

Prevalence of anxiety and depression among the post COVID-19 patients and families at the post COVID care center, KIMS Hospital Bhubaneswar: A Cross-Sectional Study.

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Abstract- Aim: COVID 19 pandemic has negatively affected many people's mental health and created new barriers for people already suffering from mental illness. Aims include to assess the level of depression and anxiety among post COVID – 19 patients and their families and to find the association between depression and anxiety with the selected demographic variables, at the post COVID care center, KIMS hospital Bhubaneswar.

Materials and methods: A cross-sectional study with descriptive cross sectional research design with quantitative research design was undertaken among 95 samples selected by purposive sampling technique in post COVID care centre, KIMS Hospital, Bhubaneswar. Data were collected by interview method through structured demographic tools and standardized tools (Beck Depression Inventory and Beck Anxiety Scale)

Results: This study was conducted to find out the knowledge regarding association of anxiety and depression among the post covid 19 patients and their families. The study reveals that most of the post covid patients are suffering from anxiety and depression by using anxiety level chart the graph showing the distribution of patients and their families depicts highest number of 39 belongs to low anxiety, 31 number of persons fall under moderate anxiety and 25 number of persons have high anxiety. From the study , we found that the distribution of post COVID patients and their families depicts highest number belongs to normal, 16 number of persons fall under mild depression, 15 number of persons are on the borderline, 12 number of

persons have moderate depression, 9 persons have severe depression and 3 have extreme depression. About 50 of the post COVID patients and families were in the age group of 46-60. Highly significant difference was found among the demographic variables ($p < 0.05$)

Conclusion: Post- covid-19 seems to be a multisystem disease, sometimes occurring after a relatively mild acute illness. The patient has a recovery from an episode of covid-19 and managed in the community or in a standard hospital ward. The findings of the study indicate that the COVID 19 pandemic was associated with mild psychological impact among the adults. There is a need to increase the awareness among the various media platforms about psychological changes and highlight the importance of seeking help and engaging in physical activity for the management of mental health disorders. Furthermore, an increase in awareness among the health care professionals in identifying and targeting the high risk groups of the population who are at high risk in developing mental health problems is vitally important. Adolescents and young adults have faced large disruptions to their education and living situations and may suffer lifelong economic impacts due to COVID 19. Thus, the COVID 19 pandemic is associated with highly significant levels of psychological distress that in many cases would meet threshold for clinical relevance. Mitigating the hazardous effects of COVID 19 on mental health is an international public health policy.

Keywords: anxiety, depression, families, patients, post COVID 19, prevalence.

INTRODUCTION

According to WHO, *Coronavirus disease (COVID-19)* is an infectious disease caused by a newly discovered coronavirus. Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness.^[1]

The study conducted by the San Raffaele Hospital in Milan, Italy found that overall, 55.7 per cent of the patients self-reported at least one psychopathological manifestation. Furthermore, 28 per cent suffered from PTSD, 31 per cent from depression, 42 per cent from anxiety, 20 per cent from obsessive-compulsive disorder (OCD) and 40 per cent from insomnia. Within the 402 subjects, 26 patients had a pre-Covid diagnosis of major depressive illnesses, 28 had generalised anxiety, 20 had panic attacks, five were bipolar, five had social phobia, 3 had eating problems and 4 had other disorders.^[2]

The psychological effects of the pandemic are best understood in terms of psychiatric and psychological problems that were present before the pandemic and the pathoplastic effects of the pandemic on these problems; the responses to social isolation and lockdown; the psychological response to the diagnosis, public responses to those with symptoms suggestive of COVID-19 infection, as well as the aftermath of the infection.^[3]

Wang et al 2020, conducted a study on found that 53.8% of respondents rated the psychological impact of the outbreak as moderate or severe; 16.5% specified moderate to severe depressive symptoms; 28.8% reported moderate to severe anxiety symptoms; and 8.1% were found to have moderate to severe stress levels.^[4]

Psychiatrists across the city say survivors of Covid-19, particularly those who had severe cases, may suffer mental health issues while rehabilitating, after recovering from the infection. City psychiatrists say many Covid survivors are experiencing mental health issues, including post-intensive care syndrome (PICS), anxiety, sleep difficulties, depression and delirium.^[5]

COVID-19 has led to internal and external war for the humanity. This fear is giving rise to feels of anxiety, loneliness, and depression. *Mental health* is equally important as physical health. The main psychological impact to date is elevated rates of stress or anxiety.^[6]

METHODOLOGY

A cross-sectional study with quantitative research approach was conducted from February 2021 to September 2021 at post-covid care centre of KIMS hospital Bhubaneswar. Study population included patients who had already suffered from covid attending post covid centre of selected hospital, Bhubaneswar. Patients who were present at the time of data collection and willing to participate in the study were included in this study. Patients having chronic illness or any other mental illnesses during the data collection were excluded from the study.

Written permission was taken from the concerned authority for conducting the study. Data collection was started from 03-07-2021. The samples were selected based on the inclusion criteria. Number of samples selected per day was decided as per the patients came to the post COVID care center of KIMS Hospital during the data collection (purposive sampling). Each sample gave consent to participate in the study. Self-structured questionnaire that included demographic characteristics, was evaluated by the interview. The tools for questionnaire used were Beck Anxiety Scale and Beck Depression Scale. Data was collected from 50 post COVID patients who came to the KIMS Hospital.

Quantitative data were analysed using Microsoft Excel 2009 and Statistical Package for Social Sciences Software (SPSS 20). Descriptive statistics were calculated as frequency, percentage, standard deviation, median and range. It is also represented by various tables, diagram, and graphs. Chi-square test was used to find out the association between background characteristics, depression, and anxiety level of the study population. p- value less than 0.05 was considered significant throughout the analysis.

The study involved less than minimal risk to the study participants

Description of the tool: -

The tool used in the study divided into 3 sections. These are: -

Section A: - Consist of Demographic variables including Age, marital status, parity, educational status, occupation, religious status, economic status, habitat and source of knowledge.

Section B: -Beck anxiety scale is used as self-report measure of anxiety.

values for each item are summed yielding an overall or total score for all 21 symptoms that can range between 0 and 63 points. A total score of 0 - 21 is interpreted as a "Low" level of anxiety; 22 - 35 as "Moderate", and; "36 & above" as "High".

SL.NO	SCORE RANGE	LEVEL OF ANXIETY
1.	0-21	LOW ANXIETY (L)
2	22-35	MODERATE (M)
3.	36 & ABOVE	HIGH (H)

Tab 1: Score for Beck Anxiety Inventory

Section C: - The Beck Depression Inventory (BDI) is a 21-item, self-report rating inventory that measures characteristic attitudes and symptoms of depression. The Beck Depression Inventory (BDI, BDI-1A, BDI-II), created by Aaron T. Beck, is a 21-question multiple-choice self-report inventory.

One of the most widely used psychometric tests for measuring the severity of depression.

Its development marked a shift among mental health professionals, who had until then, viewed depression from a psychodynamic perspective, instead of it being rooted in the patient's own thoughts.

Sl. No.	Score range	Level of Depression
1	1-10	Normal(N)
2	11-16	Mild (MI)
3	17-20	Borderline(B)
4	21-30	Moderate (MO)
5	31-40	Severe(S)
6	>40	Extreme(E)

Tab 2: Score for Beck Depression Inventory

OPERATIONAL DEFINITIONS

1. Post COVID-19 patient: Post COVID-19 patients refer to those patients who had recovered from COVID-19.
2. Families: Families refer to the first-degree relatives those who are residing with the post COVID-19 patients.
3. Prevalence: Prevalence is the proportion of post COVID 19 patients and their families who have depression and anxiety at the time of data collection.
4. Anxiety: Anxiety refers to a psychological state in which the post COVID-19 patients and families feels a sense of uneasiness, distress or dread, tension, worry, nervousness before a significant event, which will be measured by Beck Anxiety Inventory.
5. Depression: Depression refers to a state where the post COVID-19 patients and families had persistent feeling of sadness, hopelessness, helplessness, worthlessness, insomnia, and sometimes suicidal thoughts, which will be measured by Beck Depression Inventory.

HYPOTHESIS

1. H_1 – There will be significant association between depression with the selected demographic variables.
2. H_2 - There will be significant association between anxiety with the selected demographic variables

RESULTS

Section 1 (Tab 3): Description of demographic characteristics of the post COVID 19 patients and families visited in post COVID Care Centre, KIMS Hospital Bhubaneswar

NO OF ITEMS	FREQUENCY	PERCENTAGE
1.AGE GROUP		
a) 18-30	16	16.84
b) 30-45	12	12.63
c) 46-60	50	52.63
d) 60-80	15	15.79
e) >80	02	2.1
2.SEX		
a) MALE	58	61.05

b)	FEMALE	37	38.94
c)	THIRD GENDER	00	00
3.EDUCATIONAL LEVEL			
a)	ILLITERATE	00	00
b)	PRIMARY	12	12.63
c)	SECONDARY	37	38.94
d)	HIGH SECONDARY	24	25.26
e)	GRADUATE AND ABOVE	22	23.15
4.OCCUPATION			
a)	UNEMPLOYED	09	9.47
b)	DAILY WAGE WORKER	33	34.73
c)	GOVERNMENT EMPLOYEE	28	29.47
d)	PRIVATE EMPLOYEE	25	26.31
5.OCCUPATION LOST DUE TO COVID			
a)	YES	29	30.52
b)	NO	66	69.47
6.MONTHLY FAMILY INCOME (IN RUPEES)			
a)	>1 LAKH	05	5.81
b)	86,000-99,000	09	10.46
c)	70,000-85,000	14	16.27
d)	40,000-69,000	16	18.6
e)	21,000-39,000	09	10.46
f)	10,000-20,000	33	34.73
7.RELEGION			
a)	CHRISTIAN	07	7.37
b)	HINDU	57	60
c)	ISLAMIC	31	32.63
d)	OTHERS	00	00
8.MARITAL STATUS			
a)	MARRIED	35	36.84
b)	UNMARRIED	52	54.73
c)	WIDOW	06	6.31
d)	DIVORCEE	02	2.1
NO OF ITEMS		FREQUENCY	PERCENTAGE
9.FAMILY TYPE			
a)	NUCLEAR	52	54.73
b)	EXTENDED	04	4.21
c)	JOINT	39	41.05
10.RESIDENCE			
a)	Urban	49	51.57
b)	Sub urban	27	28.42
c)	Rural	19	20
11.THE SOURCE FROM WHERE INFECTION COULD HAVE CONTAMINATED			
a)	MARKET		
b)	OTHER, IF ANY SPECIFY	32	33.68
c)	WORKPLACE	03	3.15
d)	SCHOOL/COLLEGE	54	56.84
		06	6.31

12.THE DAYS YOU DEVELOP ANXIETY OR DEPRESSION SYMPTOM AFTER RECOVERY		
a) 7-9 DAYS	09	9.47
b) 10-15 DAYS	14	14.73
c) 15-20 DAYS	28	29.47
d) MORE THAN 20 DAYS	04	4.21
e) NOT APPLICABLE	40	42
13.ANY OF YOUR FAMILY MEMBERS AFFECTED		
a) YES	27	28.42
b) NO	68	71.57
14.CLIENT RECEIVED TREATMENT AT:		
a) HOME	30	31.57
b) QUARANTINE CENTRE	29	30.52
c) HOSPITAL	36	37.89
15.IF IN HOSPITAL, WHETHER THE PATIENT		
a) EXPOSED TO O ₂ THERAPY	54	56.84
b) NO O ₂ THERAPY	41	43.15

NO OF ITEMS	FREQUENCY	PERCENTAGE
16.. MEDICINES RECEIVED FOR RECOVERY		
a) ONLY STEROIDS		
b) ONLY ANTIBIOTICS	00	00
c) ONLY LOW MOLECULAR WEIGHT HEPARINS	59	62.10
d) ALL OF THE ABOVE	00	00
	36	37.9
17. In hospital has the client seen death of other patients affected from COVID?		
a) Yes	18	18.94
b) No	77	81.05
18.ICU TREATMENT RECEIVED:		
a) YES	39	41.05
b) NO	56	58.94
19.HISTORY OF SUBSTANCE ABUSE LIKE:		
a) NICOTINE		
b) GANJA(CANNABIS)		
c) ALCOHOL		
i) YES	29	30.52
ii) NO	66	69.47

Section 2: To assess the level of depression and its association with demographic variables among post

COVID 19 patients and families visited in post COVID Care Centre, KIMS Hospital, Bhubaneswar.

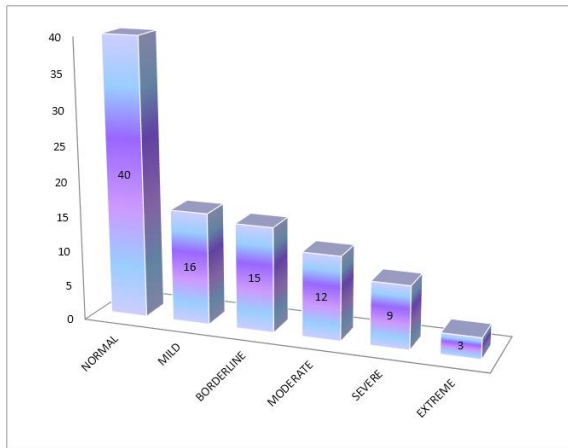


Fig 1: Graph representing the level of depression in association with demographic variables among post COVID 19 patients and families visited in post COVID Care Centre, KIMS Hospital, Bhubaneswar.

Comments: The above graph showing distribution of post COVID patients and their families depicts highest number belongs to normal, 16 number of persons fall under mild depression, 15 number of persons are on the borderline, 12 number of persons have moderate depression, 9 persons have severe depression and 3 have extreme depression.

Section 3: To assess the level of anxiety and its association with demographic variables among post COVID 19 patients and families visited in post COVID Care Centre, KIMS Hospital, Bhubaneswar.

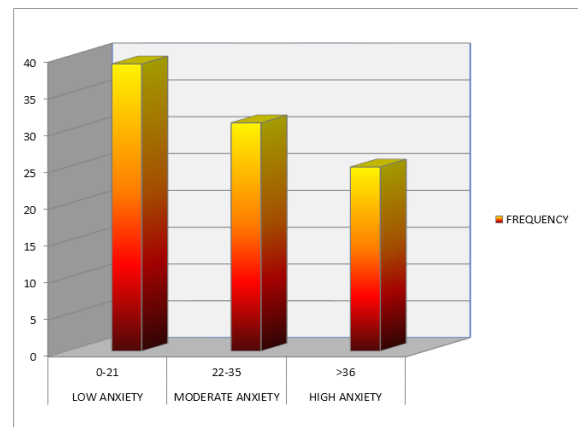


Fig 2: Graph representing level of anxiety and its association with demographic variables among post COVID 19 patients and families visited in post COVID Care Centre, KIMS Hospital, Bhubaneswar.

Comments: The above graph showing the distribution of patients and their families depicts highest number of 39 belongs to low anxiety, 31 number of persons fall under moderate anxiety and 25 number of persons have high anxiety

Tab 4: Development of Chi square tests and inference of the demographic variables to assess the level of depression

NO OF ITEMS	CHI SQUARE VALUE	DF	P VALUE	INFERENCE
1.AGE GROUP				
f) 18-30	115.257	30	0	SIGNIFICANT
g) 30-45				
h) 46-60				
i) 60-80				
j) >80				
2.SEX				
d) MALE	108.616	12	0	SIGNIFICANT
e) FEMALE				
f) THIRD GENDER				
3.EDUCATIONAL LEVEL				
f) ILLITERATE	104.674	24	0	SIGNIFICANT
g) PRIMARY				
h) SECONDARY				
i) HIGH SECONDARY				
j) GRADUATE AND ABOVE				
4.OCCUPATION				
e) UNEMPLOYED	114.320	24	0	SIGNIFICANT
f) DAILY WAGE WORKER				
g) GOVERNMENT EMPLOYEE				

h) PRIVATE EMPLOYEE				
5.OCCUPATION LOST DUE TO COVID c) YES d) NO	105.014	12	0	SIGNIFICANT
6.MONTHLY FAMILY INCOME (IN RUPEES) g) >1 LAKH h) 86,000-99,000 i) 70,000-85,000 j) 40,000-69,000 k) 21,000-39,000 l) 10,000-20,000	45.646	36	0.13	NOT SIGNIFICANT
7.RELEGION e) CHRISTIAN f) HINDU g) ISLAMIC h) OTHERS	100.789	18	0	SIGNIFICANT

NO OF ITEMS	CHI SQUARE VALUE	DF	P VALUE	INFERENCE
8.MARITAL STATUS e) MARRIED f) UNMARRIED g) WIDOW h) DIVORCEE	109.119	24	0	SIGNIFICANT
9.FAMILY TYPE d) NUCLEAR e) EXTENDED f) JOINT	109.774	18	0	SIGNIFICANT
10.RESIDENCE d) Urban e) Sub urban f) Rural	107.753	18	0	SIGNIFICANT
11.THE SOURCE FROM WHERE INFECTION COULD HAVE CONTAMINATED e) MARKET f) OTHER, IF ANY SPECIFY g) WORKPLACE h) SCHOOL/COLLEGE	116.306	24	0	SIGNIFICANT
12.THE DAYS YOU DEVELOP ANXIETY OR DEPRESSION SYMPTOM AFTER RECOVERY f) 7-9 DAYS g) 10-15 DAYS h) 15-20 DAYS i) MORE THAN 20 DAYS j) NOT APPLICABLE	112.112	30	0	SIGNIFICANT

13.ANY OF YOUR FAMILY MEMBERS AFFECTED c) YES d) NO	104.899	12	0	SIGNIFICANT
14.CLIENT RECEIVED TREATMENT AT: d) HOME e) QUARANTINE CENTRE f) HOSPITAL	108.532	18	0	SIGNIFICANT

NO OF ITEMS	CHI SQUARE VALUE	DF	P VALUE	INFERENCE
16.. MEDICINES RECEIVED FOR RECOVERY e) ONLY STEROIDS f) ONLY ANTIBIOTICS g) ONLY LOW MOLECULAR WEIGHT HEPARINS h) ALL OF THE ABOVE	101.652	12	0	SIGNIFICANT
17. In hospital has the client seen death of other patients affected from COVID? c) Yes d) No	99.075	12	0	SIGNIFICANT
18.ICU TREATMENT RECEIVED: c) YES d) NO	99.326	12	0	SIGNIFICANT
19.HISTORY OF SUBSTANCE ABUSE LIKE: d) NICOTINE e) GANJA(CANNABIS) f) ALCOHOL iii) YES iv) NO	97.527	12	0	SIGNIFICANT

Tab 5: Development of Chi Square tests and inferences of the demographic variables to assess the level of anxiety

NO OF ITEMS	CHI SQUARE VALUE	DF	P VALUE	INFERENCE
1.AGE GROUP k) 18-30 l) 30-45 m) 46-60 n) 60-80 o) >80	103.378	15	0	SIGNIFICANT
2.SEX g) MALE h) FEMALE i) THIRD GENDER	99.358	6	0	SIGNIFICANT
3.EDUCATIONAL LEVEL				

k) ILLITERATE	102.378	12	0	SIGNIFICANT
l) PRIMARY				
m) SECONDARY				
n) HIGH SECONDARY				
o) GRADUATE AND ABOVE				
4.OCCUPATION	103.909	12	0	SIGNIFICANT
i) UNEMPLOYED				
j) DAILY WAGE WORKER				
k) GOVERNMENT EMPLOYEE				
l) PRIVATE EMPLOYEE				
5.OCCUPATION LOST DUE TO COVID	99.209	6	0	SIGNIFICANT
e) YES				
f) NO				
6.MONTHLY FAMILY INCOME (IN RUPEES)	17.345	18	0.5	NOT SIGNIFICANT
m) >1 LAKH				
n) 86,000-99,000				
o) 70,000-85,000				
p) 40,000-69,000				
q) 21,000-39,000				
r) 10,000-20,000				
7.RELEGION	97.819	9	0	SIGNIFICANT
i) CHRISTIAN				
j) HINDU				
k) ISLAMIC				
l) OTHERS				

NO OF ITEMS	CHI SQUARE VALUE	DF	P VALUE	INFERENCE
8.MARITAL STATUS	100.516	12	0	SIGNIFICANT
i) MARRIED				
j) UNMARRIED				
k) WIDOW				
l) DIVORCEE				
9.FAMILY TYPE	99.094	9	0	SIGNIFICANT
g) NUCLEAR				
h) EXTENDED				
i) JOINT				
10.RESIDENCE	102.356	9	0	SIGNIFICANT
g) Urban				
h) Sub urban				
i) Rural				
11.THE SOURCE FROM WHERE INFECTION COULD HAVE CONTAMINATED	105.084	12	0	SIGNIFICANT
i) MARKET				
j) OTHER, IF ANY SPECIFY				
k) WORKPLACE				
l) SCHOOL/COLLEGE				

12.THE DAYS YOU DEVELOP ANXIETY OR DEPRESSION SYMPTOM AFTER RECOVERY k) 7-9 DAYS l) 10-15 DAYS m) 15-20 DAYS n) MORE THAN 20 DAYS o) NOT APPLICABLE	99.222	15	0	SIGNIFICANT
13.ANY OF YOUR FAMILY MEMBERS AFFECTED e) YES f) NO	99.569	6	0	SIGNIFICANT
14.CLIENT RECEIVED TREATMENT AT: g) HOME h) QUARANTINE CENTRE i) HOSPITAL	99.308	9	0	SIGNIFICANT

NO OF ITEMS	CHI SQUARE VALUE	DF	P VALUE	INFERENCE
16.. MEDICINES RECEIVED FOR RECOVERY i) ONLY STEROIDS j) ONLY ANTIBIOTICS k) ONLY LOW MOLECULAR WEIGHT HEPARINS l) ALL OF THE ABOVE	96.757	6	0	SIGNIFICANT
17. IN HOSPITAL HAS THE CLIENT SEEN DEATH OF OTHER PATIENTS AFFECTED FROM COVID? e) YES f) NO	96.613	6	0	SIGNIFICANT
19.HISTORY OF SUBSTANCE ABUSE LIKE: g) NICOTINE h) GANJA(CANNABIS) i) ALCOHOL v) YES vi) NO	98.612	6	0	SIGNIFICANT

MAJOR FINDINGS

Major Findings Related To Demographic Data: -

- highest number 50 of the post COVID patients and families were in the age group of 46-60
- highest number 58 of the post COVID patients were males
- highest number 37 of the post COVID patients and families have qualified secondary education
- highest number 33 of the post COVID patients and their families were daily wage workers
- highest number 66 of the post COVID patients did not lose their occupation due to COVID
- highest number 16 of the post COVID patients and their families had a monthly income of 40,000-69,000
- highest number 57 of the post COVID patients and families were Hindu

- highest number 52 of the post COVID patients were unmarried
- highest number 52 of the post COVID patients belonged to nuclear family
- highest number 49 of the post COVID patients and families were from urban population
- highest number 36 of the post COVID patients and their families received treatment at hospital
- highest number 54 of the post COVID patients and their families were exposed to O2 therapy
- highest number 59 of the post COVID patients and families received antibiotics for recovery
- highest number 40 of the post COVID patients and their families were normal, not having depression
- highest number 39 of the post COVID patients and their families had low anxiety
- highly significant difference was found among the demographic variables($p < 0.05$)

Major Findings Related To Beck Depression Inventory: -

- 40 post COVID patients belongs from score range 1-10 (Normal)
- 16 post COVID patients belongs from score range 11-16 (Mild)
- 15 post COVID patients belongs from score range 17-20 (Borderline)
- 12 post COVID patients belongs from score range 21-30 (Moderate)
- 9 post COVID patients belongs from score range 31-40 (Severe)
- 3 post COVID patients belongs from score >40 (Extreme)

Major Findings Related To Beck Anxiety Inventory: -

- 39 post COVID patients belongs from score range 0-21 (Low)
- 31 post COVID patients belongs from score range 22-35 (Moderate)
- 25 post COVID patients belongs from score >36 (High)

RECOMMENDATIONS

- Keeping in view the findings of the present study, the following recommendations were made since the study was carried out on small sample. The results can be only used as guide for further studies.

- The study can be under taken in different setting by using a large sample size population.
- An observational study can be conducted in the actual practice for a period of time.
- This study motivated other researchers to do a comparative study to assess the knowledge regarding the prevention of substance abuses.
- Another study can be done by involving care givers and health educators. A similar study can be undertaken by utilizing other domains like attitude & practice on large scale at rural areas
- Special guidance and counselling programs shall be initiated for the adolescent regarding the prevention of substance abuse at the college setting.

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The article entitled “Prevalence of anxiety and depression among the post COVID 19 patients and families at the post COVID care centre, KIMS Hospital, Bhubaneswar: A Cross-Sectional Study” is an accomplishment of research work done over a couple of months.

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CONFLICTS OF INTEREST

There are no conflicts of interest

REFERENCES

- [1] Coronavirus. www.who.int/health-topics/coronavirus&ved (accessed 19 May 2020)
- [2] Bismee Taskin. Recovered Covid patients suffer from anxiety depression PTSD, Italian study finds, The Print, 2020
- [3] Dr. B.N Gangadhar, Mental Health in the times of COVID 19 Pandemic, Bengaluru: Department of Psychiatry; April 2020
- [4] Bilal Ahmad Bhat et.al. "A study on impact of COVID-19 lockdown on psychological health, economy and social life of people in Kashmir" International Journal of Science and Health care Research, Vol. 5, Issue 2, April-June 2020, Page 37(46)
- [5] Rupsa Chakraborty. "After recovery, Covid 19 survivors battle anxiety, paranoia, depression", Hindustan Times, Aug 01,2020..
- [6] Dr. Jolly Masih. "Mental Health and Depression during COVID 19", Journal of depression and anxiety 2020; (2167-1044).
- [7] Julia Ries. "People with COVID-19 more likely to develop Depression, Anxiety, and Dementia" Healthline November 12, 2020
- [8] Trisha Greenhalgh, Christine A' Court. "Management of post-acute covid-19 in primary care" The British Medical Journal 2020;370:m3026
- [9] Sarah K. Schafer, M. Roxanne Sopp. "Impact of COVID 19 on Public Mental health and the Buffering Effect of a sense of Coherence" Psychotherapy and Psychosomatics 2020; 89(386-392)
- [10] Betty Pfefferbaum and Carol S. North, "Mental Health and the Covid 19 Pandemic" The New England Journal of Medicine 2020; 383(510-512)
- [11] Bilal Ahmad Bhat, Samira Khan, Shazia Manzoor et. Al, "A study on Impact of COVID 19 lockdown on psychological health, economy and social life of people in Kashmir", International Journal of Environmental Research and Public Health 2020; 5(2455-7587):36
- [12] Yingfei Zhang and Zheng Feel Ma. "Impact of the COVID 19 pandemic on Mental Health and Quality of life among Local residents in China" International Journal of Environmental Research and Public Health 2020; 17(2381) www.mdpi.com/journal/ijerph (accessed 28 March 2020).
- [13] Bilal Ahmad Bhat et.al. "A study on impact of COVID-19 lockdown on psychological health, economy and social life of people in Kashmir" International Journal of Science and Health care Research, Vol. 5, Issue 2, April-June 2020, Page 37(46)
- [14] Bismee Taskin. Recovered Covid patients suffer from anxiety depression PTSD, Italian study finds, The Print, 2020
- [15] Dr. Jolly Masih. "Mental Health and Depression during COVID 19", Journal of depression and anxiety 2020; (2167-1044).
- [16] Trisha Greenhalgh, Christine A' Court. "Management of post-acute covid-19 in primary care" The British Medical Journal 2020;370:m3026
- [17] Julia Ries. "People with COVID-19 more likely to develop Depression, Anxiety, and Dementia" Healthline November 12, 2020
- [18] Dr. B.N Gangadhar, Mental Health in the times of COVID 19 Pandemic, Bengaluru: Department of Psychiatry; April 2020

The COVID-19 pandemic is a major health crisis affecting several nations, with over 720,000 cases and 33,000 confirmed deaths reported to date. Preliminary evidence suggests that symptoms of anxiety and depression (16–28%) and self-reported stress (8%) are common psychological reactions to the COVID-19 pandemic, and may be associated with disturbed sleep.^[8]

Pandemics poses a threat to mental health. Correspondingly, 2 recent reviews found a consistently negative impact of COVID-19 on mental health, with 16–18% of participants showing symptoms of anxiety and depression. The first evidence indicates that women, younger people, and those with a poor sleep quality are at an increased risk for mental health problems.^[9]

Extensive research in disaster mental health has established that emotional distress is ubiquitous in COVID 19 affected populations. After disasters, most people are resilient and do not succumb to psychopathology. Nevertheless, in "conventional" natural disasters, technological accidents, and intentional acts of mass destruction, a primary concern is post-traumatic stress disorder (PTSD) arising from exposure to trauma. Medical conditions from natural

causes such as life-threatening viral infection do not meet the current criteria for trauma required for a diagnosis of PTSD, but other psychopathology, such as depressive and anxiety disorders, may ensue.^[10]

With this background, a strong need has been felt to formulate a study with the aim of assessing the level of depression and anxiety among post COVID – 19 patients and their families and finding the association between depression and anxiety with the selected demographic variables at the post COVID care center, KIMS hospital Bhubaneswar.