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Prevalence of Postpartum Depression during Covid 19 Pandemic

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Abstract

Background: The coronavirus disease (COVID-19) is a highly infectious disease and have posed a global health threat. The 2019 coronavirus disease (COVID-19) is a public health emergency of International concern. To date, there are limited studies that have investigated the impact of COVID-19 pandemic on mental health among female population.

Aim: This study was aimed to investigate the prevalence of postpartum depression (PPD) and its related factors among women in RGGW&CH, Puducherry during the COVID-19 pandemic.

Methodology: A cross-sectional study was performed from June 2021, using direct interview among 70 mothers at 6–12 weeks postpartum. The Edinburgh Postnatal Depression Scale and a self structured questionnaire regarding associated factors was administered to all participants.

Result: In this study, the proportion of patients with and without post-partum depression was found to be 13(18.6)% and 57(81.4)% respectively.The demographic and obstetric variables such as religion, mode of delivery, and complication during delivery of pregnancy were statistically significant at the p value of $p<0.035$, $p<0.003$, $p<0.001$ respectively. The chi-square test reveals that factors such as family problems during covid, history of depression before pregnancy, husband consume alcohol, stressful feeling, adequate family support are significantly associated with level of depression, $p<0.008$, $p<0.002$, $p< 0.006$, $p< 0.009$, $p< 0.027$.

Conclusion: According to findings, there was a high prevalence of postpartum depression among postnatal mother during the COVID-19 period. Additionally, strategies have to be developed by health care authorities to design recommendations and actions to prevent occurrence of post-partum depression during the pandemic.

Keywords: Post-partum Depression; Postnatal mother; COVID-19; Prevalence.

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INTRODUCTION

The coronavirus disease (COVID-19) is a highly infectious disease and have posed a global health threat.[1] Since the emergence of COVID-19 infection in Wuhan, China on December 2019, it has rapidly spread across China and other countries around the world.[2] On January 30th 2020, the World Health Organization (WHO) declared the out break of the COVID-19 as a public health emergency of

international concern.[3] Since the outbreak, the Chinese government has taken a swift move to reduce the spread of the virus. As of 19th March, zero domestic infection was recorded for the first time since it's outbreak in China.[4]

The ongoing COVID-19 pandemic is not only threatening people's physical health but also inducing fear and helplessness. Previous research has explored such psychologica leffect during the outbreaks of infection.[5] During the Severe Acute Respiratory Syndrome (SARS) outbreak, 17.3% of heath workers had experienced mental symptoms.[5] During one influenza break, around 10 ~ 30% of general population were concernedabout the possibility of contracting the disease.[6]

Similarly, the impacts of COVID-19 pandemic on mental health including depression and negative assessment have also been recorded.[7] Risk factors such as being female, specific physical symptoms, poor self-rated health status and increased self-blame were associated with a higher risk of COVID-19 related post-traumatic stress symptoms.[7] For women, the transition to motherhood is a challenging period and has been considered a window of increased vulnerability for the development of mental illness.[8] Therefore, it's essential to understand the potential psychological changes caused by COVID-19 among perinatal women.

During the postpartum period, women are vulnerable to clinical depression characterized by depressed mood, agitation, disappointment and sleep disorders.[9] Prior research has identified a number of biological, psychological, socioeconomic, and cultural factors that were associated with the development of postpartum depression (PPD). For example, women with limited financial means are more prone to report PPD[10], perhaps due to the increased financial stress to raise an infant.

During the COVID-19 pandemic, it's imperative to understand the complex interplay of these factors in the development of PPD in Chinese context. Affected by COVID-19, people behave in a more reticent and conservative way such as staying at home with family and reducing get togethers with friends and relatives.[11] It indicated that people were more likely to gain more support from their family members during this period.

On the other hand, restricted travel policy and self-isolation regulations may lead to a more passive lifestyle and a subsequent worsened mental health. To date, there're limited studies that have investigated the impact of COVID-19 pandemic on mental health of women after delivery.

This study aimed to investigate the prevalence of PPD among mothers admitted in postnatal ward and to explore the related factors of PPD during the COVID-19 pandemic.

MATERIALS AND METHODS

In this study was quantitative research approach was used. Descriptive cross sectional research design was used. The study was conducted in RGGW&CH, Puducherry. 70 postnatal mothers were selected by using convenient sampling technique who fulfilled the inclusion criteria such as postnatal mothers who have delivered within 6 weeks and those who are willing to participate in the study. The tool used for data collection is divided into two sections. Section A includes demographic and obstetric variables and Section B includes Edinburgh postnatal depression 12 and Self Structured Questionnaire to assess the prevalence of postpartum depression among mothers during covid. The data was collected after obtaining permission from the concerned authority, researcher introduced herself to each mother. Researcher explained the purpose of the study and the written consent was obtained from each mother before data collection.

PLAN FOR DATA ANALYSIS

Plan for data analysis were done using Statistical Package of Social Sciences (SPSS) version 16.0 software for Windows. The data were analyzed in terms descriptive (frequency, percentage) and inferential statistics (chi-square test).

Scoring Interpretation

Score	Percentage	Interpretation
Less than 19	57(81.4)	Absent
19 and above	13(18.6)	Present

RESULTS

Table 1: Frequency and percentage distribution of demographic variables among postnatal mother.

(N=70)

Demographic Variables	Frequency	Percentage
Age		
<24	41	58.6
25-29	20	28.6
30-34	9	12.9
Religion		
Hindu	69	98.6
Christian	1	1.4

Educational qualification		
No formal education	3	4.3
Primary education	11	15.7
Secondary education	24	34.3
Graduate & post graduate	32	45.7
Occupational Status		
Govt service	40	57.1
Employed	13	18.6
Private service	17	24.3
Residence		
Urban	46	65.7
Rural	24	34.3
Type of family		
Joint family	40	57.1
Nuclear family	30	42.9
Husband Occupation		
Govt service	13	18.6
Private service	57	81.4

Table 1: It shows among 70 study participants, more than half of them 41(58.6) were in the age group of less than 24 years. Around 69(98.6%) participants were belongs to Hindu. Out of 70, 3(4.3%) had no formal education, 11(15.7%) of the participants had studied upto primary class, 24(34.3) had secondary education, 32(45.7%) were graduates and post graduates. Regarding the mother's occupational status, 40(57.1%) belongs to govt service, 13(18.6%) were self employed and 17(24.3%) of them belongs to private service. Regarding the residence, 46(65.7%) mothers were residing in the urban area, 24(34.3%) were from rural area. Among 70 postnatal mothers, 40(57.1%) were living in a joint family and 30 (42.9) were living in a nuclear family respectively. Among 70 study participants, 13(18.6%) and 57(81.4%) of their husband were working in govt and private service respectively.

Table 2: Frequency and Percentage distribution of obstetric variables among postnatal mother

(N=70)

Obstetric Variable	Frequency	Percentage
Gender of baby		
Male	34	48.6
Female	36	51.4
Condition of baby		
Normal	46	65.7
Sick	24	34.3
Mode of delivery		
Vaginal	31	44.3
Lscs	39	55.7
Pregnancy related disease		
Yes	5	7.1
No	65	92.4
Place of delivery		
Private	9	12.9
Govt	59	84.3
Others	2	2.9
Family history of psychiatric illness		
No	70	100
Yes	-	-
Complication during delivery or pregnancy		
Yes	10	14.28
No	60	85.72

Table 2: Out of 70 study participants, 34(48.6)% reported that the gender of baby was male and 36(51.4) had female baby. With regard to the condition of baby, 46(65.7)% mother had normal baby and 24(34.3)% mothers baby was sick condition. More than half of mother delivered via 39(55.7)% were in LSCS and 31(44.3)% were delivered by spontaneous vaginal delivery. The majority of postnatal mother, 65(92.4%) reported in no pregnancy related disease. With reported to the place of delivery, 59(84.3%)were delivered in Govt hospital and 9 (12.9%) were delivered in private hospital respectively. The majority of postnatal mother reported no any family history of psychiatric illness. 10(14.28)% mother reported that the complication during delivery or pregnancy period.

Table 3: Frequency and Percentage distribution of factors affecting health issue among postnatal mothers during COVID 19 Pandemic.

(N=70)

Variables	Frequency	Percentage
Difficult to visit your doctor during the quarantine period		
Yes	49	70
No	21	30
Anxious in getting covid-19		
Yes	53	75.7
No	17	24.3
Staying in home for a long period time		
Yes	45	64.3
No	25	35.7
Concern about providing health services on time		
Yes	49	70
No	21	30
Family problems during covid -19		
Yes	26	37.1
No	44	62.9

History of depression before pregnancy		
Yes	19	27.1
No	51	72.9
Alcohol consumption by spouse		
Yes	10	14.3
No	60	85.7
Any difficulties during childbirth		
Yes	20	28.6
No	50	71.4
Tested for covid-19 on admission		
Yes	61	87.1
No	9	12.9

Table 3: It shows more than half of participants 49(70)% reported difficulties in visiting the doctor during the quarantine period. Majority of mother 53(75.7) reported anxious in getting covid19 infection. 64.3% mothers had stayed in home for a long period. 49(70)% mothers had reported concern about providing health services on time. 26(37.1)% participants had family problems during covid 19 pandemic. Majority of mothers 51(72.9) reported no history of depression before pregnancy, whereas 19(27.1) reported the presence of such history. Around 10(14.3)% mothers reported that their husband consume alcohol during pandemic. Around 20(28.6)% mothers reported that suffering from difficulties during childbirth. Majority of women were tested for covid-19 on admission 67(87.1)%.

Table 4: Frequency and Percentage distribution of factors affecting health issue among postnatal mothers during COVID 19 Pandemic

(N=70)

Variables	Frequency	Percentage
Compare to before the pandemic, how do you evaluate health care		
Same	17	24.3
Worse	53	75.7
Sleep during the covid phase after postpartum depression		
Good sleep	23	32.9
Disturbed sleep	47	67.1
Symptoms of depression during pregnancy		
Yes	39	55.7
No	31	44.3
Had not accessible to essential food items during pregnancy due to covid-19		
Yes	54	77.1
No	16	22.9
Taken all of the required Covid -19 precautions		
Yes	63	90
No	7	10
Stressful feeling during isolation		
Yes	31	55.7
No	39	44.3
Suicidal thoughts during the pandemic		
Yes	6	8.6
No	64	91.4
Adequate family support during this pandemic		
Yes	54	77.1
No	16	8.6
Vaccination for covid -19 to good		
Yes	48	68.6
No	22	31.4
Unable to do interesting activities during postpartum period		
Yes	40	57.1
No	30	42.9

Table 4: when comparing the healthcare services before the pandemic, 17(24.3)% reported same, and 53(75.7)% reported worse. More than half of the mothers reported that they had disturbed sleep 47(67.1)% and 23(32.9)% mothers had good sleep. Nearly 39 (55.7)% of mothers reported having symptoms of depression during pregnancy. Majority of mothers 54(77.1)% reported that they had no access to essential food items during pregnancy due to covid-19. Most of the mothers 63(90)% reported that they have taken all the required covid 19 precautions. Around 31(55.7)% mothers reported that isolation made them to feel stressful. Only 6(8.6)% mothers reported to have suicidal thought in pandemic. Around participants 54(77.1)% mothers had adequate family support during this pandemic. Around 68% of the mothers reported that they felt good to receive vaccination for covid 19. Around 40 (57.1)% mothers reported that they were unable to do activities in postpartum depression.

Table 5: Status of Postpartum depression among postnatal mother

(N=70)

PPD	Frequency	Percentage
Present	13	18.6
Absent	57	81.4

Table 5: It shows out of 70 mother participants, the proportion of mothers who had postpartum depression was 13(18.6)%.

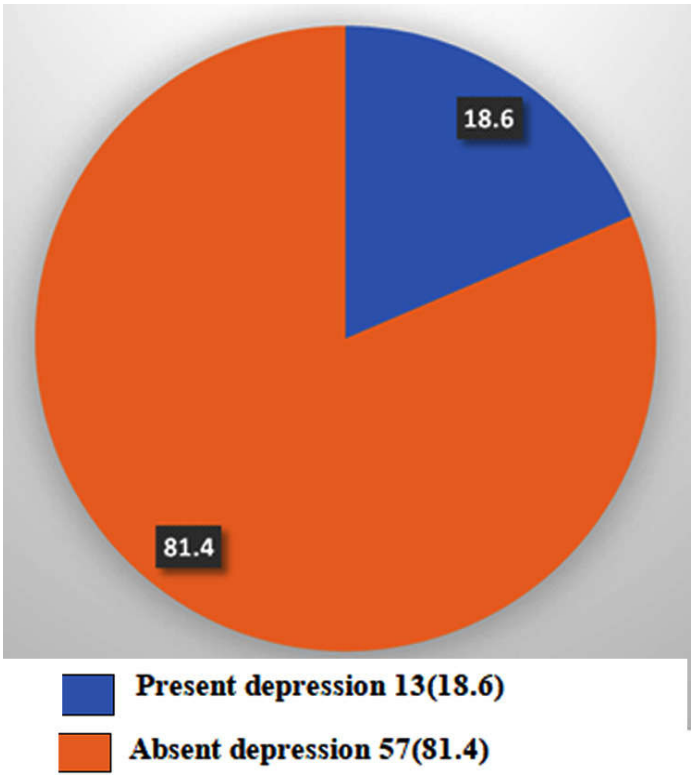

Table 6: Association between the selected demographic variables, obstetric variables and factor affecting Postpartum Depression among mother.

(N=70)

Variable	PPD Absent		PPD Present		X2 value	P value
	N	%	N	%		
Religion						
Hindu	57	82.6	12	17.4	4.448	0.035 Df=1 S
Christian	-	-	1	100		
Residence						
Urban	36	78.3	10	21.7	0.890	0.345 Df=1 NS
Rural	21	87.5	3	12.5		
Type of family						
Joint family	32	80	8	20	0.126	0.723 Df-1 NS
Nuclear family	25	83.3	5	16.7		
Gender of baby						
Male	29	85.29	5	14.70	0.653	0.419 Df=1 NS
Female	28	82.35	8	23.52		
Condition of baby						
Normal	40	86.95	6	13.04	2.711	0.100 Df=1 NS
Sick	17	70.83	7	29.16		
Mode of delivery						
Vaginal	27	69.2	12	30.8	8.664	0.003 Df=1 S
Lscs	30	96.8	1	3.2		

Pregnancy related disease						
Yes	4	80	1	20	0.236	0.889 Df=2 NS
No=	5	82.2	12	18.8		
Complication during delivery or pregnancy						
Absent	53	88.3	7	11.7	13.241	0.001 Df=1 S
Present	4	40	6	60		

The factors associated with depression during the COVID-19 period were investigated and they are shown in

Table 6: The chi square test reveals that the level of depression was significantly affected by religion, the Hindu (P=0.035), mode of delivery at (P= 0.003), mother reported that the complication during delivery or pregnancy at (P=0.001).

Table 7: Association between the selected demographic variables, obstetric variables and factor affecting Postpartum Depression among mother.

(N=70)

Variable	PPD absent		PPD Present		X^2 Value	P value
	No	%	No	%		
Difficult to visit your doctor during the quarantine period?						
Yes	39	79.6	10	20.4	0.346	0.546 Df=1 NS
No	18	85.7	3	14.3		
Anxious in getting COVID-19						
Yes	44	83	9	17	0.365	0.546 Df=1 NS
No	13	76.5	4	23.5		
Staying in home for a long period						
Yes	35	77.8	10	22.2	1.111	0.292 Df=1 NS
No	22	88	3	12		
Loss of support from family and friends						
Yes	20	60.6	13	39.4	17.90	0.000 Df=1 NS
No	37	100	0	0		
Concerns about providing health care services						
Yes	38	77.6	11	22.4	1.624	0.203 Df=1 NS
No	19	90.5	2	9.5		
Family problems during covid 19						
Yes	17	65.4	9	34.6	7.041	0.008 Df=1 S
No	40	90.9	4	9.1		
History of depression before pregnancy						
Yes	11	57.9	8	42.1	9.551	0.002 Df=1 S
No	46	90.2	5	9.8		

The factors associated with depression during the COVID-19 period were investigated and they are shown in

Table 7: The chi square reveals that other factors like, family problems during covid 19 (P = 0.008), and the history of depression before pregnancy is highly significant at the P value of 0.002.

Table 8: Association between the selected demographic variables, obstetric variables and factoraffecting Postpartum Depression among mother during covid

(N=70)

Variable	PPD absent		PPD Present		X^2 value	P value
	N	%	N	%		
Husband consume alcohol during pandemic						
Yes	5	50	5	50	7.620	0.006 Df=1 S
No	52	86.7	8	13.3		
Suffer from any difficulties during childbirth						
Yes	39	78	11	22	1.360	0.243 Df=1 NS
No	18	90		10		
Tested for covid 19						
Yes	49	80.3	12	19.7	0.380	0.538 Df=1 NS
No	8	88.9	1	11.1		
Compared to before the pandemic, how do you evaluate health care						
Same	16	94.1	1	5.9	2.391	0.122 Df=1 NS
Worse	41	77.4	12	22.6		
Sleep during covid phase after postpartum depression						
Disturbed sleep	39	83	8	17	0.227	0.634 Df=1 NS
Good sleep	18	78.3	5	21.7		
Symptoms of depression during pregnancy						
Yes	30	76.9	9	23.1	1.182	0.277 Df=1 NS
No	27	87.1	4	12.9		
Had not accessible to essential food item during pregnancy due to covid 19						
Yes	42	77.8	12	22.2	2.082	0.149 Df=1 NS
No	15	93.8	1	6.2		

The factors associated with depression during the COVID-19 period were investigated and they are shown in

Table 8: The chi square test reveals that the husband consume alcohol during pandemic is highly significant at the P value of 0.006.

Table 9: Association between the selected demographic variables, obstetric variables and factor affecting Postpartum Depression among mothers during mothers during covid.

Variable	PPD absent		PPD Present		X^2 value	P value
	N	%	N	%		
Have you taken all the required covid 19 precaution						
Yes	51	81	12	19	0.094	0.759 Df=1 NS
No	6	85.7	1	14.3		

Stressful feeling during isolation						
Yes	21	67.7	10	32.3	6.892	0.009 Df=1 S
No	36	92.3	3	7.7		
Suicidal thoughts during the pandemic						
Yes	5	83.3	1	16.7	0.016	0.900 Df=1 NS
No	52	81.2	12	18.8		
Adequate family support during the covid pandemic						
Yes	47	87	7	13	4.914	0.027 Df=1 S
No	10	62.5	6	37.5		
Vaccination for covid 19 is good						
Yes	40	83.3	8	16.7	0.366	0.545 Df=1 NS
No	17	77.3	5	22.7		
Unable to do interest activities during postpartum period						
Yes	31	77.5	9	22.5	0.953	0.329 Df=1 NS
No	26	86.7	4	13.3		

The factors associated with depression during the COVID-19 period were investigated and they are shown in

Table 9: The chi square test reveals that the postpartum mother had in stressful feeling during isolationis highly significant at (P = 0.009), and adequate family support during the covid pandemic is significant at (P =0.027).

DISCUSSION

In the present study shows out of 70 mother participants, the proportion of mothers had postpartum depression was 13(18.6)%. The present study was supported by Vidhi Prakash Modi, Minakshi Nimesh Parikh, et. al.,(2018) to assess the prevalence of postpartum depression and correlation with risk factors. The study results was found that 20.4% of the women evaluated suffered from Postpartum depression.[13] The present study was supported by Aisha Ibrahim Tarabay, Dalal. Boogis, et. al., (2020) to assess the prevalence and Factors Associated with Postpartum Depression during the COVID-19 Pandemic among Women in Jeddah, Saudi Arabia. This study results included 150 participated women; 49.3% were in the age range of 25 - 34 years old. There were 30.7% reported being primigravida. Regarding the level of depression, there were 60.7% reported the presence of depression; the depression was affected by some demographics variables and obstetrics variables modify covid factors.[14] The present study was supported by Gowsalya Selvam, Janarthanan Balasubramanian et.al.,(2020) conducted a cross sectional study on assess the prevalence of postpartum depression among primi mothers in JIPMER, Puducherry and to compare the level of postpartum depression among LSCS Lower Segment Cesarian Section and vaginal delivery mothers. The study revealed that the prevalence of postnatal depression among the primi mothers was 12%, level of depression was high among vaginal delivery mothers (12%) than the mothers underwent LSCS15. The present study was supported by Blanca Vianey Suárez-Rico, Maribel Sánchez-Martínez, et.al.,(2021) conducted a cross-sectional study to investigate the prevalence of depression, anxiety, and perceived stress in postpartum Mexican (North America) women. The study result of prevalence (95% CI) of the postpartum depression symptoms was 39.2% (34–45%), trait anxiety symptoms were found among 46.1% (32–43%) of the participants, and moderate and high perceived stress were in 58% (52–64) and 10.9% (7.8–15) of the participants, respectively.[16] The present study was supported by Peiqin Liang, Yiding Wang, Si Shi, et.al.,(2020) conducted a cross sectional study to assess the prevalence and factors associated with postpartum depression during the COVID-19 pandemic among women in Guanghzou, China. Multivariate logistic regression was used to determine factors that were significantly associated with PPD. The prevalence of PPD among women at 6–12 weeks postpartum was 30.0%4.

CONCLUSION

The study results should that there was a high prevalence of PP D among postnatal mother during the COVID-19 period. Compared with the period before the COVID-19 pandemic, the prevalence during the COVID-19 was higher than before the pandemic.

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