. But as per the WHO; not much authentic information has been reported yet. In Current scenario of the social media, people are diverting through the lot of information's and spending lot of time to see the news related to the coronavirus. This survey reports that approximately how many hours a person has spent his time on watching news related to COVID-19. There were two questions asked about the time spent on the COVID-19 news that, in first and second phase of travel restriction how many hours you spent your time on the watching news related to coronavirus. Similarly, the second question was 'how many hours you spend your time to watching news related to covid-19 in 3<sup>rd</sup> and 4<sup>th</sup> phase of travel restriction during the lockdown. Approximately 28 % people have given their concern that they have been engaged at least 2 to 4 hours a day to watch covid-19 related news and that has decrease upto 22 % in 3<sup>rd</sup> and 4<sup>th</sup> phase of lockdown. Interestingly, approximate 58% people has spent less than two hours to watch news and decreased by 71 % in the 3<sup>rd</sup> and 4<sup>th</sup> lockdown. The decrement in time shows that the time fatigue is also involved to maintain the human day to day activity. The data has been represented by the figure 4. The difference between the timing of watching the news related to COVID-19 has been changed with respect to the time.





**Figure 4: Data related to the watching news related to COVID-19 During the phase of lockdown.(I)Phase 1 and 2 of lockdown (ii) Phase 3 and 4 (iii) Phase 5 from June 1 till date.**

**3.4 Effect of travel restriction on the medical emergency conditions:** Questions were asked to the responder to scale the effects of travel restriction on the medical emergency conditions. Approximately 11% of the people out the total responder has faced a lot of stress. Approximately 50 % of the people out of the total responder were moderately stressed due to travel restriction in medical emergency. Almost 40 % people were cool while medical emergency and faced relatively less problems and handled the situation well. Figure 5 represents the graph on a scale from 0 to the 5, where the responders has the choice to select the scale. This clearly shows that the people has suffered with the travel restrictions special while facing the medical conditions.



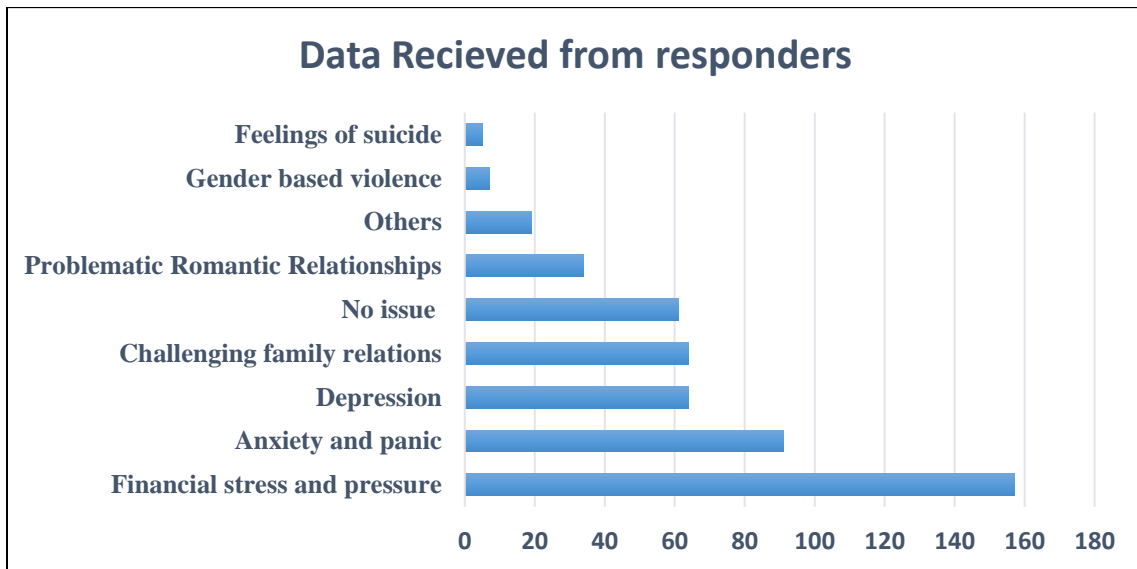
**Figure 5: Data represents the problems faced during Lockdown due to travel restrictions.**

**3.5 Effects of Travel restriction on health conditions:**The main study of this survey was to identify the mental/ physical health issues faced during the COVID-19 lockdown due to the travel restriction while facing various medical conditions in the family. This section deals with the survey data related to the mental stress due to the financial pressure, anxiety, panic, depression, challenging family relations and other issue in COVID-19 Lockdown. Table 2 represents the recorded data of stress due to various problems that arise due to travel restriction and lockdown in India.

**Table2: Information received from the 347 Responder with many possible selections of the options**

| Sr.no | Nature of Problem | No of inputs | % |
|-------|-------------------|--------------|---|
|-------|-------------------|--------------|---|

|   |                                    |     |    |
|---|------------------------------------|-----|----|
| 1 | Financial stress and pressure      | 157 | 46 |
| 2 | Anxiety and panic                  | 91  | 27 |
| 3 | Depression                         | 64  | 19 |
| 4 | Challenging family relations       | 64  | 19 |
| 5 | No issue                           | 61  | 18 |
| 6 | Problematic Romantic Relationships | 34  | 10 |
| 7 | Others                             | 19  | 6  |
| 8 | Gender based violence              | 7   | 2  |
| 9 | Feelings of suicide                | 5   | 1  |



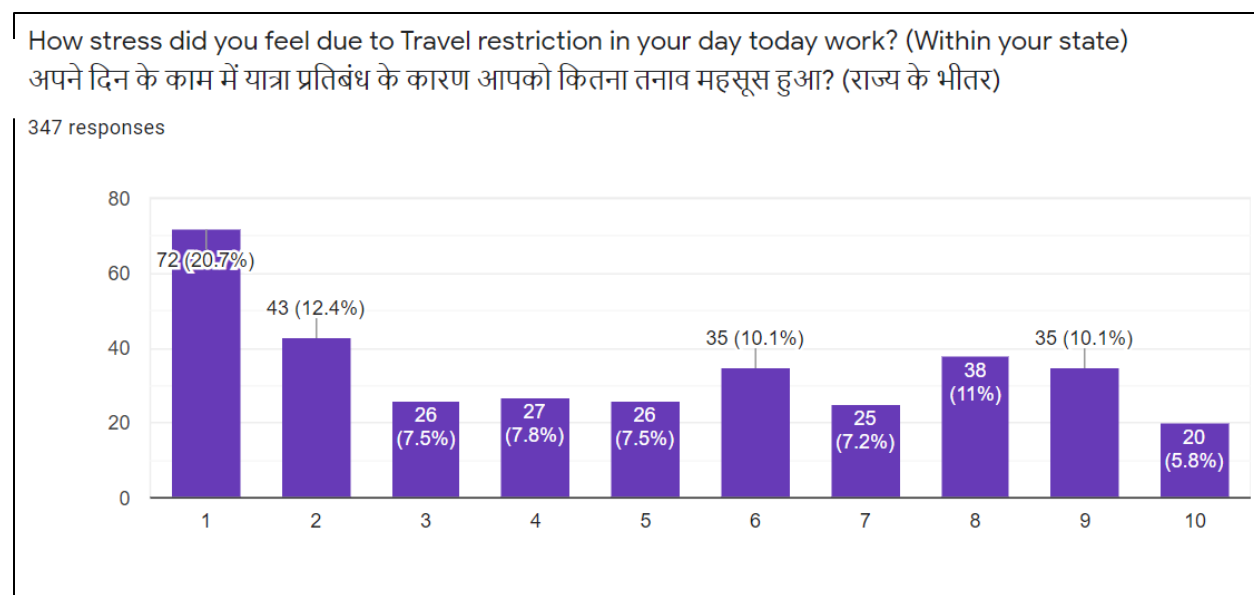
**Figure 6: Graphical representation of the data received from the responders from various locations.**

From the data it is clear that approximate 46 % people has faced challenges due to the financial stress and pressure during this situation. This was the one of the major factor to develop the mental stress during the lockdown. As per the various reports, it is clear that the travel restriction has created lot of financial stress and pressure among the people of India. Through this report; we can accept this truth that the financial pressure has play a critical role on the mental health condition. 27 % people have faced anxiety and panic situation during the lockdown due to travel restriction which is also a huge number. From figure 6 it is clearly understood that the travel

restriction has created an impact on the mental health of the people of India. Fig. 6 represents that the most of the people have faced the stress due to the financial pressure. Similarly, 19% people were reported that they have faced the challenging family relations in this lockdown. 19 % people were depressed due to this situation. 18 % of the people shown that there was no problem at all. They were relaxed with this situation.

**3.6 Effect of Travel restriction (within the states and outside the state in medical emergency):** In India during the Covid-19 lockdown the interstate as well as intrastate state transportation was also completely blocked. Only in the emergency cases with the permission of the competent authority, needy people may travel. This survey will help to understand the situation about the stress level of the peoples due to travel restriction in the state or outside the state.

(i)

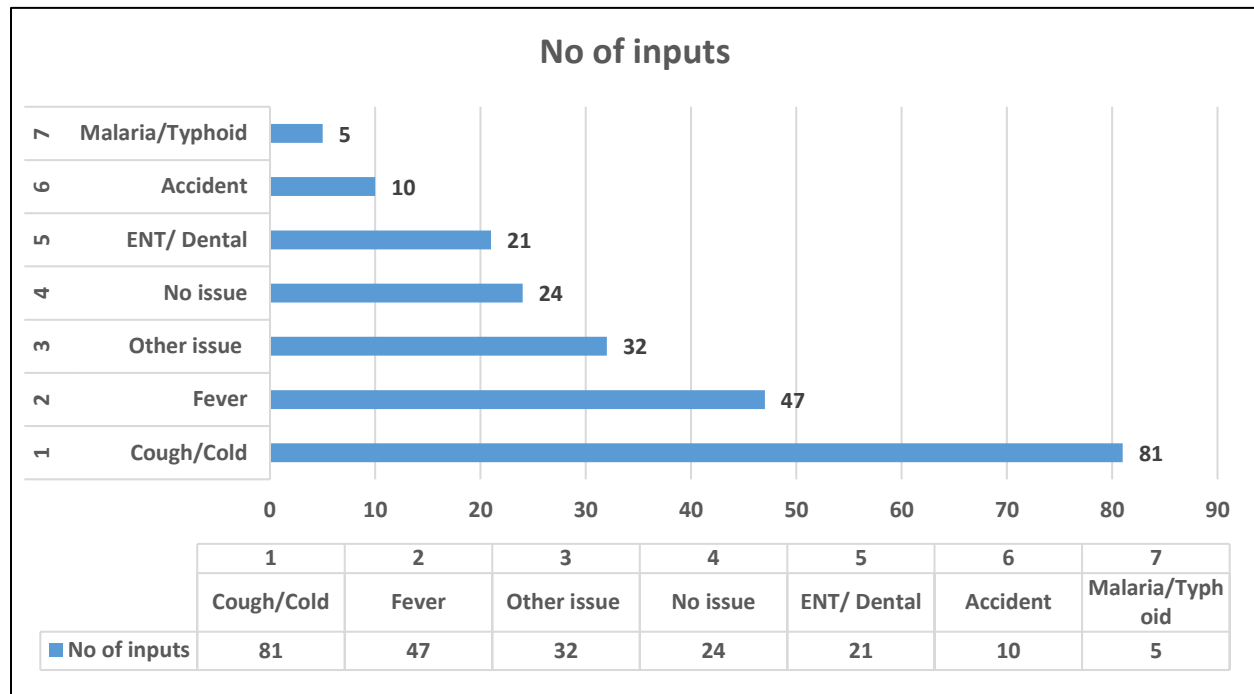


**Figure 7: Data Related to the travel restriction during COVID-19 Lockdown Data within the state (ii) data outside the state**

As per the data received from the various geographical location, most of the people face the difficulty while going outside the state. This situation has created stress and panic condition among the people. Approximately 15 % people report that they suffered with the heavy stress due to not travelling to other state. This data clearly indicates the need of the people to travel to

other states and it may be due to their own business concerns or due to some medical problems. Almost 70 % of people were in stress due to travel restrictions.

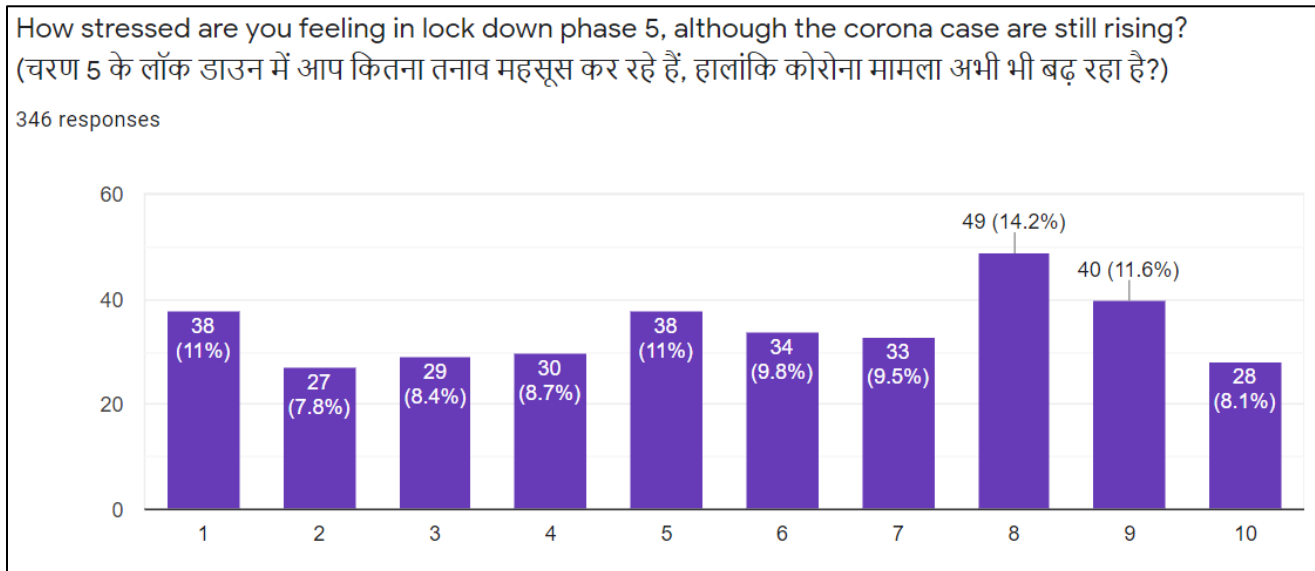
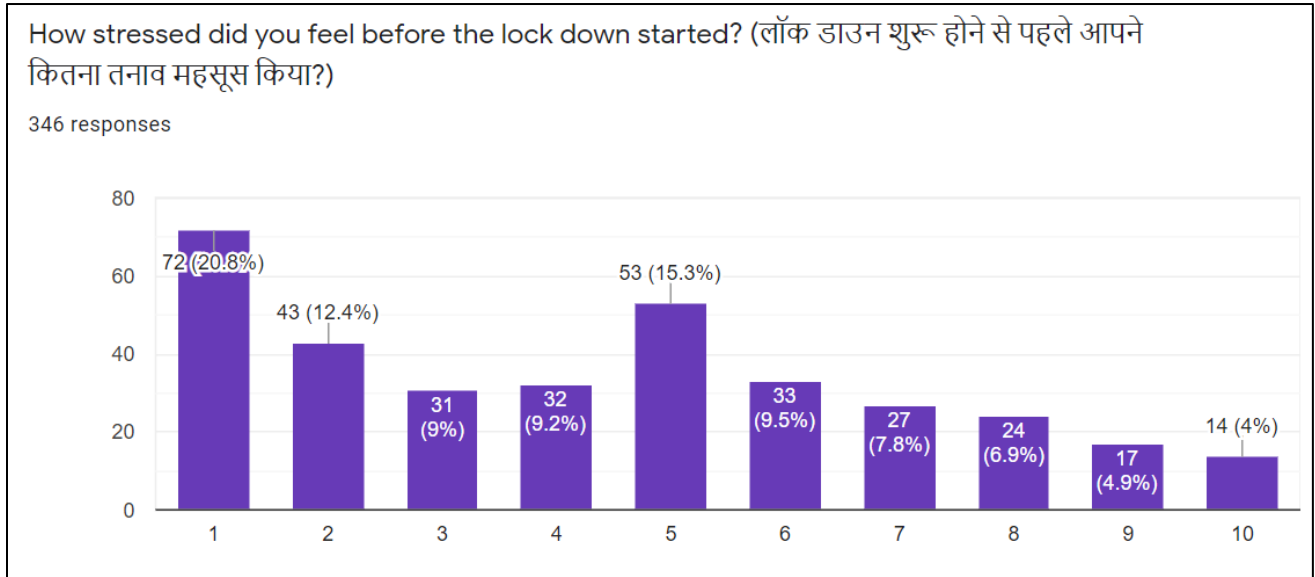
(ii) **3.7 Medical problem faced during the lockdown periods:** Drawing information from the figure 8 that approximately 81 people have reported cold and cough, similarly 47 people have faced fever. Certainly this has increases the mental pressure among the people being one of the primary cause of coronavirus. Although not a single one have reported that this could and cough were due to the coronavirus.



**Figure: 8 Data regarding faced various medical issue during lockdown**

**3.8 Mental stress faced before and after the lockdown (travel restriction):**This survey has been done to analysis the mental stress condition of the people before the lock down and after the lockdown. On a scale of 1 to 10 (lower to higher side),to interpret this data median value has been utilized. Figure 9 (i) clearly shows that in the initial phase of the travel restriction due to COVID-19, most of the people were not very stressed. Majority of the people voted below 5 points, whereas in figure 9(ii) more than 60 % persons gave 5 points which indicate the increased level of the stress (after the lockdown). When the covid-19 situation was just started, cases were reported very less and also the stress level of peoples was relatively lower but now when the cases are still arising, the stress level in the people are increasing (after the lockdown).

The extracted responses from different peoples has marked some questions which needs to be addressed like; was the lock down necessary? will the economy be revive in future; so that the mental health and financial health of the human-beings will be normal. For these kind of questions more intensive study is required and also the specific health measures and health awareness programs should be implemented.





**Figure 9: Data Related to stress level (i) before the lockdown and (ii) after start of lockdown.**

**STUDY LIMITATIONS:**

The study is limited to the people who are much familiar to online activity. And also limited to only two languages Hindi and English. This study represents the effect on mental stress due to travel restriction on the various day to day activity and it may be different in normal days.

**CONCLUSION:**

During this coronavirus pandemic, the people of the India have faced various problems. As per the online survey the following conclusion can be drawn. Most of the people faced mental stress due to the financial issue. Anxiety have been increased due to the travel restrictions. The way people were involved initially in their day to day activity has totally changed and this also cause to increase in the mental pressure. There is need to control the fake information on the news and social media so that, the proper guidance and measure can be given to the people. A proper planning is also required to manage the medical emergency situation in this scenarios. There is a need to intensify the awareness program and address the mental health issues of people during this COVID-19 pandemic.

**Conflict of interest: Authors do not have any interest with this work.**

**REFERENCES**

1. WHO, 2020a. Pneumonia of unknown cause – China. URL <https://www.who.int/csr/don/05-january-2020-pneumonia-of-unkown-cause-china/en/> (accessed 3.31.20).
2. WHO, 2020b. Coronavirus disease 2019 (COVID-19) Situation Report – 46. URL [https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200306-sitrep-46-covid-19.pdf?sfvrsn=96b04adf\\_2](https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200306-sitrep-46-covid-19.pdf?sfvrsn=96b04adf_2) (accessed 3.31.20).

3. WHO, 2020c. Rolling updates on coronavirus disease (COVID-19). URL <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-theyhappen> (accessed 3.31.20).
4. WHO, 2020d. Coronavirus disease 2019 (COVID-19) Situation Report – 70.
5. Yao, H., Chen, J.-H., Xu, Y.-F., 2020. Rethinking online mental health services in China during the COVID-19 epidemic. *Asian J. Psychiatry* 102015. <https://doi.org/10.1016/j.ajp.2020.102015>
6. Abebe, T.B., Bhagavathula, A.S., Tefera, Y.G., Ahmad, A., Khan, M.U., Belachew, S.A., Brown, B., Abegaz, T.M., 2016. Healthcare Professionals' Awareness, Knowledge, Attitudes, Perceptions and Beliefs about Ebola at Gondar University Hospital, Northwest Ethiopia: A Cross-sectional Study. *J. Public Health Afr.* 7, 570–570. <https://doi.org/10.4081/jphia.2016.570>
7. Banerjee, D., 2020. The COVID-19 outbreak: Crucial role the psychiatrists can play. *Asian J. Psychiatry* 102014. <https://doi.org/10.1016/j.ajp.2020.102014>
8. Baud, D., Qi, X., Nielsen-Saines, K., Musso, D., Pomar, L., Favre, G., 2020. Real estimates of mortality following COVID-19 infection. *Lancet Infect. Dis.* 0. [https://doi.org/10.1016/S1473-3099\(20\)30195-X](https://doi.org/10.1016/S1473-3099(20)30195-X)
9. Brooks, S.K., Webster, R.K., Smith, L.E., Woodland, L., Wessely, S., Greenberg, N., Rubin, G.J., 2020. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet*.
10. Burrell, C.J., Howard, C.R., Murphy, F.A., 2017. Chapter 31 - Coronaviruses, in: Burrell, C.J., Howard, C.R., Murphy, F.A. (Eds.), *Fenner and White's Medical Virology (Fifth Edition)*. Academic Press, London, pp. 437–446. <https://doi.org/10.1016/B978-0-12-375156-0.00031-X>
11. Ebrahim, S.H., Ahmed, Q.A., Gozzer, E., Schlagenhaut, P., Memish, Z.A., 2020. Covid-19 and community mitigation strategies in a pandemic. *BMJ* 368. <https://doi.org/10.1136/bmj.m1066>
12. Everts, J., 2013. Announcing Swine Flu and the Interpretation of Pandemic Anxiety. *Antipode* 45, 809–825. <https://doi.org/10.1111/j.1467-8330.2012.01021.x>
13. Feng, S., Shen, C., Xia, N., Song, W., Fan, M., Cowling, B.J., 2020. Rational use of facemasks in the COVID-19 pandemic. *Lancet Respir. Med.*

14. S.I., Kim, L., Tong, S., Lu, X., Lindstrom, S., Pallansch, M.A., Weldon, W.C., Biggs,H.M., Uyeki, T.M., Pillai, S.K., 2020. First Case of 2019 Novel Coronavirus in theUnited States. N. Engl. J. Med. 382, 929–936.<https://doi.org/10.1056/NEJMoa2001191>.
15. Somani N., Gupta N., Bisht S., A critical study on COVID-19:Structure, Symptoms, Spread, Preventions and Role of Automation Technologies, Palarch's Journal of Archaeology of Egypt/Egyptology, 17 (9) 2020.