

## **Effects of Rural and Urban India Lockdown in India During Covid -19 Pandemic - A Survey**

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## **ABSTRACT**

### **BACKGROUND**

The lockdown due to corona virus has affected many rural and urban people day to day life . There are some good and bad effects of this lockdown . Urban people are mentally stressed during this lockdown whereas rural people don't have enough awareness on lockdown and covid 19 . Lockdowns have a bigger impact in urban areas due to its much larger economic activity here. The major aim of this survey is to bring awareness to people about the lockdown effects of rural and urban people in India.

### **MATERIALS AND METHODS**

Self - administered questionnaires were designed based on knowledge, attitude and practice and were distributed through the online survey in google forms in the year 2020. The population included for the survey is between the age group of 18 - 59 years. The participants were explained about the study in detail. The questions were validated and distributed to participants. The responses were collected and tabulated. The collected data was analysed statistically using the SPSS tool for descriptive and association analysis.

### **RESULTS AND CONCLUSION:**

This is a Survey based on Rural and urban India during lockdown effects and forecast, in which 41% of male and 59.4% of females participated in the survey. 31.75% of the respondents reported high and very high levels of anxiety experienced during the lockdown period because of COVID-19 threat and around 46.03% of the respondents reported felt that the mental anxiety faced by the people is not similar in rural and urban areas. Around 65% of the respondents felt that they are socially isolated. This study has shown a lockdown effect and its forecast of Covid 19 among rural and urban populations of india and findings suggests that the impact of lockdown is definitely a serious threat and anxiety to their day to day living and income generation. Moreover, Rural and urban challenges to face the lockdown differ. The rural area is affected more compared to urban areas because they struggle to get their essentials as their income is unstable.

**KEY WORDS :-** Rural; Urban; India; lockdown effects; forecasts

## **INTRODUCTION**

Lockdown have bigger impact in urban areas Because of much larger economic activity here . More than two-third India GDP comes from its towns and cities . Rural areas where agriculture is still the mainstay harvest season of plenty . In villages about 55%. are working men and about 45% are working women, farmers, farm labourers this being is a busy period to them .If imposition of lockdown by local officials does not interpreting field operation then a big harvest of rabi crops are anticipated during winter .A bumper of winter rabi harvest is expected and they will work for wages in cash or any kind for both form labourers and farmers (Laing, 2020) India the 2nd largest country, where the healthcare system is still underdeveloped and major portion of population still follow an unhygienic lifestyle . They are unable to restrict the rate of infection and death of the citizens from COVID-19(Paital, Das and Parida, 2020). The rural health care in

India is not adequate or prepared to prevent the spread of Covid 19 pandemic, especially in many densely populated northindian States because of the shortage of doctors, hospital beds and equipment(Kumar, Rajasekharan Nayar and Koya, 2020) Due to forced restrictions pollution level in cities across the country drastically reduced. Temporarily this time interval may heal the environment in urban settings (Mahato, Pal and Ghosh, 2020) China has imposed lockdown for Wuhan as well as the entire Hubei province. These two enormous measures led to significant reduction in the spread of COVID-19 (Lau *et al.*, 2020).

Even negative fear and positive segments were there during lockdown which stood out no citizen struggled basic essential during Lockdown.The government made arrangements because the government implemented lockdown (Laing, 2020). They argue for the need to take immediate steps to control the spread and its alter - effects and to use this opportunity to strengthen and improve its primary health care system in rural india (Kumar, Rajasekharan Nayar and Koya, 2020) In Urban Areas that the result demonstrated during lockdown air quality has significantly Improved . Even Though lockdown has contributed a very positive impact on air quality,it is also important to consider negative impacts on social aspects, considering the deaths caused by COVID-19 (Nakada and Urban, 2020). Depend during lockdown economy and On Social conditions only emerges afterwards (Barkur, Vibha and Kamath, 2020).Everyone will inevitably move towards some kind of relaxation of lockdown in the not too distant future, and this is essential for societal, mental health and economic reasons.(Thomson, 2020) . Article on Social Lockdown as preventive measures against the covid-19 PubMed are scanty (Paital, Das and Parida, 2020) A large number of countries have implemented social distancing and lockdown to reduce further spread of the covid 19 virus(Yuki, Fujiogi and Koutsogiannaki, 2020).

It is observed that the stringent social distancing via Lockdown is highly important to control Covid - 19 and also contribute for self - regeneration of nature (Paital, Das and Parida, 2020)The lockdown provided people with more free time . Some people use this time creatively for self-care, picking up new hobbies and acquiring new skills On the contrary, some people may get bored and frustrated(Mackolil and Mackolil, 2020) . This leads to unhealthy daily routines.Our team has rich experience in research and we have collaborated with numerous authors over various topics in the past decade (Ariga *et al.*, 2018; Basha, Ganapathy and Venugopalan, 2018; Hannah *et al.*, 2018; Hussainy *et al.*, 2018; Jeevanandan and Govindaraju, 2018; Kannan and Venugopalan, 2018; Kumar and Antony, 2018; Manohar and Sharma, 2018; Menon *et al.*, 2018; Nandakumar and Nasim, 2018; Nandhini, Babu and Mohanraj, 2018; Ravinthar and Jayalakshmi, 2018; Seppan, Muhammed, Mohanraj, Lakshmanan, Premavathy, Muthu, Wungmarong Shimray, *et al.*, 2018; Teja, Ramesh and Priya, 2018; Duraisamy *et al.*, 2019; Gheena and Ezhilarasan, 2019; Hema Shree *et al.*, 2019; Rajakeerthi and Ms, 2019; Rajendran *et al.*, 2019; Sekar *et al.*, 2019; Sharma *et al.*, 2019; Siddique *et al.*, 2019; Janani, Palanivelu and Sandhya, 2020; Johnson *et al.*, 2020; Jose, Ajitha and Subbaiyan, 2020).The aim of this study is to analyse the impact of lockdown in rural and urban people in India.

## MATERIALS AND METHODS

This study involved both male and female in the age group of 18-59 years among rural and urban citizens of India. A well-structured validated questionnaire comprising 15 questions is distributed. This was conducted through Online survey .The online survey Software used was Google forms software. This questionnaire was distributed in the year 2020 . This cross sectional descriptive survey was conducted among 60 participants from rural and urban citizens of India. This survey was approved by the scientific review board, Saveetha dental college and hospitals. Convenient sampling was done to eliminate the response bias. The collected responses are analysed statistically. The descriptive statistics mean and percentage was calculated using the statistical SPSS software.

## RESULTS

Survey based on Rural and urban India during lockdown effects and forecast in which male population 41% and female population is 59:4 [ fig 1] When the participants were asked in lockdown did they normally use the following activities at home to relax their mind, 39.3% said music , 19.7% said Reading , 29.5 said physical activity, 11.5% said yoga [ fig 2] .When the participants were asked if they think their family's salary will be maintained during lockdown 52.5% responded NO, 47.5% responded as Yes [ fig 3] . We have seen the association between gender and opinion of the participants asking whether their family's salary will be maintained during lock-down.31.75% of the female population and 15.87% of male population said yes . 28.57% of female population and 23.81% of male population said no [fig 4] When the participants were asked if they had set up a special schedule for lockdown 57.4% responded Yes and 42.6% as No [ fig 5 ].When the participants were asked with regard to use of the Internet and its derivatives in the lockdown period. The response more than usual for 16.4% for Work , 42.6% said Social media ,37.7% said Film / Series, 1.6% said youtube, 2.7% said Cooking [fig 6] When the participants were asked to rate a scale of anxiety level from 1 to 5 1(6.6%) , 2 (8.2%) , 3(21.3%),4(31.1%), 5(32.8%) [fig 7].We have seen the association between gender and opinion of the participants with regard to rate on a scale of 1 to 5 how anxious they are because of Covid 19 .4.76% of the female population and 1.59% of male population said very low . 7.94% of the female population and 1.59% of male population said low . 17.46% of the female population and 3.17% of male population said medium . 22.22% of the female population and 9.52% of male population said high . 7.94% of the female population and 23.81 % of male population said very high [fig 8] .When the participants were asked if lockdown have changed their eating habits 67.2 % said Yes and 32.8 % said No [fig 9] When the participants were asked during lock-down if they had good access to basic necessities 52.5% said No and 47.5% said Yes [fig 10]. We have seen the association between gender and the opinion of the participants asking whether in lock-down, they had good access to basic necessities . 36.51% of the female population and 11.11% of male population said yes .23.81% of the female population and 28.57% of male population said No . [fig 11] .When the participants were asked if they feel

socially isolated 70.5% said yes and 29.5% said No [fig 12]. Our institution is passionate about high quality evidence based research and has excelled in various fields ( (Pc, Marimuthu and Devadoss, 2018; Ramesh *et al.*, 2018; Vijayashree Priyadharsini, Smiline Girija and Paramasivam, 2018; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Ramadurai *et al.*, 2019; Sridharan *et al.*, 2019; Vijayashree Priyadharsini, 2019; Chandrasekar *et al.*, 2020; Mathew *et al.*, 2020; R *et al.*, 2020; Samuel, 2021) We have seen the association between gender and response for participants asking whether they have felt socially isolated in this lockdown . 36.10% of the female population and 30.16% of male population said yes .22.22% of the female population and 9.52% of male population said No .[fig 13] . When the participants were asked during lock down whether they experience a general slowdown in their environment 55.7% said Yes where 44.3% said No [ fig 14] .When the participants were asked if they think mental stress of a person who lives in a rural area and urban area is the same 21.8% said Yes , 23% said most of the time, 44.34% said not very much ,11.5% said no, hardly ever [fig 15]. We have seen the association between gender and opinion of participants regarding mental stress of people who live in rural areas and urban areas are the same . 15.87% of the female population and 6.35% of male population said most of the time .9.52% of the female population and 1.59% of male population said No, hardly ever . 28.57% of the female population and 17.46% of male population said Not very much .5.35% of the female population and 14.29% of male population said Yes .[fig 16] When the participants were asked at times when they have to see the doctor because they are sick but can't because of the lockdown 21.3% said yes 27.9% said most of the time and 36.1% said Not very much and 14.8% said hardly [fig17] When the participants were asked if they think rural areas are affected more than urban areas during lockdown 68.9% said yes 31.1% said NO [fig 18].When the participants were asked if they think rural is affected more because of loss in agriculture 75.4 % said Yes and 24.6% said No [fig 19]

## DISCUSSION

Total number of responses were 60. The Anxiety level is more due to covid 19 among rural and urban areas during lockdown . Rural areas are more affected than urban areas because there is no income for daily wage workers and agriculture. The knowledge, awareness level regarding lockdown is very less in Rural areas compared to urban areas. In Urban during the lockdown they are not able to get their essentials. Anxiety level about covid19 is very severe in the study done by Moghanibashi . Our current study is not that severe compared to study by Moghanibashi (Moghanibashi-Mansourieh, 2020) . In the study done by Roy D. When the participants were asked in lockdown do they normally conduct activity in their home to relax their mind 42% said television (Roy *et al.*, 2020) . In the study done by Nachimuthu S. When the participants were asked in lockdown do they normally conduct activity in their home to relax their mind 80% reported as exercise . Whereas in our current study 39.3% music which is almost the same result as Roy D and physical maintenance 29.5% (Nachimuthu *et al.*, 2020) . In the study done by Roy D. When the participants were asked if there were times that they can't go to doctor when they are sick because of lockdown 33% say yes . In the Current study results are a minority that

said yes ,same as the study done by Roy D (Roy *et al.*, 2020) . In the study done by Fan C When the participants were asked whether they use the Internet and its derivatives more than usual or social media 36.5% said yes . In the study done by Fan C When the participants were asked if the rural area is affected more than urban area 81% said yes. our current study results are 66.3% yes . People are worried about the daily wage workers surviving during the lockdown period (Fan *et al.*, 2020) . The majority said yes when asked if their family salary can be maintained during lockdown period and Our current study almost half of the population said yes if their family salary can be maintained during lockdown period (Mehra *et al.*, 2020)

Our institution has conducted many clinical trials and survey topics which inspired us also to do a survey (Krishna and Babu, 2016)(Nandhini *et al.*, 2018)(Sriram, Yuvaraj and Others, 2015)(Choudhari and Thenmozhi, 2016).There were also some review topic done by our university about importance of condylar foramen etc (Subashri and Thenmozhi, 2016)(Thejeswar and Thenmozhi, 2015)(Keerthana and Thenmozhi, 2016)(Menon and Thenmozhi, 2016)(Hafeez, 2016).There are some study done by our university on eagle's syndrome etc (Johnson *et al.*, 2020)(Sekar *et al.*, 2019)(Seppan, Muhammed, Mohanraj, Lakshmanan, Premavathy, Muthu, Wungpam Shimray, *et al.*, 2018)(Pratha, Ashwatha Pratha and Thenmozhi, 2016)(Samuel and Thenmozhi, 2015)(Kannan and Thenmozhi, 2016). Now the institution is focussing on epidemiological surveys.

There are some limitations for this study. First the sample size is lower in number, have response bias and survey fatigue and also it is a homogenous population which may mislead. Future scope of this study is to do a complete study on this topic Rural India and their difficulties during lockdown in a larger population and a larger scale

## **CONCLUSION**

This study has shown increased anxiety in both rural and urban India and Rural areas are affected more in terms of income, essentials, knowledge awareness on Covid 19. The result suggests the need for support to the rural region more than urban India.

## **AUTHOR CONTRIBUTION**

Structuring study design, Data collection, drafting manuscript was done by Lekha.D . Study design, Revising manuscript and final approval of manuscript was done by Dr. Lavanya Prathap.Drafting and revising manuscript was done by Hannah.R. Drafting and revising manuscript was done by Dr. Preetha S

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**CONFLICT OF INTEREST** - The authors declare no potential conflict of interest

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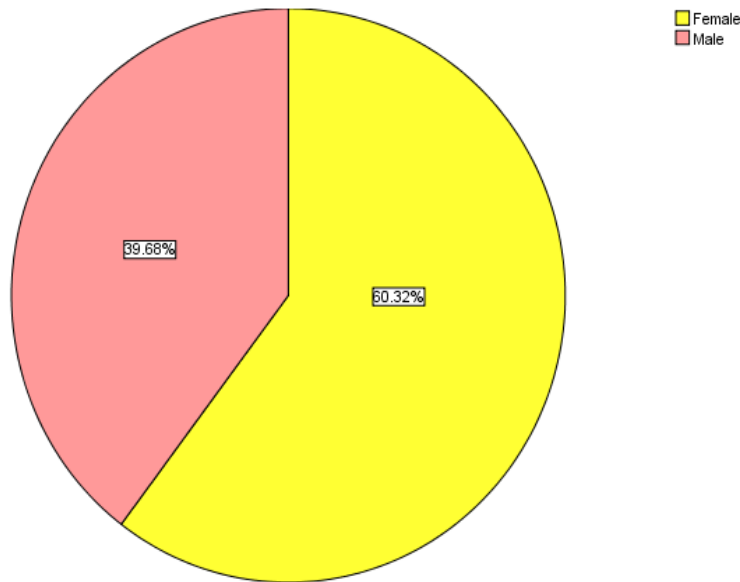
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**TABLE - 1 - LIST OF FIGURE TITLES**

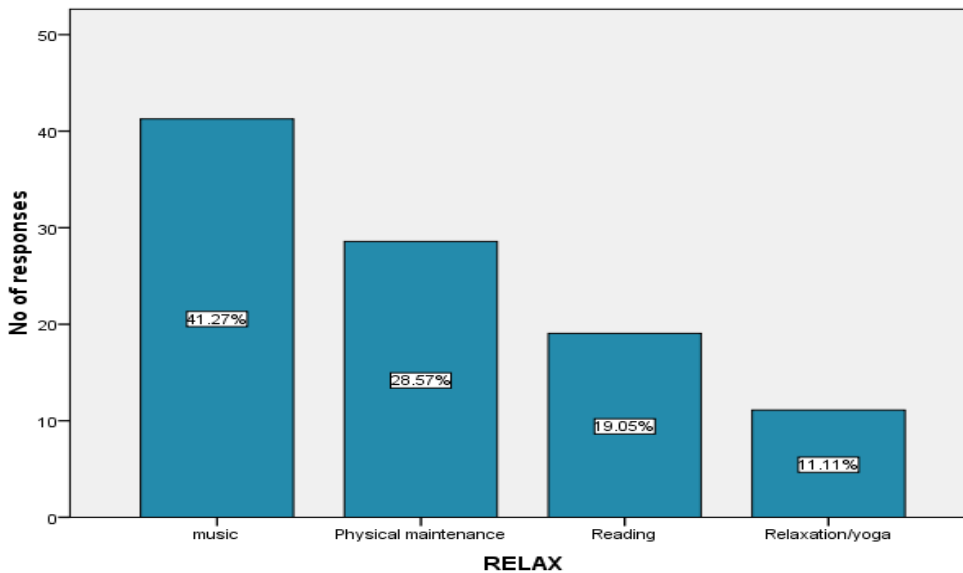
<b>FIGURE NUMBER</b>	<b>FIGURE TITLE</b>
Figure 1	Graph showing the gender distribution of the participants
Figure 2	Graph showing normal activity conducted by the participants in their free time
Figure 3	Graph showing the opinion of the participants asking whether their family’s salary will be maintained during lock-down
Figure 4	Graph showing the association of opinion of the participants asking whether their family’s salary will be maintained during lock-down with gender
Figure 5	Graph showing the opinion of the participants asking Since the lock-down do have they set up a special schedule?
Figure 6	Graph showing the opinion of the participants asking whether they use the Internet and its derivatives more than usual
Figure 7	Graph showing the opinion of the participants with regard to rate on a scale of 1 to 5 how anxious are they now because of Covid 19
Figure 8	Graph showing comparison on opinion of the participants with regard to rate

	on a scale of 1 to 5 how anxious they are because of Covid 19 with gender
Figure 9	Graph showing the opinion of the participants asking Since lock-down, have they changed the eating habit
Figure 10	Graph showing the opinion of the participants asking whether in lock-down, they had good access to basic necessities
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Figure 18	Graph showing the opinion of the participants regarding the impact of lockdown effects
Figure 19	Graph showing the opinion of the participants asking if they think rural is affected more because of loss in agriculture?

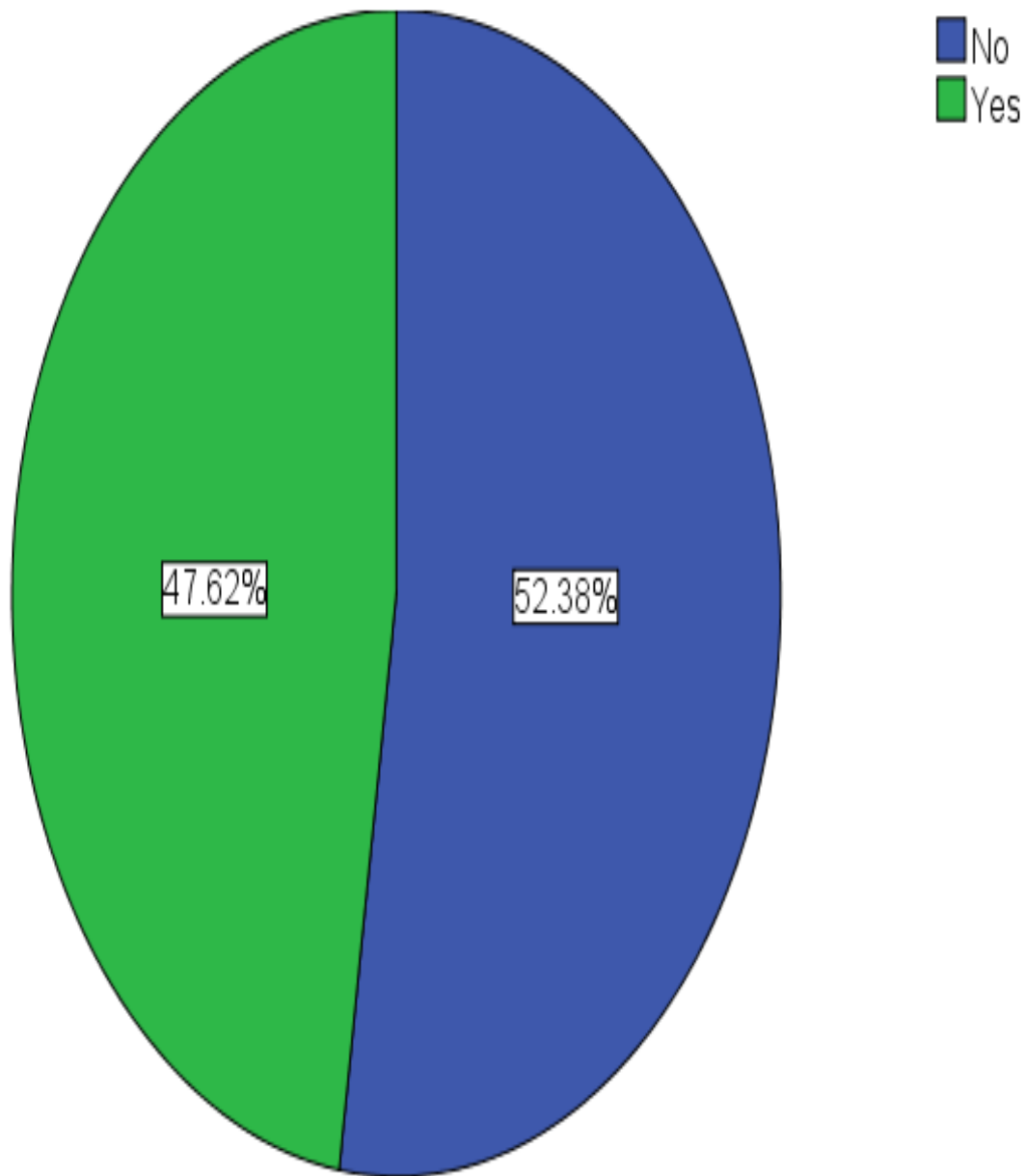
**Graphs:**



**FIGURE 1 :** Pie Chart depicts the gender of the participants . 60.32% Female (bright yellow ) and 39.68% Male (pale pink) . Majority (60.32%) of the participants were females.

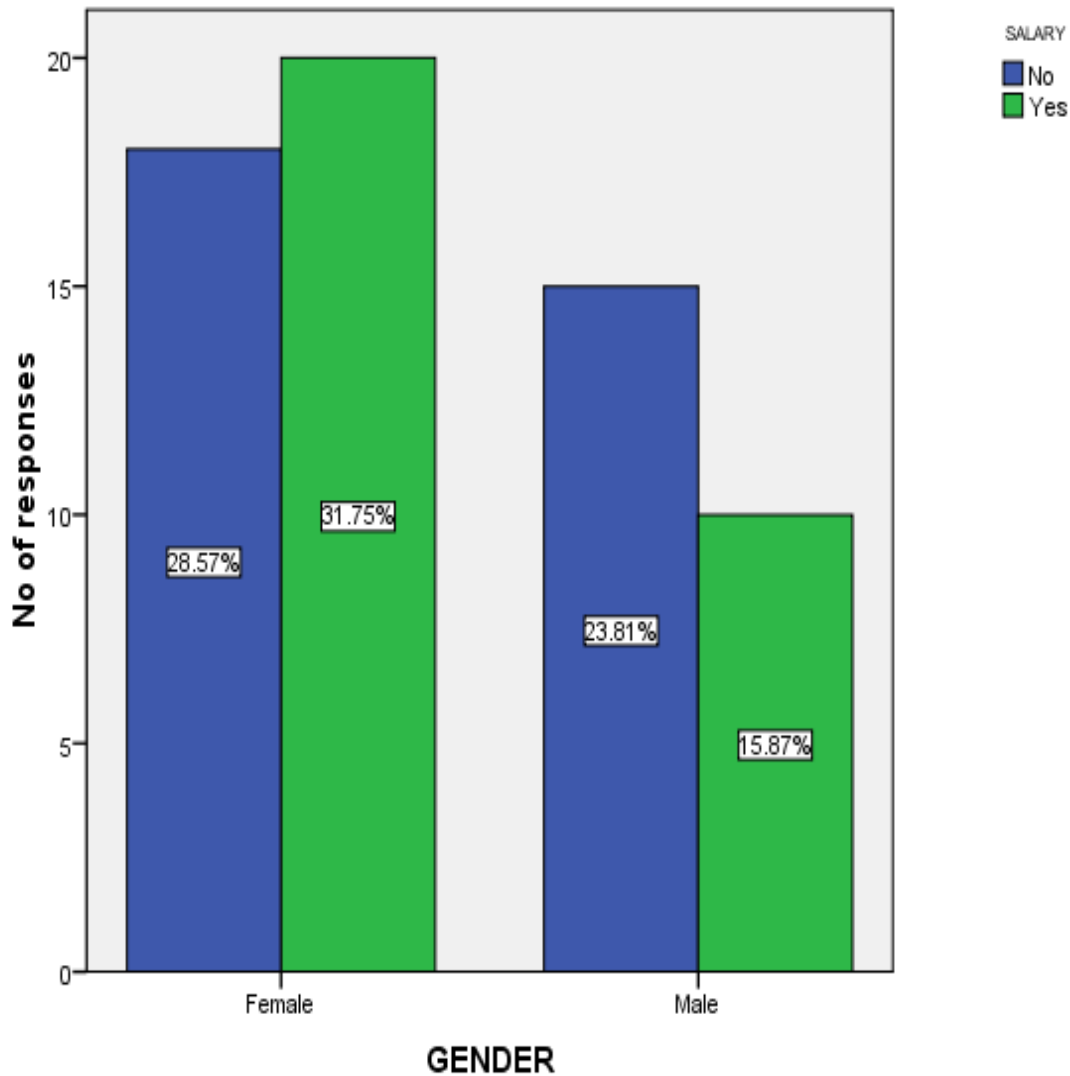


**FIGURE 2:** Bar graph depicts normal activity conducted by the participants in their free time. X axis represents normal activity conducted in free time to relax ,Y axis represents percentage of participants. 41.27% Music and 28.57% Physical maintenance 19.05% Reading 11.11% relaxation (navy blue). . Majority of the participants preferred (41.27%) music in their free time.

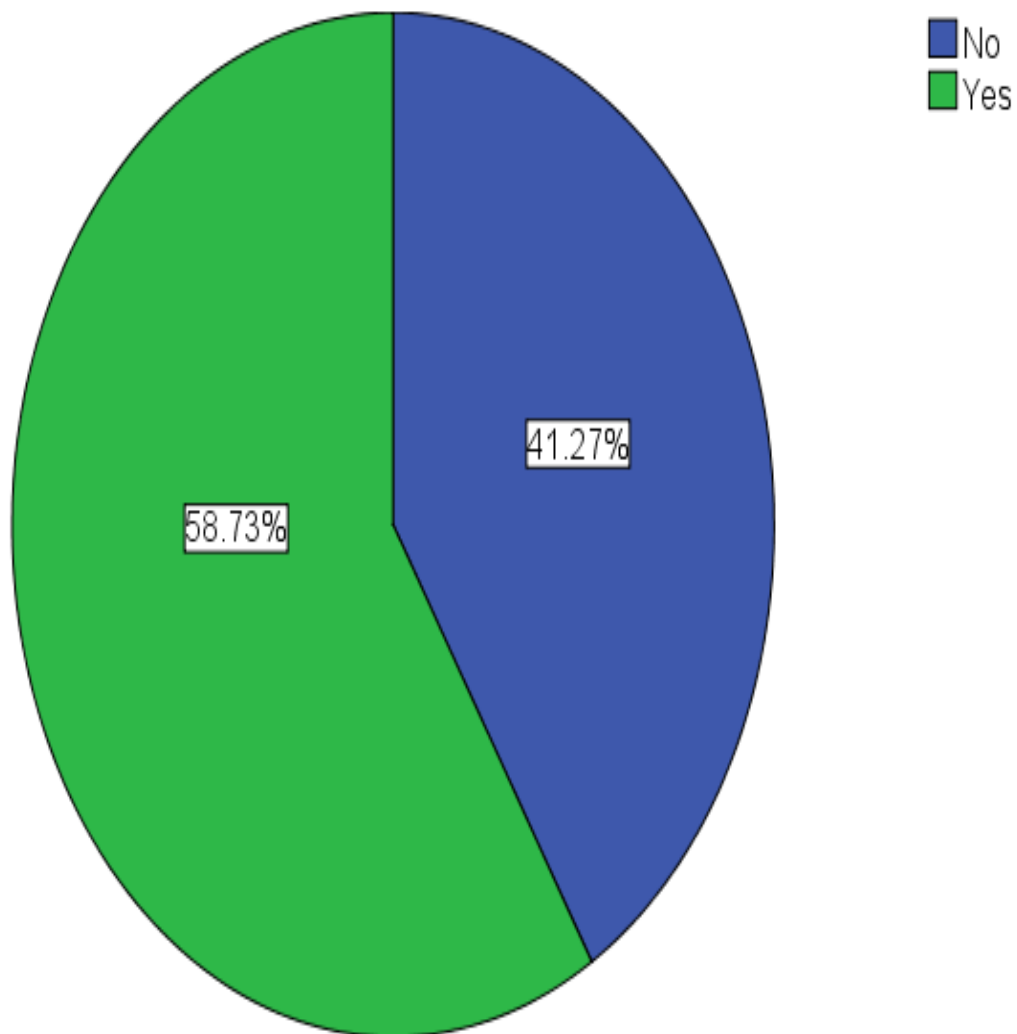


**FIGURE 3:** Pie Chart depicts the opinion of the participants asking whether their family's salary will be maintained during lock-down. 52.38% No (blue) and 47.62% Yes (green). Majority of the participants reported (52.38%) that their family's salary was not maintained during lock-down.

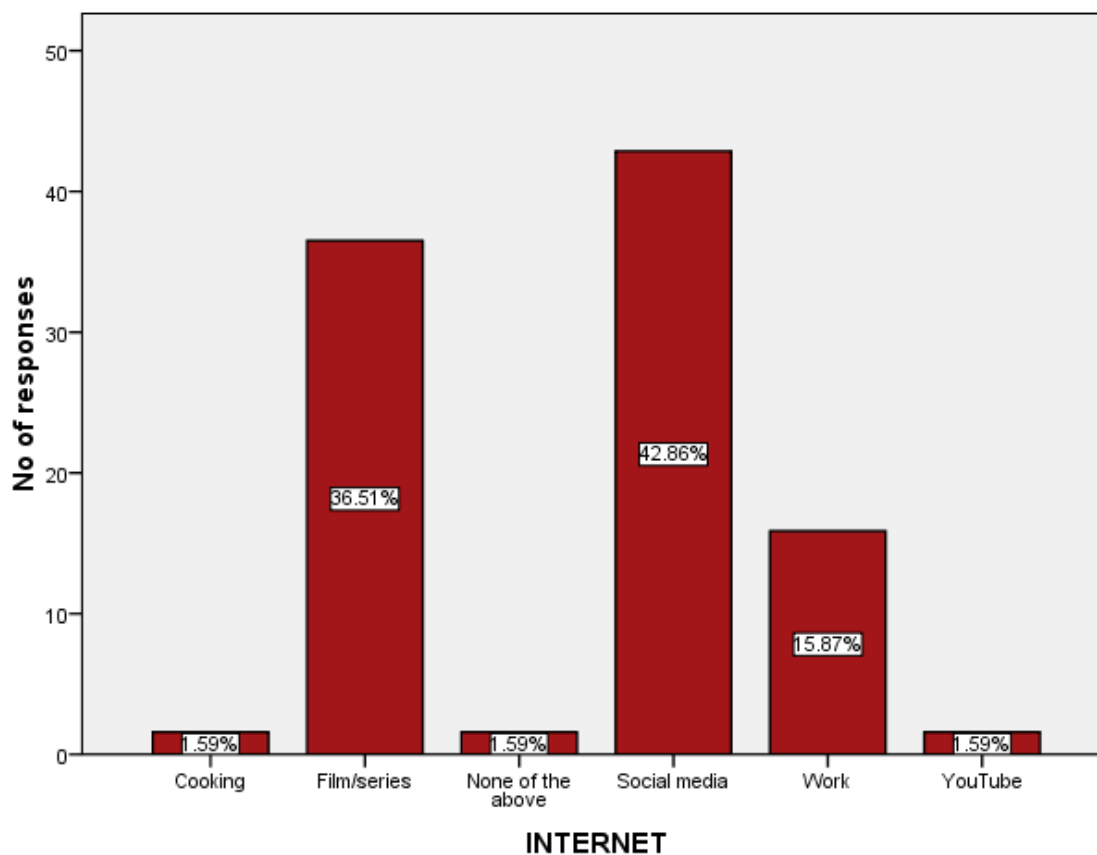




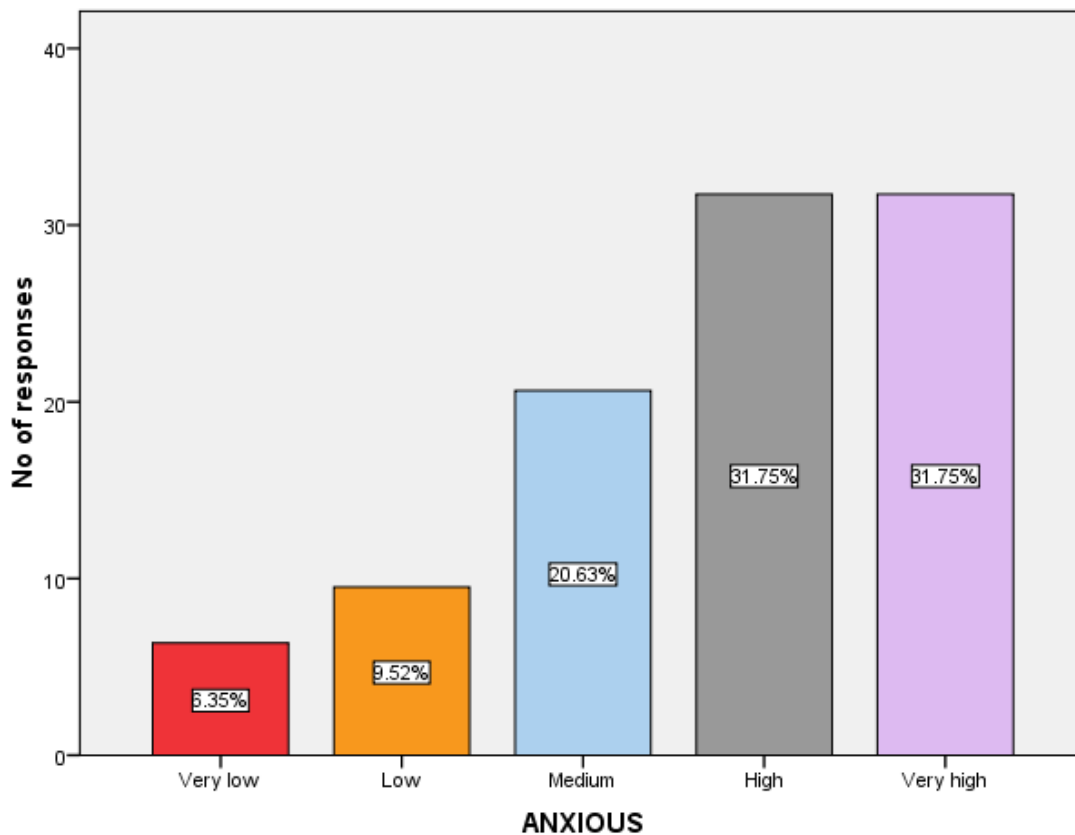
**FIGURE 4:**Bar chart represents the association of opinion of the participants asking whether their family's salary will be maintained during lock-down among Male and female population .X axis represents gender of the participants and the Y axis represents the Number of the participants .Majority (31.75%) of the Participants in the Female population agree (green) their family's salary will be maintained and whereas majority of (23 .81%) of males reported as no (blue) . The Chi square test was analysed to be 0.965 and P value is 0.346( $P>0.05$ ) which is statistically not significant



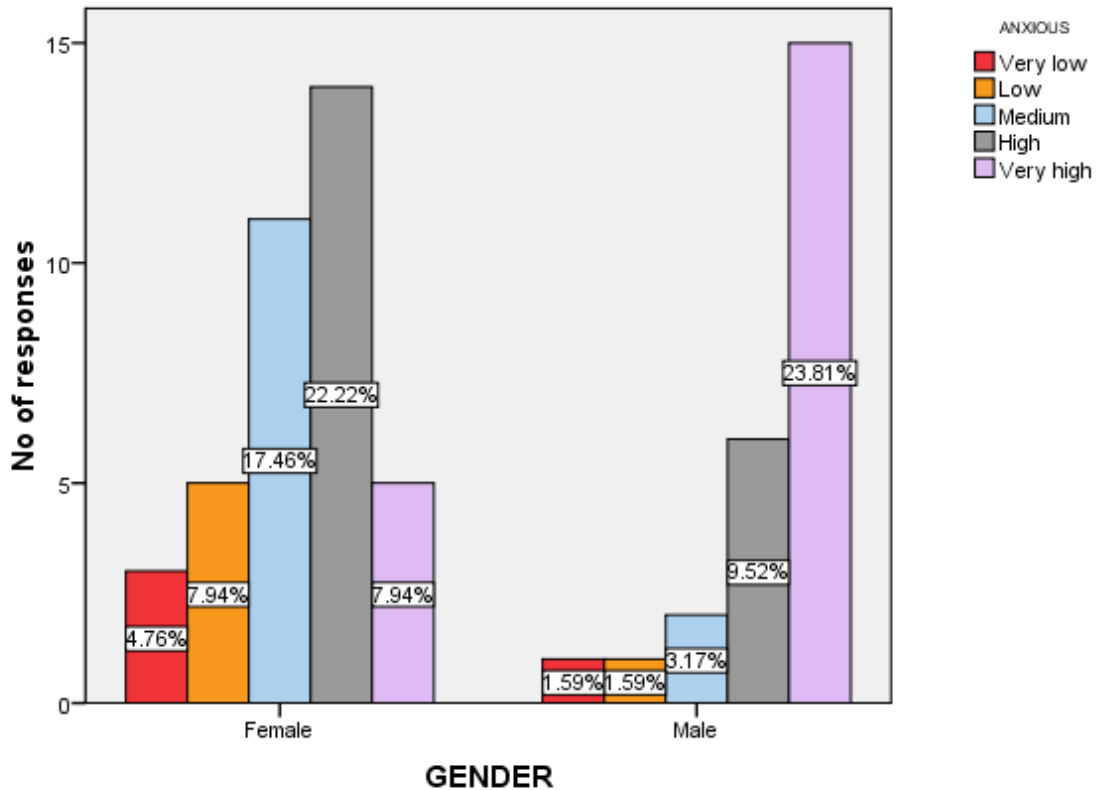
**FIGURE 5:** Pie Chart depicts the opinion of the participants asking Since the lock-down do they set up a special schedule?. 41.27% No (blue) and 58.78% Yes (green). Majority of the participants agreed (58.73%) that they have set up a special schedule.



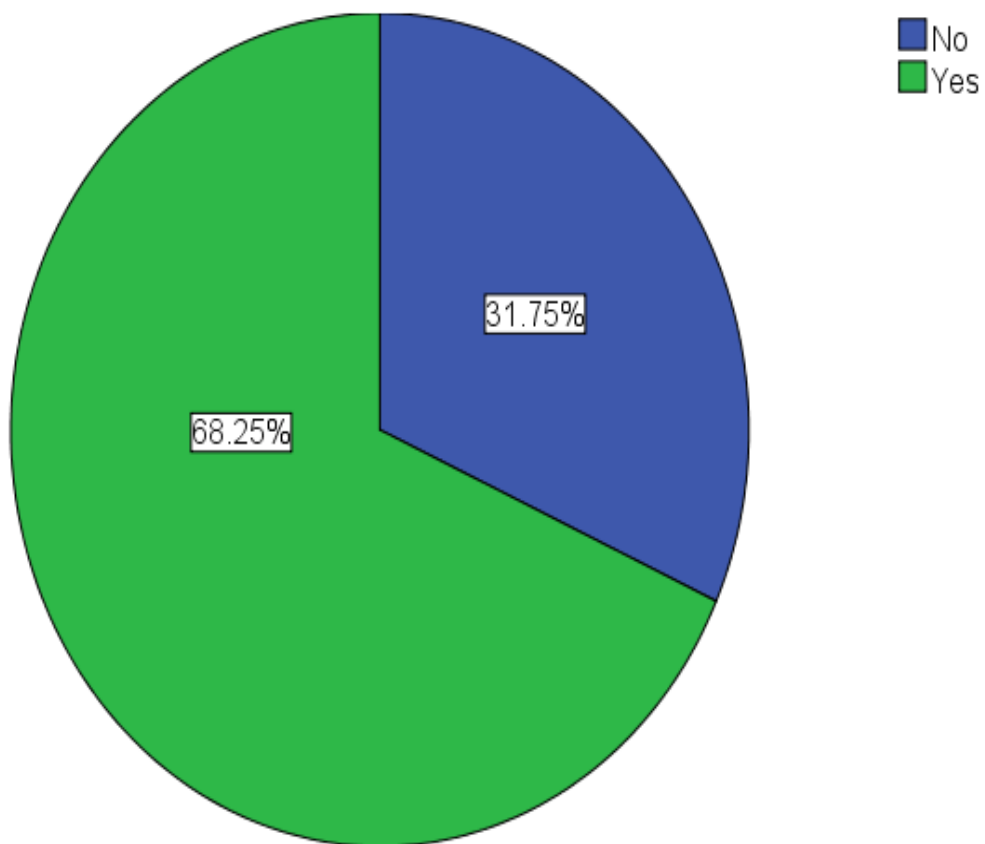
**FIGURE 6:**Bar graph depicts the opinion of the participants asking whether they use the Internet and its derivatives more than usual. X axis represents the internet derivatives ,Y axis represents percentage of participants . 1.59% Cooking ,36.51% Film/series 1.59% None of the above 42.86% social media, 15.87% Work ,1.58% YouTube (Emerald green). Majority of the participants preferred (42.86%) social media.



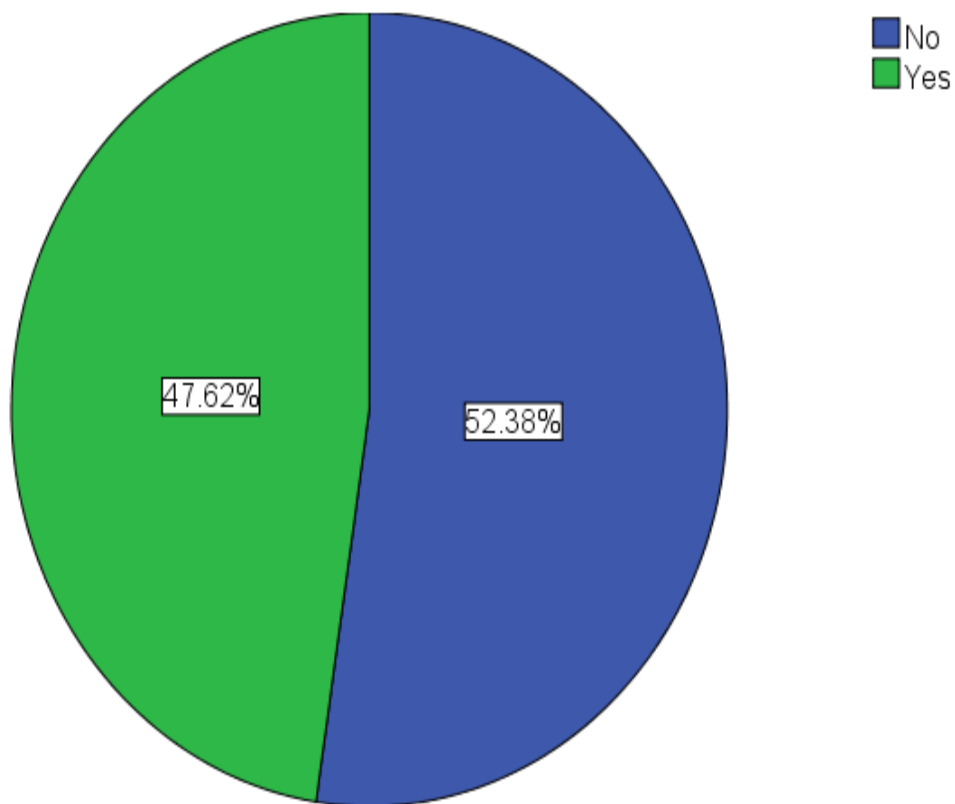
**FIGURE 7:** Bar Chart depicts the opinion of the participants with regard to rate on a scale of 1 to 5 (representing very low to very high) how anxious they are because of Covid 19. X axis represents the anxiety scale, Y axis represents the percentage of participants. Majority of participants reported High (31.75%) and a very high (31.75%) level of anxiety.



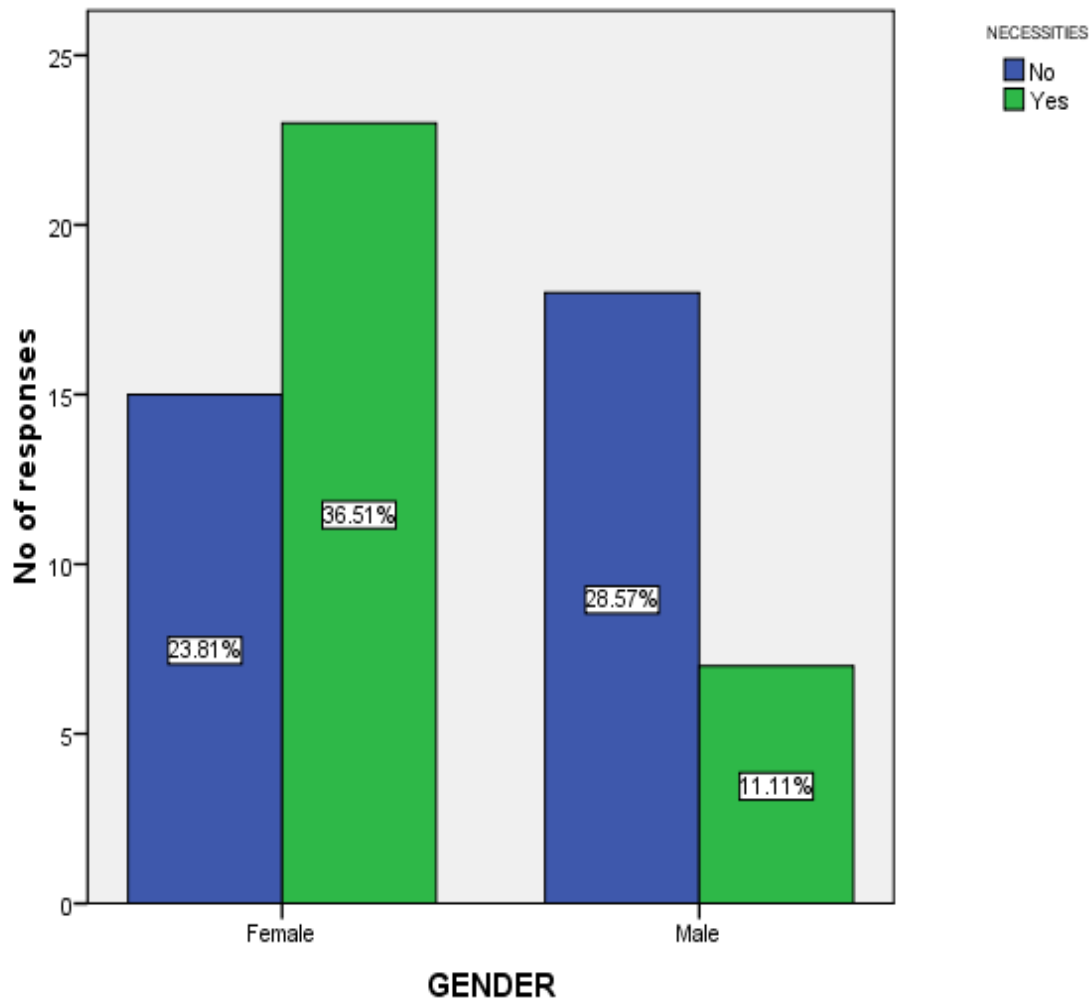
**FIGURE 8 :**Bar chart represents the association of opinion of the participants with regard to rate on a scale of 1 to 5 (representing very low to very high) how anxious are they now because of Covid 19 among Male and female population .X axis represents gender of the participants and the Y axis represents the number of the participants .Majority(23.81%) of the Participants in the Male population had very high anxiety level (grey) than majority of female population (22.22%) who reported high anxiety level (light purple). The Chi square test was analysed to be 16.100 and P value is 0.003 ( $P < 0.05$ ) which is statistically significant.



**FIGURE9** :Pie Chart depicts the opinion of the participants asking Since lock-down, have they changed their eating habits? 31.75% No (blue) and 68.25% Yes (green). Majority of the participants agreed (68.25%) that they have changed their eating habits.

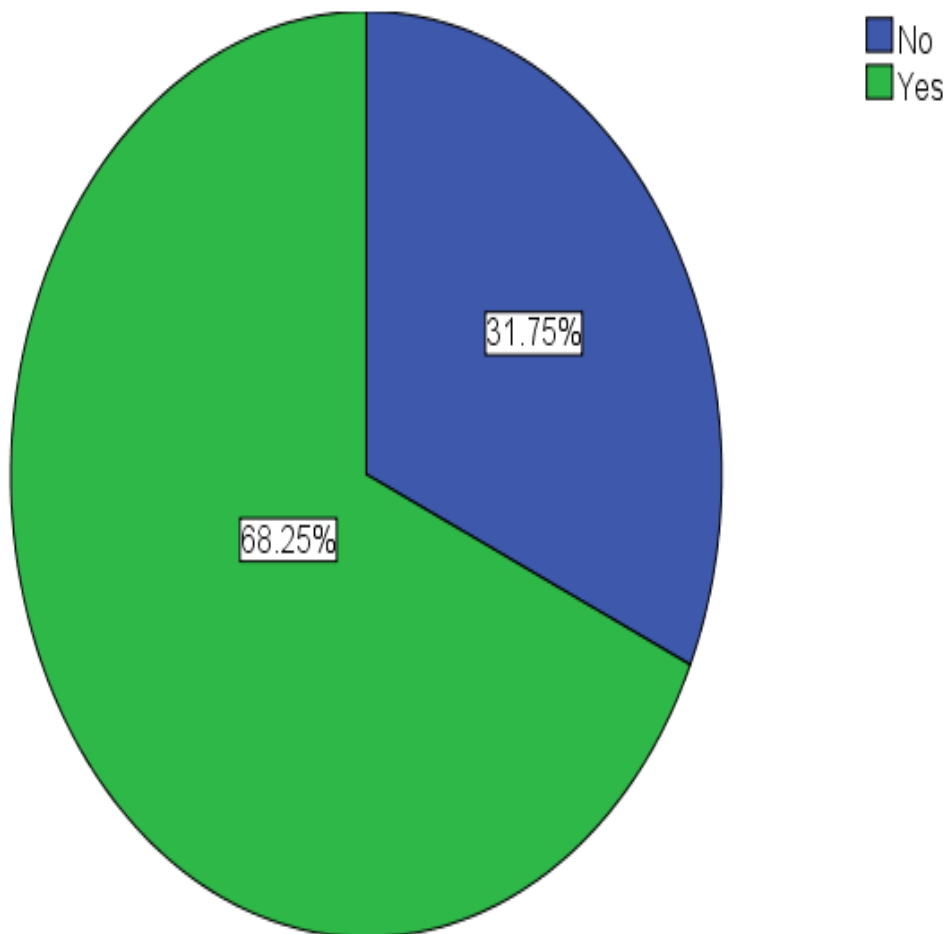


**FIGURE 10:** Pie Chart depicts the opinion of the participants asking whether in lock-down, they had good access to basic necessities. 52.38% No (blue) and 47.62% Yes (green). Majority of the participants disagreed (52.38%) when asked if they had good access to basic necessities.

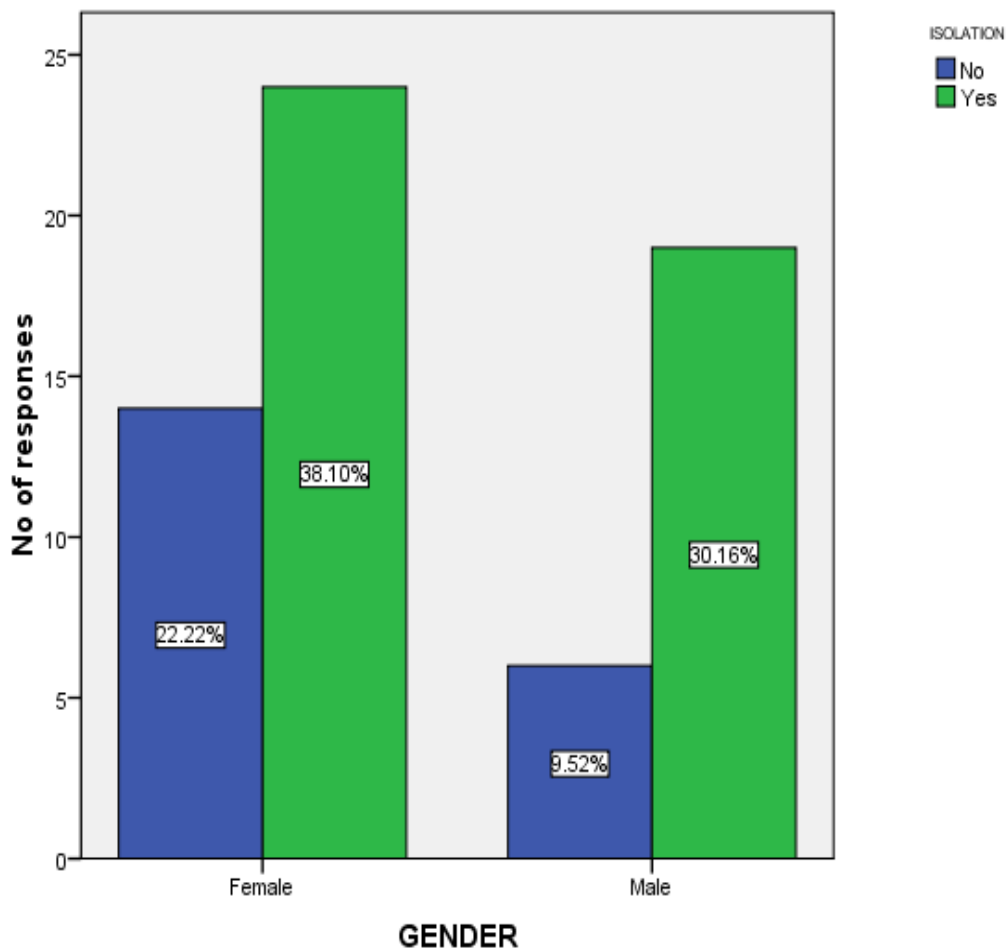


**FIGURE 11** :Bar chart represents the association of the opinion of the participants asking whether in lock-down, they had good access to basic necessities among Male and female population .X axis represents gender of the participants and the Y axis represents the Number of the participants .Majority(36.51%) of the female participants agreed (green) that they had good access to basic necessities,whereas majority(28.57%) of male participant reported no(blue). The Chi square test was analysed to be 6.396 and P value is 0.011 ( $P < 0.05$ ) which is statistical significance .

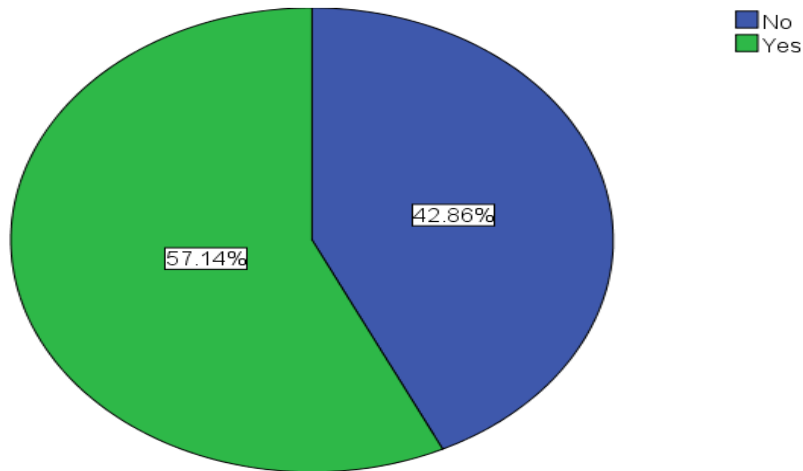




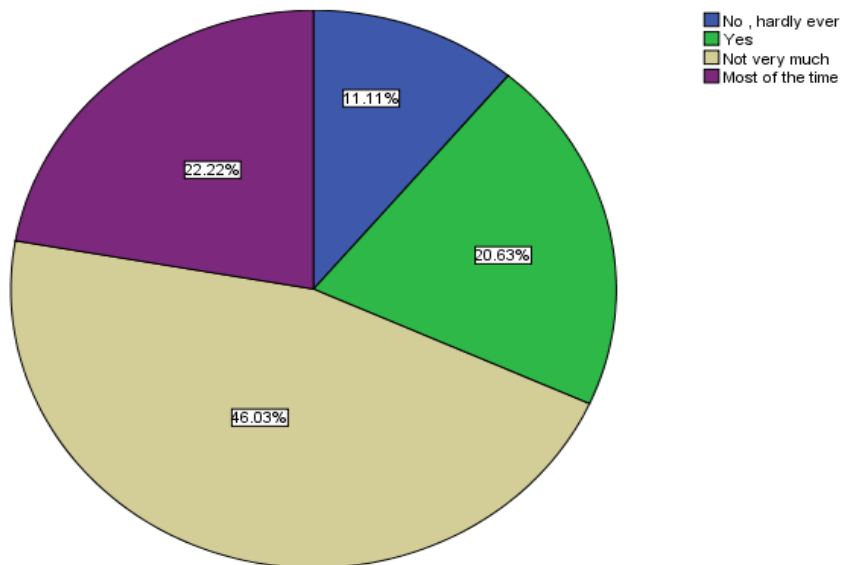
**FIGURE 12:** Pie Chart depicts the opinion of the participants asking whether they have felt socially isolated in this lockdown. 31.75% No (blue) and 68.25% Yes (green). Majority of the participants (68.25%) agree that they felt socially isolated.



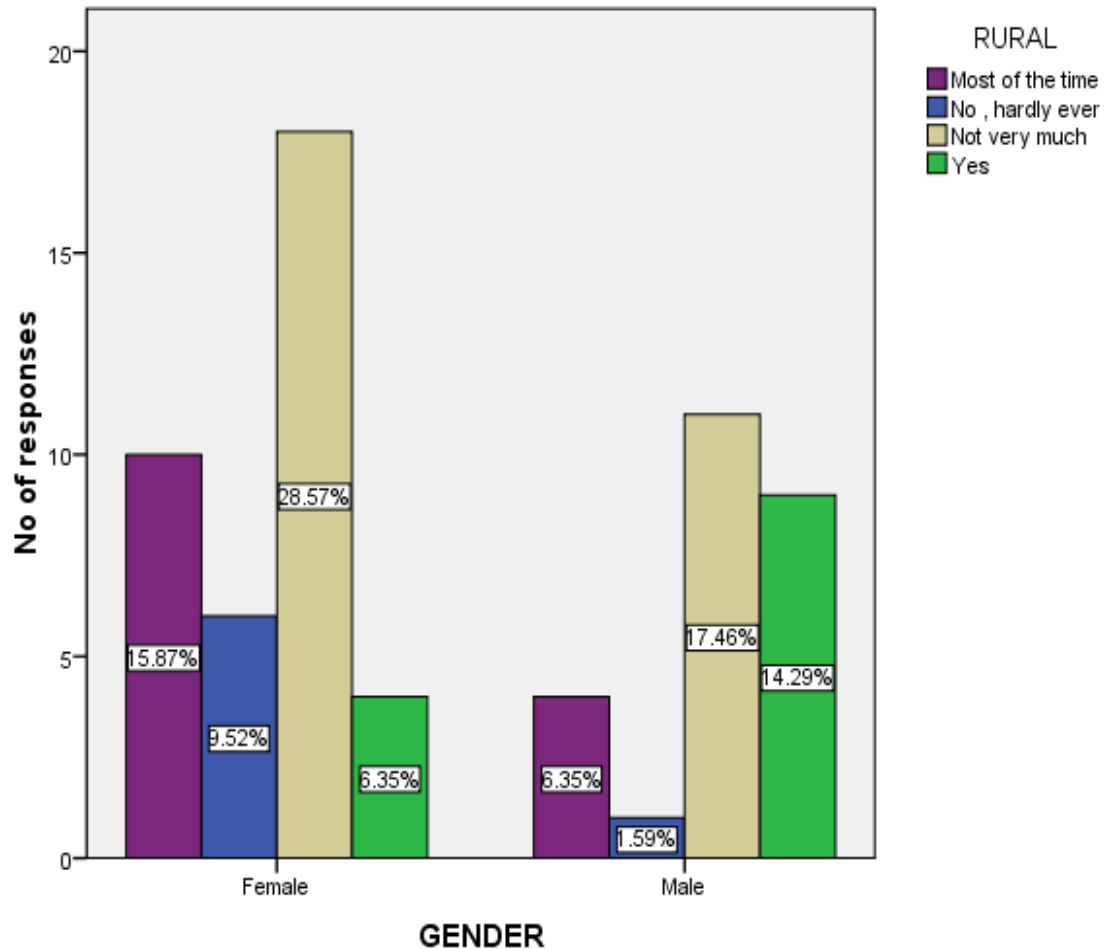
**FIGURE 13 :**Bar chart represents the association of the prospectively for participants asking whether they have felt socially isolated in this lockdown among Male and female population .X axis represents gender of the participants and the Y axis represents the Number of responses of the participants. Majority (38.10%) of the Participants in the female population say that they have been socially isolated (green) and the majority(30.16%) of the male population also say they have been socially isolated(green). The Chi square test was analysed to be 1.148 and P value is 0.284 ( $P>0.05$ ) which is statistically not significant .



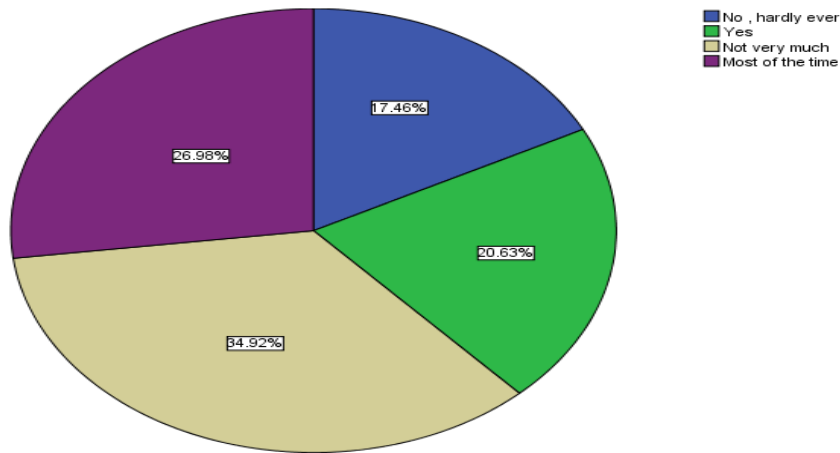
**FIGURE 14:** Pie Chart depicts their opinion of the participants response to lock-down, do they experience a general slowdown in their living environment?. 42.86% No (blue) and 57.14% Yes (green). Majority of the participants(57.14%) agree that they have a slowdown.



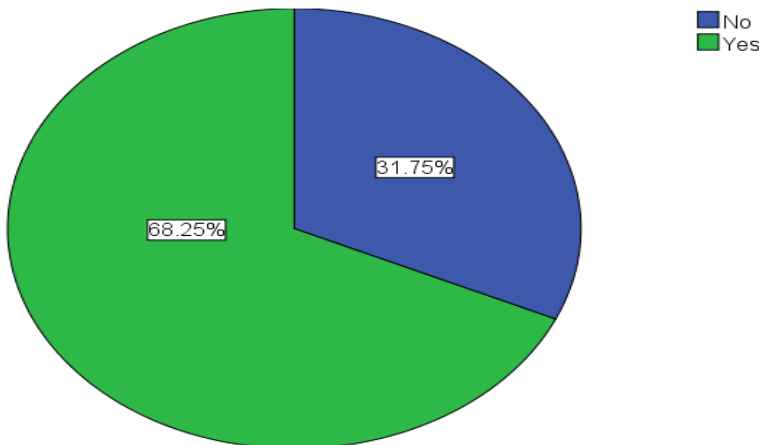
**FIGURE 15:** Pie Chart depicts the opinion of participants regarding mental anxiety of people who live in rural areas and urban areas are the same . 22.22% Most of the time(purple) and 11.11% No, hardly ever (blue) 46.03% Not very much (ivory )20.63% Yes (green).Majority of the population thinks (40.03%) mental stress are not very much the same.



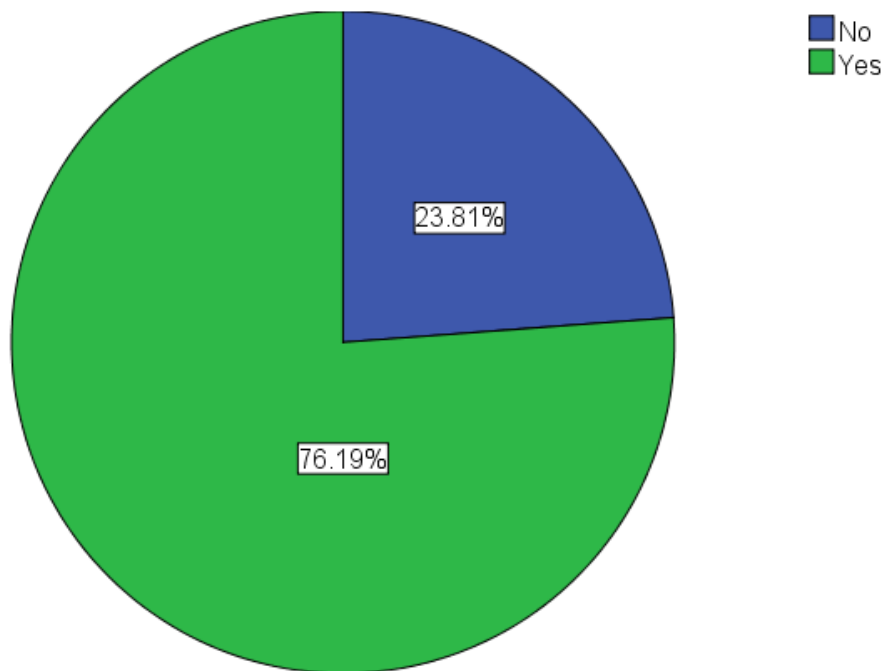
**FIGURE 16:** Bar chart represents the association of opinion of participants regarding mental anxiety of people who live in rural areas and urban areas are the same among Male and female population. X axis represents gender of the participants and the Y axis represents the No of responses of the participants. Majority (28.57%) of the Participants in the female population think mental stress is not very much the same (ivory) and the majority (17.46%) of the male population also say that the mental stress is not very much the same (ivory). The Chi square test was analysed to be 7.388 and P value is 0.061 ( $P > 0.05$ ) which is statistically not significant.



**FIGURE 17:** Pie Chart depicts the opinion of the participants regarding their visit to doctor during sickness.26.98% Most of the time(purple) and 17.46% No, hardly ever (blue) 34.92% Not very much (dark grey)20.63% Yes (green).Majority of the participants thinks (34.92%) visit to doctor most probably not to happen.



**FIGURE 18 :**Pie Chart depicts the opinion of the participants regarding the impact of lockdown effects. 31.75% No (blue) and 68.25% Yes (green).31.75% No (blue) and 68.25% Yes (green).Majority of the participants agree (68.25%)there are some impacts due to lockdown.



**FIGURE 19:** Pie Chart depicts the opinion of the participants asking if they think rural is affected more because of loss in agriculture? 23.81% No (blue) and 76.19% Yes (green). The Majority of the participants agree(76.19%) that the rural is affected more.