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Literature Review on Impact of Covid-19 Pandemic on Work-Life Balance of Health Care Sector

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Abstract
Corona virus disease 2019 (covid-19) is new infectious disease with high transmissibility and high rate of spreading disease. This disease effected many peoples not for a particular domain but it has wide spread his hands to all domain of professionals. The health care sector was highly injured due to this Covid -19. Pandemic, being unprecedented, leads to several mental health problems, especially among the frontline health care workers moreover the linkage between work life balance and organizational commitment among the employees in the health care sector and challenges faced by the frontline workers during the pandemic are overviewed. Socio-environmental factors such as the risk of exposure to infection, effective risk communication to health care workers, availability of personal protective equipment, job related stress, perceived stigma and psychological impact on health care workers and social distancing also play the major roles. Here we review research evidence and provide evidence based recommendation and resources for health care workers to achieve work life balance. The sampling data were collected with help of sampling approach and cross sectional study among the health care workers through social media through a standard structured questionnaire furthermore this data are theoretically analyzed and studies founds that challenges in fulfilling the social shielding responsibility, anxiety and fear amongst residents and services users, delay in testing and shortage of staff in the organization and study finds that denovo PPE associated headaches as well as the perceived impact of these headaches on their personal health and work performance are observed.

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I. Introduction

The coronavirus disease 2019 (covid-19) pandemic globally effecting many people. The World Health Organization (WHO) has declared the pandemic in march 2020, consequently, many countries started to take precautionary measures to protect their people, The medical and non-medical staff and corporation staff in cleaning department and others who stand against the pandemic are the real heroes/warriors and we call them as frontline workers their contribution during this pandemic is indescribable. Highly populated nation like India and other countries stared to impose lockdown for several months to cut the physical connections between the people in order to cut the chain of covid-19.

Frontline health care workers are considered particularly susceptible to developing psychiatric disorders due to this lockdown, particularly nurses have suffered in an increase in mental pressure due to heavy workload they have taken and lack of satisfactory personal protective equipment (PPE) and medication, as well

as being exposed to a deadly virus for extended periods this people needs to stay away from their families as a fear of infecting loved

Ones have compounded this mental strain. This paper focus on the problem and challenges faced by the frontline health care workers and impact of this covid-19 on work life balance of health care sector. we focus on frontline employees who are struggling to cope with the physical and mental demands of the new normal that now force safety concerns into already overwhelming boundary spanning roles.

Work life balance in addition to the relations between work and family functions, also involves other roles in others areas of life, due to this more extensive associations, the concept of work life balance is preferred. Work life balance defined differently by different scholars. Greenhause (2002) defined work-life balance as satisfaction and good functioning at work and at the home with minimum of role conflict.

The COVID-19 pandemic has not spared the field of medicine, magnifying both the unique and universal stressors faced by physicians and medical scientists. The government in every country started to put a great deal of stress on health care workers through system of high workload, high administration burdens, inefficiency, and emphasis on high productivity.

II. Literature Study

1. **Sonia Mukhtar (2020)** in her paper titled "Psychological health during the coronavirus disease 2019 pandemic outbreak": The unpredictable and uncertain covid-19 outbreak has the potential of adversely affecting the psychological health on individual and community level. This paper focus on understanding of epidemiology, clinical features, mode of transmission, counteracts the spread of the virus, and challenges of global health, while crucially significant mental health has been overlooked in this endeavor. Based on the published previous and current articles on EMBASE, Google scholar, and Elsevier about psychological impact of infectious disease outbreaks and covid-19 has been considered and reviewed.

2. **Shobithapoulosesudarsaneddy (2017)**ShobithaPouloseSudarsan N in their paper title Impact of work life balance on organizational commitment of women health-care workers: structural modelling approach, in this paper they find the linkage between work life balance and organizational commitment among the women employees in the health care sector. They drew a sample of 580 health care sector employees working in the health care sector of Jammu and Kashmir in India. Collecting the data through a structured questionnaire. Data were analyzed using smart plus and statistical package for the social science in which description statistical, t-test, analysis of variance and structural equation modelling were conducted to achieve the objectives of the study. Findings shows a significant positive relationship between work life balance and organizational commitment and further component wise analysis revealed positive relationship between the work life balance and affective and normal commitment.

3. **Mathew Nayshanu (2020)** and this paper was set out to explore the challenges faced by different frontline workers in health and social care during the covid-19 pandemic. In this research utilized an explorative approach. A total of forty-one to one structured interviews were taken through online undertaken with HSCFW who included support workers nurses and managers. Data were thematically analyzed and find out that lack of pandemic preparedness, shortage of professionals challenges in enforcing social distancing, challenges in fulfilling social shielding responsibility, anxiety and fear amongst residents and service users, delay in testing, evolving PPE guidance and shortage of staff were challenges faced by frontline health and social care workers during covid-19 pandemic.

4. **DR Jonathan Jia Yuan ONG (2020)** in this paper determines the risk factors associated with the development of denovo PPE-associated headaches as well as the perceived impact of these headaches on their personal health and work performance. Cross sectional study among health care workers at tertiary institution who were in high risk hospital area during covid-19. A total 0f 158 workers include majority were aged 21-35 years and nurse's doctors and paramedical staff data were collected. Study finds that those based at the emergency department had higher average daily duration of combined PPE exposure compared to those working in isolation wards and 128 respondents developed de novo PPE associated headaches, since covid-19 outbreak of respondents with preexisting headaches diagnosis either agreed or strongly agreed that the increased PPE usages had affected the control of their background headaches, which affected their level of work performance.

5. **Jasmine Jean Hooper(2021)** have protecting health care workers from psychological harm is an urgent clinical issue within the current covid-19. This paper aims to prevent or reduce the mental health symptoms and tat have been tested in frontline responders. Based on last 15 years' literature review

interventions were included if they were designed to prevent or reduce psychopathological impact second, the suitability of these programmers for the healthcare workforce was evaluated according to the criteria of effectiveness, content applicability and feasibility. Interventions were identified as potentially suitable and useful for improving psychological functioning of health care workers across a variety of disaster situations.

6. **B Gavin, J Lyne and FMcnicholas (2020)** in this paper special issue dedicated to mental health and covid-19 pandemic and aims to lay the foundation for improved understanding of how covid-19 is affecting mental health services both in Ireland and globally. based on past pandemics and data from this pandemic shows that psychological morbidity will inevitability rise furthermore this may peak later and endure for longer than physical health consequences of the pandemic, the adaptation to. The new conditions imposed by covid-19 has increased workloads on the frontline of mental health and increased the mental illness and also suicidality also increased.one proposal in this regard has been to use a multidimensional or syndemics approach which addresses the complexities of multiple interacting mental health determinates, using an interdisciplinary approach within a coordinated national framework, we can ensure effective, efficient translational innovation.

7. **Rocio Rodriguez-Rey (2020)** for this study evaluates the psychological impact(PI) of the covid-19 pandemic in frontline workers in Spain. A total of 546 frontline professionals completed the study of those 49.3% were healthcare workers,19.2% were media professionals ,16.3% were grocery workers and 15.2% were protective service workers. the ANOVAS tests show the results varied significantly depending on the professional group, our results show that the proportion of frontline workers showing high psychological impacts derived from working during covid-19 sanitary crisis is alarmingly high. this can be explained by the severity of the crisis but also by the failure of the hiring companies and the national health strategy to provide workers the necessary support the indicators of sadness in all frontline worker's psychological assistance was surprisingly absent for 90% of the sample.

8. **Heather Hall (2020)** o the rapid spread of the disease created challenges for healthcare systems and forced health care workers to grapple with clinical and nonclinical stressors, including shortages of PPE, mortality and morbidity associated with covid-19, fear of bringing the virus home to family members, and the reality of losing colleagues to the disease. They experience feelings of isolation, stress related to employment changes, and fear of exposing family members to pathogens. These stress are similar to issues experienced by health care workers during the SARS outbreak and are likely to be accompanied by similar psychologic effects, lessons from the SARS are we must make the mental health of our healthcare professionals a top priority, self-screening tools including the beck depressions index etc. can be used to monitor and assess level of stress ,depressions ,anxiety and PTSD during and after the pandemic, organization must provide a multidisciplinary guidance to employees.

9. **Rodolfo Rossi MD (2020)** Health care workers (HCWs) involved in the covid-19 pandemic are exposed to high levels of stressful or traumatic events and express substantial negative mental health outcomes including stress related symptoms and symptoms of depression, anxiety and insomnia. A standard question was prepared with answer of yes or no type and with help of social media to collect the data from frontline and second line HCWs in Italy a total of 1379 HCWs completed the questionnaire, a total of 681 respondents endorsed PTSS, 341 symptoms of depression, 273 symptoms of anxiety, 114 insomnias and 302 high perceived stress. The main limitations is the impossibility of determining the samplings error or making interferences about population because of the sampling technique.

10. **Li-qun Xing (2020)** I aims to assess the psychological impact of covid19 on frontline health care workers, including anxiety, depression and stress of threat of the disease. The survey study among the frontline workers in a hospital at Jinan, china .data were collected through anonymous, self-rated questionnaire, including basic demographic data. The risk and rate of anxiety, depression and stress of covid-19 were estimated. findings are among the 309 participants there were 88 with anxiety and 172 with depression, multivariate logistic regression analyses showed that age 30 below and between 30 and 45 years, working in confirmed case isolation wards, and worried about disinfection measures being not sufficient were independently associated with anxiety.

11. **Riyadh K Lafta (2022)** are this paper aims to study the impact of covid-19 on people with respect to their mental and social suffering and consequences. A sample of 1000 attendants to four teaching hospitals and eight PHCCs, was collected. Out of the total sample 389 had a history of infection with covid-19. the main mental symptoms reported were depression (67.8%) and anxiety (46.9%) with equal numbers of male and female while depressive symptoms were reported more among females (59.9%) fear and worries of the participants about their health and their families was the main reason for mental symptoms (94.7%). Symptoms

of depression and anxiety in time of covid-19 are prevalent. Suspending educational activates was the most social burden that affect people while increase the price of food and cessation of work were the main cause of economic burden.

12. **Krishna L Newman (2021)** in his paper frontline healthcare workers with exposure to covid-19 diagnosis, treatment and care were especially likely to report psychological burden, fear, anxiety and depression.to elicit how working as a health professional during the pandemic is impacting on the psychological wellbeing of frontline staff. United Kingdom population of healthcare workers were approached by advertising the survey via social medians NHS trust and other organization, open ended survey answers were qualitatively explored using content analysis. Survey collected data from 395 NHS staff was developed into three themes 1. Despair and uncertainly feeling overwhelmed trying to protect everyone, 2. Behavioral and psychological impact affecting wellbeing and functioning and 3. Coping and employer support getting the right help.

13. **SelimArpacioglu (2020)** e in this paper aims to research the secondary traumatization and associate factors among health care workers. Survey through an online questionnaire using the snowball sampling method. Two hundred fifty-one health care workers from different units/services and 312 non-medical worker adults attended to the research here HCWs were divided into two groups based on working with covid-19 patients at the frontline or not. Among the 563 participants 251 were health care workers and 312 were non-medical workers. the anxiety, depression and secondary traumatization scores of the frontline health care workers for the covid-19 were found to be significantly higher than those of the other health workers or non-medical workers also, we found that being a woman, being in the first year of work, living with a parent, having a chronic disease, having a trauma history and increased social media use are related to having higher scores from the secondary traumatization scale.

14. **Manisha Vajpeyee (2021)** ha to investigate impact of yoga and music intervention on anxiety, stress, and depression levels of health care workers during the covid-19 outbreak. This study was conducted to assess psychological responses of 240 health care workers during covid-19 outbreak they used yoga and music intervention in normal and abnormal subjects based on depression anxiety and stress scale 42 out of 209 participants 105 had symptoms of depression anxiety (40.19%) and stress (34.92%) alone or in combination. The data suggest that there is significant improvement in test scores after intervention. Majority of persons with abnormal score exhibited improved DASS 42 score on combined interventions of yoga and music compared to control group.

15. **Dana Alonzo (2021)** this study aims to identify key factors related to psychological distress resulting from the covid-19 pandemic across highly vulnerable districts in Guatemala. The covid care calls survey was administered to households in 11 districts in Guatemala to gather information about medical, mental and psychical status during the lockdown period the 330 individuals participated the survey conventional content analysis was used to analyze survey data. Most commonly reported mental health issues since the start of the pandemic were anxiety (46%), stress (36%), and exacerbation of pre covid 19 mental health conditions (19%) depression and burnout were equally reported by 12% of participants only 2% reported issues with safety in the home, corners about catching the virus and economic worries were the most commonly reported sources of psychological distress. Result shows high prevalence of anxiety, stress, and increased prior mental health symptoms resulting from the onset of the covid 19 pandemic in low income, high risk communities across Guatemala.

16. **Lucy E. Selman, Davina Chao, Ryann Sowden, Steve Marshall, Charlotte Chamberlain and Jonathan Koffman (2020):** Their paper titled Bereavement support on the frontline of COVID-19 aims at locating the evidence that caused the poor bereavement outcomes in relatives. Few key points here are due to poor communication between families and hospitals, absence of Advance care planning (ACP), facilitating virtual communications etc., A few of the final recommendations for poor bereavement that they came up with the study are Advance care planning, Telephone communication, Communication via PPE, Assigning support staff etc., The main aim of this research is to avoid the after effects of lack of bereavement in families that lost a member in COVID-19 such as mental illness, trauma etc., by giving the hospital clinicians some scientific recommendations that they can implement in their hospital.

17. Qi Cai, Hongliang Feng, Jing Huang, Meiyao Wang, Qunfeng Wang, Xuanzhen Lu, Yu Xie, Xing Wang, Zhenxing Liu, BotongHou, Keni Ouyang, Jing Pan, Qin Li, Beibei Fu, Yongchao Deng, Yumin Liu (2019): Their paper aimed at finding the percentage of people affected by mental health due to COVID-19 crisis. The people of subject include both front line workers and non-front line workers. The 3 steps they took

are data collection, Measures and tools and Statistical analysis. The data collection step included a questionnaire and 1173 eligible people to give the survey. The main measuring tools they used are demographic information of the respondent, and the rating scales used are Beck anxiety inventory, Insomnia Security index, and Patient health questionnaire. The score scale used here is 4-point scale ranging from 0-4. After the statistical it was concluded that there was a large amount of poor mental health problems among frontline workers than non-frontline workers.

18. **KritiShivakumar and VeenaPujar (2017):** Their work Work life balance in the health care sector clearly emphasises the need of good work life balance and its impact in modern society, along with a few suggestions which are found after thorough study. This paper clearly aims at clearing out the misunderstanding in of work life balance from both employer and the worker perspective. E.g. the employer always thinks that he is giving enough personal and free time to its workers whereas the employee always wants to do less work and seeks more family and personal time. This paper tries to clearly draw a line at the work and private times without discriminating both, and gives us a clear understanding of what is an ideal work life balance environment.

19. **Elizabeth M. White, Terrie Fox Wetle, Ann Reddy, Rosa R Baier (2021):** Their paper aimed at identifying finding out the challenges faced by front-line nursing home staff during COVID-19 by collecting their valuable experiences. An online survey was conducted using social media platform with a few open-ended questions. A 238 responses were collected and a total of 7 themes was identified. They include, Constraints on PPE testing, Burdensome regulations and guidance, Concern for self and family, Concern for residents, Burnout, Teamwork, Public blame and lack of recognition. These themes raised significant concerns and long-term effects such as physical, mental and emotional burden due to burnout and negative social media coverage etc.,

20. **Paul Kumar, Neha Kumar, Priti Aggarwal, and Jasmine A.L. Yeap:** Here we study on working in lockdown, the relation between COVID-19 included. Work stresses, job performance, and distress and life satisfaction. In the work of COVID-19 organizations of all over India have closed their premises and shifted to work from home policy to curb the further spread of the virus. This has led to increased stress and anxiety among employers. The impact of such distress and job performance on the employee's life satisfaction is analyzed during the lockdown period. Data was collected from 433 working professionals of private and public organizations in the Delhi and NCR region of India during third and fourth phase of lockdown via a survey. Here distress in a psychological employed n medical and social science research refers to an unpleasant emotional and psychological state that effects the individual ability of circumstances, earlier studies on the epidemics like SARS, MERS, and Ebola disclosed the gravity of emotional distress observed in the general public and medical practitioners. The job performances of the employers is adversely affected by factors like family distractions, operational discomfort and distress while good job performance contributes to life, satisfaction, distress, significantly diversified it. Here the paper has contributed insights onto how life satisfaction can be affected by work performance and distress caused by COVID-19 stress.

21. **SangitaBasak:** In this paper focuses on the factors affecting work life balance of workers in Bangladesh. A study during COVID-19 pandemic. Here a central role of women in society has ensured stability progress and long term development and data collected have tested with the help of carious statistical tools like reliability and validity checking multiple regression analysis, ANOVA and hypothesis testing COVID-19 has greatest impact on job stress, job satisfaction and productivity of women raises a need for flexibility, workplace support and work life valance policy for employees. The most crying issue for a working women is to maintain balance between her personal and professional life. Work life balance is a situation where a person can equally fulfil the demands of their personal. Professional and family life without and interventions. It has both positive and negative consequences for both employees and employer. Proper balance of work life helps employees to get motivation and job satisfaction while imbalance creates dissatisfaction and stress. Purohit (2013) highlighted that work life balance program has both individual and organizational benefits. Nowadays they need to be more careful about their children and family members to keep these away from infection of corona virus. Besides there are threats of loss of job, lower income which creates job insecurity and financial risks for them, many private organizations in Bangladesh are not paying their employees full salary during COVID-19 lockdown. These also poses financial and mental stress on employees especially when they are the only earning member of the family.

22. **Sabrina D'Andrea:** Their paper titled implementing the work-life valance directive in times of COVID-19: new prospects of pandemic workplaces in European union. The COVID-19 pandemic highlighted the difficulties workers face in combining their work and family responsibilities on a daily basis with workers

being asked to adjust their schedule and working patterns to fluctuating measures for mandatory tele work, contact tracing and school closures, juggling between work and obligations has become an ever-growing daily complexity. As work life balance is a crucial instrument for achieving gender equality in employment and to allow women to stay in paid employment to take up full time work and to have the chance to earn decent living expenses when single parenting. The participants of women labor market are vital to maintain economic growth and ensuring the financial sustainability of social security the problem of work life balance or the unequal share or care burdens between men and women. However, it is the responsibilities of member states to lead the way and to ascend the labor marker on times of crisis and to show the new arrangements are possible in which men and women have low risk of care work.

23. **ShaziaManzoor, Shamikhan Hamid:** Their work titled Work life balance during COVID-19 lockdowns: Experiences of women Academicians of Kashmir. Work life balance has always been a challenge for all the working class but during the COVID-19 pandemic it was added to the already existing challenges because the work life too has shifted to online mode through online mode. The lockdown and the consequent work from home policy has effected women academicians in complex ways causing problems in their work life, family life and personal life. The dilution of the demarcations of the work space and family space has created challenges for these women. Managing many roles and balancing work and life at the same time and space is a concern. It has also been identified that the role which these women has compromised upon are personal and familial in nature rather than work related.

Some Key words are explained with the help of literature study.

a) Work Load

Work load is defined as the number of tasks and obligations that you have to perform or complete within a specific amount of time.

Overall one in five people said that work is a primary cause of stress (or burnout) in their lives. The reasons for this are:

- Volume of work.
- Working Long hours.
- Management.
- Staff shortages.
- Commuting.
- Too much travelling.
- Inadequate tools or technology to do the job.

Most managers are inclined to demote or fire an employee who is burning out, but this can often backfire. Other employees can start to burn out because they are now forced to carry an additional workload and they begin to fear for their own jobs. Thus, work load is another important factor in determining the work-life balance, job satisfaction and organizational commitment of the workforce.

b) Job Stress

Job stress can be defined as the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker. Job stress can lead to poor health and even injury. Worker characteristics andworking conditions are the primary cause of job stress. These differing viewpoints are important because they suggest different ways to prevent stress at work.

Working conditions that may lead to stress are –

- The Design of Tasks
- Management Style
- Interpersonal Relationships
- Work Role
- Career Concerns
- Environmental Conditions.

Worker characteristics such as personality and coping style are most important in predicting whether certain job conditions will result in stress-in other words, what is stressful for one person may not be a problem for someone else. This viewpoint leads to prevention strategies that focus on workers and ways to help them cope with demanding job conditions. Although the importance of individual differences cannot be ignored, scientific evidence suggests that certain working conditions are stressful to most people. The excessive workload demands and conflicting expectations described in David's and Theresa's stories are good examples.

Such evidence argues for a greater emphasis on working conditions as the key source of job stress, and for job redesign as a primary prevention strategy.

c) Flexibility

'Flexible working' is a phrase that describes any working pattern adapted to suit your needs. Common types of flexible working are:

- Part-time work: working less than the normal hours, perhaps by working fewer days per week
- Flexi-time: choosing when to work (there's usually a core period during which you have to work)
- Annualized hours: your hours are worked out over a year (often in set shifts with you deciding when to work the other hours)
- Compressed hours: working your agreed hours over fewer days
- Staggered hours: different starting, break and finishing times for employees in the same workplace
- Job sharing: sharing a job designed for one person with someone else
- Home working: working from home

d) Working hours and time spent on work

Working hour is the period of time that an individual spends at paid occupational labor. Unpaid labors such as personal housework or caring for children/pets are not considered part of the working week. Many countries regulate the work week by law, such as stipulating minimum daily rest periods, annual holidays and a maximum number of working hours per week. Working time may vary from person to person often depending on location, culture, lifestyle choice, and the profitability of the individual's livelihood. For example, someone who is supporting children and paying a large mortgage will need to work more hours to meet a basic cost of living than someone without children of the same earning power. As fewer people than ever are having children, choosing part time is becoming more popular.

e) Family Support

Work–familyrefers to the specific issues that arise when men and women attempt to balance their occupational lives with their family lives. Work–family balance refers specifically to how work and families intersect and influence each other. Work–family balance differs significantly for families of different social class. Middle-class family issues center on dual-earner spouses and parents while lower class issues center on problems that arise due to single parenting. Work–family balance issues also differ by class, since middle class occupations provide more benefits and family support while low-wage jobs are less flexible with benefits. Solutions for helping individuals manage work–family balance include workplace policies.

f) Childcare

Paternity/maternity support leave with pay enables parents to spend valuable time with their children. This benefits the health and well-being of parents as well as their babies.

To make childcare work in terms of time and costs, many parents look to their employers for flexible working. Flexible working is not just part-time work; it can be a combination of working from home one to two days a week or concentrated hours, for example, five days in four, job sharing or flexi-time.

Flexible working could also benefit employers and employees alike. Employers need to be open-minded about the different types of working patterns available. If an employee can present rational and balanced proposal for flexible working, it can benefit both parties. Employers will find this difficult to refuse, especially as it demonstrates how serious an employee is about their career, and the more an employer does to encourage a parent back to work, the more loyalty and commitment they enjoy.

g) Job Satisfaction

Job Satisfaction also refers to the employee's general attitude towards his job. Job satisfaction is used to describe how content an individual is with his or her job. Many organizations develop training programs and benefits packages to develop loyal employees. Longer employees work for the organization, more valuable the employees become. Job satisfaction is most important attitude in the field of the organization behavior. The main premise of this theory is that satisfaction is determined by a discrepancy between what one wants in a job and what one has in a job. Job satisfaction can also be seen within the broader context of the range of issues which affect an individual's experience of work, or their quality of working life. Job satisfaction can be understood in terms of its relationships with other key factors, such as general well-being, stress at work, control at work, home-work interface, and working conditions. The majority of job satisfaction measures are self-reports and based on multi-item scales. Several measures have been developed over the years, although they

vary in terms of how carefully and distinctively they are conceptualized with respect to affective or cognitive job satisfaction. They also vary in terms of the extent and rigor of their psychometric validation.

h) Organizational Commitment

When stress is reduced, organizational and individual performance will improve and employees are more committed with the organization as a result higher productivity. When stress level is reduced, employees are more excited and motivated towards their work.

Work life policies and career opportunities are correlated with organizational commitment. But job characteristics don't determine organizational commitment. Research result show that role of employee are effected due to work role conflict.

Organizational commitment is the individual's psychological attachment to the organization. The basis behind many of these studies was to find ways to improve how workers feel about their jobs so that these workers would become more committed to their organizations.

III. Problem Defintion

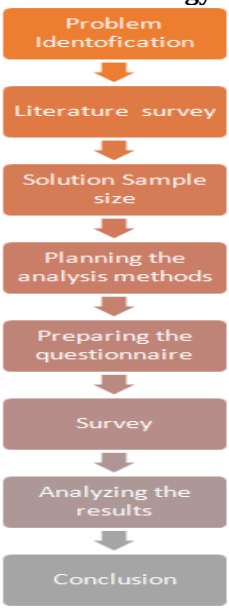
Work-life balance varies not only from organization to organization, but also across different sectors. The degree of this variation affects the personal life of employees and hence has a great impact on the work-life balance. For the past two years, we have stayed home, stayed safe, and done our best to flatten the curve. But healthcare professionals have been fighting tooth and nail to bring us out of this terrible situation. While we have reflected on the mental health at the workplace and the negative effects the pandemic has had on the workforce and the immense psychological impact this pandemic has had on them. In this context, there is a need to explore the relationship between pandemic impact and Work-life balance of healthcare workers.

Keywords:
- Work-Life Balance.
- COVID-19
- Health care workers.
- Quality of work life.
- Organizational performance.

IV. Objective

After gone through the following literature following objectives are drawn
- To study the Work-life balance practices and COVID-19 impact across health care sectors.
- To explore the relationship between COVID-19 impact and work-life balance in different employment settings.
- To study the effectiveness of work-life benefits and practices to enable productivity and effectiveness.

V. Methodology



5.1 Preparing the questionnaire: The target of our survey was frontline line medical staff and a few frontline workers. After careful analysis and also going through the literature survey we identified the 11 factors that played a major role in their life while working in COVID-19 pandemic. Those are:

1. WLB policies.
2. Team and organizational support
3. Work load
4. Job stress
5. Flexibility
6. Working hours
7. Family support
8. Healthcare
9. People and media opinions

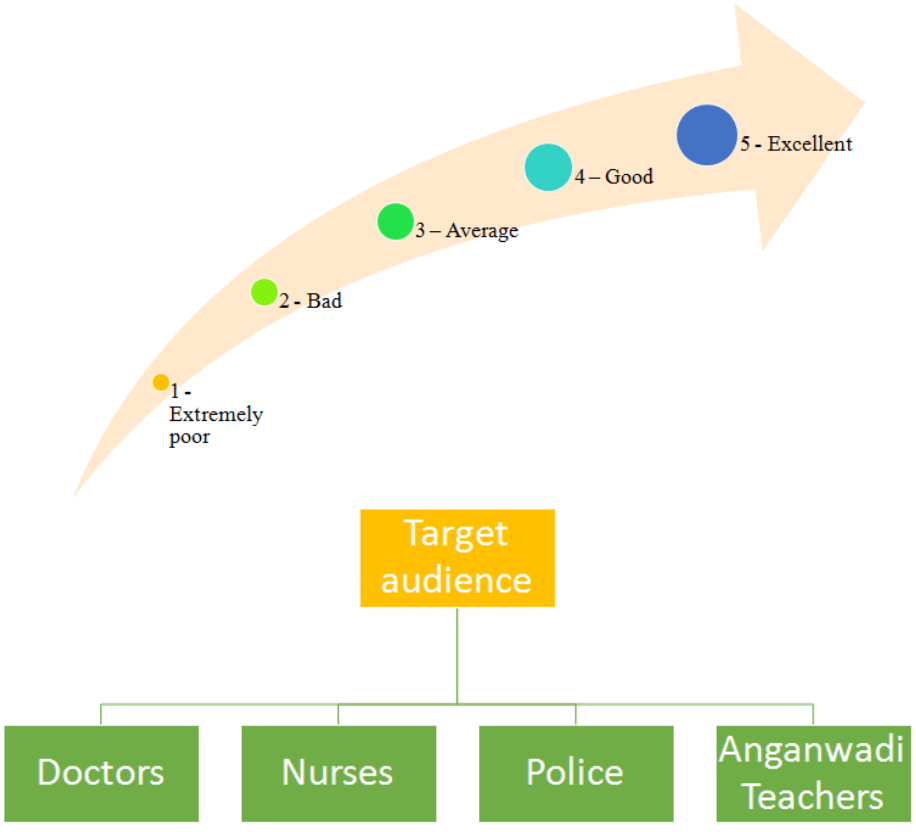
10. Job satisfaction
11. Work commitment

21 questions were formed based on the above factors approximately 2 questions from each factor. The test is being conducted on four different category of workers i.e., Doctor, Nurse, Police and Anganwadi Teachers.

The questionnaire consists of 2 sections, first section consists of nominal data i.e., few details about the respondent like Age, Work experience, Occupation etc. The second sections are the ordinal data about their experience during COVID based on the above 11 factors, all the second part questions are MCQs with a 5 star rating method i.e., 1-Extremely Poor, 2-Bad, 3-Average, 4-Good, 5-Excellent.

The survey mainly focuses on their physical and mental job satisfaction during COVID-19. According to the literature survey we conducted, it was found that most around 70-80% of workers faced excessive stress and felt that the workload was too much and was a difficult situation war them to work on. This survey is aimed at collecting around 600 responses.

Questionnaire Rating Scale:



5.2 Planning the analysis methods: The following are the planned analysis that were conducted.

1. Descriptive analysis.
2. Percentage analysis.
3. Multiple regression.
4. Chi square test of independence.
5. Independent sample t-test.
6. ANOVA test.

5.2.1 Descriptive analysis or Descriptive statistics: It is a method of calculating simple statistical factors based on a pre collected data. It is planned to calculate the Mean, Median, Mode, Standard Deviation and other required data using the collected factors Gender, Age, Work Life balance, Job satisfaction and Work commitment. This analysis provided us with the basic idea of the range and average job satisfaction, gender and age of the respondents. As said in this analysis only provide us with the basic information, for further analysis we go into next step.

5.2.2 Percentage analysis: This is a type of descriptive analysis. This analysis is be conducted on the same factors as descriptive analysis factors, Gender, Age, Work Life balance, Job satisfaction and Work commitment. For gender it gives us the percentage of male/female of the responses, in age it gives us the range of people ages i.e., young, middle aged, or old. Similarly this analysis took us further in analysis by providing the percentage of people for the above factors.

5.2.3 Multiple linear regression: Multiple linear regression is a statistical technique that can be used to analyze the relationship between a single dependent variable and several independent variables. The objective of multiple regression analysis is to use the independent variables whose values are known to predict the value of the single dependent value. The standard form of a multiple regression equation is

$$\boldsymbol{Y = a + b_1X_1 + b_2X_2 + \cdots + b_nX_n}$$

In this equation Y is a dependent variable and $\boldsymbol{X_1, X_2,\ldots, X_n}$ are independent variables and $\boldsymbol{a, b_1, b_2,\ldots b_n}$ are unknown constants. The aim of this method is to find out the values of the constants $\boldsymbol{a, b_1, b_2,\ldots b_n}$ and using them to find out the relation of the dependent variables with independent variables and to find to what extend is their relation. If there is only one dependent and one independent variables then the regression is called Simple Regression, if there are multiple dependent and independent variables they are called multiple regression.

According to the factors considered in our analysis the dependent factors are Job satisfaction and Work Commitment. These are ($\boldsymbol{Y}$) and the independent factors are WLB policies, Team and organizational support, Work load, Job stress, Flexibility, Working hours, Family support, Health care People and media opinions.

Since we have 2 dependent variables the analysis will be carried out on
1. Job satisfaction vs WLB parameters (all the mentioned factors).
2. Work commitment vs WLB parameters.

5.2.4 Chi-square test of Independence: The Chi-square test of independence checks whether two variables are likely to be related or not. It means it checks to how much extent one factor is independent on the other, in our case for example it checks how much the WLB has effected for each age group, occupation etc. In our test we assume the null hypothesis H0 as:

H0: The ordinal values WLB, Job satisfaction and Work commitment are dependent on the nominal values Gender, Age and Occupation.

The chi square test is conducted to test whether the null hypothesis is true or not. So as per the hypothesis we will be conducting the following versus analysis using Chi-square method.

For our analysis the test will be conducted for:
1. Gender vs WLB
2. Gender vs Job satisfaction
3. Gender vs Work commitment
4. Age vs WLB
5. Age vs Job satisfaction
6. Age vs Work commitment
7. Occupation vs WLB
8. Occupation vs Job satisfaction
9. Occupation vs Work commitment

So in conclusion by this test we are trying to test weather gender, age and occupation are related to WLB, Job satisfaction and Work commitment. If the Chi-square value is large then they are independent else they are dependent.

5.2.5 Independent sample t-test: A t-test is a statistical test that is used to compare the means of two groups. It is often used in hypothesis testing to determine whether a process or treatment actually has an effect on the population of interest, or whether two groups are different from one another. For our test the independent groups male and female, and the dependent variable WLB for which the response are taken in a 1-5 scale (ordinal and continuous), we can check each group's attitude over WLB. i.e., how differently WLB has effected males and females.

5.2.6 ANOVA test: Whereas t-tests compare the means of two groups/conditions, one-way analysis of variance (ANOVA) compares the means of 3 or more groups/conditions. We are using it to calculate the WLB vs occupation. Since we are considering 4 groups of people here Doctors, Nurse, Police and Anganwadi teachers, we cannot conduct independent t-test here. This test compares how each different groups were hit by WLB during pandemic. It almost follows the same hypothesis as in independent t-test.

Keywords:
1. **Arithmetic Mean:** For a data set, the arithmetic mean, also known as arithmetic average, is a measure of central tendency of a finite set of numbers: specifically, the sum of the values divided by the number of values. The arithmetic mean of a set of numbers x_1, $x_2 \ldots$ x_n is typically denoted by.
2. **Mode:** Mode is defined as the value that is repeatedly occurring in a given set. It is one of the three measures of central tendency, apart from mean and median. That means, mode or modal value is the value or number in a data set, which has a high frequency or appears more frequently.
3. **Standard Deviation:** In statistics, the standard deviation is a measure of the amount of variation or dispersion of a set of values. A low standard deviation indicates that the values tend to be close to the mean (also called the expected value) of the set, while a high standard deviation indicates that the values are spread out over a wider range.
4. **Variance:** The variance is a measure of variability. It is calculated by taking the average of squared deviations from the mean. Variance tells you the degree of spread in your data set. The more spread the data, the larger the variance is in relation to the mean.
5. **Dependent Variable:** These are the variables whose values depend on another independent or dependent variables.

6. **Independent Variable:** These are the variables whose values do not depend on any other variables.
7. **Nominal scale:** A nominal scale is a scale of measurement used to assign events or objects into discrete categories.These are values that are not numbers example Gender, Marital status, Blood type etc.
8. **Ordinal scale:** Ordinal Scale is defined as a variable measurement scale used to simply depict the order of variables and not the difference between each of the variables. A common example of ordinal scale values are 5-point scale and 7 point scale.

The software used in this analysis is JASP 0.16.3.0. **JASP** (Jeffreys's Amazing Statistics Program) is a free and open-source program for statistical analysis supported by university of Amsterdam. It is designed to be easy to use, and familiar to users of SPSS. It offers standard analysis procedures in both their classical and Bayesian form. JASP generally produces APA style results tables and plots to ease publication. It promotes open science by integration with the Open Science Framework and reproducibility by integrating the analysis settings into the results. The development of JASP is financially supported by several universities and research funds.

The modules offered in this software are:
1. **Audit**: Planning, selection and evaluation of statistical audit samples.
2. **Summary statistics**: Bayesian inference from frequentist summary statistics for t-test, regression, and binomial tests.
3. **Network**: Network Analysis allows the user to analyze the network structure of variables.
4. **Meta-Analysis**: Includes techniques for fixed and random effects analysis, fixed and mixed effects meta-regression, forest and funnel plots, tests for funnel plot asymmetry, trim-and-fill and fail-safe N analysis.
5. **Machine Learning**: The machine learning module contains 19 analyses for supervised an unsupervised learning.

VI. Results And Discussion

	Doctor	Nurses	Police	Anganwadi Teachers	Total
No of Samples expected	250	150	150	100	650
Approached no of Samples	209	144	139	80	572
Number of Respondants	187	121	106	63	477

6.1 COLLECTION OF SAMPLE SIZE

- As shown in the table the expected sample size is 650 and the obtained responses are 477 and the approached number of people is 572.
- We faced many problems in the collection of survey, few ignored us, and others were afraid of providing us answers and were conscious of having their identity revealed.
- Initially the survey was planned to collect 650 responses.
- We approached 572 people and by the above reason we were only able to collect 477 responses.
- There are no missing values, invalid, and unwanted values found in the data.
- The analysis is conducted on the above valid 477 values.
- We have focus on geographical area like Mysore and Mandya medical government hospitals, police station,anganwadi schools etc

6.2Descriptive Statistics:

Various statistical values such as mean, median, mode, standard deviation and quartiles were Calculated for the factors age, work experience, dependent members, WLB, job satisfaction and work commitment.

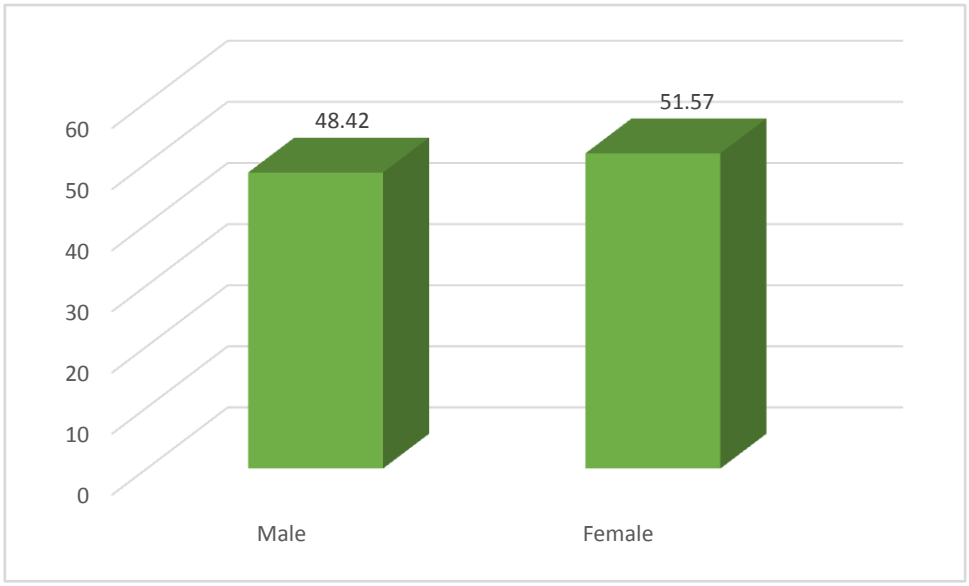
	Age	Work experience	Number of dependent members in family	Job satisfaction	Work commitment	WLB
Valid	477	477	477	477	477	477
Missing	0	0	0	0	0	0
Median	30.000	5.000	3.000	2.000	2.000	0.000
Mean	33.132	7.008	3.606	2.389	2.586	0.375
Std. Deviation	10.358	6.955	2.000	1.226	1.312	0.485
Variance	107.28	48.378	4.000	1.503	1.722	0.235
Range	48.000	43.000	10.000	4.000	4.000	1.000
Minimum	19.000	0.000	0.000	1.000	1.000	0.000
Maximum	67.000	43.000	10.000	5.000	5.000	1.000
25th percentile	26.000	3.000	2.000	1.500	1.500	0.000
50th percentile	30.000	5.000	3.000	2.000	2.000	0.000
75th percentile	39.000	9.000	5.000	3.000	3.500	1.000

It is observed that mean age of the respondents is 33 years and a standard deviation of 10.358. The average work experience of the respondents is 7. The WLB average is 0.375 (value compared between 0 and 1) and the corresponding job satisfaction and work commitment average values are 2.3 and 2.5 (on a rating scale of 1 to 5).

6.3 Percentage analysis:

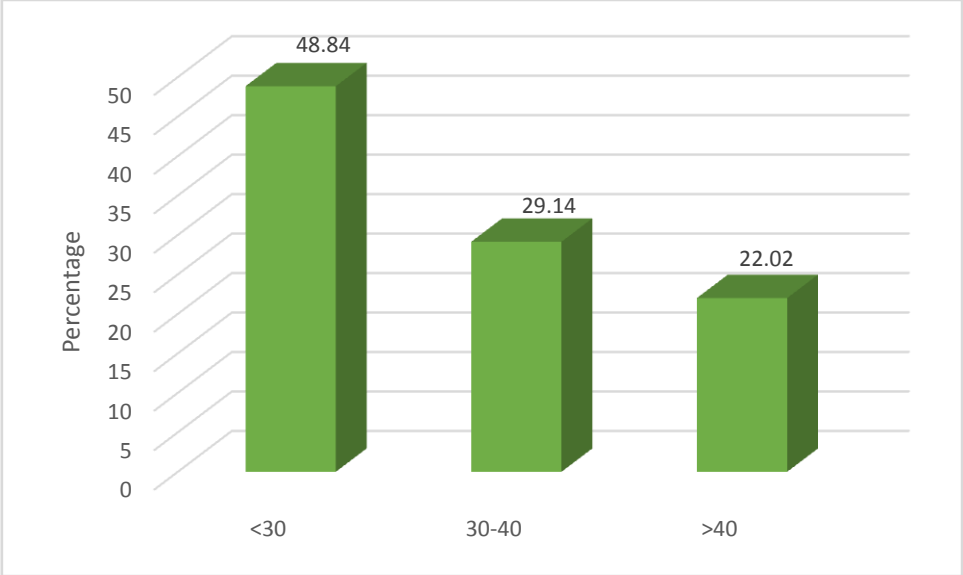
(i) Gender

The graph shows that majority of responses were from females with a 51.57% of females and 48.42% of male.



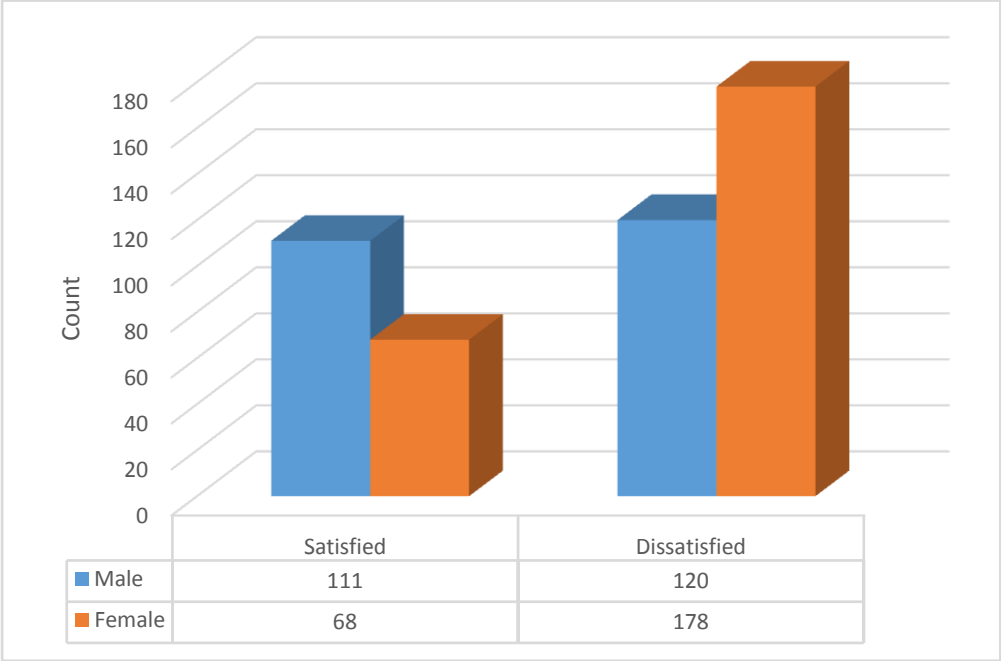
(ii) Age

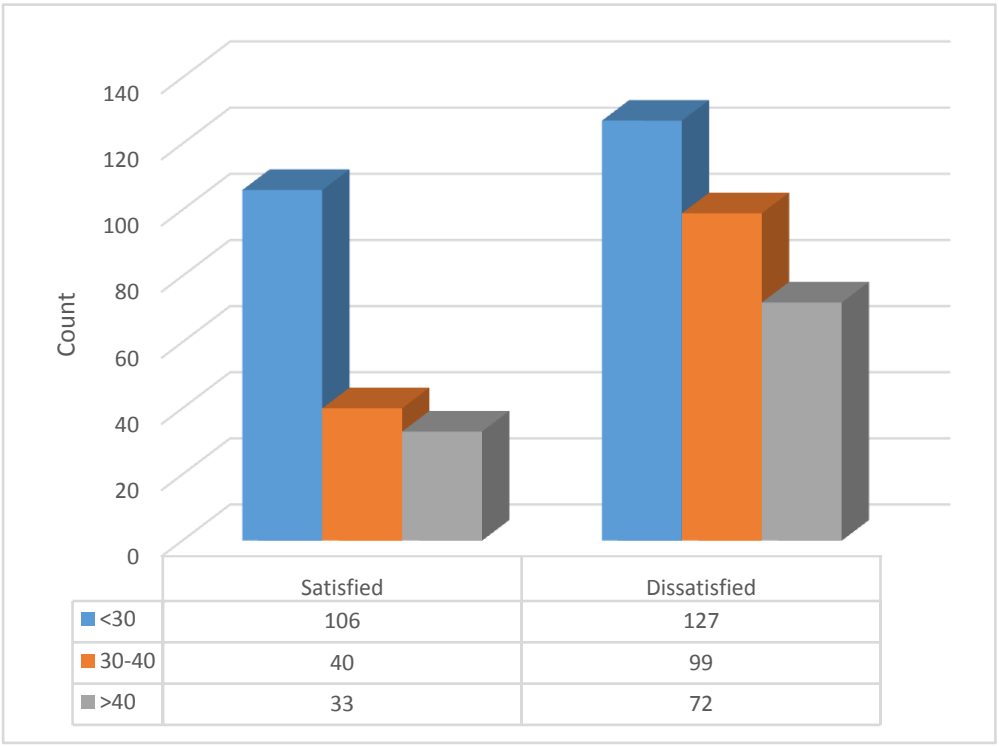
We can see that most of the respondents age is <30 with a 48.84% and the others with age group 30-40 are of 29.14% in percentage and the remaining 22.01% of people are aged >40.



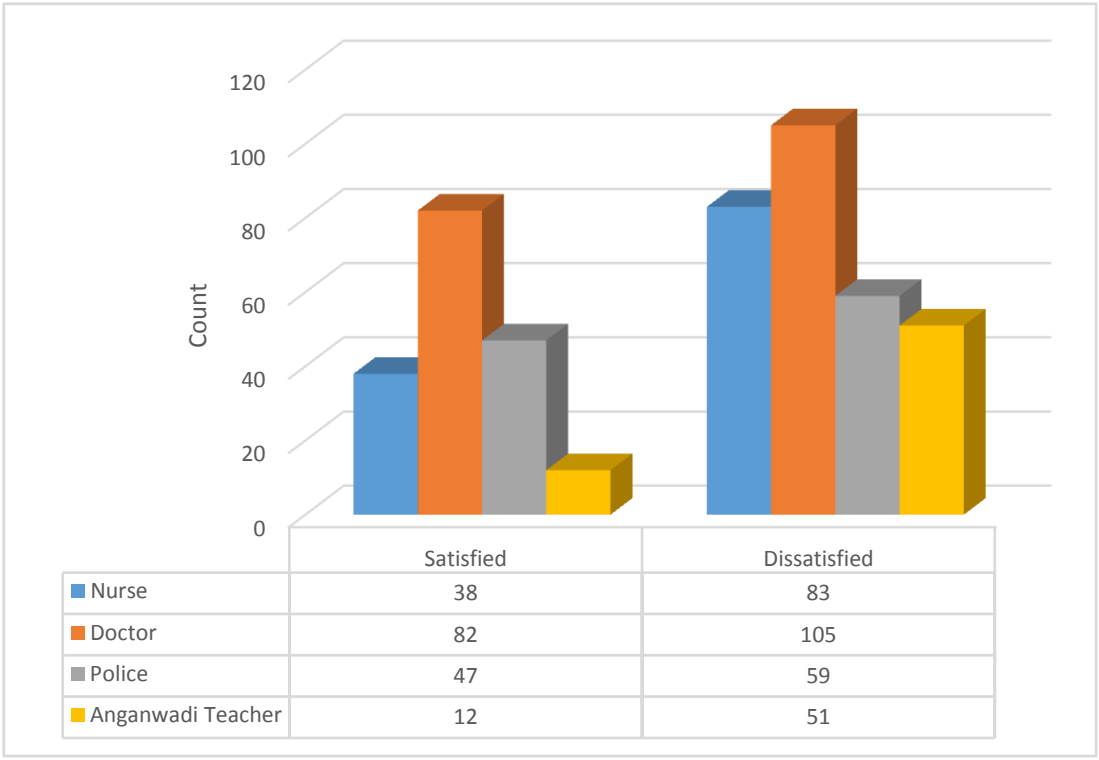
(iii) WLB

It can be seen from the graph that there is a large difference between a balanced and unbalanced work-life among the respondents. With a large percentage of 62.47% of people having an unbalanced work-life it is a worrying problem. The remaining 37.53% were able to manage a good balanced life.





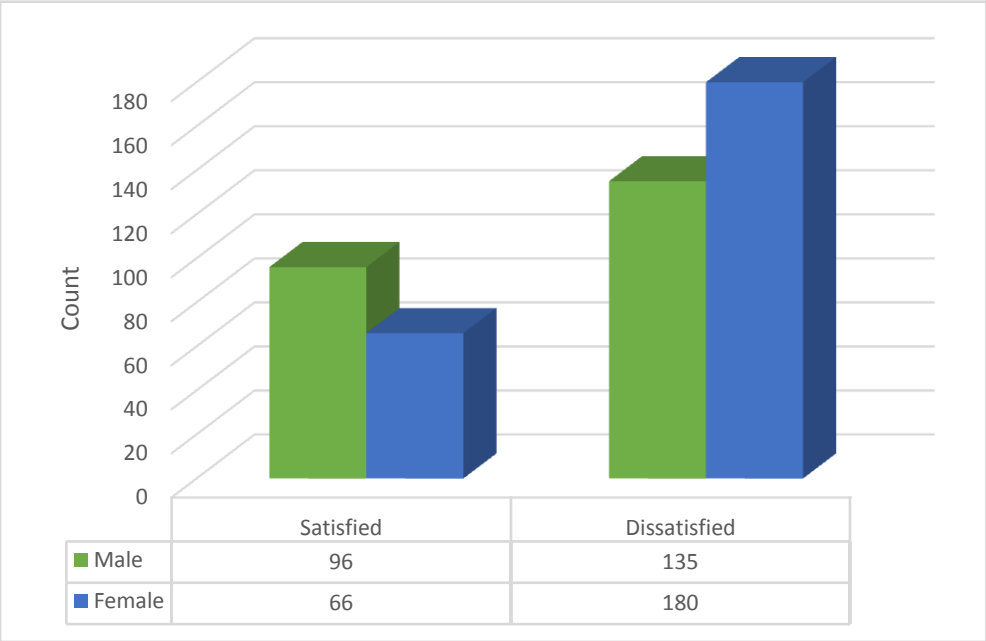
	Satisfied	Dissatisfied
<30	106	127
30-40	40	99
>40	33	72



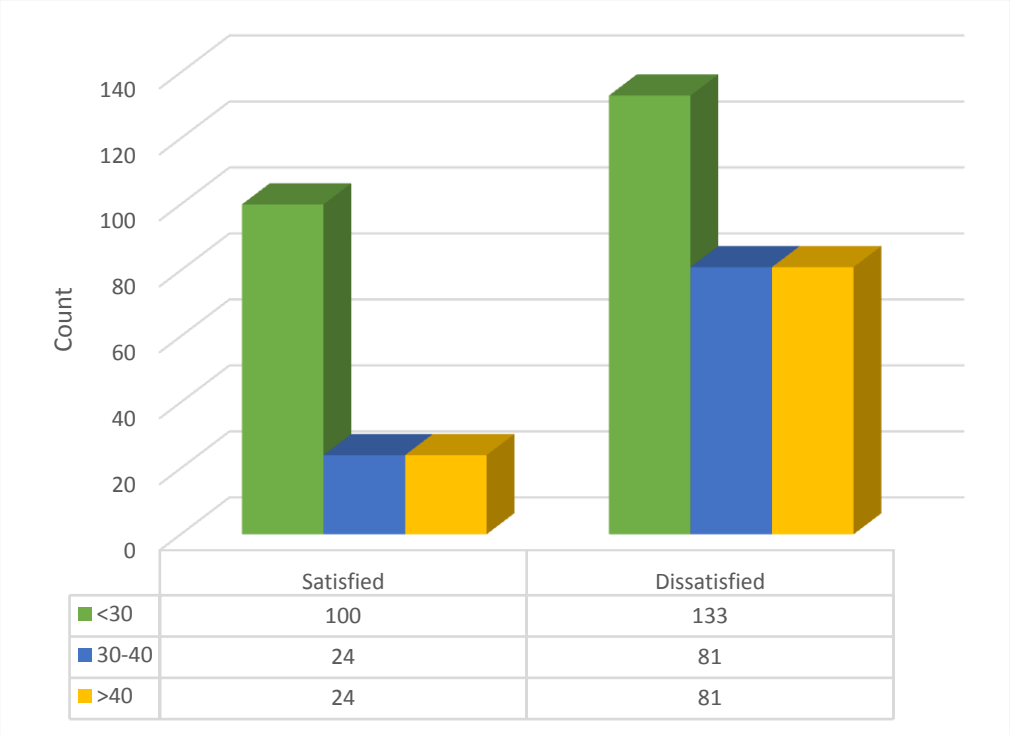
	Satisfied	Dissatisfied
Nurse	38	83
Doctor	82	105
Police	47	59
Anganwadi Teacher	12	51

(iv) Job satisfaction

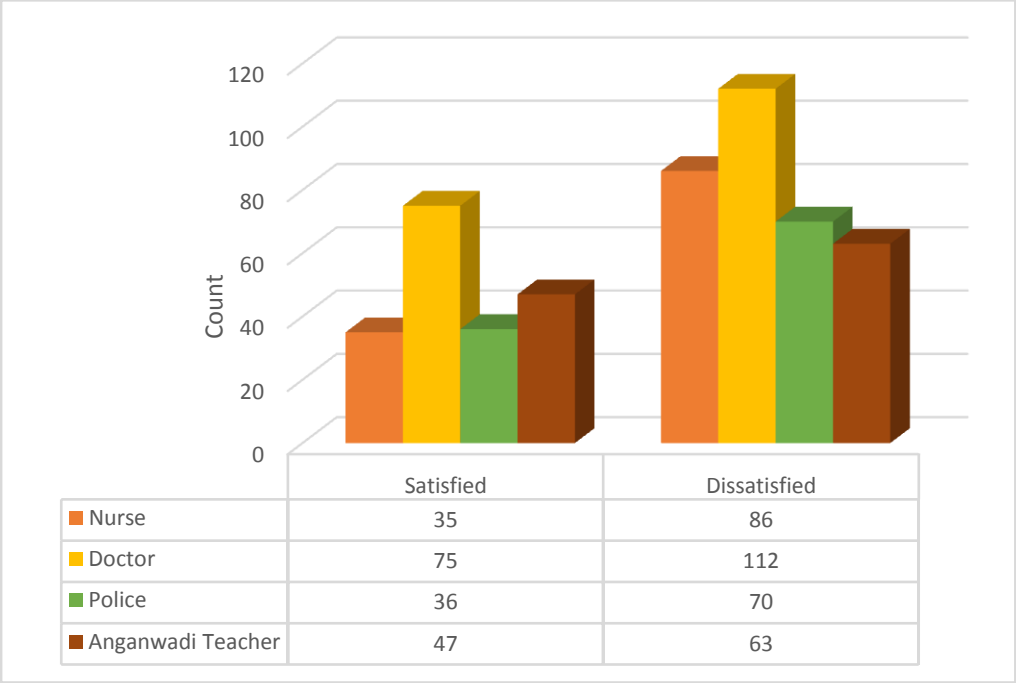
It can be seen that the percentage of people having dissatisfaction about their work during COVID-19 is more due to many problems. There is a large 66.03% dissatisfaction among the workers whereas about 33.96% were satisfied.



	Satisfied	Dissatisfied
Male	96	135
Female	66	180



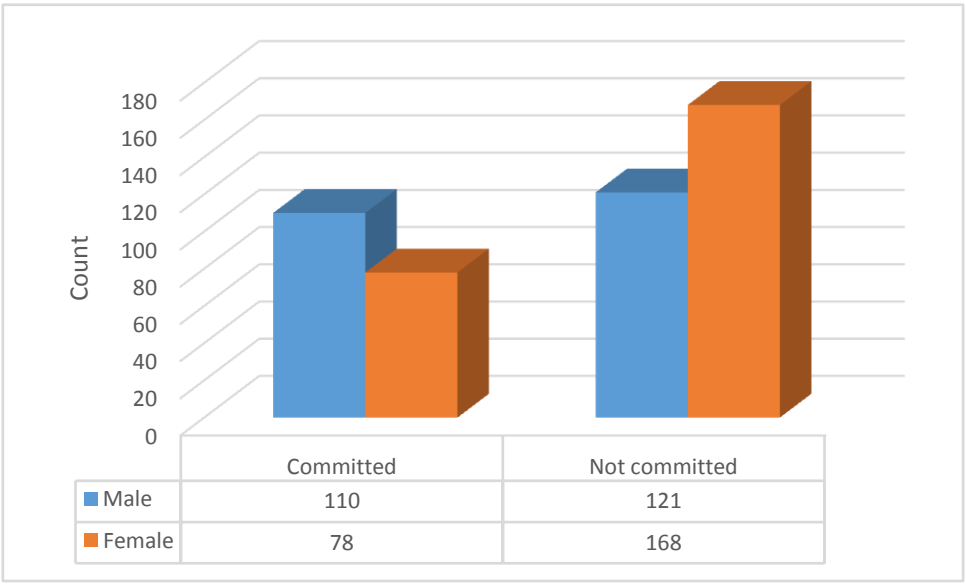
	Satisfied	Dissatisfied
<30	100	133
30-40	24	81
>40	24	81



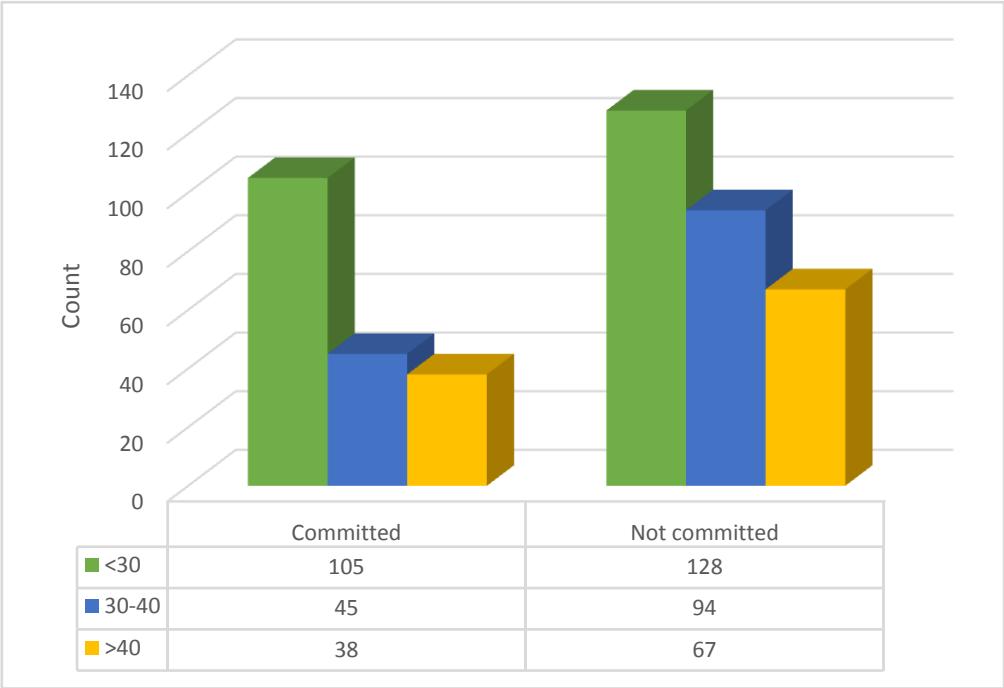
	Satisfied	Dissatisfied
Nurse	35	86
Doctor	75	112
Police	36	70
Anganwadi Teacher	47	63

(v) Work commitment

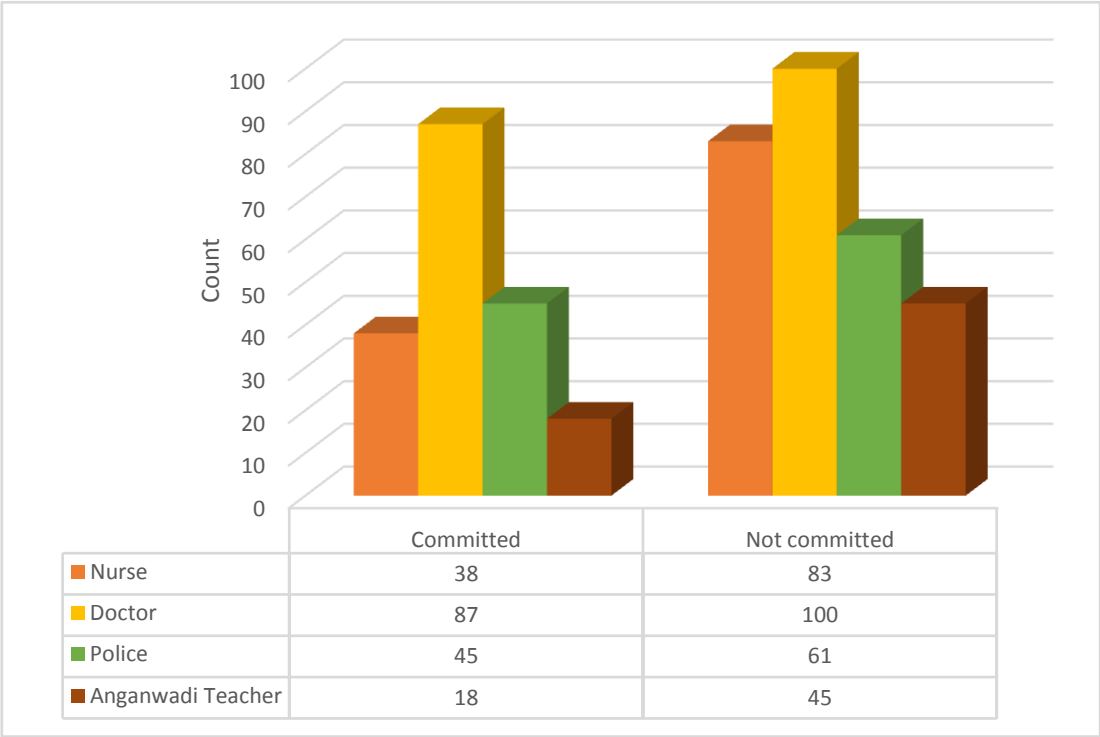
There is still quite a gap between the percentage of work committed people and not committed people, which is a huge problem. If doctors were to be discouraged like this and this percentage increases, it will become difficult to achieve good results if another pandemic were to hit us. It is seen that 60.58% were not-committed and 39.41% were committed.



	Committed	Not committed
Male	110	121
Female	78	168



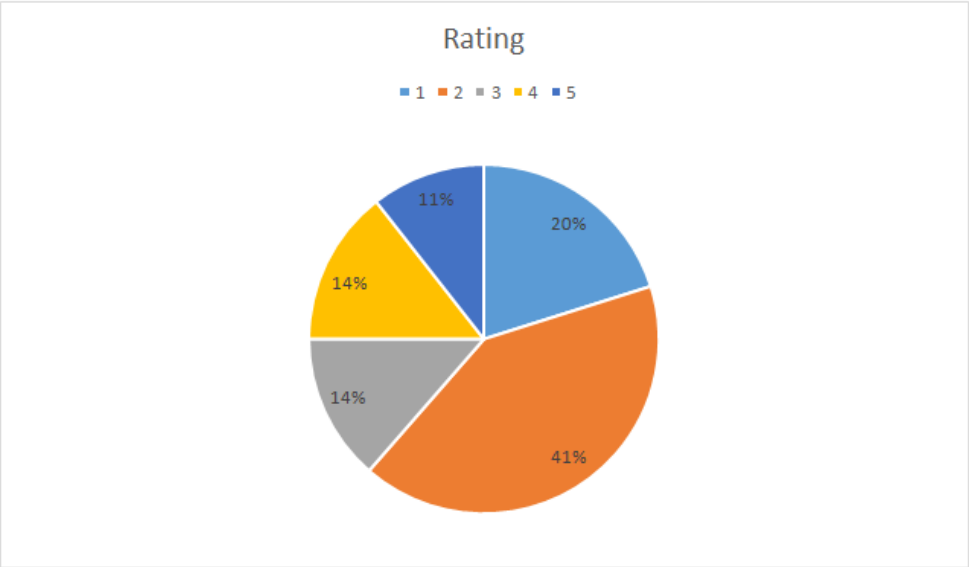
	Committed	Not committed
<30	105	128
30-40	45	94
>40	38	67



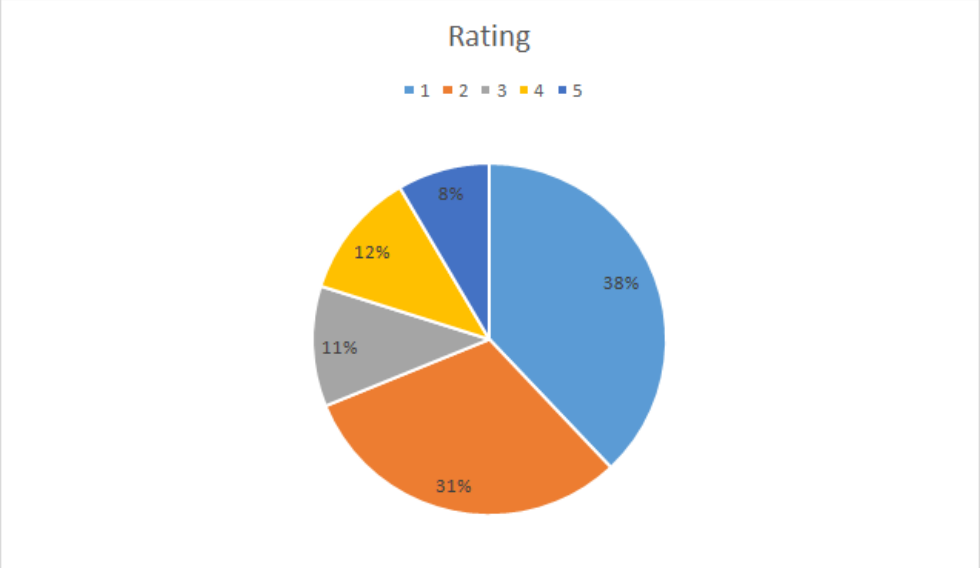
	Committed	Not committed
Nurse	38	83
Doctor	87	100
Police	45	61
Anganwadi Teacher	18	45

6.4 Percentage analysis based on Questionnaire

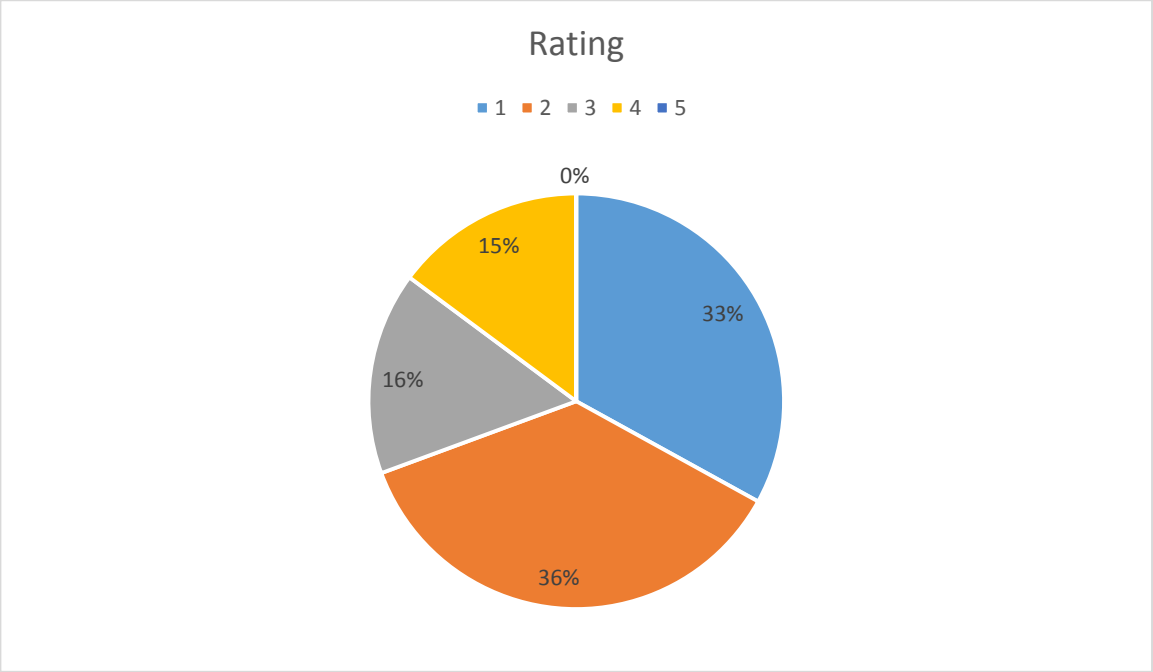
6.4.1 Rate your working environment during COVID?



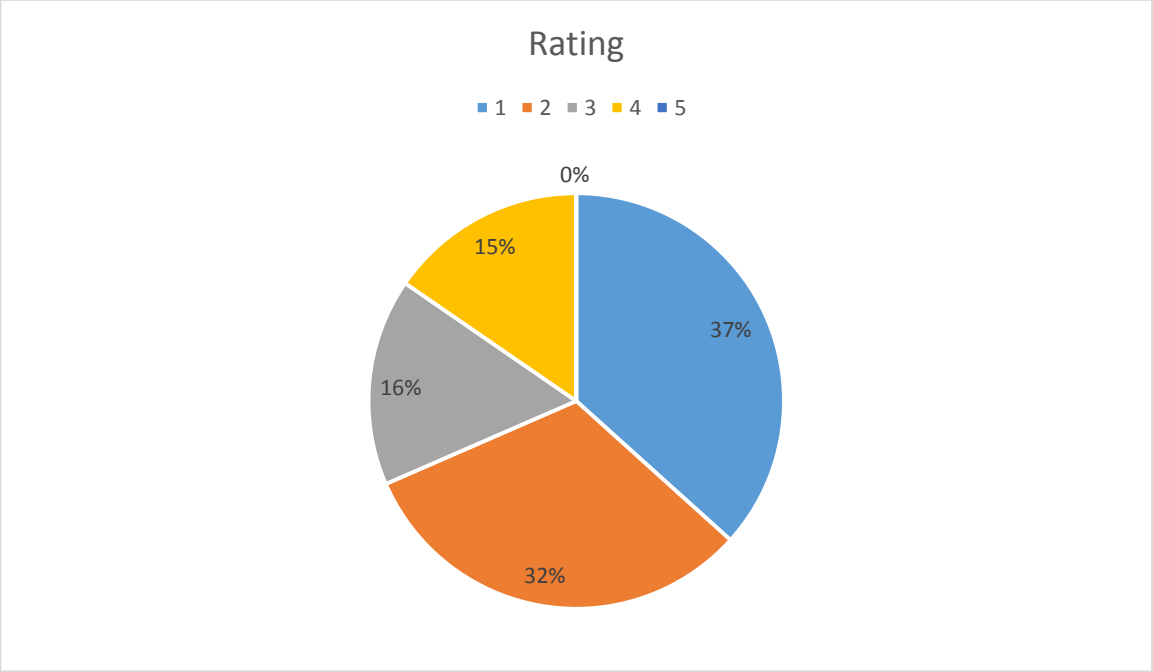
6.4.2 How was the leave policies?



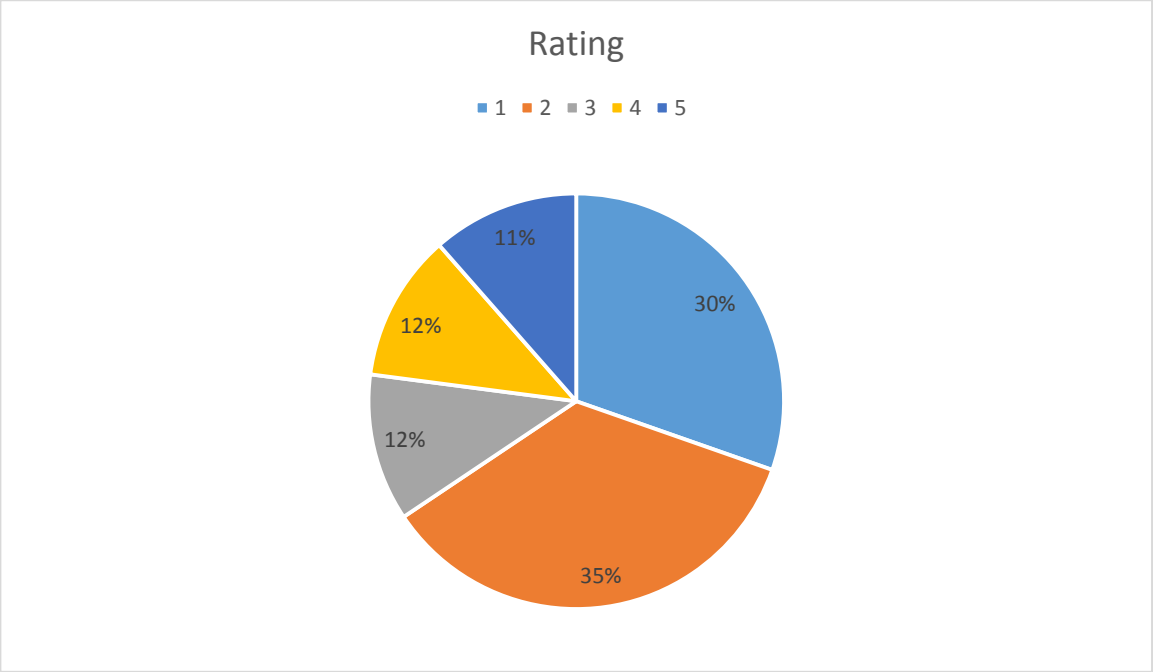
6.4.3 Rate your organizational support in COVID?



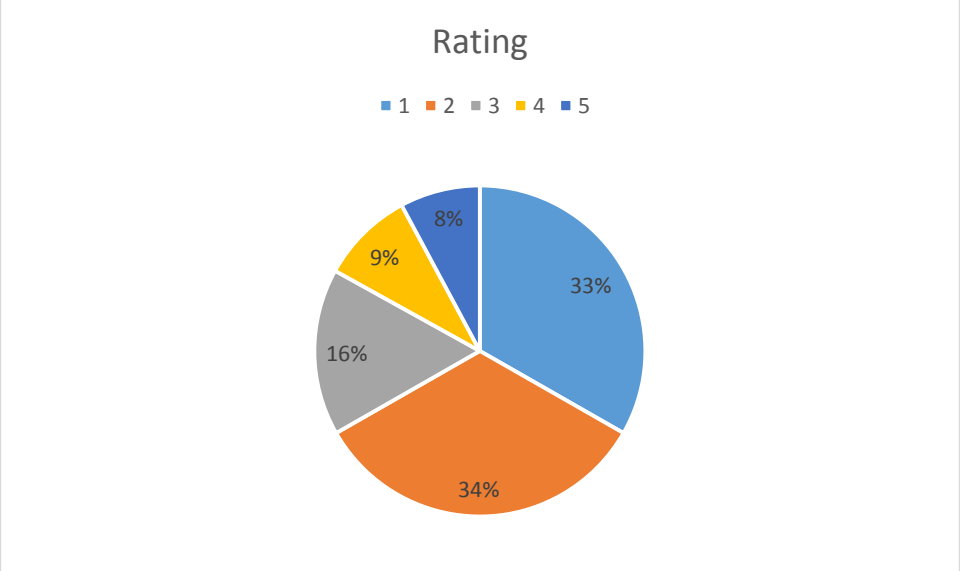
6.4.4 How was the support by your colleagues?



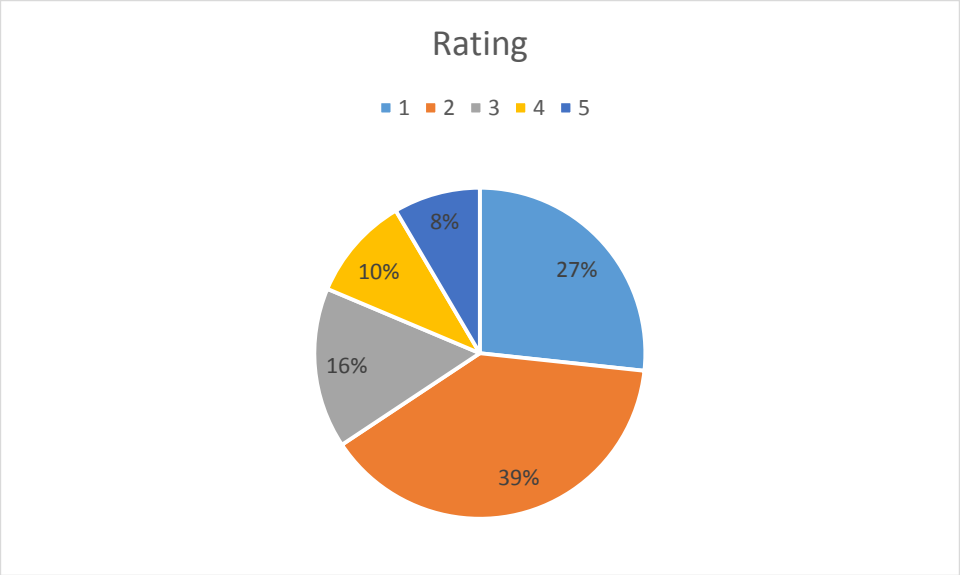
6.4.5 How was your job stress during COVID?



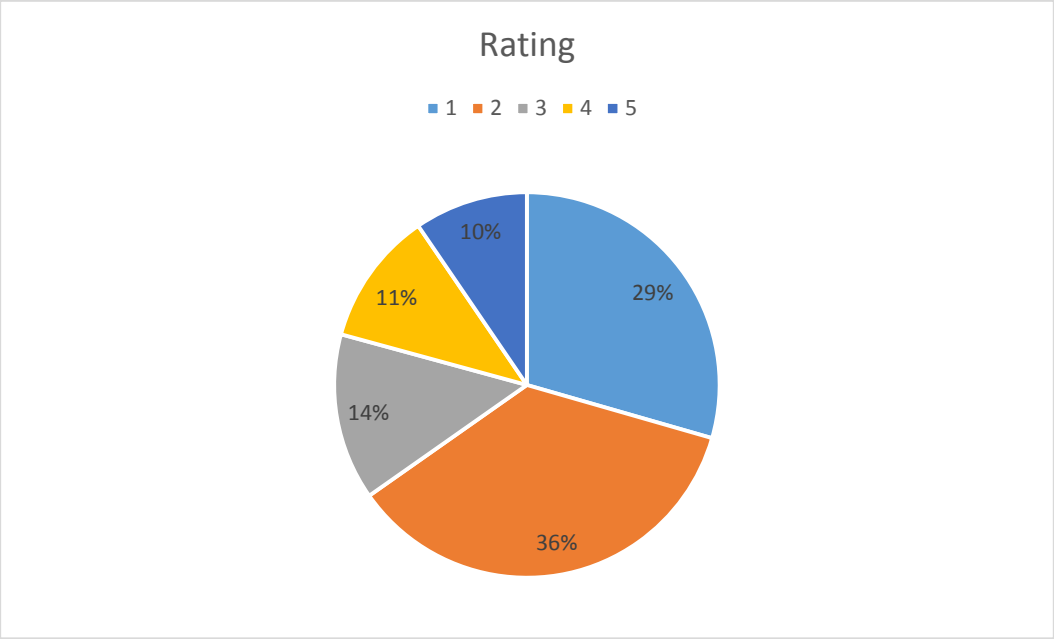
6.4.6 How was your job stress during COVID?



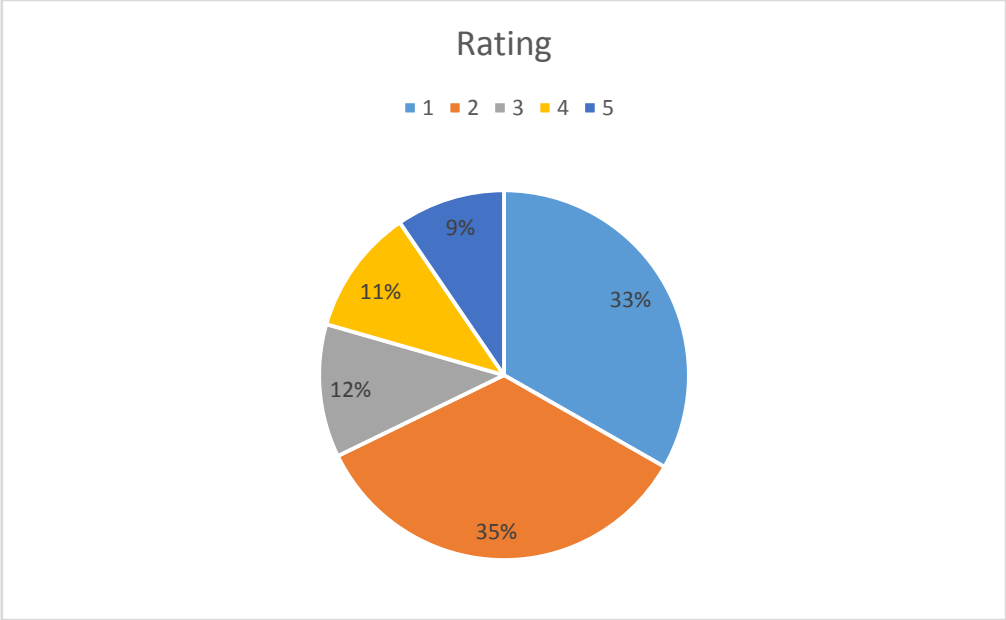
6.4.7 I miss out on quality time with my family and friends because of pressure of work?



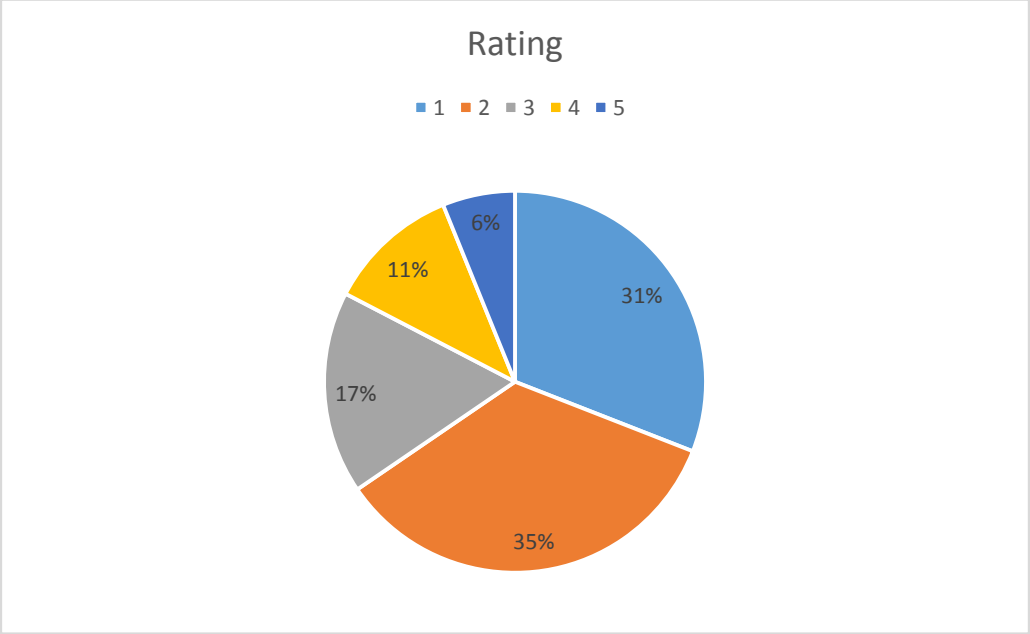
6.4.8 Did u get tired or depressed due to work?



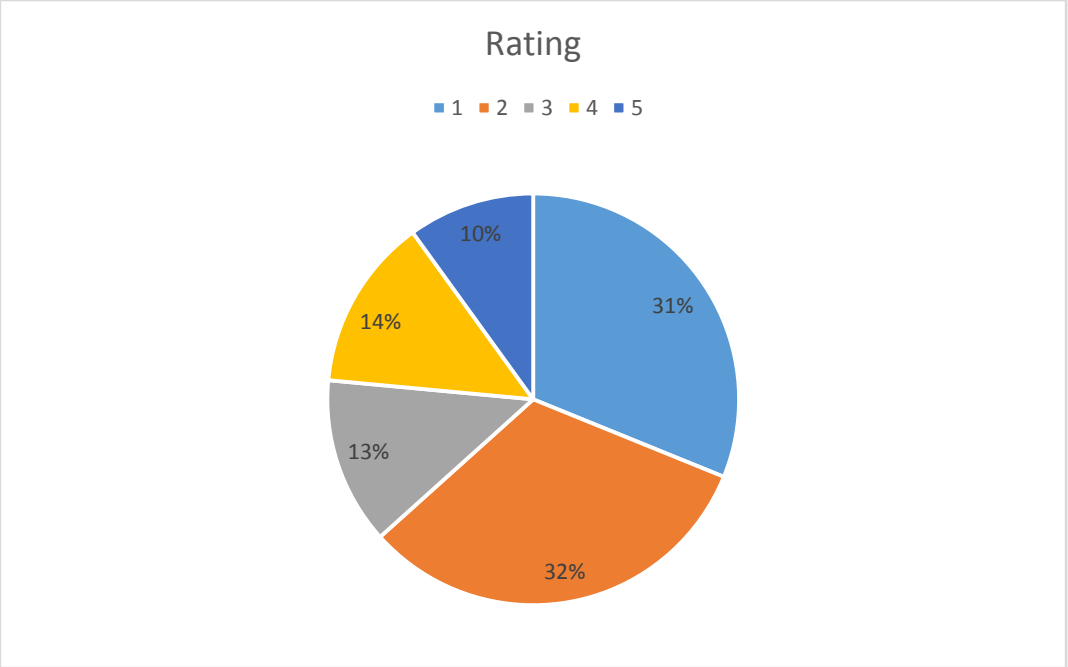
6.4.9 Did you feel pressurized due to work?



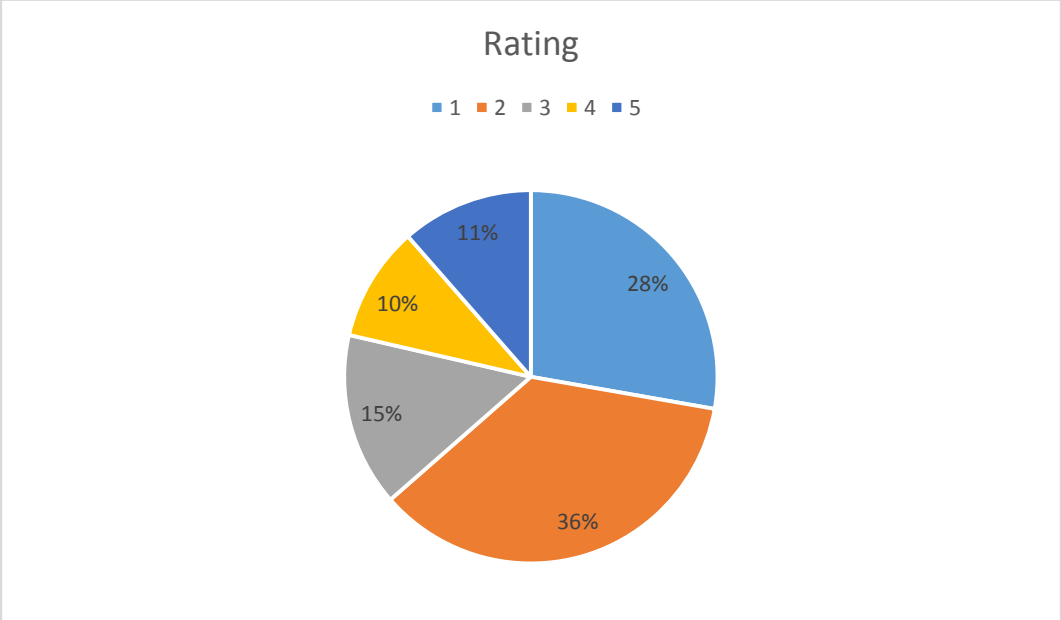
6.4.10 Were you able to get a considerable amount of break during shifts?



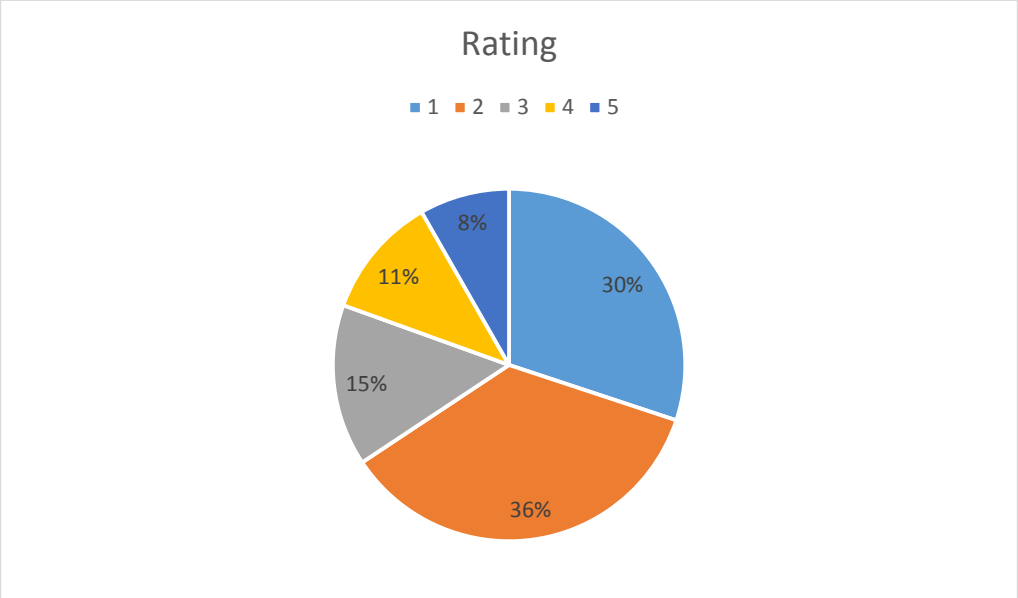
6.4.11 How often did you work overtime?



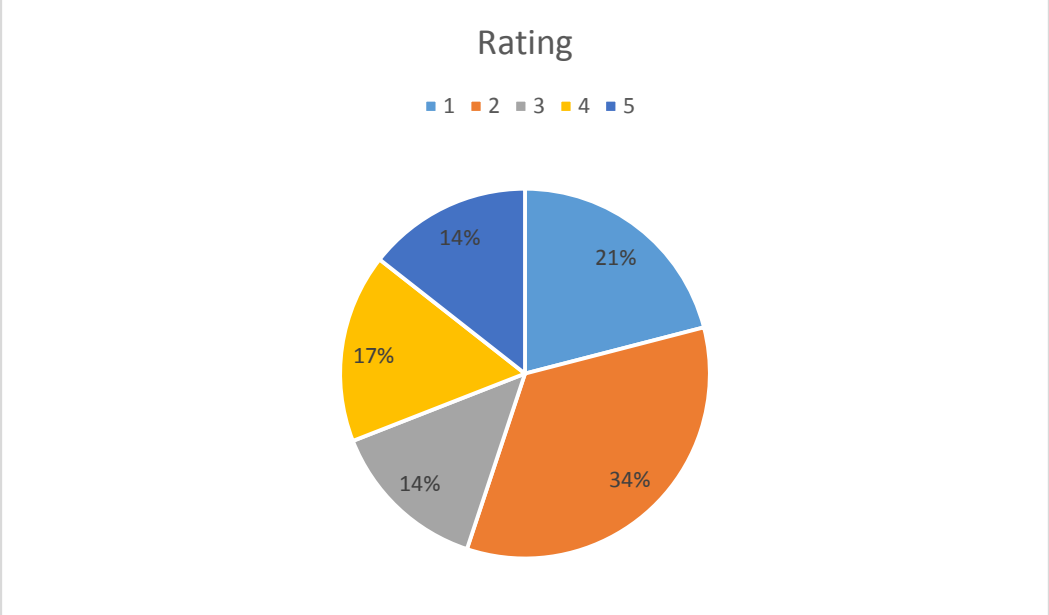
6.4.12 I often work overnight?



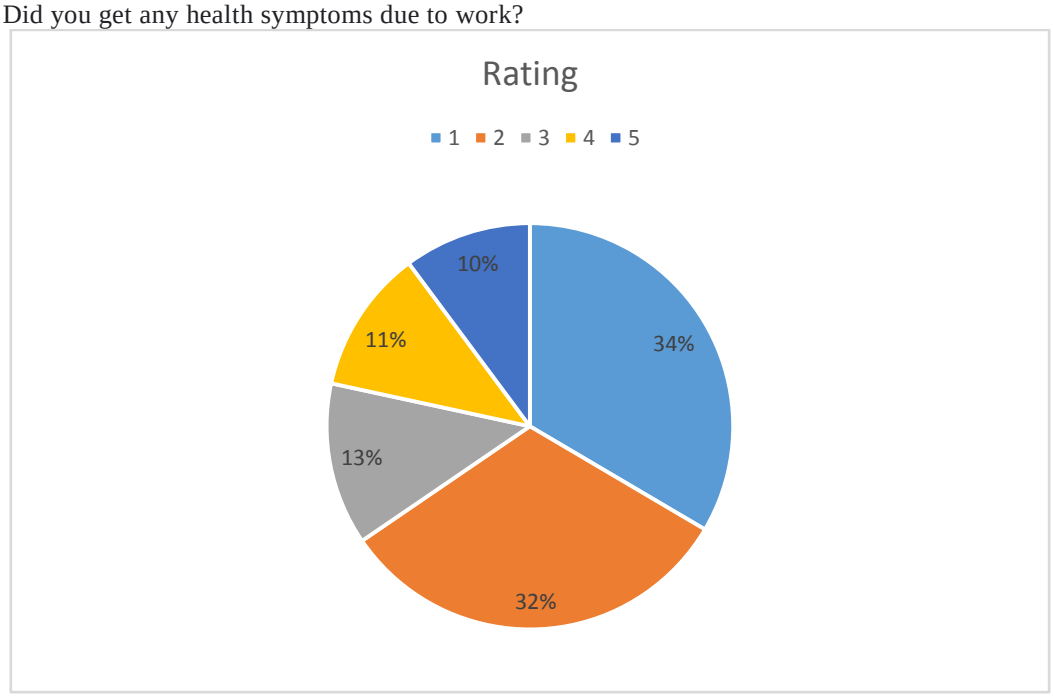
6.4.13 Were you able to get considerate amount of time to talk or meet with family?



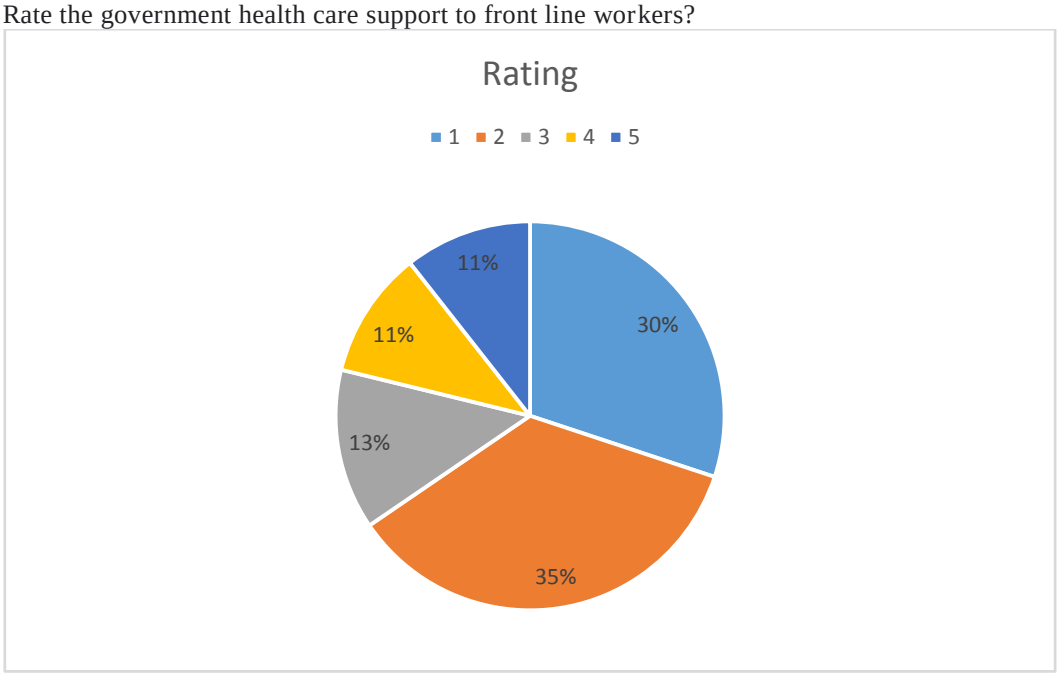
6.4.14 Support from family helped me work without worry?



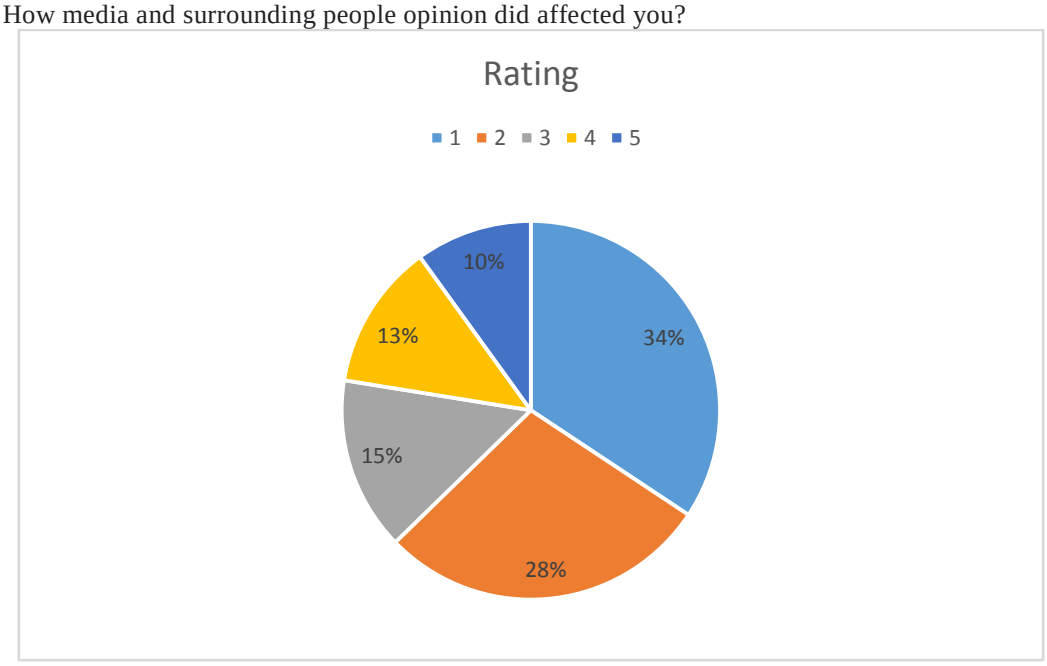
6.4.15 Did you get any health symptoms due to work?



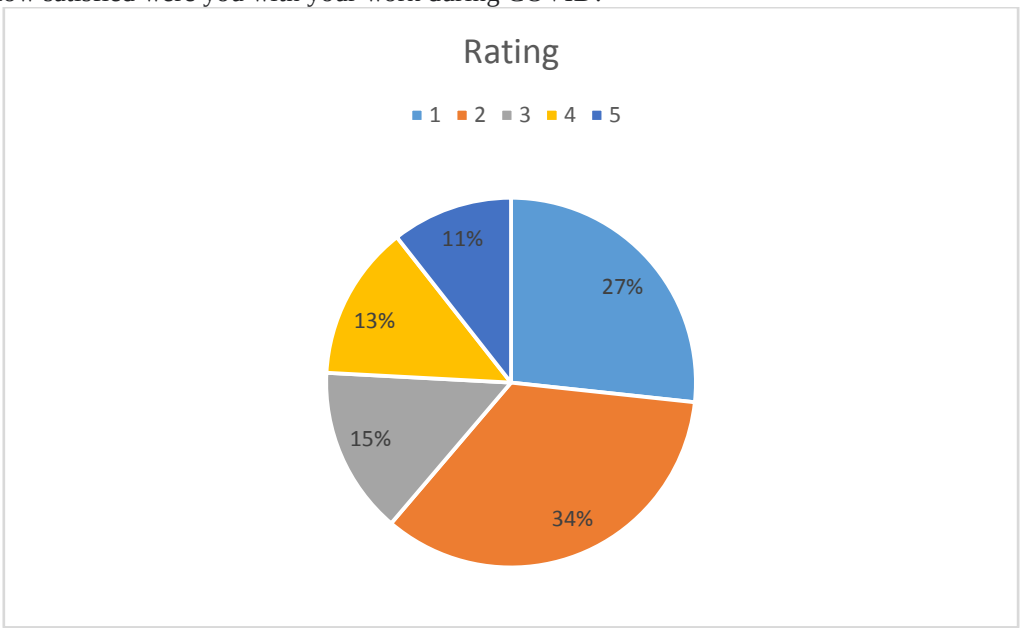
6.4.16 Rate the government health care support to front line workers?



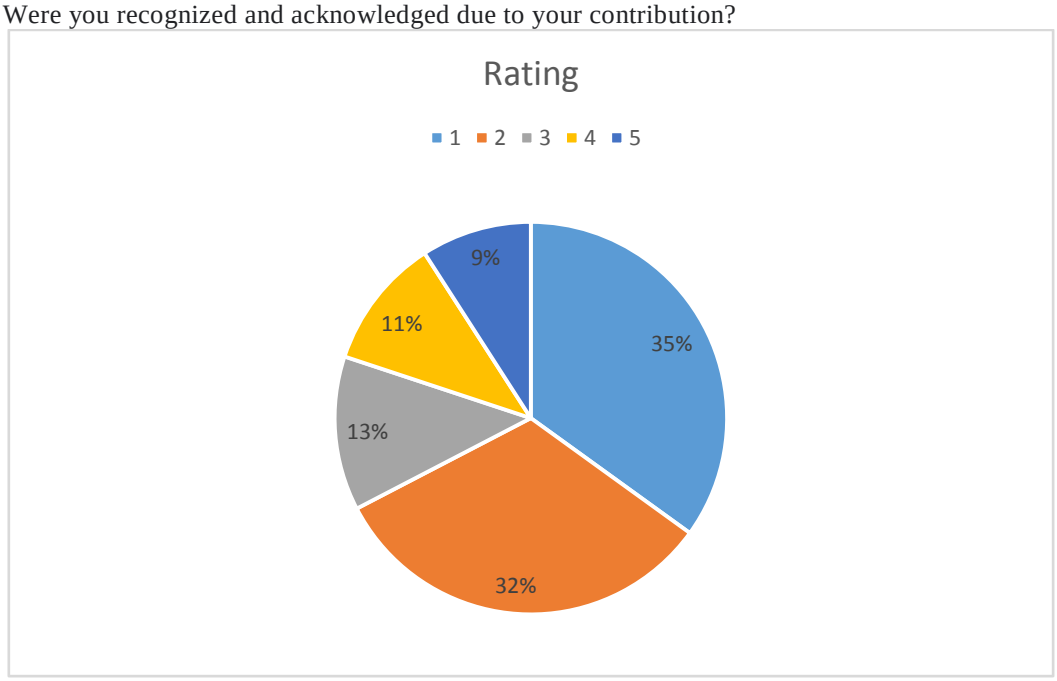
6.4.17 How media and surrounding people opinion did affected you?



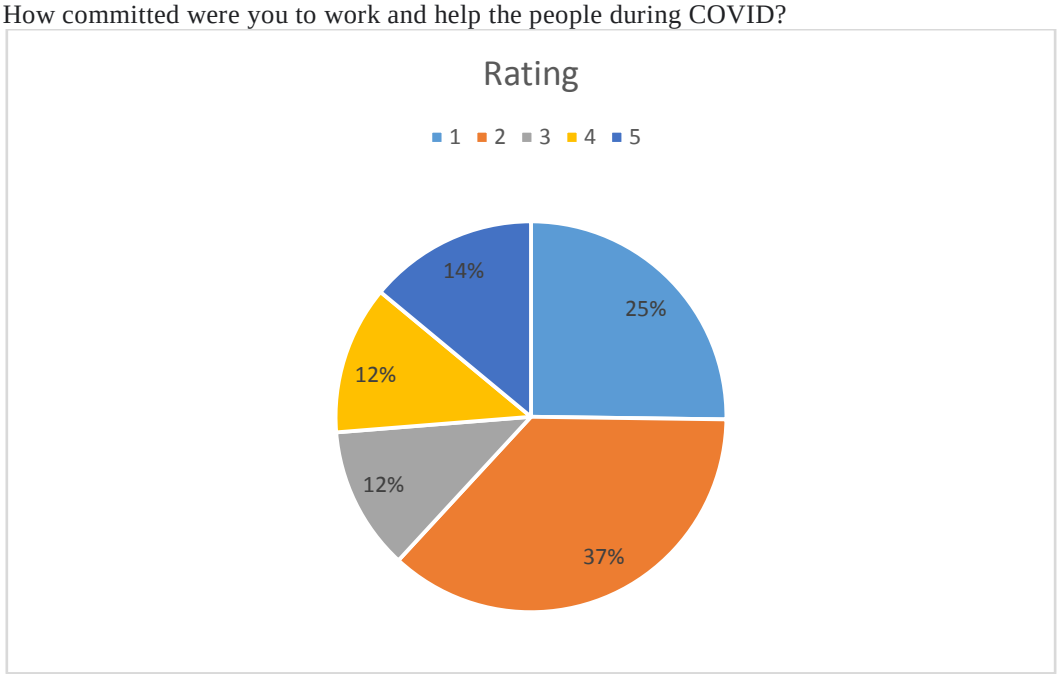
6.4.18 How satisfied were you with your work during COVID?



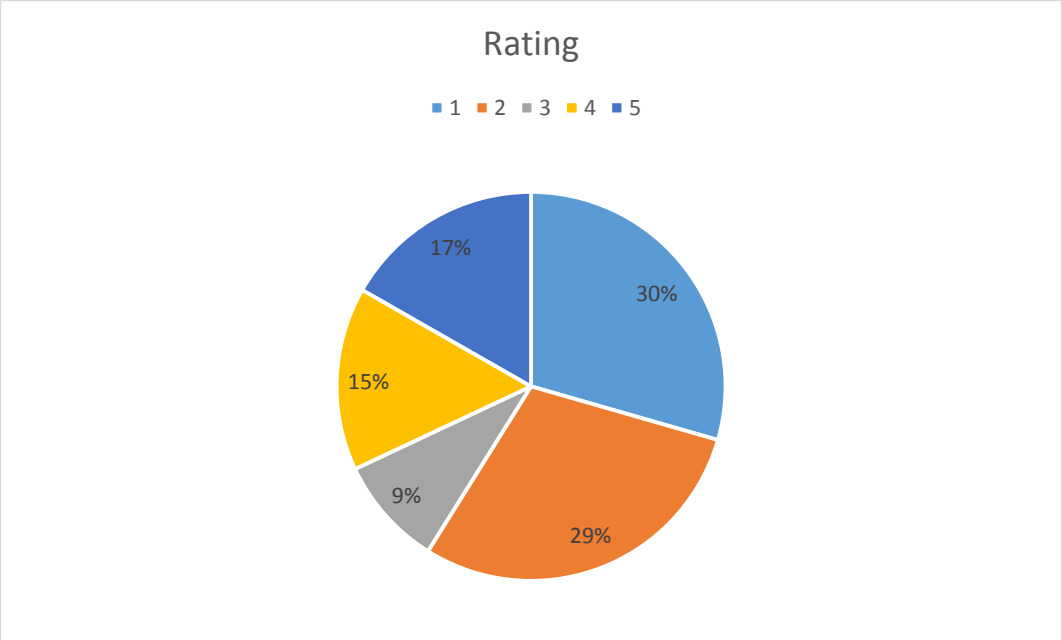
6.4.19 Were you recognized and acknowledged due to your contribution?



6.4.20 How committed were you to work and help the people during COVID?



6.4.21 Are you able to work with the same dedication if a similar situation arises?



6.5Multiple regression:

(i) Work commitment vsWLB parameters.

							95% CI	
Model		**Unstandardized**	**Standard Error**	**Standardized**	**t**	**p**	**Lower**	**Upper**
1	(Intercept)	0.095	0.076		1.255	0.210	-0.054	0.244
	F1	0.021	0.046	0.022	0.461	0.645	-0.069	0.111
	F2	0.037	0.057	0.033	0.644	0.520	-0.075	0.148
	F3	0.451	0.054	0.405	8.360	< .001	0.345	0.557
	F4	0.165	0.054	0.155	3.032	0.003	0.058	0.271
	F5	0.125	0.058	0.116	2.171	0.030	0.012	0.239
	F6	0.001	0.043	0.001	0.030	0.976	-0.084	0.087
	F7	0.106	0.071	0.090	1.493	0.136	-0.033	0.245
	F8	0.211	0.052	0.207	4.022	< .001	0.108	0.313
	F9	-0.104	0.056	-0.09	-1.873	0.062	-0.214	0.005
2	(Intercept)	0.095	0.075		1.265	0.207	-0.053	0.243
	F1	0.021	0.045	0.021	0.460	0.646	-0.068	0.110
	F2	0.037	0.057	0.033	0.647	0.518	-0.075	0.148
	F3	0.451	0.053	0.405	8.466	< .001	0.346	0.556
	F4	0.165	0.054	0.155	3.044	0.002	0.058	0.271
	F5	0.126	0.056	0.116	2.245	0.025	0.016	0.236
	F7	0.106	0.071	0.090	1.494	0.136	-0.033	0.245
	F8	0.211	0.052	0.208	4.033	< .001	0.108	0.313
	F9	-0.104	0.055	-0.09	-1.906	0.057	-0.211	0.003
3	(Intercept)	0.091	0.075		1.221	0.223	-0.056	0.238
	F2	0.044	0.054	0.040	0.813	0.417	-0.062	0.150
	F3	0.454	0.053	0.408	8.602	< .001	0.350	0.558
	F4	0.166	0.054	0.156	3.080	0.002	0.060	0.272
	F5	0.129	0.056	0.119	2.311	0.021	0.019	0.238
	F7	0.111	0.070	0.094	1.586	0.113	-0.026	0.248
	F8	0.211	0.052	0.208	4.050	< .001	0.109	0.314
	F9	-0.102	0.054	-0.09	-1.879	0.061	-0.209	0.005
4	(Intercept)	0.093	0.075		1.249	0.212	-0.053	0.240
	F3	0.460	0.052	0.413	8.816	< .001	0.358	0.563
	F4	0.176	0.053	0.166	3.359	< .001	0.073	0.280
	F5	0.141	0.054	0.130	2.626	0.009	0.035	0.246
	F7	0.113	0.070	0.095	1.614	0.107	-0.024	0.250
	F8	0.216	0.052	0.213	4.170	< .001	0.114	0.318
	F9	-0.095	0.054	-0.08	-1.772	0.077	-0.200	0.010

5	(Intercept)	0.108	0.074		1.452	0.147	-0.038	0.254
	F3	0.473	0.052	0.424	9.141	< .001	0.371	0.575
	F4	0.184	0.052	0.172	3.501	< .001	0.081	0.287
	F5	0.183	0.047	0.168	3.879	< .001	0.090	0.275
	F8	0.233	0.051	0.230	4.582	< .001	0.133	0.333
	F9	-0.070	0.051	-0.06	-1.355	0.176	-0.170	0.031
6	(Intercept)	0.095	0.074		1.288	0.198	-0.050	0.240
	F3	0.458	0.051	0.411	9.055	< .001	0.358	0.557
	F4	0.182	0.052	0.171	3.464	< .001	0.079	0.285
	F5	0.168	0.046	0.155	3.663	< .001	0.078	0.258
	F8	0.202	0.046	0.199	4.441	< .001	0.113	0.292

There are a few methods of entering data into the regression program a few of them are:
Forced entry (**Enter**): This is the **default method** in which all the predictors are forced into the model in the order they appear in the Covariates box. This is considered to be the best method.
Stepwise (**Backward** entry): All predictors are initially entered in the model and then the contribution of each is calculated. Predictors with less than a given level of contribution ($p<0.1$) are removed. This process repeats until all the predictors are statistically significant.

Stepwise (**Forward** entry): The predictor with the highest simple correlation with the outcome variable is entered first. Subsequent predictors selected on the basis of the size of their semi-partial correlation with the outcome variable. This is repeated until all predictors that contribute significant unique variance to the model have been included in the model.

In the following regression we have implemented backward entry of data and hence the data with initial 9 factors are reduced to only 4, those of which contribute to work commitment the most. Hence the final regression equation can be written as,

$$Y = 0.458F_3 + 0.182F_4 + 0.168F_5 + 0.202F_8 + 0.095$$

Here the F indicates the factors. The final factors that contribute the most are:
(i) F3 – Family support
(ii) F4 – Working Hours
(iii) F5 – Job stress
(iv) F8 – Team and organizational support
For all these factors we can see the value of $p<0.01$ .Among these factors we can see family support affects the equation the most.

6.6 Logistic regression:

The data about WLB was collected as Yes or No in the survey hence the logistic regression is performed for this type of data
(i) WLB vs WLB parameters

Coefficients

					Wald Test		
Model	**Parameter**	**Estimate**	**Standard Error**	**z**	**Wald Statistic**	**df**	**p**
1	(Intercept)	-4.657	0.387	-12.022	144.533	1	< .001
	F1	0.075	0.217	0.348	0.121	1	0.728
	F2	0.401	0.199	2.009	4.037	1	0.045
	F3	0.366	0.286	1.280	1.639	1	0.200
	F4	-0.296	0.235	-1.257	1.579	1	0.209
	F5	-0.238	0.178	-1.333	1.777	1	0.183
	F6	-0.236	0.224	-1.051	1.105	1	0.293
	F7	1.028	0.210	4.907	24.074	1	< .001
	F8	0.333	0.229	1.450	2.102	1	0.147
	F9	0.160	0.172	0.930	0.865	1	0.352
2	(Intercept)	-4.653	0.387	-12.013	144.322	1	< .001
	F2	0.422	0.190	2.223	4.942	1	0.026
	F3	0.393	0.276	1.426	2.032	1	0.154
	F4	-0.298	0.235	-1.269	1.611	1	0.204
	F5	-0.224	0.174	-1.292	1.669	1	0.196
	F6	-0.243	0.223	-1.093	1.194	1	0.275
	F7	1.031	0.209	4.930	24.307	1	< .001
	F8	0.347	0.225	1.538	2.366	1	0.124
	F9	0.164	0.172	0.953	0.908	1	0.341
3	(Intercept)	-4.679	0.387	-12.091	146.191	1	< .001

	F2	0.426	0.190	2.249	5.059	1	0.025
	F3	0.442	0.271	1.632	2.663	1	0.103
	F4	-0.274	0.233	-1.175	1.380	1	0.240
	F5	-0.226	0.174	-1.302	1.696	1	0.193
	F6	-0.239	0.222	-1.079	1.164	1	0.281
	F7	1.060	0.208	5.100	26.012	1	< .001
	F8	0.413	0.214	1.932	3.732	1	0.053
4	(Intercept)	-4.663	0.386	-12.094	146.260	1	< .001
	F2	0.384	0.186	2.061	4.247	1	0.039
	F3	0.419	0.271	1.547	2.392	1	0.122
	F4	-0.336	0.228	-1.477	2.180	1	0.140
	F5	-0.228	0.174	-1.311	1.720	1	0.190
	F7	1.012	0.202	4.996	24.957	1	< .001
	F8	0.346	0.205	1.690	2.856	1	0.091
5	(Intercept)	-4.692	0.385	-12.195	148.708	1	< .001
	F2	0.333	0.180	1.849	3.417	1	0.065
	F3	0.392	0.269	1.459	2.128	1	0.145
	F4	-0.395	0.224	-1.762	3.105	1	0.078
	F7	0.958	0.198	4.849	23.517	1	< .001
	F8	0.340	0.204	1.669	2.785	1	0.095

The logistic regression solution is obtained as

$$Y = 0.333F_2 + 0.392F_3 - 0.395F_4 + 0.958F_7 + 0.340F_8 - 4.692$$

Just like previous multiple regression the F indicates the factors, and the factors that affect the WLB the most is

(i) F2 – team and organizational support
(ii) F3 – Work load
(iii) F4 – Job Stress
(iv) F7 – Family support
(v) F8 – Health care

Among these again family support affects the WLB by a large amount of 0.958.

6.7 Chi square test of Independence:

(i) Gender vs WLB

The hypothesis are

H0 –There is no significant relation between gender and WLB
H1 - There is significant relation between gender and WLB

Cross tabulation:

	Balanced	Unbalanced	
Male	111	120	231
Female	68	178	246
	179	298	477

Output:

		Balanced	Unbalanced
Male	Observed(O)	**111**	**120**
	Expected(E)	86.68553459	144.3144654
	(O-E)^2/E	6.819975569	4.096562506
Female	Observed(O)	**68**	**178**
	Expected(E)	92.31446541	153.6855346
	(O-E)^2/E	6.4041234	3.84677211
		X^2	**21.16743359**
		df	**1**
		p-value	**4.20855E-06**

From the method we can see that the value of p<0.05 hence we can conclude that the hypothesis H0 is false i.e., there is a relation between gender and WLB or we can say that the WLB varies with gender.

(ii) Gender vs Job satisfaction

The hypothesis are
H0 –There is no significant relation between gender and Job satisfaction
H1 - There is significant relation between gender and Job satisfaction

Cross tabulation:

	Satisfied	Unsatisfied	
Male	96	135	231
Female	66	180	246
	162	315	477

Output:

		Satisfied	Unsatisfied
Male	Observed(O)	96	135
	Expected(E)	78.45283019	152.5471698
	(O-E)^2/E	3.924691661	2.018412854
Female	Observed(O)	66	180
	Expected(E)	83.54716981	162.4528302
	(O-E)^2/E	3.685381193	1.895338899
		X^2	11.52382461
		df	1
		p-value	0.000687099

Again here we can see that the value of p<0.05 hence we can conclude that the hypothesis H0 is false i.e., there is a relation between gender and Job satisfaction or we can say that the Job satisfaction varies with gender.

(iii) Gender vs Work commitment

The hypothesis are
H0 –There is no significant relation between gender and Work commitment
H1 - There is significant relation between gender and Work commitment

Cross Tabulation:

	Committed	Not-committed	
Male	110	121	231
Female	78	168	246
	188	289	477

Output:

		Committed	Not-committed
Male	Observed(O)	110	121
	Expected(E)	91.04402516	139.9559748
	(O-E)^2/E	3.94676072	2.567442959
Female	Observed(O)	78	168
	Expected(E)	96.95597484	149.0440252
	(O-E)^2/E	3.706104578	2.410891559
		X^2	12.63119982
		df	1
		p-value	0.000379362

Since the value of p<0.05 hence we can conclude that the hypothesis H0 is false i.e., there is a relation between gender and Work commitment or we can say that the Work commitment varies with gender.

(iv) Age vs WLB

The hypothesis are
H0 –There is no significant relation between Age and WLB
H1 - There is significant relation between Age and WLB

Cross tabulation:

	Balanced	Unbalanced	
<30	106	127	233
30-40	40	99	139
>40	33	72	105
	179	298	477

Output:

		Balanced	Unbalanced
<30	Observed(O)	106	127
	Expected(E)	87.4360587	145.5639413
	(O-E)^2/E	3.941393536	2.367481352
30-40	Observed(O)	40	99
	Expected(E)	52.16142558	86.83857442
	(O-E)^2/E	2.835433856	1.703163289
>40	Observed(O)	33	72
	Expected(E)	39.40251572	65.59748428
	(O-E)^2/E	1.040344933	0.624905178
		X^2	12.51272214
		df	2
		p-value	0.001918213

The hypothesis H0 is nullified due to the value of p being less than 0.05 ($p<0.05$) i.e., we can say that WLB differs with Age.

(v) Age vs Job satisfaction

H0 –There is no significant relation between Age and Job satisfaction
H1 - There is significant relation between Age and Job satisfaction

Cross tabulation:

	Satisfied	Unsatisfied	
<30	100	133	233
30-40	38	101	139
>40	24	81	105
	162	315	477

Output:

		Satisfied	Unsatisfied
<30	Observed(O)	100	133
	Expected(E)	79.13207547	153.8679245
	(O-E)^2/E	5.503081671	2.830156288
30-40	Observed(O)	24	81
	Expected(E)	35.66037736	69.33962264
	(O-E)^2/E	3.812758311	1.960847131
>40	Observed(O)	24	81
	Expected(E)	35.66037736	69.33962264
	(O-E)^2/E	3.812758311	1.960847131
		X^2	16.82631354
		df	2
		p-value	0.000221928

Again here we can see that the value of $p<0.05$ hence we can conclude that the hypothesis H0 is false i.e., there is a relation between age and Job satisfaction or we can say that the Job satisfaction varies with age.

(vi) Age vs Work commitment

The hypothesis are
H0 –There is no significant relation between Age and Work commitment
H1 - There is significant relation between Age and Work commitment

Cross tabulation:

	Committed	Not-committed	
<30	105	128	233
30-40	45	94	139
>40	38	67	105
	188	289	477

Output:

		Committed	Not-committed
<30	Observed(O)	105	128
	Expected(E)	91.83228512	141.1677149
	(O-E)^2/E	1.888101936	1.228246242
30-40	Observed(O)	45	94
	Expected(E)	54.78406709	84.21593291
	(O-E)^2/E	1.747368785	1.136696649
>40	Observed(O)	38	67
	Expected(E)	41.3836478	63.6163522
	(O-E)^2/E	0.276656917	0.17997059
		X^2	6.457041119
		df	2
		p-value	0.039616065

Since the value of p<0.05 hence we can conclude that the hypothesis H0 is false i.e., there is a relation between age and Work commitment or we can say that the Work commitment varies with age.

(vii) Occupation vs WLB

The hypothesis are
H0 –There is no significant relation between Occupation and WLB
H1 - There is significant relation between Occupation and WLB

Cross tabulation:

	Balanced	Unbalanced	
Nurse	38	83	121
Doctor	82	105	187
Police	47	59	106
Anganawadi Teacher	12	51	63
	179	298	477

Output:

		Balanced	Unbalanced
Nurse	Observed(O)	38	83
	Expected(E)	45.4067086	75.5932914
	(O-E)^2/E	1.208176807	0.725716941
Doctor	Observed(O)	82	105
	Expected(E)	70.17400419	116.8259958
	(O-E)^2/E	1.992962756	1.197115213
Police	Observed(O)	47	59
	Expected(E)	39.77777778	66.22222222

	(O-E)^2/E	1.311297331	0.787658464
Anganawadi teacher	Observed(O)	12	51
	Expected(E)	23.64150943	39.35849057
	(O-E)^2/E	5.732491078	3.443341956
		X^2	16.39876055
		df	3
		p-value	0.000939292

The hypothesis H0 is nullified due to the value of p being less than 0.05 ($p<0.05$) i.e., we can say that WLB differs with occupation.

(viii) Occupation vs Job satisfaction

The hypothesis are
H0 –There is no significant relation between Occupation and Job satisfaction
H1 - There is significant relation between Occupation and Job satisfaction

Cross tabulation:

	Satisfied	Unsatisfied	
Nurse	35	86	121
Doctor	75	112	187
Police	36	70	106
Anganawadi Teacher	16	47	63
	162	315	477

Output:

		Satisfied	Unsatisfied
Nurse	Observed(O)	35	86
	Expected(E)	41.09433962	79.90566038
	(O-E)^2/E	0.903797841	0.464810318
Doctor	Observed(O)	75	112
	Expected(E)	63.50943396	123.490566
	(O-E)^2/E	2.078952679	1.069175663
Police	Observed(O)	36	70
	Expected(E)	36	70
	(O-E)^2/E	0	0
Anganawadi teacher	Observed(O)	47	63
	Expected(E)	21.39622642	41.60377358
	(O-E)^2/E	1.360953046	0.69991871
		X^2	6.577608258
		df	3
		p-value	0.086651564

For the above independence test we can see that p value is greater than 0.05 (p>0.05) hence the hypothesis H1 is disproved and H0 prevails. Form the test we can say that there is no relationship between occupation and job satisfaction.

(ix) Occupation vs Work commitment

The hypothesis are
H0 –There is no significant relation between Occupation and Work commitment
H1 - There is significant relation between Occupation and Work commitment

Cross tabulation:

	Committed	Not-committed	
Nurse	38	83	121
Doctor	87	100	187
Police	45	61	106
Anganawadi Teacher	18	45	63
	188	289	477

Output:

		Committed	Not-committed
Nurse	Observed(O)	38	83
	Expected(E)	47.68972746	73.31027254
	(O-E)^2/E	1.968784963	1.280732087
Doctor	Observed(O)	87	100
	Expected(E)	73.70230608	113.2976939
	(O-E)^2/E	2.399228369	1.560743714
Police	Observed(O)	45	61
	Expected(E)	41.77777778	64.22222222
	(O-E)^2/E	0.248522459	0.161668589
Anganawadi teacher	Observed(O)	18	45
	Expected(E)	24.83018868	38.16981132
	(O-E)^2/E	1.878820898	1.22220875
		X^2	10.72070983
		df	3
		p-value	0.013336063

The hypothesis H0 is nullified due to the value of p being less than 0.05 (p<0.05) i.e., we can say that Work commitment differs with occupation.

6.8 Mann Whitney U test

The Mann-Whitney U test is used to compare differences between two independent groups when the dependent variable is either ordinal or continuous, but not normally distributed. For example, you could use the Mann-Whitney U test to understand whether salaries, measured on a continuous scale, differed based on educational level (i.e., your dependent variable would be "salary" and your independent variable would be "educational level", which has two groups: "high school" and "university"). The Mann-Whitney U test is often considered the nonparametric alternative to the independent t-test although this is not always the case.

H0 – WLB of both genders are equal
H1- WLB of both genders are not equal

	W	p	Rank-Biserial Correlation
WLB	23834.500	0.002	-0.161

Group Descriptive

	Group	N	Mean	SD	SE	Coefficient of variation
WLB	Female	246	2.102	1.199	0.076	0.571
	Male	231	2.433	1.256	0.083	0.516

Since the value of p<0.05 and hence we can reject the null hypothesis and hence WLB for both genders are not equal. From the group descriptive table we can see a significant difference in mean, median, and standard deviation for the WLB of males and females.

6.9 ANOVA test:

The independent ANOVA makes the same assumptions as most other parametric tests.
• The independent variable must be categorical and the dependent variable must be continuous.
• The groups should be independent of each other.
• The dependent variable should be approximately normally distributed.
• There should be no significant outliers.
• There should be homogeneity of variance between the groups otherwise the p value for the F-statistic may not be reliable.

The first 2 assumptions are usually controlled through the use of appropriate research method design. If the last three assumptions are violated then the non-parametric equivalent, Kruskal-Wallis should be considered instead.

Assumption Checks

Test for Equality of Variances (Levene's test)

F	df1	df2	p
34.746	3.000	473.000	< .001

For the above Levene's test the hypothesis are:
H0 – The variance between the groups are equal.
H1 – There is a significant difference of variance between groups.

From the above test we can reject the null hypothesis and say that there is a significant difference in variance between the groups. And hence we read out the results provided by Welch homogeneity by the ANOVA test.

ANOVA - WLB

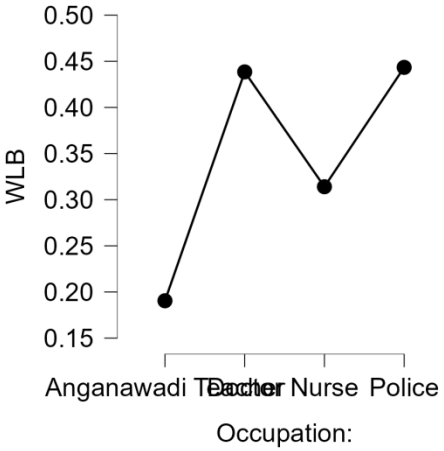
Homogeneity Correction	Cases	Sum of Squares	df	Mean Square	F	p	ω^2
Welch	Occupation:	3.845	3.000	1.282	6.739	< .001	0.028
	Residuals	107.984	212.214	0.509			

From the ANOVA table we can see that p<0.01 and hence, we can conclude that there is a significant difference between the means of the 4 occupation groups.

Descriptives - WLB			
Occupation:	**Mean**	**SD**	N
Anganawadi Teacher	0.190	0.396	63
Doctor	0.439	0.498	187
Nurse	0.314	0.466	121
Police	0.443	0.499	106

The descriptive table shows a large difference in mean, standard deviation and it can also be seen in the below plot.

Descriptive plots



VII. Conclusion

After the study of literature on the various themes of impact of covid-19 on frontline health care workers, we come to know that the medical and non-medical staff had to gone through many psychological problem and most of people did not achieve a proper work life balance because there are plenty of reasons but major are the fear of spreading disease to their loved ones, and the organizational commitments and most of the hospitalist did not provided the proper safety measure and the lack of pandemic preparedness, shortage of professionals, anxiety and fear among the residents are observed apart from that due to the heavy workload and shifts in work lead to mental illness and also headaches of developing and disposal of PPE were the major issue we observed.

From the survey and results we found out that majority of frontline workers are females and their age is below 30 and we found that they were large no of people having an unbalanced work life and also large number of people were dissatisfied of the job, the major issue is that they were not committed to work which is way we had seen many deaths and cases during this pandemic and this need to be overcome, otherwise there will be huge losses will happen because of this issue.

Based on the nine independent factors we observed the four important independent factors affect the work life balance that is family support, working hours, job stress, team and organizational support play a major role in work life balance.

We also found out that there is a relation between gender and WLB, and job satisfaction varies with gender and age, and work commitment varies with gender and age and also with occupation, and also WLB differs with age as well as occupation and gender. And importantly we found that there is no relationship between occupation and job satisfaction.

Family support we know that quality time can help in making a great relation with people, same can be done with family members, it's about making sure that even short interactions with the children's, parents and partner are focused and loving. Sometimes we can't share every information with colleagues or if a person is not happy with his work then he/his can discuss with their partner regarding the issue and they can plan according so that both have their needs met over time.

Working hours for some people a heavy workload, travel or shift work can mean getting home after their family is in bed, leaving before they wake up, needing to sleep while everyone else is awake even people might not able to control the hours of works during pandemic but they can build a strong family relationship by making time for each other's when you can, appreciating each other's and communicating about how things are going.

Team and organizational support team plays a major role in achieve good work life balance having a good relation with colleagues so that during emergency they will handle the part of work which is assigned for others. Coming to organizational support Exercise takes employees' minds off the stress of their job to focus on

the task at hand. It also improves moods by increasing the production of endorphins, the brain's feel-good neurotransmitters.

- Encourage employees to go on a walk during lunch breaks
- Subsidize gym memberships
- Bring a yoga instructor into the office once a month
- Hold a steps contest among teams for those who own fitness trackers

Employees feel valued when they think organization looking out for their health

So we conclude that in order to have good WLB we need a family support and team and organizational support and also every work has is dignity if we consider this there will be no discrimination in work environment that leads to proper working environment for everyone.

To overcome this issue and to achieve the proper work life balance the organization should provide with the interdisciplinary approach were organization should provide the support need for the workers and proper safety measure so that they can freely work in any harsh environment ,also they should encourage them with by social activates which can reduce anxiety, depression, fear all the other mental issue apart from that the study shows that music and yoga are the best way to reduce human mental issues and organization should start hiring more staff in order to achieve a good work life balance of frontline health care workers.

References

[1]. Sonia Mukhtar, (2020). Psychological health during the corona virus disease 2019 pandemic outbreak , SAGE journal.

[2]. Sana Shabir and Abdul Gani, (2019). Impact of work–life balance on organizational commitment of women health-care workers: Structural modelling approach, Jammu and Kashmir.

[3]. Jonathan JY Ong1, Chandra Bharatendu1, Yihui Goh1, Jonathan ZY, Kenneth WX Sooi, Yi Lin Tan, Benjamin YQ Tan, Hock-Luen Teoh, Shi Ting Ong, David M Allen, Vijay K Sharma, (2020).Headaches Associated with Personal Protective Equipment – A Cross-sectional Study Amongst Frontline Healthcare Workers During COVID-19 (HAPPE Study), UK.

[4]. Jasmine Jean Hooper , Lisa Saulsman, Tammy Hall, Flavie Waters, (2021). Addressing the psychological impact of COVID-19 on healthcare workers: learning from a systematic review of early interventions for frontline responders, Australia.

[5]. Blánaid Gavin, John Lyne, Fiona McNicholas, (2020). Mental health and the COVID-19 pandemic, Dublin.

[6]. Rocío Rodríguez-Rey, Helena Garrido-Hernansaiz and Nereida Bueno-Guerra, (2020). Working in the Times of COVID-19. Psychological Impact of the Pandemic in Frontline Workers in Spain, Spain

[7]. Heather Hall, (2020). The effect of the COVID-19 pandemic on healthcare workers' mental health, USA.

[8]. Rodolfo Rossi, MD; Valentina Socci, Francesca Pacitti, Giorgio Di Lorenzo, Antinisca Di Marco, Alberto Siracusano, Alessandro Rossi, (2020). Mental Health Outcomes Among Frontline and Second-Line Health Care Workers During the Coronavirus Disease 2019 (COVID-19) Pandemic in Italy, Italy.

[9]. Li-qun Xing, Min-ling Xu, Jia Sun, Qin-Xia Wang, Dan-dan Ge, Ming-ming Jiang, Wenjun Du and Qiang Li, (2020). Anxiety and depression in frontline health care workers during the outbreak of covid-19, China.

[10]. Riyadh K Lafta, Nagham A Mawlood, (2022). Mental and social burden of covid-19 on the Iraqi people, Iraq

[11]. Kristina L Newman, YadavaJeve, PallabMajumder, (2021). Experience and emotional strain of NHS frontline workers during the peek of the covid-19 pandemic, UK.

[12]. SelimArpacioglu, MeltemGurler, SuleymanCakiroglu, (2020). Secondary Traumatization outcomes and associated Factors Among the health care workers Exposed to the covid-19, Turkey.

[13]. Manisha Vajpeyee, Shivam Tiwari, Kavita Jain, Pamil Modi, Prem Bhandari, GuneetMonga, Lokendra Bahadur Yadav, Himani Bhardwaj, Akhilesh Kumar Shroti, Shivoham Singh, AtulabhVajpeyee, (2021). Yoga and music to reduce depression ,anxiety , and stress during covid-19 outbreak on health care workers, India.

[14]. DamaAlanzo, MarcianaPopescu, (2021). A qualitative examination of the mental health impact of covid-19 in marginalized communities in Guatemala; Thecovid care calls survey, USA.

[15]. Lucy E Selman, Davina Chao, Ryann Sowden, Steve Marshall, Charlotte Chamberlain, Jonathan Koffman, (2020). Bereavement support on the frontline of covid-19:Recommendations for Hospital Clinicians

[16]. Qi Cai, Hongliang Feng, Jing Huang, Meiyao Wang, Qunfeng Wang, Xuanzhen Lu, Yu Xie, Xing Wang, Zhenxing Liu, Botohong Lu, Keno Ouyang, Jing Pan, Qin Li, Beibei Fu, Yongchao Deng, Yumin Lu, (2019). The mental health of frontline and non-frontline medical workers during the coronavirus disease 2019 (COVID_19) outbreak in china: A case –control study, China.

[17]. Kirtishivakumar and VeenaPujar, (2017). Work life balance in the health care sector, India.

[18]. Elizabeth M. White, Terrie Fox Wetle, Ann Reddy, Rosa R Baier, (2020). Frontline Nursing home staff Experience During the Covid-19 Pandemic, USA.

[19]. Paul Kumar, Neha Kumar, Priti Aggarwal, and Jasmine A.L. Yeap, (2021). Working in lockdown: the relationship between COVID-19 induced work stressors, job performance, distress, and life satisfaction, India.

[20]. SangitaBasak, (2021). Factors Affecting Work life Balance of women in Bangladesh: A study during COVID-19 Pandemic, Bangladesh.

[21]. Sabrina D'Andrea, (2022). Implementing the work life balance directive in times of COVID-19: new prospects for post-pandemic workplace in the European Union?

[22]. ShaziaManzoor, Shamikhan Hamid, (2021). Work life balance during COVID-19 Lockdown: Experience of women Academicians of Kashmir, India.