

A Correlational Study of Impact of COVID-19 on Stress

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Abstract: *The COVID-19 outbreak impacted people from all walks of life, with people being urged to self-quarantine in their homes to prevent the virus from spreading. The lockdown had a significant impact on mental health, contributing in psychological issues such as anger, stress, and depression. A study titled 'A Correlational study of impact of COVID-19 on stress' was conducted with the aim of studying the impact of COVID-19 on stress. A total of 306 responses were collected using convenient random sampling and a self-administered questionnaire as data collection tool. Data was analysed using descriptive statistics, independent t-test and ANOVA. The factors selected for the purpose of the study are gender, education level, family size and marital status, the p value of which are 0.025, 0.123, 0.001 and 0.025 respectively. Analysis of assessment of COVID-19 on the basis of gender showed that there is significant difference between the stress level of males and females. Analysis on the basis of education level concluded that education level of people is not significantly associated with COVID-19 and that the size of the family is directly associated with the stress caused due to COVID-19 and the marital status is also significantly associated with stress related to COVID-19. Since this study is new in the context of COVID-19, it holds importance and its results can be generalised. Similar studies in a different geographical setting may be recommended for further studies.*

Keywords: COVID-19, Stress, depression, marital status, education level

1. Introduction

Corona virus disease is a global health problem affecting the entire globe. Widespread outbreak of the pandemic has had a significant impact on our lives. Many of us have faced problems that bring up frustration, exhaustion and evoke emotional intense emotions in both adult and children. In order to combat COVID-19, countries all over the world imposed travel restrictions, both inbound and outbound with the aim of halting the spread of epidemic. Public health experts, government officials and hospitals around the country are implementing a variety of interventions, including social distancing, use of masks, self-isolation, and quarantine, upgradation of health care facilities to monitor the disease and companies have enabled the mechanism of work from home. Public health measures like social distancing are important to stop COVID-19 transmission, which at the same time can make us feel disconnected from our dear ones, relatives and leave us depressed as well as increased stress level and anxiety due to losing contact and family get-to-gathers. The COVID-19 pandemic has had a major effect on our lives. Many of us are dealing with issues that can be stressful, unbearable, and cause strong emotions in adults and children. Public health measures like social distancing are important to stop COVID-19 from spreading, but they can make us feel disconnected and depressed, as well as enhance stress and anxiety. COVID -19 had its impact on not only the economy of the country, but also various segments of the society. Considering the impact of COVID-19 on the psychological well-being of the people, this particular study was conducted to assess the prevailing impact of stress on people on the basis of gender, education level, family size and marital status.

1.1 Objectives of the study

- To assess the stress of COVID-19 on the basis of gender of the respondents.
- To assess the stress of COVID-19 on the basis of education level of the respondents.

- To assess the stress of COVID-19 on the basis of family size of the respondents.
- To assess the stress of COVID-19 on the basis of marital status of the respondents.

2. Literature Review

2.1 COVID -19

Due to the novelty of corona virus, there is dearth of literature relating to its definition. The most widely accepted and universal definition of COVID-19 has been given by WHO (World Health Organization). COVID-19 is a disease caused by a new corona virus that has never been seen in human life. COVID-19 cause mild symptoms such as dry cough, tiredness and fever in the majority of cases, aches and pains, persistent cough, sore throat are some of the mild symptoms. COVID-19 response will be driven by the director of public health. The COVID-19 pandemic has spread rapidly across the world, including Aotearoa/ New Zealand. Responding to COVID-19 in a rapidly evolving climate has posed the greatest challenge in the world in US since World War II. On 30 January 2020, the WHO announced the novel coronavirus disease 2019 (COVID-19) an "emergency of international concern" and a pandemic on March 11. According to the WHO's Situation Report - 79, the disease has claimed the lives of 79235 people worldwide as of April 8, 2020. COVID-19 is a modern coronavirus strain that has never been seen in humans before. The COVID-19 virus is a source of respiratory illness outbreak that began in Wuhan, Hubei province, China. Corona virus are wide group of virus that can cause illness, ranging from common cold to more severe and serious illness like severe acute respiratory syndrome (SARS) and middle east respiratory syndrome (MERS). The new disease caused by the virus has been called COVID-19 by WHO. The first part of the name is shortened version of the word Corona Virus Disease, 19 is the second part, representing the fact that the disease was first identified in 2019. A coronavirus (a form of virus) causes an infectious disease that causes fever, tiredness, and cough, as well as breathing problems. The

disease is typically not serious, but it can cause serious illness in some people. According to the findings of (Salari, et al., 2020) the COVID-19 pandemic has the potential to impact mental wellbeing in individuals and populations. As a result, in the current crisis, it is critical to recognise individuals at risk of psychological problems from various classes and layers of the population, so that the general population's mental health can be maintained and enhanced by the use of effective psychological measures, techniques, and treatments.

2.2 Stress

Hans Selye is credited with coining the word "stress" in medical literature. Stress, he claims, is a combination of forces that exists in a body part, whether physically or mentally. Selye identified a three-part pattern of psychological stress response that he called general adaptation syndrome (GAS), later renamed stress response. Stress is a common occurrence all over the world. I was seen by all in their past and in the history of mankind. The World Health Organization has proclaimed "stress" to be the 21st century's health crisis. Stress may have a negative impact on our mental and physical health. In a recent US survey, more than half of those polled believed that stress had a negative impact on their work and personal lives. Stress is described by the World Health Organization (WHO) as a reaction people have when confronted with demands and pressure that are not suited to their knowledge and abilities, posing a challenge to their ability to cope. It isn't a disease at all. (Z, 2005), described stress as a situation in which people are forced to act in a certain way but are unable to cope with the mental tension they are subjected to. In other words, stress refers to a person's adaptation to new circumstances. A small change can put a person in a stressful situation. (Halgin, R.P., Whitebourne, & S.K., 2003), describes stress as a condition where an individual perceives a threatening/frightening occurrences. Stress is an unwelcome emotional response to a sudden or unpleasant situation.

3. Research Methodology

This study is based on the primary data collected through convenient random sampling techniques. It is a correlation study which aims to link COVID-19 pandemic effects on people. A google form was floated over various social networks among people and total of 306 responses were collected. Data is collected during the month of June, 2020. Secondary data pertaining to literature review has been collected from various journals and websites.

3.1 Research design

Exploratory research design has been adopted for the purpose of the study. Quantitative method of research was used to derive adequate answers to the designed research objectives of the paper.

3.2 Data sources and collection

Self-administered questionnaire was used as research instrument for collection of primary data. Secondary data pertaining to the knowledge of variables was collected from

existing literature available over internet; various online journals and articles were referred to develop a clear background for various variables of the study.

3.3 Sample technique and analysis

The study adopted convenient random sampling for the purpose of data collection. The research methodologies used for the purpose of analysis are descriptive statistics, independent t-test and ANOVA.

4. Data Analysis

This particular section of the study demonstrates how data was gathered using the self administered questionnaire and its analysis in form of tables, charts. Hypotheses framed for the purpose of study are listed below. Based on the analysis and interpretation of data, using descriptive statistics, independent t-test and ANOVA, the null hypotheses are either accepted or rejected.

4.1 Hypotheses and analysis

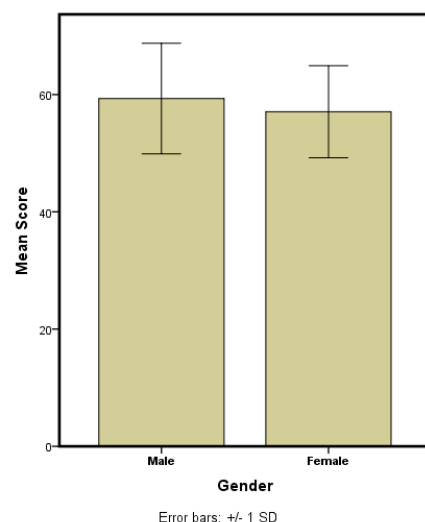
Hypothesis 1: Assessment of stress due to COVID-19 on the basis of gender.

H₁: There is significant difference in stress of males and females due to COVID-19

H₀: There is no significant difference in stress of males and females due to COVID-19

Using Descriptive Statistics and Independent t-test the following analysis table and inference was made-

Category	N	Mean Value	SD	Minimum	Maximum	P-value	Total
Male	159	59.31	9.431	26	79	0.02	306
Female	147	57.07	7.854	37	77	5	



Inference: The above-given table shows that 306 samples 159 males and 147 females were surveyed for the research. Descriptive statistics show that the mean value of total frequency is 59.31 for males and 57.07 is for females. The standard deviation value is 9.431 and 7.854 for males and females respectively. This study found that male participants had a statistically significantly higher score 59.31 ± 9.43 compared to female 57.07 ± 7.85 , $p=0.025$. The p -value of

the independent sample test is 0.025. Since the P-value is less than 0.05, therefore there is a significant difference between the stress level of males and females. **Null hypotheses were rejected.**

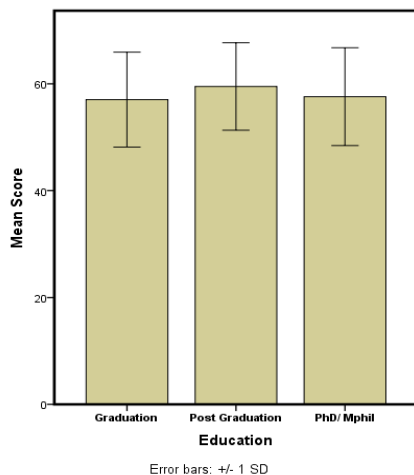
Hypothesis 2: Assessment of stress due to COVID-19 on the basis of education level

H_1 : Education level of people is significantly associated with COVID-19 stress

H_0 : Education level of people is not significantly associated with COVID-19 stress.

Using descriptive Statistics and ANOVA test, the following analysis table and inference was made

Category	N	Mean	Std. Deviation	Minimum	Maximum	P-value	Total
Graduation	54	57.04	8.881	38	79	0.123	306
Post-Graduation	120	59.49	8.185	35	79		
PhD/M.Phil.	132	57.59	9.15	26	77		



Inference: The above-given tables show that 54 people are graduates, 120 people are postgraduate and 132 people are PhD/M.phil. One-way ANOVA test showed that there was a statistically no significant difference in overall score between educational status, $p = 0.123$, with a mean score of 57.04 ± 8.88 for Graduation, 59.49 ± 8.19 for Post-Graduation, and 57.59 ± 9.15 for Ph.D. and MPhil. Since the p value is more than 0.05, **hence the Null hypothesis is accepted.**

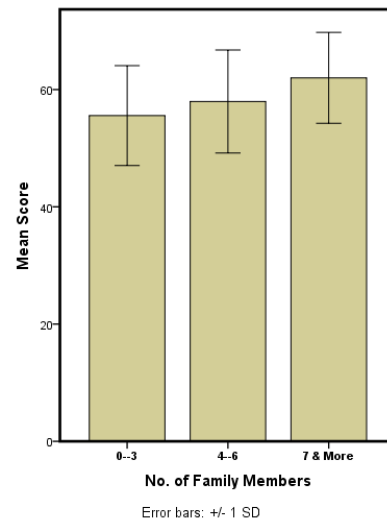
Hypothesis 3: Assessment of stress due to COVID-19 on the basis of family size.

H_1 : Size of family is significantly associated with stress caused due to COVID-19

H_0 : Size of the family is not significantly associated with the stress caused due to COVID-19

Using descriptive Statistics and ANOVA test, the following analysis table and inference was made

No. of Family Members	N	Mean Score	SD	Minimum	Maximum	p-value
0-3	76	55.55	8.52	35	67	<0.001
4-6	164	57.97	8.79	26	79	
7 & More	66	62	7.756	38	79	



Inference: P-value of ANOVA statics is 0.001, less than 0.05, shows the significant difference in stress level and no of family members having participants. Participants who were having more than 7 and more family members were found more stressed with a score of 62 ± 7.75 . People who were having 4-6 family members and 0-3 family members were found less affected with the score of 57.97 ± 8.79 and 55.55 ± 8.52 respectively. **Hence the null hypothesis was rejected.**

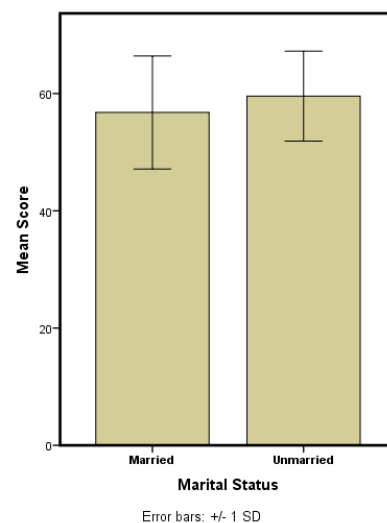
Hypothesis 4: Assessment of stress due to COVID-19 on the basis of marital status

H_1 : Marital status is significantly associated with stress caused due to COVID-19

H_0 : Marital status is not significantly associated with stress caused due to COVID-19

Using Descriptive statistics and independent t -Test, the following analysis table and inferences was made-

Category	N	Mean Score	Std. Deviation	Minimum	Maximum	p value	Total
Married	146	56.77	9.641	26	79	0.005	306
Unmarried	160	59.58	7.675	38	79		



Inference: The above given table shows that 146 people were married and 160 were unmarried people. This study found that married participants had a statistically

significantly higher score 59.31 ± 9.43 compared to unmarried 57.07 ± 7.85 , $p=0.025$. Since the p -value is less than 0.05, which shows that the difference between married and unmarried participant due to lockdown. Married people had been found more stressed due to lockdown. Hence *Null hypothesis was rejected*.

5. Findings, discussions and future scope of the study

5.1 Findings

The findings of this study, titled 'A Correlational study of impact of COVID-19 on stress: An empirical study of education sector in India. On the basis of the responses received and analysed, it was found that stress level on the basis of gender was significantly evident. The study found that male participants have statistically significantly higher score of 59.31 ± 9.43 , compared to females 57.07 ± 7.85 , p value is 0.025, since p value is less than 0.05, therefore, there is a significant difference between stress level of males and females. Analysis done for the responses received on the basis of education, using one way ANOVA showed that there was statistically no significant difference in overall score between education statuses. Since the p value is 0.123, which is more than 0.05, it was found that education level of people is not significantly associated with COVID-19 stress. On the basis of family size, it was found that participants having more than 7 and more family members were more stressed with score of 62 ± 7.75 . On the basis of marital status, it was found that married people have significantly high score of 59.31 ± 9.43 as compared to unmarried people with score of 57.07 ± 7.85 , where p value is 0.025, which is less than 0.05; it was found that there is significant difference in the value between married and unmarried people due to COVID-19. Married people are found to be more stressed as compared to the unmarried people.

5.2 Discussion

This study is conducted with a view to highlight the impact of COVID-19 on stress. The results of our studies have shown that stress level on the basis of gender was significantly evident. Male participants have significantly higher scores as compared to the females. There has been no significant difference reported on the basis of education. It was found that education level education level is not significantly associated with COVID-19. Family size has an impact upon the stress level caused by COVID-19. It was shown that smaller family has less stress as compared to the bigger family. Married people reported significantly higher score in stress as compared to unmarried people. A study conducted among the US population during the COVID-19 pandemic. The UK's COVID-19 pandemic and subsequent lockdown had an enormous impact on the mental health of people. The research investigated whether the prevalence and incidents of common mental disorder among the adult population of UK increased during the first five months of lockdown and whether these changes were linked to stressors related to the pandemic and lockdown. The results of the study has concluded that in April 2020, about 29% of the adults who had not had common mental disorder in the previous year had one. By July 2020, however, the monthly

incidents of CMD (common mental disorder) dropped to 9%. The majority of jobs, financial and psychological shocks peaked in April and gradually decreased in subsequent months. Despite the lifting of some lockdown conditions by July, loneliness, unemployment, financial difficulties and domestic job stressors continued to have an impact on the mental wellness of people. We have also found similarities with other studies which used data from the first two months of lockdown. This study looked at anxiety and depression trajectories from the United Kingdom and contrasted the views of people with and without mental illness. 24.4% of the participants had moderate to severe anxiety symptoms and 31.4% experienced moderate to severe symptoms of depression. There was only a minor drop in anxiety level during the first two months of lockdown as well as very small decrease in depression level between the 3rd to 6th weeks which again rose in 7th to 8th week of lockdown. The findings have implications for future pandemic preparedness, highlighting the value of offering mental health resources early in outbreaks.

5.3 Limitations of the study

Every study falls short on certain parameters; this study too has certain shortcomings which forms the limitations of this study-

- There are many factors which were collected during data collection, but for the purpose of our study, we have selected only gender, education level, family size and marital status for our study.
- The data collection period was limited to June 2020 only. Whereas COVID-19 and its impact on stress continued in a long run.

6. Conclusion

The increasing negative impact of COVID-19 is still evident due to the uprising cases of the pandemic. The COVID-19 has brought about huge changes in the lives of the people. It has impacted the economy, the social class and also the survival of the people. There is an increase in the negative emotions, like anxiety, depression, fatigue and tension. It is important for the people to understand that every section of the society and every sector of the economy have been affected by the outbreak of COVID-19. In India, the 2020 coronavirus pandemic had a largely destructive effect. According to the ministry of statistics, India's growth slowed to 31% in the fourth quarter of fiscal year 2020. The analysis of the study titled, 'A Correlational study of impact of COVID-19 on stress is an attempt to highlight the impact of COVID-19 on stress. We have selected gender, education level, marital status and family size as the variables for our study. The results have shown that there is significant difference between the stress level of males and females. On the basis of education, the p value was calculated 0.025 which is less than 0.05, it was concluded on that basis that education level of people is not significantly associated with COVID-19 stress. The size of the family is significantly associated with stress caused due to COVID-19. Since the p value is 0.001, it was studied that families having more members are more stressed and vice-versa. The marital status of the respondents was also considered for the purpose

of the study. The p value was calculated as 0.025, which is less than 0.05, therefore it shows the difference between married and unmarried participant due to COVID-19. Married people are found more stressed due to COVID-19 as compared to the unmarried respondents. Therefore we can conclude that the stress impact of COVID-19 has been prevalent. Since the data are freshly collected in 2020 there is high chance that the results of the study still exist in the society and people are still suffering with the destructive impacts of COVID-19.

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