

**"A COMPARATIVE STUDY ON THE  
MENTAL WELL-BEING OF COLLEGE STUDENTS  
BEFORE AND DURING COVID-19 PANDEMIC"**

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**CERTIFICATE**

This is to certify that the project entitled "**A COMPARATIVE STUDY ON THE MENTAL WELL-BEING OF COLLEGE STUDENTS BEFORE AND DURING COVID-19 PANDEMIC**" is a bonafide work done by **ABIYA MATHEW** with **Register No: 180021043789** under the supervision of **DR. PRIYALAKSHMI G** during 2018-21 in partial fulfilment of the requirement for the award of the **Bachelor of Science in Zoology** of Mahatma Gandhi University, Kottayam.

**HEAD OF THE DEPARTMENT  
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## **DECLARATION**

I do hereby declare that the work embodied in the dissertation entitled "**A COMPARATIVE STUDY ON THE MENTAL WELL-BEING OF COLLEGE STUDENTS BEFORE AND DURING COVID-19 PANDEMIC**" submitted to Mahatma Gandhi University, Kottayam in partial fulfilment for the award of Bachelor of Science in Zoology is a bonafide dissertation done by me under the supervision of **Dr. Priyalakshmi G**, Head of the Department of Zoology, Bharata Mata College, Thrikkakara and that no part of this work has been submitted for the award of any other Degree/Diploma/Associate-ship/Fellowship or any other similar title to any candidate of any University.

Place: Thrikkakara

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## **SYNOPSIS**

Pandemics such as COVID-19 and all other previous pandemics and epidemics shaped the social structure of human civilization. This study entitled "A Comparative Study on the Mental Well-being of College Students Before and During the COVID-19 Pandemic" aims to compare the changes in the mental states of college students before and during the COVID-19 Pandemic. COVID-19 is an infectious disease caused by an RNA virus SARS-CoV-2 and it is a worldwide infection and currently it is continuing its journey. Such widespread outbreaks are associated with adverse mental health consequences. College students are more vulnerable to such mental health consequences. So it is essential to conduct a study based on their mental health during this pandemic.

For the achievement of the aim of this study, an online survey was conducted using Google forms through social media platforms to collect the data from the students of various colleges and a total of 280 responses were received. The analysis of the collected data was done using simple statistical techniques like percentage data analysis. The results after the analysis were not a surprising one because as expected the results showed like, there is an increase in the percentage of anxiety, depression and other mental health problems when compared to the mental health before the emergence of COVID-19. The results of this study showed that before the emergence of COVID-19 the students didn't have any symptoms of depression (0%) but during the COVID-19 pandemic, the rate of depression increased upto 5.7 percent. And in the case of anxiety, before the emergence of COVID-19 the students have the symptoms only at the rate of 1.07% but during the COVID-19 pandemic it increased upto the rate of 3.21 percent. These results clearly show that there occurred a negative change in the mental state of college students during the pandemic when compared to the pre-COVID days. It suggests the requirement of an effective system for the psychological evaluation and understanding of college students and it can help them during such pandemics and other such days. The findings of this study will help the authorities to identify and understand the mental state of college students and to formulate and implement plans for them to cope up with such situations.

## INTRODUCTION

### **A brief history of pandemics**

Intermittent outbreaks of infectious diseases have had profound and lasting effects on societies throughout history. Those events have powerfully shaped the economy, political, and social aspects of human civilization, with their effects often lasting for centuries (Damir Huremovic, 2019). The Athenian plague is the first historically documented event that occurred 430-26 B.C. during the Peloponnesian War. The Athenian plague originated in Ethiopia, and from there, it spread throughout Egypt and Greece. The Justinian plague is the next pandemic that originated in mid-6th century AD either in Ethiopia, moving through Egypt, or in the Central Asian steppes, where it then traveled along the caravan trading routes. “The plague” was a global outbreak of bubonic plague that originated in China in 1334, arrived in Europe in 1347, following the Silk Road. Within 50 years of its reign, by 1400 it reduced the global population from 50 million to below 350,000,000, possibly below 300,000,000, with a pandemic killing as many as 150,000,000. Some estimates claim that the Black Death claimed up to 60% of lives in Europe at that time. At the Spanish flu pandemic in the first decades of the 20th century was the first true global pandemic and the first one that occurred in the setting of modern medicine, with specialties such as infectious diseases and Epidemiology studying the nature of the illness and the course of the pandemic as it unfolded. HIV or AIDS is slowly progressing global pandemic cascading through decades of time, different continents, and different populations, bringing new challenges with every new iteration and for every new group it affected. It started in the early 1980s in the USA, causing significant public concern as HIV at the time inevitably progressed to AIDS and ultimately to death. The smallpox outbreak in the former Yugoslavia in 1972 was a far cry from even an epidemic, let alone a pandemic, but it illustrated the challenges associated with the rapidly spreading, highly contagious illness in a modern world. Severe Acute Respiratory Syndrome (SARS) was the first outbreak in the 21st century that managed to get public attention caused by the SARS coronavirus it started in China and affected fewer than 10,000 individuals, mainly in China and Hong Kong, but also in other countries including 251 cases in Canada (Toronto). The 2009 H1N1 pandemic was a reprise of the “Spanish flu” pandemic from 1918, but with far less devastating consequences. Ebola virus, endemic to central and West Africa, with fruit bats serving as a likely reserve lawyer, appeared in an outbreak in a remote village in Guinea in December 2013. Spreading mostly within families, it reached Sierra Leone and



Liberia, where it managed to generate considerable outbreaks over the following months, with over two 20,000 cases and over 11,000 fatalities. Zika outbreak is an illustrative case of the context of global transmission; it was transferred from Micronesia, across the Pacific, to Brazil, whence it continued to spread. It is also a case of modern media pandemic; it featured prominently in the social media in early 2016, Zika was being mentioned 50 times a minute in Twitter posts. Social media were used to disseminate information to educate or to communicate concerns (Damir Huremovic, 2019). COVID-19 (Coronavirus disease 2019) pandemic is the latest and ongoing pandemic. It is considered as the most crucial global health calamity of the century and the greatest challenge that the humankind faced since the 2nd World War (Indranil Chakraborty, et Al., 2020). As far as the history of human civilization is concerned there are instances of severe outbreaks of diseases caused by a number of viruses (Abdullahi Aborode, et.al. 2020).

## **Coronavirus**

Coronaviruses are positive sense RNA viruses discovered in the 1960s, which also emerged as respiratory viruses with previous outbreaks: severe acute respiratory syndrome in 2002, human coronavirus HCoV NL63 in 2004, HKU1 in 2005, the Middle East respiratory syndrome coronavirus in 2012 (Nathiya D, et.al. 2020). A new class of coronavirus, known as SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2) has been found to be responsible for occurrence of Coronavirus disease 2019 (COVID-19).

## **Coronavirus disease 2019**

The outbreak of the new coronavirus infection COVID-19 was initiated from the Hunan seafood market in Wuhan, Hubei province of China in December 2019. It is a communicable viral disease and quickly spread globally. So the World Health Organization (WHO) declared it as a pandemic on 11, March, 2020 (Sadguru Prakash, et.al. 2020). Coronaviruses are a group of viruses belonging to the family of Coronaviridae, that infect both animals and humans. Human coronaviruses can cause mild disease similar to a common cold, while others cause more severe diseases (such as MERS-Middle East Respiratory Syndrome and SARS-Severe Acute Respiratory Syndrome). These are a large group of viruses that consist of a capsule enclosing a single stranded RNA genome along with a nucleocapsid with helical symmetry (Lam, et.al. 2004). Some Coronaviruses that are found in animals can infect humans-these are known as zoonotic diseases. Human Coronaviruses are usually spread

through droplets (coughing) and close personal unprotected contact with an infected person (touching, shaking hands) (World Health Organization, 2020).

As of now (12th March 2021) a total of 11,82,68,575 confirmed cases were reported and 26,24,677 confirmed deaths were also reported. To break the chain of the transmission of this disease WHO made up some strategies. Several core public health measures that break the chains of transmission are central to this comprehensive strategy, including (1) identification, isolation, testing and clinical care for all cases, (2) tracing and quarantine of contacts, and (3) encouraging physical distancing of at least 1 meter combined with frequent hand hygiene and respiratory etiquette. These three components should be central to every national COVID-19 response (World Health Organization, 2020).

Quarantine means “the restriction of activities and or separation from others of suspect persons who are not ill in such a manner as to prevent the possible spread of infection or contamination.” The use of quarantine to control infectious diseases has a long history that goes back centuries. Today, many countries have the legal authority to impose quarantine which, in accordance with article three of the international health regulations (2005), must be fully respectful of the dignity, human rights and fundamental freedoms of persons (World Health Organization, 2020).

India’s first novel coronavirus patient was reported in Kerala's Thrissur district, as more than 7500 cases were reported in 20 countries of the world. Kerala government declared coronavirus a state calamity after two more cases were reported in Alappuzha and Kasaragod district (February 03, 2020). 50 days after the virus was first reported in India, a 14-hour voluntary lockdown called ‘Janata curfew’ was observed in India. Nationwide lockdown was further extended till may 31, making it one of the longest lockdowns any country has imposed ever (The Wire). As of now there have been at least 11.3 million cases confirmed in India And also 158,446 death cases were reported (March 13, 2021) (The New York Times). Lockdown is typically explained as a mass quarantine based on stay at home or shelter in place protocols ordered by the government for limiting the population movement. People were asked to stay at home except for carrying out essential activities such as purchase of essential food items, medical commodities and beverages as well as for the provision of essential work such as health and social care sectors, police and armed forces, water and electricity supply etc. Other non essential activities were prevented or to be fulfilled while

staying at home. An increase in the number of confirmed cases day by day under spread of disease globally, is having an immense effect on the physical as well as mental well-being of individuals during COVID-19 pandemic lockdown (Garima Singh, et.al. 2020).

As a result of lockdown and other strategies taken by various governments such as social distancing, quarantine, lockdown etc., people were isolated from society. It changed the daily life routine of many people such as professionals, students etc. and also the non-working people. The working professionals started work from home and the classes of students became virtual classes. These changes confined every person to their houses and they cannot go outside and mingle with friends and relatives. They can only go outside for essential goods. This isolated condition may cause mental disturbances in people that may lead to mental health problems.

### **Mental Health**

Mental health is associated with the ability of a person to use their brain and to think. Sometimes the term “mental health” is used to refer to the absence of any mental disorders. According to The World Health Organization "Mental health is not just the absence of mental disorder. It is defined as a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community." Mental health and well-being are very important at every part of our life. It affects how we think, feel, and act. It also helps determine how we handle stress, relate to others, and make choices.

Mental health of college students, which is the health of those young minds, is quite challenging. Universities and colleges are dealing with substantial challenges posed by the changing mental health needs of today's college students. It is important for administrators, faculty, and staff to understand the profound impact that mental health problems can have on all aspects of campus life, and to treat mental health issues as an institutional responsibility and priority. Counseling centers can respond effectively to the current challenges if they have the support and commitment of the administration; and if they take steps to balance the demand for services with existing resources by reviewing priorities, establishing appropriate limits, employing innovative strategies, and practicing good self-care to minimize stress and burnout. The need for counseling centers have never been greater. They will continue to play

an important role in supporting the mission of higher education institutions by providing counseling for students who are experiencing problems and assisting them in achieving their educational and personal goals (Martha Anne Kitzrow, 2003). But the outbreak of COVID-19 caused a pause in the student's campus life that may negatively affect the availability of counseling and all helping hands for students from their campuses. Young adults aged 18-25 years had the highest prevalence of AMI (Any Mental Illness) compared to adults aged 26-49 and aged 50 and older According to a National Survey on Drug Use and Health by the Substance Abuse and Mental Health Services Administration in 2019. So the college students who are coming under the age group 18-25 are the more vulnerable group towards mental problems. The ongoing COVID -19 Pandemic made them more susceptible to mental health disorders.

This study aims to compare the mental well-being of college students in various parts of Kerala and outside Kerala, before and during the COVID-19 pandemic. College students are coming under the age group of 17-25. College students encounter unique challenges leading to poor mental health in the wake of the COVID-19 outbreak. Before the pandemic started, one in five college students experienced one or more diagnosable mental disorders worldwide. The fact that the COVID-19 pandemic affects collegiate mental health underscores the urgent need to understand these challenges and concerns in order to inform the development of courses of action and public health messaging that can better support college students in this crisis (Yusen Zhaia, et.al. 2020).

The young minds are the future of every nation. Well trained and positively thinking minds are important in nation building. So preserving such minds are very essential. I believe that this study would help in getting insight of the mental health and well-being of young people in India, especially during this Pandemic. This will help to understand their mental needs to cope up with this situation. From this information the authorities can provide help towards those minds including me in this current situation and such situations in the future.

## **AIM & OBJECTIVES**

### **AIM**

To study and compare the mental well-being of college students before and during the COVID-19 pandemic.

### **OBJECTIVES**

- To compare the mental well-being of college students before and during the COVID-19 pandemic.
- To study the change in mental well-being of college students.
- To provide information about the mental status of college students during a pandemic.
- To help the concerned authorities in getting data about the mental state of college students during such pandemics.
- To help those young minds who struggle in mental disturbances.

## **REVIEW OF LITERATURE**

The Corona virus disease was first reported in China and it's now rapidly spreading around the world. In addition to causing physical damage, COVID-19 has also caused unbearable psychological pressure to people in China and the rest of the world. As the country of origin of coronavirus the people of China were the first victims of this disease and they were the first ones who suffered from many psychological problems.

The impact of the COVID-19 pandemic on the mental health of students in locked-down colleges remains obscure. This study "COVID-19 Stress and Mental Health of Students in Locked-Down Colleges" conducted by Xueyan Li, et.al., in 2021 aimed to explore influencing factors for the psychological impact of COVID-19 on Wuhan college students, post-traumatic stress symptoms in particular, so as to inform evidence-based strategy development to ameliorate such adverse impacts. COVID-19 disproportionately affected older male Master's and doctoral students living in Wuhan. The overall prevalence of PTSD was 16.3%. The three-level socio-interpersonal model of PTSD was empirically validated, and college students faced individual level risks such as infection with COVID-19, close relationship level risks such as family support (infection suspicion of family members, the loss of loved ones, and the family income decrease) and online course difficulties (little interaction, disturbing learning environment, and difficulty in adaption), and distant level risks such as excessive collection of personal information, estrangement of family relatives, and harassment and insult from strangers. The findings of this study suggest the severity of the psychological impact of COVID-19. Mental health services reducing PTSD should be provided. Students who have lost loved ones and suffered family financial loss should be given particular care.

A cross-country comparative study entitled "Mental health, quality of life, wellbeing, loneliness and use of social media in a time of social distancing during the COVID-19 outbreak" was conducted by Amy Østertun Geirdal, et.al., in 2021 to examine the experience of mental health, wellbeing and loneliness and use of social media among people living in Norway, USA, UK and Australia, a cross-country comparative survey of people living in Norway, USA, UK and Australia were conducted. High-frequent use of social media after the COVID-19 outbreak was associated with poorer mental and psycho-social health. The results suggest that the COVID-19 outbreak took a toll on people's experience of mental

health, wellbeing and experienced loneliness, and high-frequent use of social media was associated with these factors.

A meta-analysis named as "Assessing the Psychological Impact of COVID-19 among College Students: An Evidence of 15 Countries" conducted by Kavita Batra, et.al, in 2021, endeavors to present collective evidence discussing the psychological impact of COVID-19 among college students. Twenty-seven studies constituting 90,879 college students met the inclusion criteria. The results of the study indicated 39.4% anxiety and 31.2% depression among college students. The Pooled Prevalence Of Stress (26.0%), post-traumatic stress disorder (29.8%), and impaired sleep quality (50.5%) were also reported. According to the study, College students bear a disproportionate burden of mental health problems worldwide, with females having higher anxiety and depression levels than males. This study's findings underscore the need to develop appropriate public health interventions to address college students' emotional and psycho-social needs. The policies should be reflective of demographic and socio-economic differentials.

A cross-sectional survey ("Depression and anxiety during the COVID-19 pandemic in Saudi Arabia: a cross-sectional study") conducted by Hamad S. Alyami, et.al., in 2021 aimed to explore the influence of the COVID-19 pandemic on the 29 psychological disposition of residents of the Kingdom of Saudi Arabia. A total of 2,081 individuals participated in the study. The prevalence of depression and anxiety among the study participants was 9.4% and 7.3%, respectively. Non-Saudi residents, individuals aged 50 years and above, divorced people, retired people, university students, and those with an income between 2,000 and 10,000 SR were at higher risk of developing depression. Saudi individuals, married people, the unemployed, and those with a high income (> 10,000 RS) were at higher risk of developing anxiety. Conclusion: We found that there is a wide range of Saudi residents who are at higher risk of developing mental illness during the current COVID-19 pandemic. Policymakers and mental healthcare providers are advised to provide continuous monitoring of the psychological consequences during this pandemic and provide the required health support.

A survey entitled "Students' Perception towards Online-Class during COVID-19 Pandemic" conducted by Mahat Dipak in 2021, aims to find out the perception of students towards online-class during COVID-19 pandemic. Effect of COVID-19 on educational institutions

has interrupted the traditional method of teaching and learning which ultimately created the demand of online class. The study was based on descriptive research design. Findings of the study revealed that 81.7% students adopted online class for the first time in their learning career. However, the majority of respondents felt confident to use online-class function and adopt the content. Similarly, 58.1% respondents reported that they faced technical problems during Online-class, more than 59% respondents believed that online class was one of the easiest platforms to share the knowledge and collect the required information. Most of the respondents intended to use an online-class platform to enhance their learning and communication skills. According to this survey one of the main benefits of online class was that it has saved the students from risk of transmission of COVID-19 and contributed to the regularity of teaching and learning of college.

In order to explore the impacts of this pandemic on the lives of students, Chaturvedi K., et.al., conducted a survey entitled "COVID-19 and its impact on education, social life and mental health of students: A survey" and it comprised of a total of 1182 individuals of different age groups from various educational institutes in Delhi - National Capital Region (NCR), India. The article identified the following as the impact of COVID-19 on the students of different age groups: time spent on online classes and self-study, medium used for learning, sleeping habits, daily fitness routine, and the subsequent effects on weight, social life, and mental health. Moreover, their research found that in order to deal with stress and anxiety, participants adopted different coping mechanisms and also sought help from their near ones. Further, the research examined the student's engagement on social media platforms among different age categories. This study suggests that public authorities should take all the necessary measures to enhance the learning experience by mitigating the negative impacts caused due to the COVID-19 outbreak.

"Increased mood disorder symptoms, perceived stress, and alcohol use among college students during the COVID-19 pandemic" is a study by Nora E. Charles, et.al., in 2021, which evaluates the effects of the disruption caused by COVID-19 on student well-being. Measures of psychological symptoms, perceived stress, and alcohol use during the pandemic were completed by 148 students in spring 2020 and 352 students in fall 2020 at a university in the southeastern U.S. Results from both cohorts were compared to 240 students who completed the same measures in the fall 2019 semester. Participants in spring 2020 reported more mood disorder symptoms, perceived stress, and alcohol use than did pre-pandemic



participants and worry about COVID-19 was negatively associated with well-being. By fall 2020 symptoms had largely returned to pre-pandemic levels. In general, White students reported a greater effect of the pandemic on well-being than did African American students. Young adults appear to be less vulnerable to the most serious medical complications associated with COVID-19, but nonetheless experience psychological effects from the pandemic. Based on the findings of the study they insist the Universities and practitioners who work with college students to help young adults to manage their symptoms and avoid behaviors like risky alcohol use when confronted with stressors such as the COVID-19 pandemic.

A study named "Impact of COVID-19 Pandemic on College Student Mental Health and Wellness" was conducted by William E. Copeland, et.al., in 2021 to test the impact of the coronavirus disease 2019 (COVID-19) pandemic on the emotions, behavior, and wellness behaviors of first-year college students. A total of 675 first-year university students completed a full assessment of behavioral and emotional functioning at the beginning of the spring semester 2020. Of these, 576 completed the same assessment at the end of the spring semester, 600 completed at least 1 item from a COVID-related survey after the onset of COVID pandemic, and 485 completed nightly surveys of mood and wellness behaviors on a regular basis before and after the onset of the COVID crisis. The results of this study shows that externalizing problems and attention problems increased after the onset of COVID, but not internalizing symptoms. Students who were enrolled in a campus wellness program were less affected by COVID in terms of internalizing symptoms and attention problems than those who were not in the wellness program. Nightly surveys of both mood and daily wellness behaviors, but not stress, were negatively affected by the COVID crisis. The overall magnitude of these COVID-related changes were modest but persistent across the rest of the semester and different from patterns observed in a prior year. COVID and associated educational/governmental mitigation strategies had a modest but persistent impact on mood and wellness behaviors of first-year university students.

A survey entitled "Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic" was conducted by Roy D.,et.al., in 2020 and it attempted to assess the knowledge, attitude, anxiety experience, and perceived mental healthcare need among the adult Indian population during the COVID-19 pandemic. An online survey was conducted using a semi-structured questionnaire using a non-probability

snowball sampling technique. A total of 662 responses were received. The responders had a moderate level of knowledge about the COVID-19 infection and adequate knowledge about its preventive aspects. The attitude towards COVID-19 showed peoples' willingness to follow government guidelines on quarantine and social distancing. The anxiety levels identified in the study were high. More than 80 % of the people were preoccupied with the thoughts of COVID-19 and 72 % reported the need to use gloves, and sanitizers. In this study, sleep difficulties, paranoia about acquiring COVID-19 infection and distress related social media were reported in 12.5 %, 37.8 %, and 36.4 % participants respectively. The perceived mental healthcare need was seen in more than 80 % of participants. There is a need to intensify the awareness and address the mental health issues of people during this COVID-19 pandemic.

A study entitled "COVID-19 pandemic and lockdown measures impact on mental health among the general population in Italy" was conducted by Rodolfo Rossi,et.al., in 2020 assesses rates of mental health outcomes in the Italian general population three to four weeks into lockdown measures and explores the impact of COVID-19 related potential risk factors. Selected outcomes were post-traumatic stress symptoms (PTSS), depression, anxiety, insomnia, perceived stress and adjustment disorder symptoms (ADS). Seemingly unrelated logistic regression analysis was performed to identify COVID-19 related risk factors. Results of this study shows that respondents endorsing PTSS, depression, anxiety, insomnia, high perceived stress and adjustment disorder were 6604 (37%), 3084 (17.3%), 3700 (20.8%), 1301 (7.3%), 3895 (21.8%) and 4092 (22.9%), respectively. Being a woman and younger age were associated with all of the selected outcomes. Quarantine was associated with PTSS, anxiety and ADS. Any recent COVID-related stressful life event was associated with all the selected outcomes. Discontinued working activity due to the COVID-19 was associated with all the selected outcomes, except for ADS; working more than usual was associated with PTSS, Perceived stress and ADS. Having a loved one deceased by COVID-19 was associated with PTSS, depression, perceived stress and insomnia. This study found high rates of negative mental health outcomes in the Italian general population three weeks into the COVID-19 lockdown measures and different COVID-19 related risk factors. These findings warrant further monitoring on the Italian population's mental health.

"Mental health of college students during the COVID-19 epidemic in China" is a study conducted by Wenning Fu and his co-authors in 2020, which revealed that, about two fifths Of Chinese college students experienced anxiety symptoms during the COVID-19 pandemic.

In their study 41.1% of college students reported anxiety symptoms which is higher than other investigations in China. Due to the outbreak of COVID-19 in China all schools have been closed until the epidemic is under control to protect the students from the infection. So that the students were facing long term isolation at home and using online learning are prone to a series of emotional stress responses. Additionally, college students are more concerned about COVID-19 and its consequences. They suggest that it is necessary to pay special attention to the psychological status of college students who are in long term home isolation and take timely and appropriate interventions to maintain and improve their mental health. Their study also found that there is no significant difference in gender, which was in line with previous studies; it indicates that male and female college students experienced similar stresses and negative emotions as a result of the COVID-19 pandemic. And Sophomore, junior and senior students were more likely to have anxiety than freshman students. In the case of senior students the academic pressure is greater, And some of them face graduation, employment, and practice, etc., but the pandemic of COVID-19 inevitably affects the development of various things.

Md Zahir Ahmed, et.al., 2020 In their study entitled "Epidemic of COVID-19 in China and Associated Psychological Problems" showed a higher rate of anxiety, depression, hazardous and harmful alcohol use, and lower mental wellbeing than usual ratio. And it also revealed that young people aged 21 to 40 years are in a more vulnerable position in terms of their mental health conditions and alcohol use. The study provides an insight of the negative psychological effects and associated problems of COVID-19. It showed that infected by COVID-19 or similar is not pre requested to develop psychological problems and disorders, i.e. anxiety, Depression, alcohol use disorders rather circumstantial effects, lock down in on home for infinite time, infection of family and friends, death of closed one all these could worsen The overall mental health wellbeing.

"A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: Implications and policy recommendations" is a survey conducted by Jianyin Qiu and co-surveyors in 2020, and which is the first nationwide large scale survey of psychological distress in the general population of China during the tumultuous time of the COVID-19 pandemic. In this survey the COVID-19 Peritraumatic Distress Index (CPDI) inquired about the frequency of anxiety, depression, specific phobias, cognitive change, avoidance and compulsive behaviour, physical symptoms and loss of social functioning at

that time. Multinomial logistic regression analysis showed that one's CPDI score was associated with their gender, age, education, occupation and region. Female respondents showed significantly higher psychological distress than their male counterparts and individuals between 18 and 30 years of age or above 60 presented the highest CPDI scores. Young people tend to obtain a large amount of information from social media that can easily trigger stress so that they have the highest CPDI score. Similarly people with higher education tended to have more distress probably because of high self awareness of their health. And this study also suggests that more attention needs to be paid to vulnerable groups such as the young.

Samantha K Brooke And others did a review ("The psychological impact of quarantine and how to reduce it: rapid review of the evidence") of the psychological impact of quarantine using 3 electronic databases in 2020. Of 3166 papers found, 24 were included in their review. And most of the reviewed studies reported negative psychological effects including post traumatic stress symptoms, confusion, and anger. Stressors included longer quarantine duration, infection fears, frustration, boredom, inadequate supplies, inadequate information, financial loss, and stigma. The review is needed because the potential benefits of mandatory mass quarantine needed to be weighed carefully against the possible psychological costs. Successful use of quarantine as a public health measure requires us to reduce, as far as possible, the negative effects associated with it.

Due to COVID-19 pandemic, the government around the world has closed all educational institutions to control the spread of disease, which is creating a direct impact on students, educators and institutions. The sudden shift from the physical classroom to virtual space is creating a disruption among students. So a study-"Online education during COVID-19: perception of academic stress and emotional intelligence coping strategies among college students" was conducted by Yamini Chandra in 2020, to analyze the perception of academic stress experienced by students during current online education and coping strategies using emotional intelligence adopted by them. Using a purposive sampling method, data were collected on a sample of 94 students pursuing undergraduation and postgraduation from two Indian cities, Ahmedabad, and Mumbai. The survey was conducted using two online questionnaires, Perceptions of Academic Stress Scale and Emotional Intelligence Scale and analyzed using descriptive statistics with chi-square analysis. A telephonic discussion was also conducted with some respondents to understand different coping strategies used by them

to handle the stress. The findings indicated significant differences were observed between the fear of academic failure and online and home environment among male and female students. Many of them have started diverting themselves to various creative activities and taking up courses that are helping them to learn new technical skills. By using emotional intelligence and distancing from boredom and depressive thoughts, students were trying to cope with negative effects arising from the current pandemic situation.

A web-based survey was conducted by Islam MA, et.al., in 2020 to investigate the prevalence of depression and anxiety among Bangladeshi university students during the COVID-19 pandemic. It also aimed at identifying the determinants of depression and anxiety. A total of 476 university students living in Bangladesh participated in this cross-sectional web-based survey. A standardized e-questionnaire was generated using the Google Form, and the link was shared through social media-Facebook. The information was analyzed in three consecutive levels, such as univariate, bivariate, and multivariate analysis. Students were experiencing heightened depression and anxiety. Around 15% of the students reportedly had moderately severe depression, whereas 18.1% were severely suffering from anxiety. The binary logistic regression suggests that older students have greater depression. It is also evident that students who provided private tuition in the pre-pandemic period had depression. It is expected that both the government and universities could work together to fix the academic delays and financial problems to reduce depression and anxiety among university students.

A study entitled 'Impact of Online Classes on College Students in Chennai During Covid-19 Pandemic' conducted by T.K. Avvai Kothai & Sekar s Ramya in 2020 intends to study the impact of online classes and to analyze the problems faced by college students while attending online classes during COVID situations. Based on the study, the college students get adapted to a new way of learning when it is the only option to continue their studies in this COVID-19 pandemic. The sincere efforts of the instructors in preparing PDF notes and PPTs while balancing their family and professional duties are really appreciable. The emotional state during the pandemic is challenging for both instructors and students. Success of online class not only depends upon the instructor but also on the students. The two systems of education- traditional classroom teaching and online teaching have got their own benefits and drawbacks and cannot be judged particularly. Overall, online classes have left a positive

impact on students which will be effective in the long run, even after the end of the COVID pandemic.

A study named "Individual, Interpersonal, and Institutional Level Factors Associated With the Mental Health of College Students" conducted by DeAnnah R. Byrd, et.al., in 2012 and this study investigates the individual, interpersonal, and institutional level factors that are associated with overall mental health among college students. Data are from an online cross-sectional survey of 2,203 students currently enrolled at a large public university. Stepwise regression was used to determine if self-reported measures of individual (ie, coping abilities), interpersonal (ie, intergroup awareness), and institutional (ie, campus climate/tension) level factors were associated with overall mental health, after controlling for demographic characteristics. The combined effects of both individual and institutional level measures were associated with student mental health. In particular, limited coping abilities and a perceived racially tense campus climate contributed to the psychological distress of college students. Simultaneously addressing the individual and institutional level influences on mental health offers the most promising help for students.

A study ("The prevalence and socio-demographic correlations of depression, anxiety and stress among a group of university students") conducted by Nuran Bayram and Nazan Bilgel in 2008 to examine the prevalence of depression, anxiety and stress among a group of Turkish university students. According to the study Anxiety and stress scores were higher among female students. First- and second-year students had higher depression, anxiety and stress scores than the others. Students who were satisfied with their education had lower depression, anxiety and stress scores than those who were not satisfied. The high prevalence of depression, anxiety and stress symptoms among university students is alarming. This shows the need for primary and secondary prevention measures, with the development of adequate and appropriate support services for this group.

## **METHODOLOGY**

### **Procedure**

This study aims to compare the mental well-being of college students before and during the COVID-19 pandemic, for that a self - reporting survey questionnaire was designed. The questionnaire is made with Google forms and it consists of a total of 42 questions. The questionnaire is divided into four parts.

The first part is about the participant's demographics like name, age, gender, educational status, place where they study etc. and about their current medical and health conditions and also about their habits like smoking and alcohol consumption.

The second part is about the knowledge of the participants about mental health. In this part the questions asks about do they know about mental health and they were supposed to fill it up according to their views about mental health, the importance of mental health compared with physical health, do they have good mental health and do they suffer from any mental illnesses such as Anxiety disorders, depression, learning disabilities etc.

The third part of the questionnaire is about the mental health related to COVID-19 which is the core part of this survey. It asks first about the awareness of the participants about COVID-19 and then asks questions to compare their mental well-being before and during the pandemic. And it also asks about the effects of quarantine on mental health. After that the last some questions of this part asks about the online classes and its effect on the mental health of the participants who are college students.

The last part is about the ways of survival which asks about the ways they know to survive from the mental distress they are dealing in the current pandemic. And also asks about their suggestions to help students who are suffering from such mental disturbances.

## The Survey Questionnaire

### 'A COMPARATIVE STUDY ON THE MENTAL WELL-BEING OF COLLEGE STUDENTS BEFORE AND AFTER COVID-19 PANDEMIC'

#### *I - PERSONAL DETAILS*

1. Full Name (optional)

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2. Gender

- Male
- Female
- Others:- \_\_\_\_\_

3. Age

---

4. Are you a student pursuing UG/PG?

- UG
- PG

5. Name of your college?

---

6. District in which your college is located?

---

7. Do you have any health problems?

- Yes
- No

8. If yes, please specify?

---

9. Currently under any medication?

- Yes
- No

10. If yes, please specify?

---

11. Do you smoke?

- Yes



- No
12. Do you consume alcohol?
- Yes
  - No

## ***II - KNOWLEDGE ABOUT MENTAL HEALTH***

1. Do you know about Mental health?
  - Yes
  - No
  - Maybe
2. According to you, what is mental health?
3. Do you think mental health is equally important as that of physical health?
  - Yes
  - No
  - Maybe
4. Do you think you have a good mental health?
  - Yes
  - No
  - Maybe
5. Do you suffer from any of these illnesses?
  - Anxiety disorders
  - Depression
  - Learning disabilities
  - Conduct disorders (behavioural)
  - Attention deficit
  - Hyperactivity disorders
  - Mood disorders
  - Impulse control disorders
  - Substance use disorders
  - Good mental health
  - Others
6. If others, please specify?

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### ***III - MENTAL HEALTH RELATED TO COVID-19***

1. Are you aware about the current COVID-19 Pandemic?

- Yes
- No

2. Did you have any mental health issues before the Pandemic?

- Yes
- No
- Maybe

3. If yes, please explain

---

---

4. Do you feel any change in your mental state during this Pandemic?

- Yes
- No
- Maybe

5. Is it a good or bad change?

- Good
- Bad

6. During this pandemic we underwent a lockdown period. Did that time period affect your mental health in any way?

- Yes
- No

7. If yes, did it cause any of these conditions?

- Stress due to financial instability
- Loneliness
- Depression
- Anxiety
- Fear
- Other:- \_\_\_\_\_

8. Have you undergone a quarantine period?
- Yes
  - No
9. If yes, did you gone through any of these conditions?
- Depression
  - Anxiety
  - Confusion
  - Infection fears
  - Stigma
  - Others:- \_\_\_\_\_
10. Did COVID-19 affect your mental health in anyway? (In terms of community spread, fatality, unavailability of vaccines etc.)
- Yes
  - No
  - Maybe
11. If yes, specify
- Community spread
  - Fatality
  - Unavailability of vaccine
  - Other:- \_\_\_\_\_
12. Do you have online classes during this pandemic period?
- Yes
  - No
13. Do you think these online classes are causing increased mental stress than normal classes?
- Yes
  - No
  - Maybe
14. If yes, why or in what ways?
- 
- 

15. Are you worried about your academics due to this COVID-19 and online classes?

- Yes

- No
16. Do you feel any negative impacts in your academics when compared to pre-covid days?
- Yes
  - No
17. If yes, what are the reasons?
- Lack of face to face interactions
  - Decreased concentration
  - Eye strain due to constantly looking at the screen
  - Other distractions
  - Mental stress
  - Lack of attention due to sitting in home
  - Other:- \_\_\_\_\_
18. Do you think, persistent use of electronic devices like smartphones, laptops etc. Increased your stress level?
- Yes
  - No
19. Do you think this COVID-19 pandemic changed your positive thinking capacity?
- Yes
  - No
  - Maybe

#### ***IV - WAYS OF SURVIVAL***

1. What were the options you restored to, during mood change or upset of mind before the emergence of COVID-19?
- By engaging in different activities which gives pleasure to you.
  - By spending time with your friends.
  - By talking to someone special to you.
  - By consulting a psychologist/counselor.
  - Substance abuse.
  - Other:- \_\_\_\_\_

2. Is it possible to get rid of mental disturbances during this COVID-19 situation by above ways?

- Yes
- No

3. If no, how do you tackle your mood change in the current COVID-19 situation?

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4. Do you think we can survive this pandemic?

- Yes
- No

5. Can you suggest any methods to help students who are suffering from mental disturbances?

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A face-to-face survey is impossible in the current situation so I decided to conduct an online survey. The questionnaire link was distributed among a number of college students from various parts of Kerala and outside Kerala. The distribution was done through social media platforms like Whatsapp and Instagram. The questionnaire was shared through social media on 31st December 2020 and started getting responses on the very first day. And the number of responses became 280 on 25th February 2021 and then the questionnaire link was closed.

**Survey Questionnaire Link:-** <https://forms.gle/Le85yiCc5Lm4zX3M9>

### **Participants**

Participants were recruited from the student population of different colleges of Kerala and some colleges outside kerala. In Kerala, from 10th March 2020 all colleges and schools were shut down and held all its classes virtually due to COVID-19 pandemic. In addition, the Central Government announced nationwide lockdown on 24th March 2020. So that the participants were recruited in this survey through social media. The only inclusion criteria for participation was that participants should be an undergraduate or postgraduate student of any college inside India at the time of this survey.

## **Data Analysis**

The data analysis was started after getting all the 280 responses. The responses were analysed and prepared charts, graphs etc. with the help of Google sheets. For analysing the data, percentage analysis was used as the statistical technique. Percentage analysis was helpful to compare each data based on different criterias.

First, descriptive statistics were compiled to describe participants' demographics (eg, age, gender, etc.). Then the knowledge of participants about mental health is analysed to know did they aware about mental health. After that the changes in mental health before and during COVID-19 were compared. Participant's answers to academic, health-related questions were analyzed to understand relative impacts of the pandemic on various aspects of college student's mental health. Then analysed their answers on questions related to ways of survival from mental disturbances to understand their coping strategies towards the impacts of COVID-19 on their mental health.

## RESULTS

### **Respondent's Demographic Characters**

Out of the respondents 280, the majority of the respondents were female with 78.9% (n=221) while male participants made up a total of 21.1% (n=59) from the entire population. Most of the respondents were 20 years (n=128 & 45%) old. Only 33% (n=93) were between 20-25 years and only 20% (n=56) were between 17-19 years old. 87.5% (n=245) of the respondents were undergraduate students and only 12.5% (n=35) were postgraduates. Most of them were studying (n=206) in the Ernakulam district of Kerala, India. And only 20.7% were from other districts of Kerala and only 5.7% from inside India other than Kerala. Some of them (7.9%) have health problems like low immunity, skin allergy, other allergies, wheezing, PCOD, asthma, hypotension, constipation etc. Only 4.6% were under some medications like medicines for skin allergy, vitamin D3, medicines for PCOD etc.

**TABLE-1|**Respondent's demographic characters (n=280)

<b>Category</b>	<b><i>f</i></b>	<b>%</b>
<b>Gender</b>	<b>280</b>	<b>100</b>
Male	59	21.1
Female	221	78.9
<b>Age</b>	<b>280</b>	<b>100</b>
20	128	45.7
20-25	93	33.2
17-19	56	20
<b>Level of study</b>	<b>280</b>	<b>100</b>
Undergraduate	245	87.5
Postgraduate	35	12.5
<b>Place of study</b>	<b>280</b>	<b>100</b>
Ernakulam	206	73.5
Other districts of Kerala	58	20.7
Inside India other than Kerala	16	5.7
<b>Do you have any health problems?</b>	<b>280</b>	<b>100</b>
Yes	22	7.9
No	258	92.1
<b>Under any medication?</b>	<b>280</b>	<b>100</b>
Yes	13	4.6
No	267	95.4

*f*→frequency, %→percentage

## **Respondent's knowledge about mental health**

Out of the 280 respondents, 179 (63.9%) responded as they do have knowledge about mental health but 6.1% of them didn't know about mental health. 30% respondents are not sure about their knowledge. They responded as may be they knew about it. Some of the selected answers for the question: what is mental health? from the respondents are "Mental health is a state of an individual realizes his or her own abilities, can cope with the normal stresses of life and is able to make a contribution to his or her community", "The state of wellbeing of our mind that we are capable of handling ourselves and the situations facing at the present", "It means our emotional, psychological, and social well-being. It affects how we think, feel, and act", "Mental health means to have a good control over your emotions, awareness of what's happening around and to take actions according to only our will. Our mind should be under our control. Whatever actions we may take we should be able to justify it. According to me, this is what good mental health means", and "Mental health means a complete state of physical, Mental, social, spiritual well- being and not merely absence of disease". 271 of the respondents said that mental health is equally important as that of physical health but two of them responded as they are not equally important, and 2.5% of them responded as may be that mental health is equally important as physical health.

50.7% of the participants think that they have good mental health but 11.1% of them think that they don't have good mental health. 38.2% of them weren't sure about their state of mental health. From the given options of mental illnesses like Anxiety disorders, depression, conduct disorders, hyperactivity disorders, impulse control disorders and others. 15.7% of the participants marked as having anxiety disorders, 11.4% marked as having depression. There is no significant association between gender and depression of the participants. Both the genders show almost the same values of depression (female - 11.3% & male - 11.8%). 4.3% of the total participants have learning disabilities, 2.9% of them have conduct disorders, 11.8% of them suffer from attention deficits, 0.7% of them have hyperactivity disorders, 31.4% of them have mood disorders, 2.1% of them have impulse control disorders, only one of the participants responded as he have substance use disorders and 8.6% of them were responded as they were suffering from other mental illnesses than the options given, such as post traumatic stress disorder. From these results it can be seen that the majority of the



participants who suffer from mental illnesses have mood disorders, anxiety disorders, attention deficits, depression and so on.

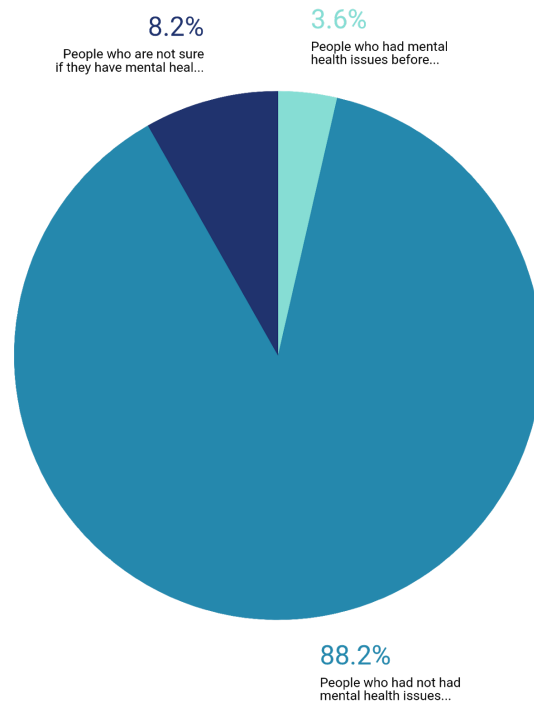
**TABLE-2|**Respondent's knowledge about mental health and their mental status (n=280).

<b>Category</b>	<b><i>f</i></b>	<b>%</b>
<b>Knowledge about mental health</b>	<b>280</b>	<b>100</b>
Yes	179	63.9
No	17	6.1
Maybe	84	30
<b>Mental health is equally important as physical health</b>	<b>280</b>	<b>100</b>
Yes	271	96.8
No	2	0.7
Maybe	7	2.5
<b>Do you have a good mental health</b>	<b>280</b>	<b>100</b>
Yes	142	50.7
No	31	11.1
Maybe	107	38.2
<b>Participants suffering mental illnesses</b>	<b>280</b>	<b>100</b>
Anxiety disorders	44	15.7
Depression	32	11.4
Learning disabilities	12	4.3
Conduct disorders	8	2.9
Attention deficits	33	11.8
Hyperactivity disorders	2	0.7
Mood disorders	88	31.4
Impulse control disorders	6	2.1
Substance use disorders	1	0.4
Others	24	8.6

*f*→frequency, %→percentage

### **Mental health related to COVID-19**

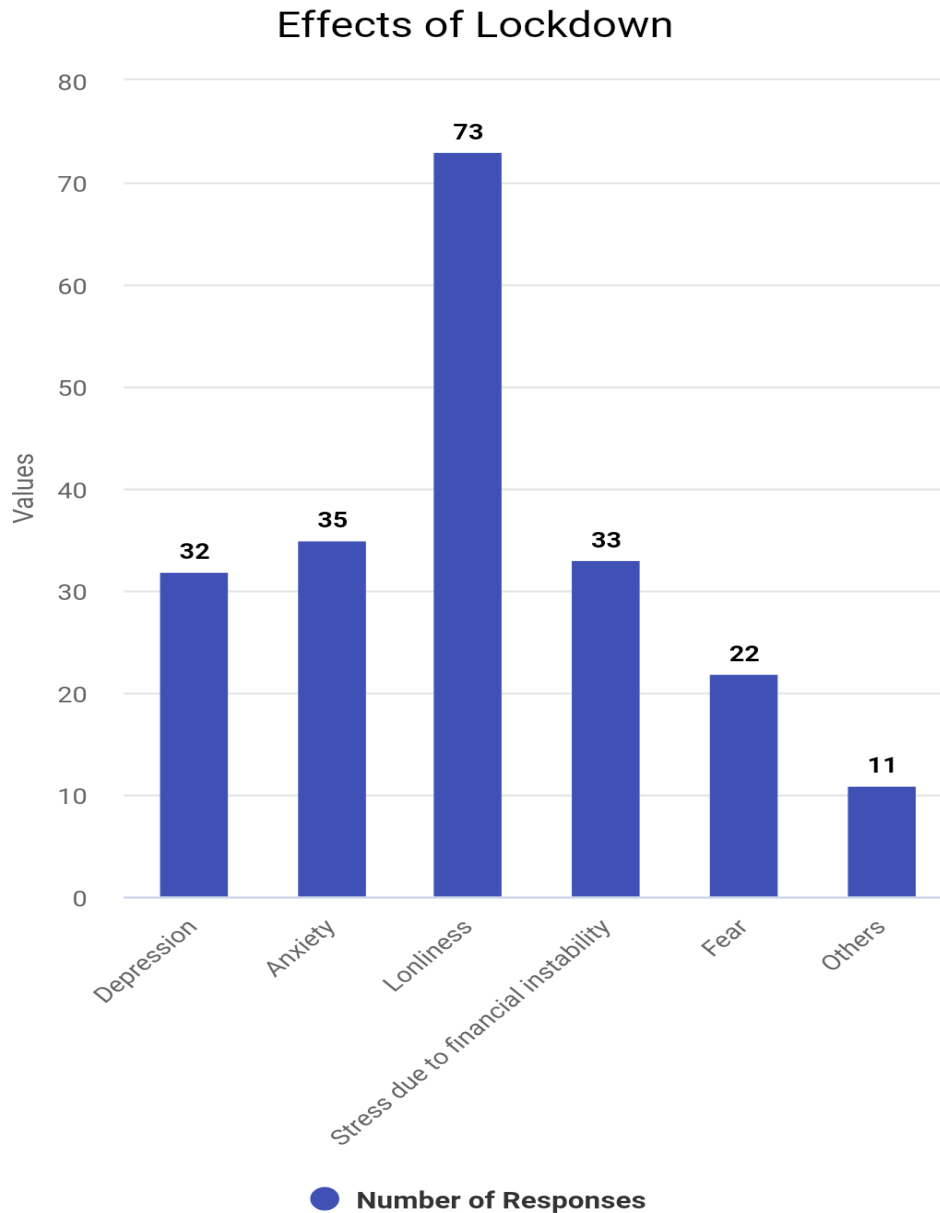
97.5% of the participants were aware about COVID-19 pandemic, but 2.5% of the participants responded as they weren't aware about it. And 88.2% (n=247) of the participants responded as they don't have any mental health issues before the pandemic but 3.6% of them have it even before the pandemic such as anxiety bipolar disorders, stress, PTSD, and mood disorders.



*Fig.1.1 - status of participants about their mental health before pandemic.*

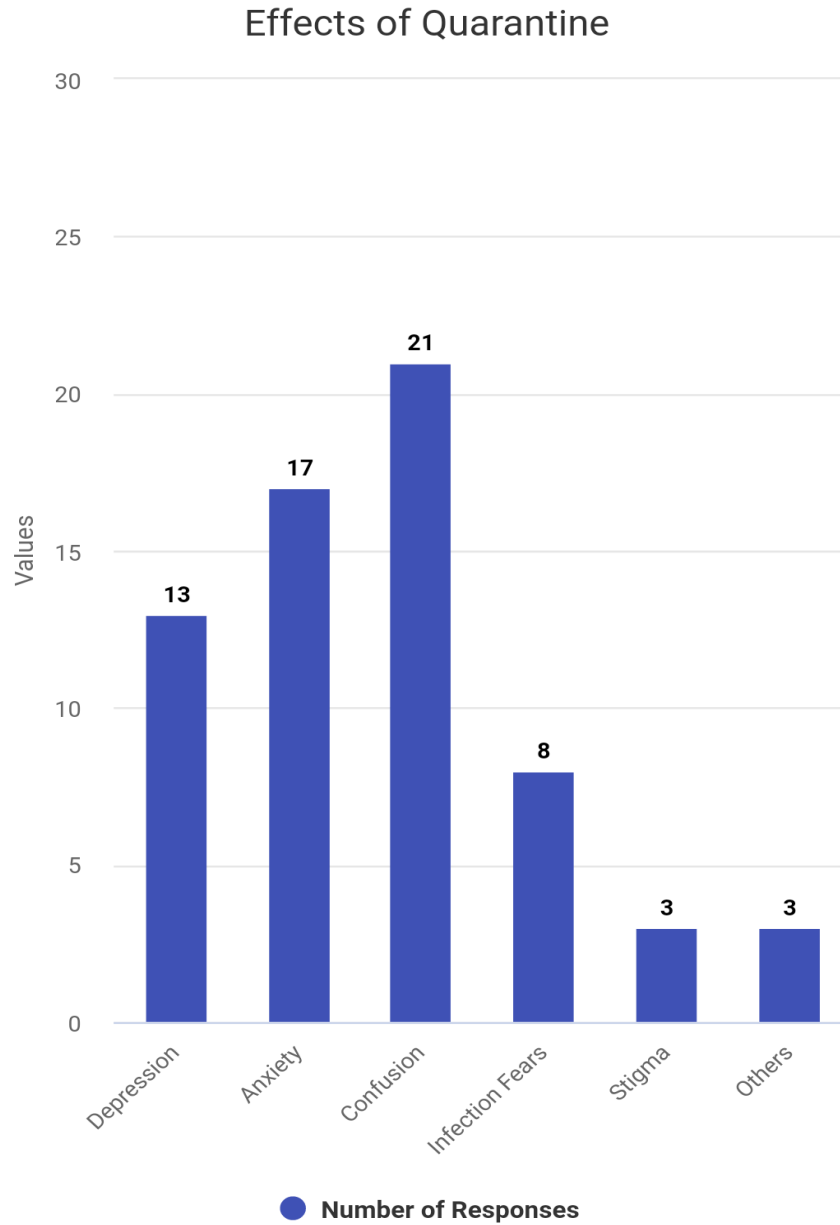
8.2% of the participants were not sure about did they have any mental health issues before this pandemic. 37.9% of the participants felt some sort of change in their mental health during this pandemic, but 41.8% didn't felt any change and 20.4% of them weren't sure about it. For 54.1% of the participants it was a good change but for the balance 45.9% it was a bad change.

From 24th March, 2020 the Central Government announced a nationwide lockdown. This lockdown period affected 54.3% of the participant's mental health in some way. But 45.7% of them didn't feel any change. Loneliness is the mental condition marked by the majority (56.1%) of the participants who said that the lockdown affected their mental health. Anxiety (26.9%) for postgraduates anxiety is higher than that of undergraduates (PG - 20% & 11.4%), financial instability (25.4%), depression (24.6%) there is no difference between undergraduate and postgraduate students in the case of depression both of them have the same depression percentage (11.4%), fear (16.9%) were also followed by loneliness.



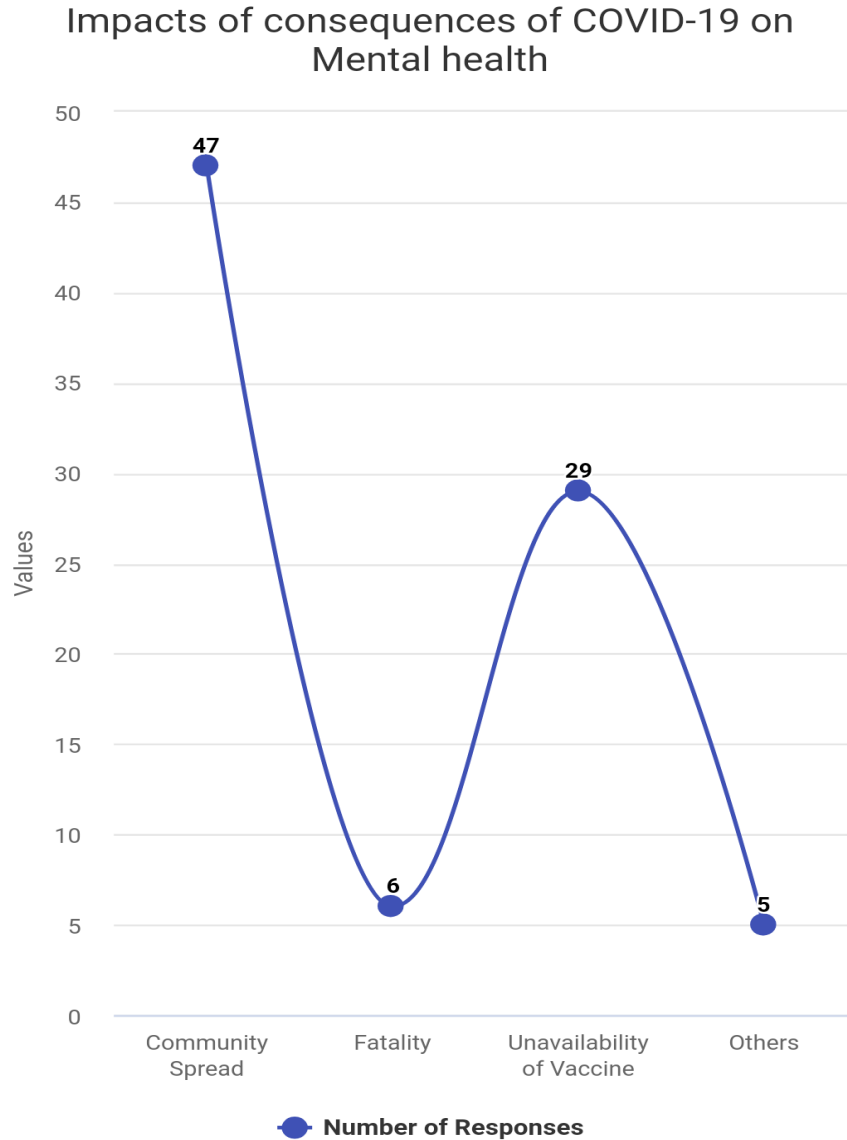
*Fig.1.2 - status of different mental illnesses caused by statewide lockdown in Kerala.*

Depression is higher in students inside Kerala (11.7%) when compared to that of students outside Kerala (6.25%). Majority (78.6%) of the participants weren't undergone a quarantine however 21.4% of them undergone a quarantine and many of them go through Depression (23.6%), anxiety (30.9%), confusion (38.2%), infection fears (14.5%), Stigma (5.5%), frustration (1.8%) and loneliness (1.8%).



*Fig.1.3 - status of different mental conditions during a quarantine.*

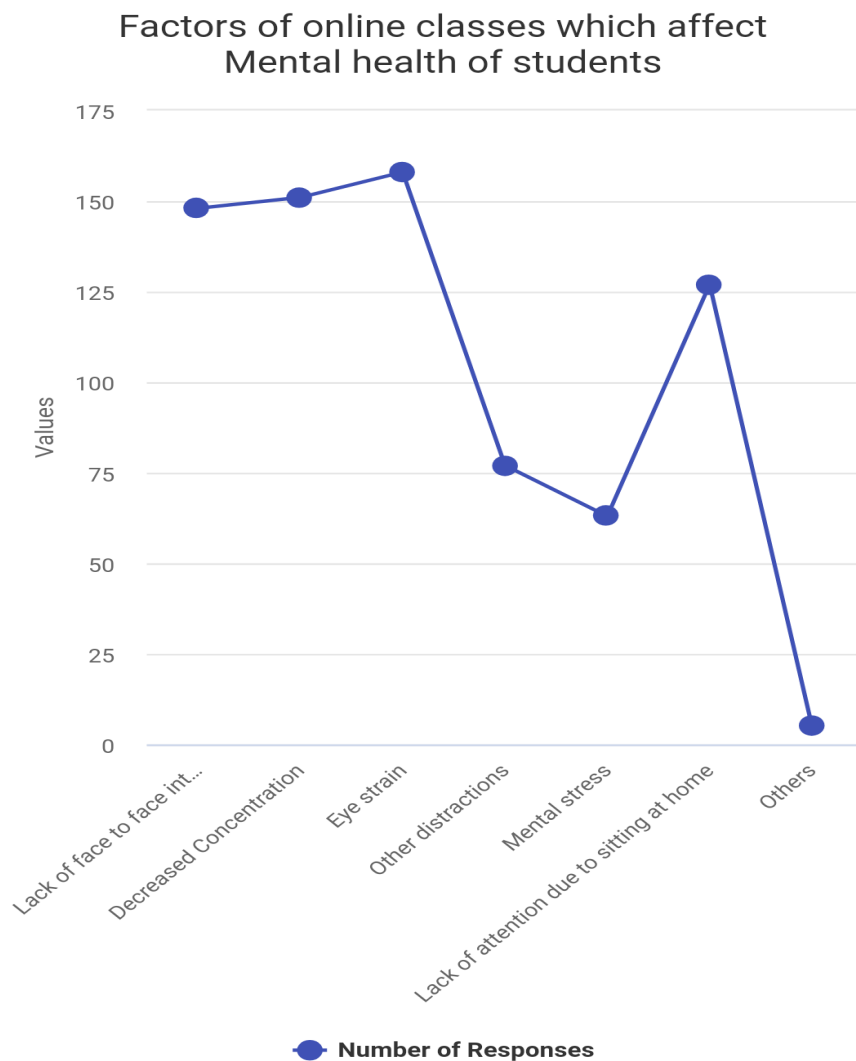
In terms of community spread, fatality rate, unavailability of vaccine etc. the COVID-19 affected 18.2% of the participants. 17.9% of them are not sure about it and 63.9% don't have any problems. Community spread was the main cause (59.5%), then unavailability of vaccines (36.7%), fatality rate (7.6%), and fear of losing loved ones (1.3%) also affected them.



*Fig.1.4 - status of the impacts of different consequences of COVID-19 on mental health of the participants.*

From 10th March, 2020 all colleges and schools were closed in Kerala and among the participants 96.1% of them have online classes during the pandemic. And 53.6% of the students responded as those online classes caused increased mental stress than normal classes. Ineffectiveness of online classes, lack of face-to-face interactions, tight schedules, persistent use of electronic devices, network issues, decreased concentration, disturbances from home atmosphere during classes, academic works, difficulty in following classes, anxiety about exams are the main causes of stress among those students. And 24.6% of the participants weren't sure about whether the online classes caused increased stress and 21.8% didn't feel any stress due to online classes. Majority (80.7%) of the students were worried

about their academics. Many of them feel bad due to the break in social relationships especially with their friends. And 80% of them felt some negative impacts on their academics when compared to pre-covid days due to lack of face-to-face interactions (n=148), decreased concentration (n=151), Eye strain due to the persistent use of electronic devices (n=158), lack of attention due to sitting in home (n=127), Other distractions (n=77) and mental stress (n=63). And 20% of the participants didn't felt any negative impact on their academics. 74 (26.4%) participants of this survey think that this COVID-19 changed their positive thinking capacity.



*Fig.1.5 - Status of different factors of online classes which affect the mental health of participants.*

As expected, COVID-19 negatively affected the mental health of college students. Before the emergence of COVID-19 the students reported no symptoms of depression (0%) but during

the COVID-19 pandemic depression increased (5.7%). And in the case of anxiety, before the emergence of COVID-19 the students reported only 1.07% of anxiety but during the COVID-19 pandemic it increased into 3.21%.

### Ways of survival

Before the emergence of COVID-19 there were situations which affected the minds of the people. Before COVID-19 the participants were resorted many options during mood change or upset of mind such as by engaging in different activities which gives them pleasure (78.2%), by spending time with their friends (52.9%), by talking to someone special (43.2%), by consulting a psychologist or counsellor (1.1%), by travelling (0.4%) and so on. Some of the participants don't have any ways to cope with their mental disturbances.

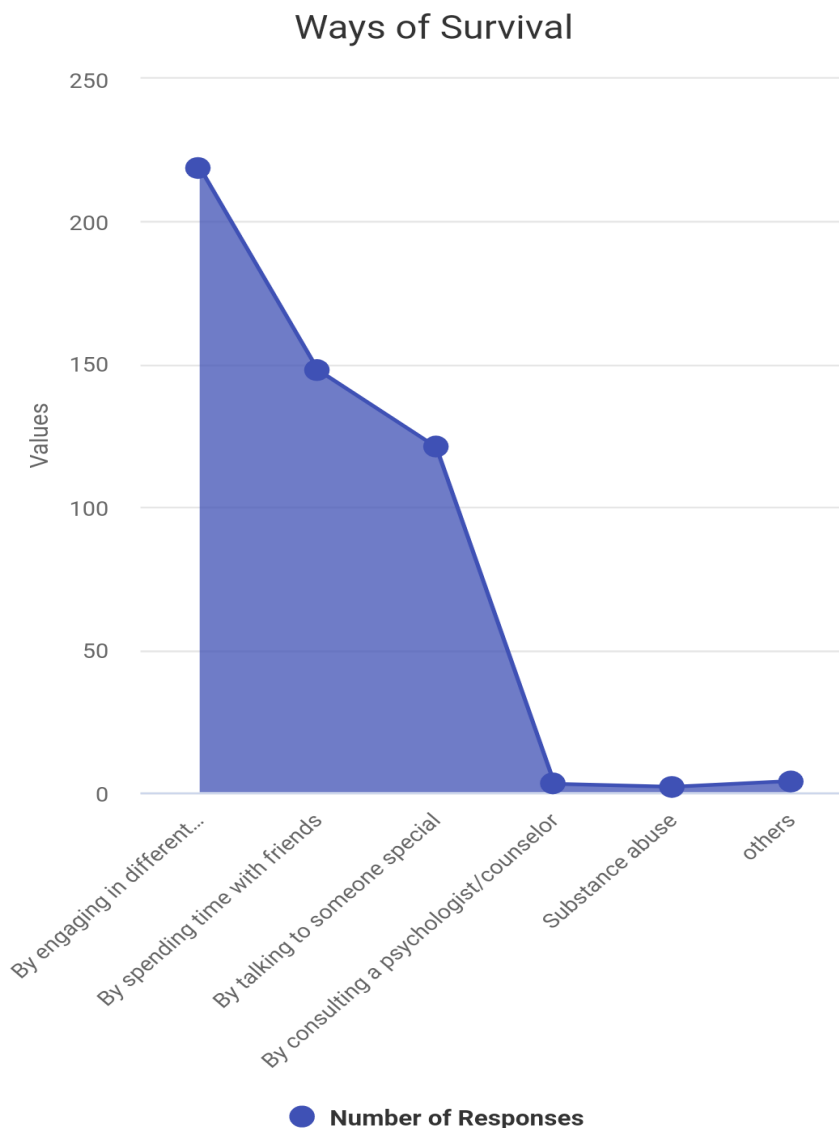


Fig.1.6 - Status of different ways of survival adopted by the participants.

91.4% of the participants believe that they can get rid of mental disturbances during COVID-19 by the ways they were used before COVID-19. But 8.6% of them didn't believe that. They discovered new ways to cope with the current situation like watching entertainment shows, personal prayers and going deep into spirituality, learning new skills, listening to music, engaging in reading, sleeping etc. And 97.5% of participants believe that they can survive in this pandemic, only 2.5% of them didn't believe that. Many of the participants suggest many ways to cope up with mental disturbances like engaging in activities, accept the situation, prayer, reading, yoga and the prominent one among them is talking to someone you can trust.

These are the results I could collect from the survey and as I expected before starting this study the COVID-19 Pandemic negatively affected the mental health of college students. But the majority of them think positively, that we can survive this Pandemic.



## **DISCUSSION**

The study entitled “A COMPARATIVE STUDY ON THE MENTAL WELL-BEING OF COLLEGE STUDENTS BEFORE AND DURING COVID-19 PANDEMIC” aims to compare the mental well-being of college students before and during COVID-19 pandemic. The novel coronavirus disease has caused a worldwide pandemic and it distressed the world population including the student population in colleges. This survey results clearly show that the pandemic imposed a negative impact on the mental health of the majority of the college students. College students are of the age 18-25 which is more vulnerable to mental disturbances. The findings from this study helps to understand the impact of COVID-19 on academic, health and well-being of college students inside India mainly in Kerala.

Based on the currently available literature, negative impacts of COVID-19 and quarantine was expected. Findings of this study confirmed this expectation (Lorena Cecilia Lopez Steinmetz, et al., 2021) Quarantine affected the students in different ways like depression, anxiety, confusion, infection fears, stigma, frustration, loneliness etc.

This study is in line with other studies in the case of increased depression and anxiety during the COVID-19 than before it's emergence. The results of other studies indicated that their depression and anxiety levels had increased during the current pandemic and previous pandemics (Wang X, et.al., 2020, Liu S, et.al., 2020, Wang C, et.al., 2020).

In the current study, 26.9% of college students reported anxiety due to the impact of the lockdown as a result of COVID-19, which is lower than other studies which were conducted at the initial times of COVID-19 outbreak in China. Which indicates that the impact of COVID-19 on college students' mental health is decreased in terms of anxiety as the time goes (Wenning Fu, et.al., 2021).

In this study, found no differences in mental illnesses such as depression, anxiety, stress etc between the two genders. There are other studies showing similar results as no differences when based on gender (Lu Chen, et.al., 2013, Grant K, et al., 2002) this might be because there are no gender differences in front of a pandemic and academically there are no differences in their works. So they have the same problems as a college student. But in some

other studies they find that females are more prone to depression, this is contrary to the findings of this survey (Mikolajczyk RT, et.al., 2008, Franko DL, et.al., 2005).

In the case of depression there is no differences between undergraduate and postgraduate students from the results of this study this is contrary to a some other studies which showed that senior students had higher depression scores compared with junior students (Lu Chen, et.al., 2013) and with other studies which showed junior students had higher depression compared with senior students (Bayram,N., et al., 2008).

The current study finds unsatisfactory responses from the participants about online classes. They said that online classes increase the stress among students, they cannot follow classes properly, persistent use of electronic devices and also concerns about academic performance increases stress and strain among them and lack of face-to-face interactions decreases it's effectiveness. Similar results were found in an interview survey study conducted by Son et.al., and identified increased concerns in academic performance as stressor contributing to increased levels of stress, anxiety and depressive thoughts among students during COVID-19 pandemic. But contrary to this another study finds satisfaction with academic performance was significantly higher among students during online learning (Bolatove, et.al, 2020). This study says that during online training, students become more independent and choose the time and conditions of learning, which could have a positive impact on mental health.

The current study also shows that COVID-19 related social stressors such as financial instability, infection fears, community spread, unavailability of vaccines were also affecting the students psychologically. Similar findings can be seen in a study by Abid Hasan Khan, et.al, 2020.

### **Strength and limitations of the study**

To the best of my knowledge, currently there are no much research reports comparing the mental well-being of college students in Kerala, before and during the current COVID-19 pandemic. Findings of this study will help the concerned authorities to help college students who are suffering from mental disturbances and to plan and adopt appropriate interventions to overcome the negative psychological impacts of COVID-19 pandemic in Kerala. And also

this will help to find ways to make the online classes more effective and stress-free to help the students psychologically and academically.

This study has several limitations to acknowledge. This study is based on a survey conducted online so it lacks face-to-face interactions and due to that reliability of answers cannot be checked effectively. Therefore, it is unable to clarify whether the findings have been biased or not. And this study relied on self-reported answers regarding experience during the current pandemic (lockdown, quarantine, etc.) which may not align with clinical diagnosis of mental health professional.

## **CONCLUSION**

The findings of the current study entitled "A COMPARATIVE STUDY ON THE MENTAL WELL-BEING OF COLLEGE STUDENTS BEFORE AND DURING COVID-19 PANDEMIC" clearly indicate the negative impacts of current COVID-19 pandemic. This study focuses on the population of college students, both undergraduate and postgraduate of various colleges inside Kerala and some outside parts of Kerala to assess their mental well-being before and during the COVID-19 pandemic. And the results showed that there occurred an increase in mental health disturbances of college students such as depression, anxiety, stress, mood disorders etc. during the pandemic than before. The different strategies taken to prevent the spread of COVID-19 such as home quarantine, social distancing, statewide lockdown etc. were negatively affecting the social relationships between people. Lack of interactions between people induced social stigma, loneliness, depression etc among general people and especially the young people the college students. This affected their psychological well-being.

All offline classes have become virtual classes due to lockdown. This confined every student inside their houses and online classes had many disadvantages like lack of face-to-face interactions, persistent use of electronic devices increased mental and physical stress, it is difficult to concentrate and follow online classes than offline classes. These factors decreased the effectiveness of online classes. And this increased the anxiety of college students about their academics and career.

This study also shows that there is no relationship between mental health and gender. Both the genders included in this study have almost equal points to mental health in terms of depression, anxiety etc. And the location where the person lives is an influencing factor in the case of mental health. The current situation of that place is very important in that person's mental health. In the case of COVID-19 if the number of reported cases, the fatality rate were under control, the people living in that place would feel decreased stress to their mind. And in the case of college students mental health also can be related to their level of study. In this study we can see that Postgraduates are more vulnerable to anxiety than that of undergraduates.

And the other factors related to COVID-19 such as community spread, fatality rate, unavailability of vaccines, infection fears also acted as social stressors and increased the mental illnesses. College students are of the age between 18-25 years, are more vulnerable to mental health issues such as anxiety, depression and so on. And they are in the age group who use social media frequently. So they could get the recent updates about COVID-19 and also many fake news and these would increase their anxiety level.

As the study suggests increased levels of psychological problems among the youth, it is important to improve the mental health system and its delivery to the people who need it, especially during this pandemic like situation in the present and in the future. And also it is very important to provide correct information among the population because their perception regarding the particular outbreak plays an important role on their mental health. So an unbiased system of information production and delivery is very essential.

However, being involved in various activities which give pleasure to you and doing physical exercise also will help to get a good mental health and helps to cope up with the situations like COVID-19 pandemic.

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