Research Paper

A Study on Stress and Anxiety Among Covid Affected People

Mariyem Shifa[1]*, Bharathi S[2]

ABSTRACT

This study examined the relationship between stress and anxiety among covid affected people. The study was conducted on adults 15-29 and the sample was purposively selected for the study. The study sample comprised of 50 covid affected people (30 females and 20 males), among which 19 are living in urban areas and 31 are living in rural areas. The required data were collected by using perceived stress scale and Beck anxiety inventory, all administered via the internet. The data were analysed using a statistical tool called T test. The result of the t test showed there is no significant difference in anxiety and stress between Gender, Age, Geographical area and Occupation.

Keywords: *Stress, Anxiety*

The COVID-19 pandemic affect every aspect of lives in an unpredicting manner. On March 11, 2020, the world Health organization declared COVID-19 a global pandemic. This pandemic has affected thousands of peoples, who are either sick or being killed due to the spread of this disease. The most common symptoms of this viral infection are fever, cold, cough, bone pain, breathing problems and ultimately leading pneumonia. This being a new viral disease affecting humans for the first time, vaccines are available now a days. Thus, the emphasis is on taking extensive precautions such as extensive hygiene protocol (e.g.: regularly washing of hands, avoidance of face-to-face interaction etc….), social distancing, and wearing mask and so on. This virus is spreading exponentially region wise. Countries are banning gatherings of people to the spread and break the exponential curve. Many countries are locking their population and enforcing strict quarantine to control the spread of the havoc of this highly communicable disease.

This COVID -19 has affected the sources of supply and effect the global economy. There are restrictions of travelling from one country to another country. During travelling, number of cases are identified positive when tested, especially when they are taking international visits. All governments, health organizations and other authories are continuously focusing on identifying the cases affected by the COVID-19. Health care professional face a lot of difficulties in maintaining the quality of health care in these days. In times of an epidemic, people tend to experience fear of getting infected with the virus/disease resulting in stress and anxiety etc. (Hall et.al 2008).

[1]Student, PSG College of Arts & Science, Kerala
[2]Student, PSG College of Arts & Science, Kerala
*Corresponding Author

STRESS

STRESS can be explained as feeling of emotional and physical tension which arises from any event that threatens our homeostatis (selye 1956).it was Hans selye who first incorporated the term 'stress into the medical lexicon to describe the 'nonspecific responses of the body to any demand'. selye, who is known as the 'father of stress research'. selye's stress theory has only focused on physiological stress, and psychological factors have not been considered.

The term 'stress' means many things to many different people. A layperson may define stress in terms of pressure, tension, unpleasant external forces or an emotional response. Psychologist have defined tress in a variety of different ways. contemporary definitions of stress regard the external environmental stress as a stressor (eg; the feeling of tension), and the concept of stress as something that involves biochemical, physiological, behavioural and psychological changes. Researchers have also differentiated between stress that is harmful and damaging (distress) and stress that is positive and beneficial (eustress). In addition, researchers differentiate between acute stress such as an exam or having to give a public talk and chronic stress such as job stress and poverty. The most commonly used definition of stress was developed by Lazarus and Launier (1978), who regarded stress as a transaction between people and environment and described stress in terms of 'person environment fit'. If a person is faced with a potentially difficult stressor such as an exam or having to give a public talk the degree of stress they experience is determined first by their appraisal of event and second by their appraisal of their own personal resources. A good person environment fit results in no or low stress and a poor fit results in higher stress.

Types of Stress

Not all type of stress are harmful or even negative. Some of the different types of stress that you might experience include:

- **Acute Stress:** Acute stress is very short-term type of stress that can either be positive or more distressing; this is the type of stress we most often encounter in day-to-day life
- **Chronic stress:** Chronic stress is stress that seems never- ending and inescapable, like the stress of a bad marriage or an extremely taxing job; chronic stress can also stem from traumatic experiences and childhood trauma.
- **Episodic acute stress:** Episodic acute stress is acute stress that seems to run rampant and be a way of life, creating a life of ongoing distress.
- **Eustress:** Eustress is fun and exciting. It's known as a positive type of stress that can keep you energized. It's associated with surges of adrenaline, such as when you are skiing or racing to meet a deadline.

ANXIETY

Definition of anxiety:

The American psychological association (APA) defines anxiety as 'an emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure. 'David Barlow defines anxiety as a future-oriented mood state in which one is not ready or prepared to attempt to cope with upcoming negative events.

Anxiety may be caused by a mental condition, a physical condition, the effects of drugs, or a combination of these. The doctor's initial task is to see if your anxiety is a symptom of another medical condition. Common causes of anxiety include these mental conditions: Panic disorder: In addition to anxiety, common symptoms of panic disorders are palpitations

(feeling your heart beat), dizziness, and shortness of breath. These same symptoms also can be caused by coffee, amphetamines, an overactive thyroid, abnormal heart rhythms, and other heart abnormalities (such as mitral valve prolapse), Generalized anxiety disorder, phobic disorders, stress disorders.

Anxiety derives from complex origins and among the most important influences are actually genetic disposition; environmental impact upon one individual, especially early adverse events; and acute stressors that result in adaptational changes. Considering a large body of findings, several monoamine neurotransmitters, for example, gamma-aminobutyric acid (GABA), serotonin, and noradrenalin, are involved in the regulation of fear and anxiety. In addition, an increasing variety of either anxiogenic neuropeptides like corticotropin-releasing factor (CRF), cholecystokinin tetrapeptide (CCK-4), vaso-pressin, and others, or anxiolytic-like neuropeptides like neuropeptide Y (NPY), neuropeptide S, and atrial natriuretic peptide (ANP) are most important in the modulation of anxiety.

The psychodynamic theory has explained anxiety as a conflict between id and ego. Aggressive and impulsive drives may be experienced as unacceptable resulting in repression. These repressed drives may break through repression, producing autonomic anxiety. The treatment uses exploration with the goal of understanding the underlying conflict. Cognitive theory has explained anxiety as the tendency to overestimate the potential for danger. Patients with anxiety disorder tend to imagine the worst possible scenario and avoid situations they think are dangerous, such as crowds, heights, or social interaction(frued,1895).

Significance of Study
This study mainly focus on stress and anxiety among covid affected people eseciaaly middle aged people. Novel Corona virus Disease originating from china has rapidly crossed borders, infecting people throughout the whole world. This phenomenon has led to a massive public reaction. The media has been reporting continuously across borders to keep all informed about the pandemic situation. All these things are creating a lot of concern for people leading to heightened level of anxiety. These also caused significant distress around the globe. Apart from the evident physical cases in infected people, it has only cause damage to people's mental health. Most of people are facing challenges that can be stressful, overwhelming, and cause strong emotions. Many public health actions, such as social distancing, are necessary to reduce the spread of Covid 19, but they can make us feel isolated and lonely and can increase stress and anxiety.

Key Terms
- STRESS can be defined as any type of change that causes physical, emotional or psychological strain. Stress is your body's response to anything that requires attention or action. Everyone experiences stress to some degree. The way you respond to stress, however, makes a big difference to your overall well-being.
- ANXIETY is the total response of a human being to treat or danger. Each experience of anxiety involves a perception of danger, thoughts about harm, and a process of physiological alarm and activation. The accompanying behaviors display an emergency effort toward "fight or flight".

REVIEW OF LITERATURE

A study of Fear of COVID-19, stress, and Anxiety in University Undergraduate Students: A Predictive Model for Depression was conducted by Antonio J. Rodriguez-Hidalgo, Yisela Pantaleon, Irene Dios and Daniel Falla. The aim of this study was to analyse the levels of fear of COVID-19, stress, anxiety, and depression during lockdown among undergraduates from Ecuador. A total of 640 undergraduates between 18 and 47 years old were surveyed. The resulting mean levels found for stress, anxiety, and depression were above levels considered non-pathological. Women showed higher level of fear of covid 19 than men.

The study of Depression, Anxiety and stress among Indians in times of covid 19 lockdown was conducted by Usama Rehman, Mohammed G. Shahnawaz and Ritika uniyal.403 participants were asked to complete questionnaire with questions around symptoms of depression, anxiety stress, and family affluence. The results indicated that people who do not have enough supplies to sustain the lockdown were most affected, and family affluence was found to be negatively correlated with stress, anxiety, and depressed. Among different professions, students and healthcare professionals were found to experience stress, anxiety and depression more than others.

A study on depression, anxiety, and stress among patients with Covid-.19 was conducted by Malihe sadat Moeyed et al. This cross-sectional survey was conducted in 2020.The questionnaires were completed by 221 patients with COVID 19 infection (204 males, 17 female). Our results indicated that the mean scores of depressions and anxiety were at 'extremely severe' levels, while stress levels were 'severe'. In this study, patients infected with COVID-19 reported severe and extreme severe experience psychological distress.

A study of Acute psychological impact on covid 19 patients in Hubei, published on 18 February 2021 was conducted by Minghuan wang et al. A total 460 covid 19 patients from 13 medical centers in Hubei province were investigated for their mental health status using online questionnaires. Among all 460 covid 19 patience, 187 of them were healthcare workers and 297 of them were females. The result shows that those with suspected infected family members displayed a higher prevalence of anxiety than those without infected family members. Patients at the age of 18-44 years old had fewer somatic symptoms than those aged over 45 years old.

Anxiety level of university students during covid 19 in Saudi Arabia study was conducted by Heba Bakr khoshaim, Areej al-sukayt and karuthan chinna. The study was conducted between march and June 2020. A questionnaire was administered online, and 400 completed questionnaires were returned. Out of the 400 respondents, 301 were females and 99 were males. The skewed response rate toward females could be due to the fact that females represent around 60% of the population in university. The result indicated that about 35% of the students experienced moderate to extreme levels of anxiety.

A study on college student's stress and health in the COVID-19 pandemic was conducted by chunjiang yang, Aobo chen and yashuo chen. This study examined the relationship between Chinese college student's three critical stressors and two types of health in the COVID-19 pandemic context. The result of this study showed that academic workload, separation from school, and fears of contagion has negative effect on college student's health via perceived stress.

METHODOLOGY

Aim

The purpose of the study is to find the stress and anxiety among covid affected people during pandemic.

Hypothesis

- H01: There is no significant gender difference in stress and anxiety among covid affected people.
- H02: There is no significant difference in stress and anxiety among adults of two age group (below and above 25)
- H03: There is no significant relationship between stress and anxiety among covid affected people.

Sampling

A total of 50 samples (30 females and 20 males) were taken from among adults, across various districts of Kerala. Sample of the study was selected by using Purposive Sampling on Adolescents and Young Adults. All participants come under the ages of 15-29.

Inclusion Criteria

1. Among covid affected people in Kerala.
2. Age group 20-40 only.
3. Belonging to nuclear/ joint family.
4. Had assess to electronic gadget and internet connection.

Exclusion Criteria

1. Adult who are below or above age group 15 to 29 years of age.
2. Had significant mental health issue.
3. Undergoing medical treatment.

Tools Used

1. Perceived stress scale-A more precise measure of personal stress can be determined by using a variety of instruments that have been designed to help measure individual stress levels. The first of these is called the perceived stress scale. The perceived stress scale (PSS) is a classic stress assessment instrument. The tool, while originally developed in 1983, remains a popular choice for helping us understand how different situations affect our feelings and our perceived stress. The questions in this scale ask about your feelings and thoughts during the last month.

Reliability and Validity-The psychometric properties of the PSS-10 were originally evaluated in a large national sample and it reported that scores on the PSS-10 demonstrated adequate internal consistency reliability, moderate concurrent criterion validity with the amount of stress experienced during an average week and the frequency of stressful life events within the past year and adequate convergent validity as evidenced by expected negative associations with perceived health status and positive associations with psychosomatic symptoms and health service utilization. Since then, other studies have similarly reported that the PSS-10 has good internal consistency reliability

Scoring: Scores ranging from 0-13 would be considered low stress. Scores ranging from 14-26 would be considered moderate stress. Scores ranging from 27-40 would be considered high perceived stress.

2. Beck Anxiety Inventory (BAI)

Beck Anxiety Inventory used to measure anxiety. This is a scale of self-report measure of anxiety. It is 21 items scale it is scored on 4-point likert scale (0= Not at all, 1=mildly, 2=moderately, 3=severely). The total score is calculated by finding the sum of 21 items. Score of 0 to 21= Low anxiety score of 22-35= Moderate anxiety. Score of 36 and above = potentially concerning levels of anxiety.

Reliability: Internal consistency for the BAI= (Cronbach's a= 0.92) Test- retest reliability (1 week) for the BAI=0.75 (Beck, Epstein, Brown, & Steer, 1988)

Validity: The BAI was moderately correlated with the revised Hamilton Anxiety Rating Scale (.51), and mildly correlated with the Hamilton Depression Rating Scale (.25) (Beck et al.,1988).

Scoring: The total score is calculated by finding the sum of the 21 items.
- Score of 0-21= low anxiety
- Score of 22-35= moderate anxiety
- Score of 36 and above =potentially concerning levels of anxiety

3. Pearson correlation coefficient

Coefficient of correlation is an index that represents the relationship between two variables. Depending on the nature of data, it can be computed in different ways. The most commonly used method is pearson's product moment coefficient. Pearson 'r' was employed in the study to infer the relationship between variables. The significance of the obtained 'r' was compared with limits established during the standard error of 'r' which is calculated for 0.1%,1% and 5% level. The product moment correlation between variables is described as high, marked or substantial, or low or negligible.

Interpretation of various values of 'r' according to Garrett(1969):
- R from 0.000 to +/-0.20 denotes negligible relationship
- R from +/-0.20 to +/-0.40 denotes moderate correlation present.
- R from +/-0.40 to +/-0.70 denotes substantial relationship.
- R from +/-0.70 to+/-1.00 denotes high to very high relationship.

Procedure

The participants were provided with the link of the personal data sheet and questionnaire. The purpose of the study and instructions regarding the questionnaires were described clearly. They were told that there were no right and wrong answers because everyone had the right to his/her own views and to answer honestly. The participants were assured about the confidentiality of their responses and their right to quit as being subjects at any point during the course of the study. Participants may complete the questionnaire within 10-15 minutes. The significance and concept of the study is later explained to the respondent as per their request. The scores were calculated and interpreted as per the instructions provided in the manual and then it was subjected to statistical analysis.

Statistical Analysis:
The data collected were analyzed using the following statistical tests. The statistical analysis was carried out using SPSS:

1. **Student's t-test**

This is a statistical test appropriate for judging the significance of difference between means of two samples (Garatte,1969). The t-test is based on t-distributions. If the calculated 't' value exceeds the cut-off point(depending on the degrees of freedom) the difference between means is considered significant. When the t-value is below the critical values, the difference is not significant.

RESULT AND DISCUSSION

The primary aim of the research was to study the affect of stress and anxiety among covid effected people. for this a total of 50 samples (30 females and 20 males) were taken from among covid affected adults, across various districts of Kerala.

- **SECTION A-** Sociodemographic details of the sample
- **SECTION B-** T test to compare the mean, SD, of stress and anxiety based on age, gender, geographical area, and occupation.
- **SECTION C-** Correlation analysis of sample distribution.

Section A-Sociodemographic Details of The Sample
Table 1: frequency of covid affected people during COVID 19 pandemic, based on gender, age, geographical area and occupation.

SOCIODEMOGRAPHIC DETAILS		PERCENTAGE
GENDER	MALE	20
	FEMALE	30
AGE	25 BELOW	44
	25 ABOVE	6
GEOGRAPHICAL AREA	URBAN	19
	RURAL	31
OCCUPATION	JOB	31
	NO JOB	19

Table 2: shows the number of adult belongs to different severity of stress and anxiety.

Variable	Gender	Low	Moderate	High
STRESS	Male	5	15	1
	Female	7	20	2
ANXIETY	Male	15	4	2
	Female	23	5	1

Table 2 shows the number of adults belongs to different severity of stress and anxiety. Gender is categorized as female and male. The score of stress ranging from (0-13 =low stress, 14-26 =Moderate stress and 27-40= High stress). In female 7 people scored low stress, 20 scored moderate level of stress and 2 scored high level of stress. In male, 5 people belongs to low stress, 15 scored moderate level and 1 scored high level of stress. From the result, we can conclude that most of the people experience a moderate level of stress.

In anxiety, score of 0-21 belongs to low anxiety, score of 22-35 =moderate anxiety and score of 36 and above potentially concerning level of anxiety. In female, 23 people scored low anxiety, 5 people scored moderate level and one person scored high level of anxiety. In

males, 15 people scored low, 4 people scored high and 2 people scored high level of anxiety. According to the study of depression, anxiety and stress among patients with covid 19, reveals that the mean score of depression and anxiety were at 'extremely severe' levels, while stress levels were 'severe'. Here the covid affected people experience low level of anxiety.

Table 3; Mean, SD and t value of stress and anxiety among covid affected people based

Variable	Gender	N	Mean	SD	T value
STRESS	Male	20	18.90	6.307	-0.18
	Female	30	18.87	6.453	
ANXIETY	Male	20	14.10	10.432	-.203
	Female	30	14.73	11.286	

Table 3 shows the mean, standard deviation and t- values obtained by the male and female covid affected people in stress and anxiety based on gender.

Here, the mean, SD, and t value obtained by male and female in which males, 18.90 and 6.307 and in females 18.8 and 6.453. The t value obtained is -0.18 which means that there is no significant difference in stress based on gender, it may due to the fact that stress shared by the covid affected people are equal regardless of gender.

Stress can be defined as the physiological or psychological response to internal or external stressors. Stress involves changes affecting nearly every system of the body, influencing how people feel and behave. Stress is your body's reaction to a challenge or demand. In short bursts, stress can be positive, such as when it helps you avoid danger or meet a deadline or negative when it lasts long it may harm our body.

A study conducted on Stress and Anxiety in University Undergraduate Students reveals that there is a significant difference in stress based on gender. Women showed higher levels of fear of COVID 19 than men. Here in contrast to the study shows that there is no significant stress it may because of the fact that both genders have equal chance of being affect and they both may have same consequences.

The mean, SD, and t value of anxiety among covid affected people in which males, 14.10, 10.432 and in females 14.73, 11.286 and the t value obtained is -2.03 which shows that there is no significant difference in anxiety when compared to males and females.

Anxiety is an emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure. People with anxiety disorders usually have recurring intrusive thoughts or concerns. They may avoid certain situations out of worry.

Table 4: Mean, SD and t value of stress and Anxiety based on Age

Variable	Age	N	Mean	SD	T value
STRESS	25 BELOW	44	18.43	5.64	-.878
	25 ABOVE	6	22.17	10.206	
ANXIETY	25 BELOW	44	14.34	10.286	-.177
	25 ABOVE	6	15.50	15.553	

Table 4 shows the mean, SD, and t value of stress based on age. The score of below 25 are 18.43, 5.642 and that of above 25 is 22.17, 10.206 and the t value obtained is -.878. Here, we can see there is no any significant difference among people above and below 25.

The mean, SD, and t value of anxiety based on age is 14.34, 10.286 and above 25 is 15.50, 15.553 and t value is -.177. From these values, we can found that there is no any significant difference in anxiety based on Age.

Table 5: Mean, SD and t value of stress and Anxiety among covid affected people based on geographical area

Variable	Geographical Area	N	Mean	SD	T value
STRESS	Urban	19	18.89	6.359	
	Rural	31	18.87	6.417	0.13
ANXIETY	Urban	19	15.95	10.102	
	Rural	31	13.58	11.348	0.767

Table 5 shows the mean, SD, and the t value of stress based on the geographical areas. The mean and SD of people in urban areas are 18.89 and 6.359. In rural area, the mean, SD and t value is 18.87, 6.417 and 0.13. From this it is clear that there is no any significant difference in stress based on geographical areas.

The mean, SD, and t value based on geographical areas in urban it is 15.95, 10.102 and in rural it is 13.58, 11.348 and their t value is 0.767, which shows that there is no significant difference in anxiety based on geographical area.

According to study of Anxiety status and influencing factors of rural residence in Hunan during the corona virus disease, revealed that the detection rate of anxiety in rural residents in Hunan was higher than that of the general population in China. Here, in contrast to the study shows that there is no significant difference based on geographical area.it may be due to the fact that people regardless of geographical area experience unpleasant outcome due to covid pandemic.

Table 6: Mean, SD, and t value of stress and anxiety among covid affected people based on occupation.

Variable	Geographical Area	N	Mean	SD	T value
STRESS	Job	31	18.90	4.346	-.028
	No job	19	18.84	8.808	
ANXIETY	Job	31	14.0	9.695	-.371
	No job	19	15.26	12.753	

Table 6 shows the mean, SD, and t value of stress based on occupation of working people. The mean and SD are 18.90 and 4.346. Non-working people obtained scores on mean, SD and t value are 18.84, 8.808 and -.028. Here we can see there is no any significant difference among covid affected people who are working or not working.

The mean, SD of Anxiety in working people are 14.0 and 9.695 and that of non-working people are 15.26, 12.753 and t value obtained is -.371, which shows that there is no significant difference in anxiety of both working and non-working covid affected people.

SECTION C: Correlation analysis of the sample.

STRESS	Pearson correlation	1	.613
	Sig. (2 tailed)		.000
	N	50	50
ANXIETY	Pearson correlation	.613	1
	Sig. (2 tailed)	.000	
	N	50	

Correlation is significant at the 0.01 level (2 tailed).

The table shows the correlation of variables between stress and anxiety with respect to each other. From the table it is clear that stress has a positive correlation with anxiety with the significance of 0.01.

SUMMARY AND CONCLUSION

The study was intended to measure the relationship between stress and anxiety among covid affected people in adult during pandemic. From this study it is concluded that there is no significant different between age, gender, geographical area and occupation in stress and anxiety. There is a positive correlation between stress and anxiety. Thus, when increases, anxiety also get increased.

Major Findings
- There is positive correlation between stress and anxiety.
- The study illustrated that gender difference doesn't make significant difference in stress and anxiety.
- The illustrated that geographical area of living doesn't make significant difference in stress and anxiety.
- There is no significant difference between age and occupation in stress and anxiety.

Limitations and Suggestions
1. Comparison would be easier if the sample size is equal.
2. There is a chance for bias and boredom due to collection of responses through online method.
3. The study was conducted on small population so there is a chance for less reliability and validity.
4. This study involves only 2 variables namely stress and anxiety. Thus involves more variables like depression, emotional well-being could provide more explanations to the findings that the study purpose.

REFERENCES

Adam Felman (January 11,2020). The Journal – "what to know about anxiety"-Medically reviewed by Dillon Browne, Ph.D.(https://www.medicalnewstoday.com)

Priyaben Shantilal Khandivar & Dr. Mukesh (November 01,2020) Prajapati Study of Anxiety among working women.

Eugene E. Levitt Book (1980) "The psychological of Anxiety" Second Edition & E Book published (8 October 2015).

Vyas. R (2019)- An Article on "Study on working women's anxiety"-https://iijip.in

T. Bajaj Anand S. Sachdeva (June 2004), A study on anxiety: Indian Journal of Social

Webb, S.D., & Collette, J. (1977). Rural -Urban Differences in the use of Stress- Alleviate Drugs. American journal of sociology,83(3),700-707.http://www.jstor.org/stable/2778150

Emily, H., shunta, T., Yuka, N., Christopher, P., OECD Policy Response to Corona virus, Tackiling the mental health impact of the covid-19 crisis: An integrated, whole-of-society response, 1-4.

Mark, G.M., Smith, Paul, A. (2008). Stress models: a review and suggested new direction.

William Sealy Gosset (1908); T test developed.

Beck Anxiety Inventory- anxiety measuring scale (7-point likert scale), (1988)

Conflict of Interest

The author(s) declared no conflict of interest.