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**Dr. Pandurangaiah R**  
Associate Professor, Department of  
OBG, Kannur Medical College,  
Anjarakandy, Kannur, Kerala,  
India

**Dr. Leela GR**  
Department of OBG, Kannur  
Medical College, Anjarakandy,  
Kannur, Kerala, India

**Dr. Asokan Keloth Manappatt**  
Department of OBG, Kannur  
Medical College, Anjarakandy,  
Kannur, Kerala, India

## Psychological and emotional aspects of Covid 19 infection in pregnancy: A cross sectional study at a tertiary covid care centre

**Dr. Pandurangaiah R, Dr. Leela GR and Dr. Asokan Keloth Manappatt**

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### Abstract

**Background:** The very first piece of information about the Covid positivity causes much impact on the psychological and emotional status of the pregnant woman

**Aim:** The aim of the study is to assesses the psychological and emotional aspects of covid infection on pregnant ladies by observing the prevalence rate of anxiety, depression and mental stress

**Materials and Method:** This is a cross-sectional study with a sample size of 172, conducted at a tertiary covid care centre in Kannur District, for a period of 11 months. A DASS-21 Scoring system is adapted to assess the psychological and emotional status <sup>[1]</sup>

**Results:** Though 24.42% are asymptomatic among the covid positive cases, most of them are worried about the prospects of the disease 28.1% had depression, 26.4% had anxiety and 11.9% had stress symptoms. The prevalence of these psychological aspects is more among educated and unemployed cases

**Conclusion:** Covid-19 infection has a high implication on the psychological and emotional status of a pregnant lady. Psychological counseling is essential to all pregnant ladies, which should start from the very first instance of covid positivity.

**Keywords:** DASS-21 scoring system, lack of concentration, anxiety, depression, nuptial relation

### Introduction

Pregnancy itself is a stressful condition. Social distancing, that too from near and dear ones, causes many a health impact like, anxiety, depression and stress. This poses a threat on the social health <sup>[2]</sup>. The psychological set up of these women can adversely affect the maternal and fetal outcome <sup>[3]</sup>. According to a report published by WHO in 2020, all infected women are prone to develop mental stress and other psychological impacts during pregnancy and one year postpartum <sup>[4]</sup>. A study conducted by Saccone *et al*, shows among the infected cases, more than 50% have serious mental impacts <sup>[5]</sup>

The most important anxiety factor was fear and anxiety on vertical transmission, severity more in the first trimester of pregnancy

It is essential to have a detailed study on the psychological aspects of covid infection to prevent the long term maternal and newborn adverse effects. Review of literature fails to demonstrate sufficient data to substantiate the studies on the psychological aspects of covid positive pregnant women. Most of the studies are from China, a country with different geographic and topographic propensity <sup>[6]</sup>. The present study is to assess the psychological status of covid positive pregnant women and their prevalence rate. We are looking forward to adopting this study by the covid care authorities to help improve their strategy to prevent adverse maternal and fetal outcome among the covid positive pregnant women

### Materials and Method

This is a cross-sectional study conducted for a period of 11 months at Kannur Medical College, Anjarakandy which is a covid care centre in Kannur District

### Inclusion Criteria

Pregnant women who are Covid-19 antigen test positive  
Those who gave informed consent

### Exclusion Criteria

Patients who are unwilling to give informed consent

### Sample Size

172 patients were taken for study

**Corresponding Author:**  
**Dr. Pandurangaiah R**  
Associate Professor, Department of  
OBG, Kannur Medical College,  
Anjarakandy, Kannur, Kerala,  
India

### Study Method

A DASS-21 Scoring system was adapted to assess the psychological and emotional status [1]. DASS-21 is a system to assess the gravity of depression, anxiety and stress developed by University of New South Wales. A profroma of questionnaires with 21 questions were given with the following important details out of which seven questions each for depression anxiety and stress. Severity was graded from 0-3 and patient is instructed to tick the appropriate grade. Total score was calculated at the end; Cut off score is as follows: 9 for depression, 7 for anxiety and 14 for stress.

### Software

Software used is SPSS version 25.0. Pearson's X-square is used to evaluate demographic variables. A p-value <0.05 is considered statistically significant

### Result

Out of the 172 cases, 117 patients (68.0.2%) were in the age-group 20-30. About the educational status, 17 patients (9.88%) had primary level education, 92 (54.07%) had secondary level education and remaining 63 patients (36.05%) had graduate and postgraduate level of education. In the case of occupational status, 129 patients (75%) were housewives. Regarding the socio-economic status, 47 (27.33%) hailed from the lower stratum, 110 (63.92%) from middle and remaining 15 (8.7%) from in the upper stratum. As far as obstetric index is concerned, majority were multigravidae, 109 (63.37 %) and the remaining 63, (36.63%), primi gravidae. About trimesters, 22 cases (12.79%) were in the first trimester, 100 (58.14%) in the second and 50 (29.07%) in the third trimester. Patients in the term pregnancy were only 19 (11.05%). 130 (75.58%), patients were symptomatic who presented with

fever, headache, cough, running nose, sore throat, body ache and disturbed sleep. There were no serious complications to these patients and 143 (83.14%) of test positive patients were discharged antepartum and others postpartum.

**Table 1:** Socio demographic factors of covid-19 pregnant women

Variables	Frequency (%)
<b>Age in years</b>	
≤20	12 (7%)
20-30	117 (68%)
≥31	43 (25%)
<b>Education</b>	
primary	17 (10%)
secondary	92 (53%)
Graduate and Post graduate	63 (37%)
<b>Occupation</b>	
House wife	129 (75%)
Business	26 (15%)
Govt. employ	10 (6%)
Private employ	7 (4%)
<b>Socio economic status</b>	
Upper	15(8.7%)
Middle	110 (63.9%)
Lower	47 (27.3%)
<b>Gravida</b>	
Primi	63 (37%)
Multi	109 (63%)
<b>Trimester</b>	
First	22 (13%)
Second	100 (58%)
Third	50 (29%)
<b>Symptoms</b>	
No	42 (24%)
Yes	130 (76%)

**Table 2:** The psychological presentation of COVID-19 pregnant women

Variables	Frequency (%)
Depression	49
Anxiety	43
Stress	19

Out of the 172 test positive cases, 49 (28.49%) had depression, 43 (25%) had anxiety, 19 (11.05%) had stress

**Table 3:** The frequency of severity IN COVID-19 pregnant women

Severity	Depression	Anxiety	Stress
Mild	34	29	14
Moderate	11	11	4
Severe	4	3	1

Among the 49 cases of depression, 34 (69.39%) had mild, 11 (22.45%) had moderate and 4 (8.16%) had severe symptoms. Regarding the 43 cases of anxiety, 29 (67.99%) had mild, 11 (25.48%) had moderate and 3 (6.98%) had severe type of anxiety. As far as stress is concerned, out of 19 cases, 14 (73.68%) had mild, 4 (21.05%) had moderate and 1 (5.26%) had severe form of stress.

Depression, stress and anxiety were more evident in the employed and those hailing from upper socioeconomic stratum Out of the 49 cases of depression, 8 (16.3%) were among upper socio-economic stratum, 23 (46.9%) from middle socio-

economic stratum and 18 (36.7%) from the lower socio-economic stratum. This is statistically significant (p-value <0.001) As far as the stress factor is concerned, out of 19 cases, 3cases (15.7%) hailed from upper socio-economic stratum, 11(57.89%) from middle socio-economic stratum and 5 (26.31%) from lower socio-economic stratum which is also statistically significant (p-value <0.005)

Regarding the 43 cases of anxiety, 6 cases (13.95%) were from upper, 27(62.79%) from middle and 10 (23.25%) from lower socio-economic stratum which is also statistically significant (p-value 0.050)

**Table 4:** Socio demographic factors and Depression, Anxiety, and Stress Levels of COVID-19 pregnant women

Variables	Depression		Anxiety		Stress	
	Frequency	P value	Frequency	P value	Frequency	P value
<b>Age in years</b>						
<20	3	0.844	2	0.784	1	0.769
20-30	29		21		15	
>30	17		20		3	
<b>Education</b>						
primary	2	0.905	3	0.774	1	0.741
secondary	32		29		17	
Graduate and Post graduate	15		11		1	
<b>Occupation</b>						
House wife	34	0.621	34	0.957	11	0.449
Business	9		7		3	
Govt employ	3		1		3	
Private employ	3		1		2	
<b>Socio economic status</b>						
Upper	8	<0.001	6	0.050	3	0.005
Middle	23		27		11	
Lower	18		10		5	
<b>Gravida</b>						
Primi	18	0.142	19	0.472	11	0.358
Multi	31		24		8	
<b>Trimester</b>						
First	7	0.055	9	<0.05	7	0.042
Second	27		21		7	
Third	15		13		5	
<b>Symptoms</b>						
No	12	0.0741	9	0.064	7	0.149
Yes	37		34		12	

## Discussion

Our study reveals the following vital factors-presence of depression in 49 patients (28.49%), anxiety in 43 patients (25%) and stress in 19 patients (11.05%) among the 172 Covid-positive cases. A study conducted by Kurian S et.al, has the following result: depression-26%, anxiety-24% and stress-11.7% [7].

This study has almost comparable to our study. The notable difference is that according to their study, the psychological factors are more complicated among the lower and middle socio-economic stratum than the upper socio-economic stratum. In our study, psychological factors are more evidenced among the upper socio-economic stratum than lower and middle socio-economic stratum.

According to study conducted by Shahid R et.al, the prevalence of the psychological factors is as follows: depression-27.8%, anxiety-24.8% and stress-10.9% [8]. This study also is comparable to our study

A study conducted by Effati-Daryani F *et al*, reveals the psychological complications are more among lower socio-economic stratum which is different from our study [9]

## Conclusion

After the present study we have come to the following conclusions:

1. Covid-19 infection has marked effect on the psychological integrity of a pregnant woman
2. The more we are aware of the disease-through media and webinar etc.-the more we are worried about the disease. This is evident from the increased prevalence of complications among the upper socio-economic stratum

## Recommendation

More studies with large sample size are required to form an idea of psychological impact on the covid positive pregnant women

Obstetrician should be aware of not only with the physical aspects of the pregnant lady but also the psychological aspects A screening should be essential for all pregnant women who are covid positive Psychological counseling is essential to all pregnant ladies, which should start from the very first instance of covid positivity Authorities should provide proper psychological support to these pregnant ladies

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## Conflicts of Interest

There are no conflicts of interest

## Ethical Approval

The study was approved by the Institutional Ethics Committee.

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