

# EMPIRICAL ANALYSIS OF MENTAL WELL-BEING OF PREGNANT WOMEN DURING COVID-19 PERIOD: A CASE STUDY ON PRE-AND POST-DELIVERY PERIODS

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## Abstract

The objective of this research paper is to investigate the psychological challenges and difficulties experienced by pregnant women during the Covid-19 pandemic. Primary data was collected from several major cities in southern India during the pandemic period. Analysis of the data revealed that pre-existing complications such as anxiety and depression persisted during pregnancy, and only a few women experienced postpartum complications such as anxiety and gestational diabetes. The study employed PLS-SEM to determine how Covid-19 impacted the mental health of pregnant women during pre-existing and postpartum pregnancy. The findings indicated that patient inattentiveness during Covid-19 led to over-stress (.516\*\*\*) and concerns about the virus also led to inattentiveness (.494\*\*\*), which in turn affected the mental health of pre-existing and postpartum pregnant women (.471\*\*\*), and caused over-stress (.153\*\*).

**Keywords:** Covid-19; Second Wave; Lock-Down; Pregnant Women; Postpartum Pregnancy.

## 1. INTRODUCTION

### 1.1 About Covid 19 Issues

The emergence of Covid-19 in the twenty-first century has resulted in a major global health crisis. The number of people affected by the virus has increased drastically across the world, with different countries experiencing varying levels of impact. Those infected with Covid-19 are more vulnerable to a range of alarming health issues (Vasishtha et al., 2021). In India, the spread and infection rates of Covid-19 have been irregular, affecting all states. The World Health Organization declared an International Emergency on 30<sup>th</sup> January 2020, and a global pandemic was announced on March 11<sup>th</sup>, 2020 (Motrico et al., 2021; Ramasamy et al., 2021).

Pregnant women have reported symptoms such as cough, fatigue, fever, myalgia, and dyspnoea when infected with Covid-19 (Venta et al., 2021). This paper aims to explore the psychological challenges and difficulties experienced by pregnant women during the Covid-19 period in southern India, with a focus on the impact of Covid-19 on their mental health during pre-existing and postpartum pregnancy.

## **1.2 Lockdowns in India: During First and Second Wave**

The Covid-19 pandemic has had a significant impact on pregnant women in India, with varying degrees of severity observed during the first and second waves of the outbreak. During the first wave, most pregnant women experienced only moderate symptoms and were able to return home after hospital treatment, aided by government support for free treatment of Covid-19. However, pregnant women with weaker immune systems were found to be at risk of developing severe symptoms (Fallon et al., 2021; David et al; Kumari et al., 2020). During the second wave, there was a significant increase in the number of cases, leading to a greater demand for high-oxygen ventilation, intensive care units, surgeries, and premature deliveries (Madaan et al., 2021; Nihmathullah et al., 2022). This presented challenges for doctors, particularly when treating pregnant women with Covid-19 symptoms, with each case requiring a unique approach due to the varying treatment and immune responses observed among patients. Despite these challenges, a significant number of healthy babies were born during the second wave, although complications did arise, leading to the deaths of 17 babies (Miller et al., 2020; Feleen et al., 2021). The risk of death for fetuses was found to be as high as 40% compared to non-pregnant women, highlighting the serious threat that Covid-19 poses to pregnant women. This paper examines the impact of lockdowns during the first and second waves of the Covid-19 pandemic on pregnant women in India, exploring the challenges faced by doctors and the effects on maternal and fetal mortality rates.

## **1.3 Major Challenges**

In India, pregnant women have faced significant challenges during the ongoing COVID-19 pandemic. While the health ministry has recommended vaccination for lactating women, pregnant women are not yet included in the list of recommended vaccine recipients. The increasing calls for help for pregnant women affected by COVID-19 have been met with concerns over the rise in maternal deaths due to complications from the virus (Kumari, 2021; Ganeshkumar et al., 2023). Recent studies have shown a 7.2% increase in the high risk of pregnancy with COVID-19. Unfortunately, some nursing homes have refused to admit pregnant women for treatment due to a lack of ICU bed facilities and specialist doctors (Venkatesh, 2020). As the anticipated third wave of COVID-19 is expected to hit India by mid-February 2022, the Union government should take the necessary steps to vaccinate pregnant women and lactating mothers (Mudenda, 2021). Vaccination is the only way to protect pregnant women from the third wave of COVID-19. However, fears surrounding the virus have caused significant challenges for pregnant women, including anxiety, stress, worry about unborn babies, mental wellbeing, depression, and more.

## 2. REVIEW OF LITERATURE

Delahoy (2020) conducted a study to investigate the impact of Covid-19 on pregnant women and identified various characteristics that influence their health outcomes. The study included 598 pregnant women who clinically tested positive for Covid-19 (Delahoy et al., 2020). The results of the study indicated that pregnant women face severe illness due to Covid-19, with 16% of them being hospitalized in primary healthcare centers. Moreover, 8% of pregnant women required ventilation support, 2% experienced pregnancy losses, and 1% died due to the virus (Arokiaraj, 2011; Puertas-Gonzalez et al., 2021). The researcher suggested that healthcare centers should be aware of the risk factors for pregnant women and provide training on preventive measures to safeguard the health of both pregnant women and newborns (Fong & Iarocci, 2020).

Meraya (2021) examined the psychological distress, worries, and fears experienced by pregnant women in Saudi Arabia during the Covid-19 pandemic. The study focused on the psychological well-being of pregnant women and changes in their children's behavior during the lockdown period (Verhaak et al., 2007; Caffieri & Margherita, 2021). The data were collected from 628 women, including those who were pregnant and those with children above 10 years of age. The study found that 11.8% of women were pregnant, and 89.2% were worried about their unborn babies. Additionally, 94.9% of women experienced psychological distress, with the level of distress varying with educational qualifications. Women who had children at home also reported more mental health issues (Choudhary et al., 2021; Jeganathan & David 2022). The study concluded that most women experienced moderate to high levels of psychological stress during the Covid-19 pandemic, and income, educational qualifications, and physical and mental health conditions were directly associated with psychological distress.

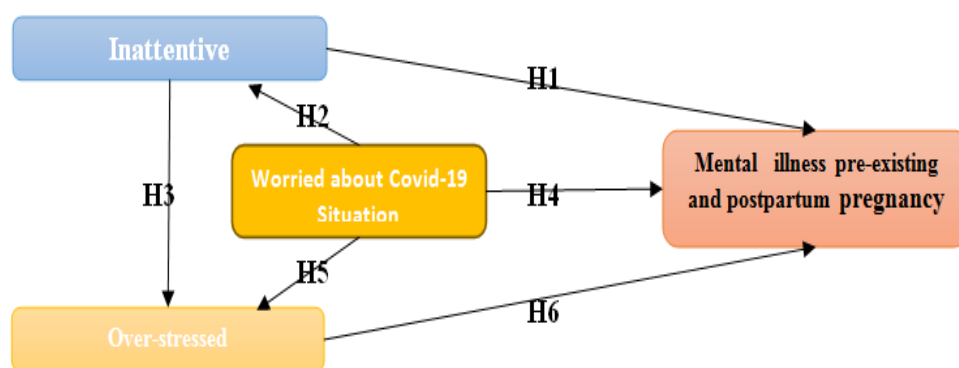
Vasishtha (2021) investigated the effects of Covid-19 on life expectancy, DALY, YPLL, and premature mortality in Maharashtra. The study used data from various sources such as death rates of a specific age group, total population size, and official website data on Covid-19 cases and deaths ([www.covid19india.org](http://www.covid19india.org)). The Disability-adjusted life years (DALY) were used to compare the current health circumstances and ideal situations (David et al., 2020; Srivastava et al., 2022). The study found that the infection rate was higher in Maharashtra compared to the rest of India until 20th December 2020. The death rate of the state had increased to 6%, 8%, and 10%, and the percentage of years of potential life lost (YPLL) among infants had decreased to 0.03% with Covid-19 affected cases compared to 6.5% without affected cases of Covid-19 (Fihartini et al., 2021; Parne et al., 2021; Sánchez et al., 2021).

Carrasco (2021) investigated the epidemiological characteristics and clinical outcomes of a cohort of pregnant women infected with the SARS coronavirus during pregnancy. The study included 105 women infected with Covid-19 during pregnancy and 107 newborns. The results indicated that 65% of pregnant women were infected due to Covid-19, and 43% of women underwent treatment. Nearly 30.8% of pregnant women were affected with pneumonia, and 4.8% of women required ventilation support. Among pregnant women with pneumonia, almost 36% underwent cesarean delivery, and negative infections were identified during the birth time. However, one newborn died due to prematurity (Garwal et al., 2020; David et al., 2022). The

study highlighted the increasing rate of pneumonia and premature birth due to cesarean delivery as major issues faced by pregnant women affected by Covid-19. Christy (2021) investigated the psychological and work-life balance aspects of entrepreneurs in Bangalore during the Covid-19 period. The study used a questionnaire method to collect data from 108 respondents and found a moderate association between psychological capabilities and work-life balance (Banumathi, & Arokiaraj, 2011; Allotey et al., 2020). The study suggested that higher levels of self-efficacy and mental resilience could improve work-life balance. Respondents with higher psychological capabilities reported better health, good relationships with family and friends, and good time management skills.

### 3. OBJECTIVE OF THE STUDY

The main goal of this research study is to investigate and understand the psychological challenges and difficulties encountered by pregnant women during the Covid-19 pandemic. The study aims to identify and analyze pre-existing and postpartum pregnancy complications that have emerged during the Covid-19 period. Additionally, the research aims to explore the factors that contribute to mental illness among pregnant women during the pre-existing and postpartum phases of the pandemic. Finally, the study seeks to construct a conceptual model that illustrates the mental health implications for pregnant women during the pre-existing and postpartum phases of Covid-19. Through this research, a better understanding of the psychological and mental health needs of pregnant women during the pandemic can be achieved, and strategies to improve their overall well-being can be developed.



**Figure 1: The Conceptual Model for Mental illness of women during Pre-Existing and Postpartum Covid-19 period**

### 4. HYPOTHESIS OF THE STUDY

Based on the conceptual model, the hypothesis was developed to understand the level of mental illness pre-existing and post-partum pregnant during the covid period are,

- H<sub>01</sub> - There is no significant impact between inattentive and mental illness.  
 H<sub>02</sub> - There is no significant impact between worried about covid-19 and inattentive.  
 H<sub>03</sub> - There is no significant impact between inattentive and over-stressed.  
 H<sub>04</sub> - There is no significant impact between worried about covid-19 and mental illness.  
 H<sub>05</sub> - There is no significant impact between worried about covid-19 and over-stressed.  
 H<sub>06</sub> - There is no significant impact between over-stressed and mental illness.

## 5. RESEARCH METHODOLOGY

The research methodology for this study involved using a questionnaire that was developed based on a comprehensive literature review. The questionnaire aimed to gather primary data on the psychological challenges and difficulties faced by pregnant women during the Covid-19 period. Data were collected from four regions in India, including Karnataka (Bangalore), Kerala (Cochin), Tamil Nadu (Chennai), and Andhra Pradesh, during the second wave of Covid-19 from May to July 2021. A snowball sampling technique was used to gather data with the help of a structured questionnaire.

The questionnaire was divided into three main sections. The first section focused on gathering the demographic profile of pregnant women. The second section concentrated on pre-existing and postpartum pregnancy complications and used multiple-choice questions to understand mental and physical health-related issues. The final section aimed to understand the difficulties and challenges faced by pregnant women regarding mental illness and used the Five-point likert scale - ranging from "strongly agree" [5] to "strongly disagree" [0].

The collected data were analyzed using appropriate statistical techniques to identify the factors and construct a model that influences mental illness in pregnant women during pre-existing and postpartum periods of Covid-19. The demographic profile of the pregnant women was also analyzed and presented in a table. The research methodology employed in this study ensures that the data collected is comprehensive, reliable, and relevant to the research objectives.

**Table 1: Demographic Profile of Pregnant Women during the Covid Period**

Demographic Profile		% of Respondents	Demographic Profile		% of Respondents
Age	19 – 24years old	25.9	Type of family	Joint Family	13.0
	25 – 30years old	59.3		Nuclear Family	87.0
	31 – 36years old	7.4	Type healthcare provider	family doctor	46.3
	above 37 years old	7.4		Obstetrician	11.1
Location	Karnataka	64.8		Midwife	11.1
	Andhra Pradesh	9.3	Combination of services	31.5	
	Kerala	11.1	Place healthcare	Private Clinic	61.1
	Tamilnadu	14.8		Government Hospital	14.8
Education Qualification	upto SSLC	3.7		General practice	9.3
	Upto 12 Standard	14.8	Other	14.8	

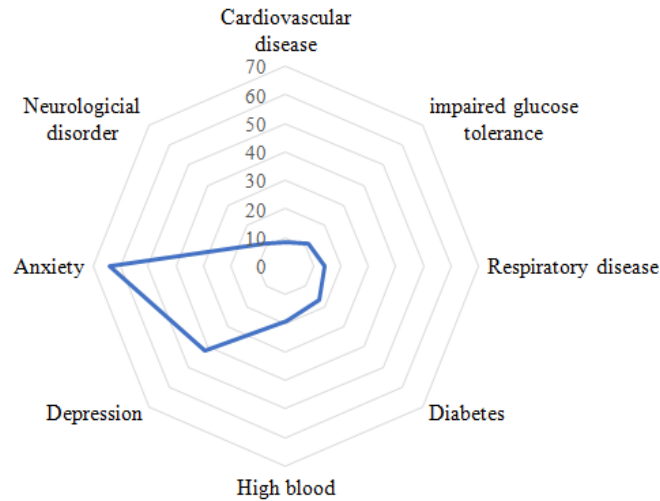
	Undergraduate	51.9	<b>Impact of Covid-19 on Obstetric Services</b>	Covid-19 affected healthcare	24.1
	Postgraduate	22.2		At least one appointment rearranged	18.5
	M.Phil./PhD	7.4		At least one appointment cancelled	1.9
<b>Family income</b>	less than 10000 rs	7.4		Appointment fulfilled via or virtually means	11.1
	10001 – 20000rs	9.3		Appointment cancellations on behalf of the clinic	7.4
	20001 – 40000rs	13.0		Appointment cancellations on behalf of the patient	1.9
	40001 – 60000rs	16.7		Scheduled appointments had taken place	25.9
	60001 – 80000rs	5.6		Pregnancy services suspended	9.3
	80001 – 100000 rs	7.4		Physically attend appointments	40.7
	1 to 1.2 lakhs rs	25.9		Have phone appointment	13.0
more than 1.2 lakhs rs	14.8	Have a virtual appointment	11.1		
<b>Employment Status</b>	Students	7.4	<b>Pregnant Postpartum</b>	Have a home visit	29.6
	Self-Employed	20.4		Miss appointments	5.6
	Employed Part-time	20.4			
	Employed Full-time	46.3			
	Unemployed before Covid-19 and looking for work	5.6			

The above table provides an overview of the demographic profile of the study's sample of pregnant and postpartum women. The analysis reveals that the majority of the respondents fall in the age bracket of 25-30 years old (60%). The majority of the samples were collected from the Bangalore region (65%), and most of the pregnant women have completed their undergraduate studies (52%). Additionally, it was found that most of their families spent more than 1 lakh ₹ (40%), and approximately 46% of the pregnant women had full-time jobs, with 87% of them living in separated families. Furthermore, the analysis revealed that most of the pregnant women consulted with their family doctor (46%) at private clinics (61%). About 26% of pregnant women scheduled their appointments and were able to take them on time, while 24% of pregnant women felt that the Covid-19 pandemic had affected obstetric services. Most of the postpartum women attended their appointments physically (40%). The data was also analyzed to understand the complications experienced during the pregnancy period and postpartum period by pregnant women.

The research questionnaire included a section on pre-existing pregnancy complications, which identified various problems such as diabetes, high blood pressure, impaired glucose tolerance, depression, anxiety, cardiovascular disease, respiratory disease, bone disease, and neurological disorders. Analysis of the responses showed that the majority of participants (64%) reported experiencing anxiety during the Covid-19 period, while 42% reported experiencing depression.



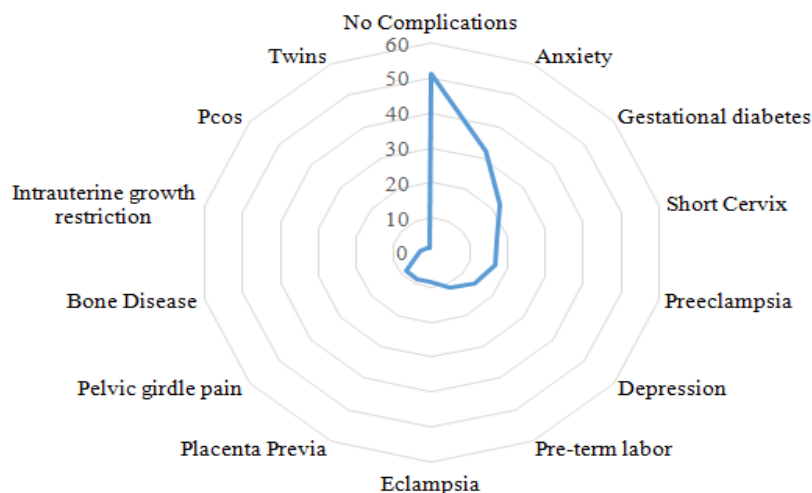
The prevalence of pre-existing pregnancy complications is presented in Figure 2.



**Figure 2: Pre-Existing Complications (Multiple Options)**

In this study, the research team also analyzed the postpartum pregnancy complications experienced by the respondents. The major complications after delivery that were taken into consideration were gestational diabetes, preeclampsia, eclampsia, placenta previa, pre-term labour, intrauterine growth restriction, twins, short cervix, pelvic girdle pain, depression, anxiety, bone disease, pre-term labour, and no complications after the pregnancy period.

The findings show that 61% of the respondents did not report any postpartum complications. However, 22% of the respondents reported experiencing anxiety as well as gestational diabetes problems after delivery. The results of the postpartum pregnancy complications are shown in figure 03 above.



**Figure 3: Pregnancy Postpartum Complications (Multiple Options)**

### 5.1 Factor Analysis

After reviewing the relevant literature, the study identified 16 variables related to the difficulties and challenges faced by women during pre- and post-pregnancy periods. The Kaiser-Meyer-Olkin (KMO) measure was used to assess the adequacy of the sample for factor analysis. The KMO value was found to be greater than 0.6, indicating that there is a significant amount of intercorrelation among the variables, and thus, allowing factor analysis to be performed. The significance level of Bartlett's Test of Sphericity was also examined and was found to be statistically significant, indicating that the variables are not independent of each other and are suitable for factor analysis. Table 2 shows the KMO value and the significance level of Bartlett's Test of Sphericity.

**Table 2: KMO Values and Bartlett's Test Significance**

KMO and Bartlett's Test		
Kaiser-Meyer- Olkin Measure of Sampling Adequacy.		.621
Bartlett's Test of Sphericity	Approx. Chi-Square	917.75
	Df	120
	Sig.	0.000

The data analysis conducted in the research paper involved factor analysis of 16 variables that were identified based on a review of the literature, aimed at understanding the difficulties and challenges faced by pre- and post-pregnancy women. The Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity were used to assess the appropriateness of factor analysis. The KMO value of more than 0.6 indicated a significant amount of intercorrelations among the variables, allowing for factor analysis to be performed. The significance level of Bartlett's Test of Sphericity was highly significant (0.000), indicating that there is underlying common variance among all the variables and factors can be extracted based on their proximity. The communalities were also analyzed, which gives an idea of how much variation for each variable is accountable. All communalities were found to be greater than 0.5, indicating that all 16 variables explain at least 50% of the variation in the final factor solution. Factors with eigenvalues over one were taken as significant, as they sufficiently contributed towards the overall variance. In this case, four factors were found to be significant, with a cumulative total variance explained after rotation of 79.450, indicating that 75% of the total variance in the variables was explained by these four factors.



**Table 3: Eigenvalues and Total Variance Explained the Pre-Existing and Postpartum Women's Issues and Challenges at Covid-19 Period**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.840	42.751	42.751	6.840	42.751	42.751	3.612	22.576	22.576
2	2.330	14.560	57.310	2.330	14.560	57.310	3.298	20.614	43.190
3	2.011	12.570	69.880	2.011	12.570	69.880	3.126	19.539	62.729
4	1.531	9.570	79.450	1.531	9.570	79.450	2.675	16.721	79.450
5	.923	5.766	85.215						
6	.595	3.716	88.932						
7	.544	3.402	92.333						
8	.363	2.266	94.600						
9	.274	1.710	96.310						
10	.205	1.281	97.591						
11	.152	.948	98.539						
12	.112	.703	99.241						
13	.046	.284	99.526						
14	.037	.231	99.756						
15	.024	.148	99.904						
16	.015	.096	100.000						

Extraction Method: Principal Component Analysis.

**Table 4: The Rotated Component Matrix for Pre-Existing and Postpartum Women's Issues and Challenges at Covid-19 Period**

Rotated Component Matrix <sup>a</sup>				
	Component			
	Inattentive	Worried about Covid-19 situation	Mental illness of Pregnant women	Over-stressed
Nervous lack of reassurance				.888
Anxious and angry				.804
Difficult				.794
No concerns			.884	
Reduces my contact			.799	
No experience			.832	
Delivery problems			.609	
Upset	.797			
Frustrated and nervous	.645			
Hypertension diagnosis	.768			
Not taken all the tests due to COVID	.661			
Bit abandoned as the first pregnancy		.683		
Need the support		.838		
I won't be alone		.810		
Support person		.817		

Extraction Method: Principal Component Analysis  
 Rotation Method: Varimax with Kaiser Normalization  
 a. Rotation converged in 9 iterations

After conducting factor analysis on the 16 variables that were identified for the difficulties and challenges faced by women during pre-and-post pregnancy, four factors were recognized. These factors are inattentiveness, worry about the Covid-19 situation, over-stress, and mental illness of pre-existing and postpartum pregnancy during the Covid period. The variables loaded highly on each of these factors, with factor loadings greater than 0.6, indicating a high level of convergent validity. Convergent validity is established when all the measured variables converge to a common underlying factor due to a strong correlation among them. Therefore, the study's results suggest that these factors are highly interrelated and could be used to further understand the difficulties and challenges faced by women during pregnancy and postpartum periods during the Covid-19 pandemic.

## 5.2 PLS-SEM Model

Based on the above factor analysis, we have identified four factors inattentive, worried about the covid-19 situation, over-stressed and mental illness of women during pre-existing and postpartum pregnancy during the Covid-19 period. Due to the non-normality of data, the Partial Least Square-Structural Equation Model (PLS-SEM) was conducted to understand how Covid-19 influences the mental status of women during pre-existing and postpartum pregnancy. The main purpose of PLS-SEM is to identify the mental illness of pre-existing and postpartum pregnant women during the covid-19 period. The PLS-SEM was conducted with the help of smart-PLS software for the mental illness of Pre-existing and Postpartum Pregnancy during the Covid-19 Period as shown in Figure 04. The PLS-SEM construct reliability and validity test are shown in Table 5. Inattentive, over-stressed, and mental illness are selected as the endogenous variables whereas worried about the covid-19 situation is selected as an exogenous variable.

The Cronbach alpha value of all exogenous and endogenous variables was tested in PLS-SEM. The data reliability was examined with the help of Cronbach's alpha value, and the result values shown that are all more than 0.70 ensured internal consistency, as well as construct validity among studied factors and, related variables (Considine et al., 2005). It is found that all these tested variables are within the range of .837 to .872 which indicates this model is within the acceptable range (Waddell et al., 1982). It is also clearly shown that observed items are explaining the factor and their loadings are more than 0.5 confirming that nomological validity as well (Hair et al., 2010). According to Hair and Anderson, the value of composite reliability (CR) must be greater than 0.7 the value assures that there is a construct reliability as shown in the below model.

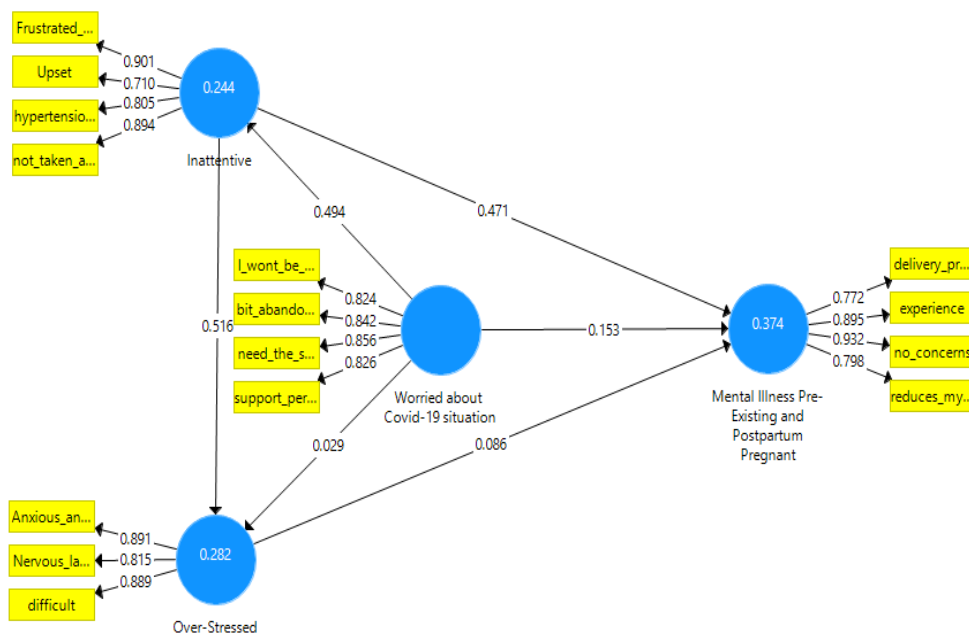
**Table 5: Construct Reliability and Validity for Women's Issues and Challenges at Covid-19 Period**

Reliability and Validity	Cronbach's Alpha	Joreskog Rhô	Composite Reliability	Average Variance Extracted
Mental illness of women	.872	.881	.913	.725
Over-Stressed	.837	.879	.898	.749
Inattentive	.849	.875	.899	.691
Worried about covid-19 situation	.863	.913	.904	.701

Joreskog Rhô is a composite reliability indicator computed on unstandardized loadings and whereas Composite reliability is the same indicator, but it is computed on standardized loadings. We have checked both Joreskog Rhô and Composite reliability (i.e., both standardized loadings and unstandardized loadings). The Composite reliability of data was checked, it falls within the range of .898 to .913 which is an acceptable range and whereas Joreskog Rhô also fell within the range of .875 to .913 (Garst et al., 2016). The average variance extracted (AVE) was estimated the calculated values are greater than 0.5 which is more than the cut-off value ensuring that the model has convergent validity (Fornell and Larcker, 1981; Leung, 2011; Arokiaraj et al., 2020). The Average Variance Extracted (AVE) was calculated that all the values are falling in-between .691 to .749. Table 05 shows the value of Cronbach's Alpha, Joreskog Rhô, Composite Reliability, and Average Variance Extracted for the model fitness (Considine et al., 2005). The discriminant validity of data was also tested in the PLS-SEM (Arokiaraj, 2015). The discriminant validity of the data is shown in the above table 06. The mental illness of women, over-stressed, inattentive, and worried about the covid-19 situation followed the discriminant validity under the thumb rule.

**Table 6: Discriminant Validity for Women Issues and Challenges at Covid-19 Period**

Discriminant Validity	Mental illness	Over-Stressed	Inattentive	Worried about the covid-19 situation
Mental illness	.852			
Over-Stressed	.379	.866		
Inattentive	.592	.531	.831	
Worried about the covid-19 situation	.409	.284	.494	.837



**Figure 4: PLS-SEM for Women's Mental Illness during the Covid-19 Period**

**Table 7: PLS-SEM Result**

Hypothesis	Pathway	Estimate	Conclusion
H <sub>01</sub>	Inattentive to mental illness	.471***	Supported
H <sub>02</sub>	Worried about covid-19 to inattentive	.494***	Supported
H <sub>03</sub>	Inattentive to over-stressed	.516***	Supported
H <sub>04</sub>	Worried about covid-19 and mental illness	.153**	Supported
H <sub>05</sub>	Worried about covid-19 and over-stressed	.029	Not Supported
H <sub>06</sub>	Over-stressed and mental illness	.086	Not Supported

Note: \*\* significant; \*\*\* highly significant

This study aimed to investigate the relationship between inattentiveness, over-stress, worry about Covid-19 situations, and the mental health of pre-existing and postpartum pregnant women during the Covid-19 pandemic. The study used PLS-SEM to test the hypothesis, with mental illness of pregnant women as the dependent variable and inattentiveness, over-stress, and worry about Covid-19 situations as independent variables. The results of the PLS-SEM model showed that there were multiple relationships among the structural model and that H<sub>01</sub>, H<sub>02</sub>, H<sub>03</sub>, and H<sub>04</sub> were highly statistically significant. Inattentiveness caused by the Covid-19 pandemic was found to lead to over-stress, while worry about Covid-19 led to inattentiveness, and this inattentiveness in turn led to mental illness in pre-existing and postpartum pregnant women. Additionally, worry about Covid-19 was found to influence over-stress, while H<sub>05</sub> and H<sub>06</sub> were found to be insignificant. The overall model fitness of Standardized Root Mean Square Residual was SRMR = 0.073, with a chi-square value of 475.65. This indicates that the badness of fit of residual is less than 0.08, which confirms the model fitness. These results have practical implications for healthcare providers and policymakers, as they suggest the need for interventions to address the mental health needs of pregnant women during times of emergencies like Covid-19. Specifically, interventions could focus on reducing inattentiveness, over-stress, and worry about Covid-19 to promote better mental health outcomes for pregnant women.

## 6. DISCUSSION OF THE STUDY

The sample was collected during the period of the Covid-19 second wave. The data was gathered from the southern tip of Indian states, especially in Karnataka, Bangalore, Tamil Nadu, and Andhra Pradesh. More importantly, the overall family expenses were crossed more than 1 lakh rupee and to fulfill her needs and also identified that most of the pregnant women lived in the separated family. The study was also focused on pre-existing complications and postpartum pregnancy complications. Anxiety and depression are considered major problems during the pre-existing complications that were recognized during the covid-19 second wave period and postpartum pregnancy does not have any complications. There is no consultancy and no proper attention to the patient by Gynaecologists which causes them much more worried and more stressed about the covid-19 situation. The PLS-SEM was conducted to find out the relationships between factors. Inattentive had directly influenced the mental illness of pre-existing and postpartum pregnant women at the same time inattentive the patient makes over-

stressed to them. When it comes to indirect path due to the covid-19 situation makes the doctors and nurses are not properly able to attend to the patient which makes mental illness for them.

## **7. CONCLUSIONS**

The study has shed light on the difficulties and challenges faced by pregnant women during the pregnancy and postpartum periods, particularly during the Covid-19 pandemic. Private family doctors were the primary source of consultation for most pregnant women, which resulted in an expenditure of over one lakh rupees. The study identified pre-existing complications such as anxiety and depression related to the Covid-19 situation during the second wave. Post-pregnancy, no major complications were found, but some women experienced anxiety and gestational diabetes. It is concluded that inattentiveness in pre-existing and postpartum pregnant women caused over-stress during the Covid-19 times. Additionally, being worried about the Covid-19 situation led to inattentiveness, which in turn contributed to mental illness among pregnant women. Furthermore, being worried about the Covid-19 situation also led to over-stress in pregnant women. Two of the hypothesized relationships were found to be insignificant. The study has several practical implications for healthcare providers and policymakers, as it highlights the need to address the mental health concerns of pregnant women during emergency situations like Covid-19. Further studies can be carried out to explore the impact of Covid-19 or similar kinds of emergencies on the mental stability of pregnant women. However, it is important to note that the current study was limited to the Southern part of the Indian country, and the findings may not be generalizable to other regions.

## **8. PRACTICAL IMPLICATION OF THE STUDY**

The practical implications of our research related to Covid-19 can be applied to other emergencies, such as natural disasters or pandemics, where pregnant and postpartum women may experience additional challenges. Our findings highlight the need for increased attention and support for the mental health of these women, especially those with pre-existing conditions or who are at higher risk for complications. Healthcare providers and policymakers should prioritize the provision of timely and accessible mental health services, both during and after pregnancy, to help mitigate the impact of such emergencies on the well-being of pregnant and postpartum women. Additionally, our research underscores the importance of clear communication and accessibility of healthcare services during emergencies. Pregnant and postpartum women may face increased barriers to accessing healthcare services during such situations, which may exacerbate existing health concerns or result in new complications. Healthcare providers and policymakers should prioritize efforts to ensure that healthcare services remain accessible and available to pregnant and postpartum women, regardless of the emergency.

Finally, the study suggests that interventions should be tailored to the specific needs and challenges faced by pregnant and postpartum women during emergency situations. Such interventions could include support groups, education programs, and outreach efforts to connect women with available resources and services. These interventions should be culturally

sensitive and designed to meet the unique needs of different populations, including those with pre-existing conditions or who may be more vulnerable during emergencies. By focusing on the specific needs and challenges of pregnant and postpartum women during emergencies, interventions can help mitigate the impact of such emergencies on the health and well-being of these women and their families.

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