

Impact of COVID-19 Institutional Isolation Measures on Postnatal Women in Level 3 COVID Facility in Northern India

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ABSTRACT

Aim: The COVID-19 pandemic has influenced many aspects of a woman's life. The aim of the present study was to explore whether hospital isolation and containment policies among women giving birth in COVID-19 Level 3 facility enhanced psycho-emotional distress in the immediate postpartum period.

Methodology: The study was designed as an observational study. All women giving birth at Santosh Hospital, a Level 3 COVID facility in Ghaziabad, from June 2020 to October 2020, were studied. Data collection was done by a pretested structured questionnaire which was administered to the participants in isolation ward on the second postpartum day. The women were interrogated regarding the experiences of the COVID isolation ward with special reference to the problems faced during their stay there, the anxiety for the baby, loneliness, and other factors. The women were evaluated using Edinburgh Postnatal Depression Scale (EPDS).

Result: The study group comprised 61 women who delivered in our hospital. The mean age of the subjects was 24.2 ± 1.2 years. In the study, majority of the patients were distressed with loneliness (54%) and anxiety for the baby (43%). As the policy of the institution was to hand over the newborn baby immediately to the attendants, the mother was bound to be distressed. Sleeplessness, loss of appetite, and boredom were other problems faced by the COVID-positive patients. The incidence of postnatal depression was 24.5% during COVID-19 pandemic in this institution. In the study, we found that patients with postnatal complications, patients who had symptoms of COVID, whose baby was handed over to the attendants, postpartum stay more than 7 days, and inability to connect to the family had a statistically significant correlation with those who had EPDS score > 13 .

Conclusion: The COVID-19 pandemic has shown that perinatal mental health and well-being needs to be protected during this time.

Keywords: COVID-19 Isolation, Edinburgh Postnatal Depression Scale, Mental health, Original research article, Postpartum anxiety.

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INTRODUCTION

The COVID-19 pandemic has affected outlook of a woman's life, particularly antenatal, intranatal, and postnatal period. COVID-19-positive patients who presented with mild symptoms showed a rapid improvement and a fast recovery.¹ Following birth, the World Health Organization (WHO) advocates COVID-19-positive women to practice early initiation of breastfeeding, while practicing hand hygiene before and after touching the baby. WHO recommends consideration of women's clinical condition when making decisions about maternal-infant interaction, including temporary maternal-infant separation.² Despite such recommendations, the approach towards pregnancy and childbirth is not yet universal, with different guidelines being followed in different parts of the world.

Ever since WHO declared COVID-19 a global pandemic, the Indian government implemented various preventive and restrictive measures to contain the spread of the virus. These measures included lockdown, social distancing, contact tracing, and mandatory institutional isolation of cases. This led to many obstacles in managing the antenatal patients. Many guidelines were modified, and the policies for prenatal, intranatal, and postnatal care were revised. Tele medicine took the front seat, and hospital antenatal checkups were replaced with Tele consultation. Attendants and family members were not allowed inside the maternity units in an effort to keep mothers and babies safe.³

People in isolation experience a wide range of feelings, including fear, anger, sadness, irritability, guilt, or confusion, which may make isolation challenging for maternal health.^{4,5}

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The aim of the present study was to explore whether hospital isolation measures and containment policies among women giving birth in COVID-19 Level 3 facility enhanced psycho-emotional distress in the immediate postpartum period. These may have a long-lasting effects. This would help us to understand the relationship between stress and maternal health in COVID-19 pandemic scenario better.

MATERIAL AND METHODS

Type of study: An observational study.

Place of study: Department of Obstetrics and Gynaecology, Santosh (Deemed to be University), Ghaziabad

Duration of study: From June 2020 to October 2020

Study group: All women who delivered in Santosh Medical College and Hospital Level 3 COVID facility were included in the study.

Written consent was taken from the subjects explaining to them the purpose of the study. Clearance was obtained from the ethical committee of the institution.

The study was designed as an observational study on emotional anguish in the immediate postpartum period in women who delivered at Santosh Hospital, which is a Level 3 COVID facility in Ghaziabad. Data collection was done by a pretested structured questionnaire, which was administered to the participants in isolation ward on the second postpartum day. They were interrogated using a structured questionnaire, which included sociodemographic information (age, parity, literacy, socioeconomic status), family conditions (marital status, family structure, history of physical, mental, or sexual abuse, past history of psychiatric illness), mode of delivery (vaginal delivery, Cesarean section), any intranatal complications, and obstetric outcome (healthy baby, sick baby, dead baby). The women were interrogated regarding the effect and experiences of the COVID isolation ward with special reference to the problems faced during their stay there, the anxiety for the baby, loneliness, and other factors.

The women were evaluated using Edinburgh Postnatal Depression Scale (EPDS). This is a questionnaire comprising 10 questions. The EPDS is a self-administered questionnaire made up of 10 items scored using a four-point Likert scale (0–3) designed to screen for spectrum of psycho-emotional symptoms. Postpartum depression represents the end of a continuum of severity of symptoms. The present study used a cutoff point for depressive symptomatology risk of higher than 13. Women who score above 13 were taken to be suffering from depression.

Statistical Analysis

Data were expressed as mean \pm SD or number (percentage). Variables were analyzed by Chi-square test, independent-sample *t*-test, and Fisher exact test where applicable. Results were analyzed to evaluate the significance of association of these factors with postnatal depression in the COVID-19 pandemic. *p* < 0.05 was considered statistically significant.

RESULTS

The study group comprised 61 subjects, the sociodemographic characteristics of which are shown in Table 1. The subjects presented with the mean age of 24.2 ± 1.2 years. The minimum age was 19 years, and the maximum was 38 years. The mean gestational age of women delivering was 36.4 ± 6 weeks.

In the study, because of the universal isolation policy of the government, institutional isolation was mandatory for all persons with COVID-positive status. Only 34.4% of all patients were symptomatic, with majority of them having mild symptoms (90.4%).

Table 2 depicts the obstetric factors of the study group. In our study, there was a higher incidence of Cesarean section as ours was the only COVID Level 3 referral center in Ghaziabad. Most of the patients had a healthy outcome (86.8%). Only one patient came with diagnosed intrauterine demise who was managed accordingly, and six babies had respiratory distress following birth for which they needed NICU care.

In the study, majority of the patients were distressed with loneliness (54%) followed by anxiety for the baby (43%). Fig. 1 shows the reasons for apprehension, with more than half of mothers being worried for feeding. As the policy of the institution was to

Table 1: Sociodemographic characteristics of study group (*n* = 61)

Variable	<i>n</i> = 61	
Age	<20	1
	21–30	45
	>31	15
Parity	Primi	32
	Multi	29
Literacy	Illiterate	21
	Educated	40
Socioeconomic status	Low	24
	Middle	33
	Upper	4
Marital status	Unmarried	0
	Divorced	0
	Widow	1
Family structure	Married	60
	Nuclear	12
Residence	Joint	49
	Rural	47
	Urban	14

Table 2: Obstetric factors of study group (*n* = 61)

Variable		<i>n</i> = 61	%
Mode of delivery	Vaginal	23	37.7
	LSCS	38	62.3
Antenatal complications	Yes	39	64
	No	22	36.0
Intranatal complications	Yes	7	11.4
	No	54	88.5
Postnatal complications	Yes	4	6.4
	No	57	93.4
Obstetric outcome	Healthy	53	86.8
	Sick	7	11.4
	Dead	1	1.6

hand over the newborn baby immediately to the attendants in order to prevent infection to the baby, the mother was bound to be distressed.

Table 3 lists the various problems faced by the patients in the isolation ward. Increasing number of postpartum days, lack of recreation in wards, inability to connect with family, boredom, lack of appetite, and poor quality of food were few factors that showed statistical significance.

The incidence of postnatal depression was 24.5% during COVID-19 pandemic in this institution.

Table 4 shows the association between the variables which caused EPDS scoring >13 and their statistical correlation. In the study, we found that patients with postnatal complications, patients who had symptoms of COVID, whose baby was handed over to the attendants, postpartum stay more than 7 days and inability to connect to the family had a statistically significant correlation with those who had EPDS score >13.

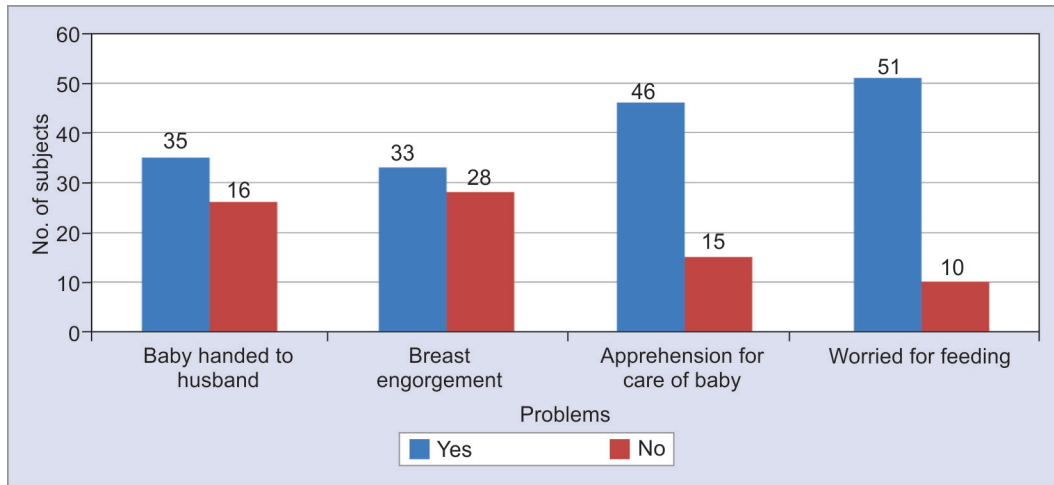


Fig. 1: Patients' apprehension regarding the well-being of the newly delivered baby (n = 61)

Table 3: Problems faced by the subjects during the postpartum period in the isolation ward (n = 61)

Variable		No. of subjects	%	p value
Postpartum stay (days)	3 or less	2	3.2	$p < 0.0001$
	4 to 6	9	14.7	
	7 to 9	47	77.1	
	More than 9	3	4.9	
Recreation in ward	TV	0	0	$p < 0.0001$
	Mobile	44	72.1	
	None	17	27.8	
Whether able to connect to family	Yes	40	65.5	$p = 0.0006$
	No	21	34.4	
How do they pass their time #	Phone	21	34.4	
	Nothing	11	18.0	
	Resting	30	49.1	
	Talking to other patients	27	44.2	
	Others	11	18.0	
Food quality	Good	49	80.3	$p < 0.0001$
	Bad	12	19.6	
Postpartum woes #	Lack of care	12	19.6	
	Nobody to make her sit up	21	34.4	
	Pain	36	59	
Sleep	Good	26	42.6	$p = 0.28$
	Disturbed	35	57.3	
Bladder frequency	Increased	31	34.4	$p = 0.90$
	No	30	65.5	
Appetite	Decreased	11	18.0	$p < 0.0001$
	Increased	50	81.9	
Reasons for loss of appetite (n = 11)	Food not up to mark	6	18.1	
	Taste not good	4	36.2	
	Cold food	5	45.4	
Toilet facilities	Clean	28	45.9	$p = 0.37$
	Dirty	33	54	

#More than one response

Table 4: Statistical significance between variables ($n = 61$) and EPDS scoring >13 ($n = 15$) of subjects who gave birth in Santosh Hospital during June to October 2020

Variable #		No. of subjects ($n = 61$)	(%)	No. of subjects with EPDS >13 ($n = 15$)	%	<i>p</i> value
Antenatal complications	Yes	39	64	9	60	0.77
Intranatal complications	Yes	7	11.4	2	13.3	0.83
Postnatal complications	Yes	4	6.4	4	26.6	0.02
Symptoms	Yes	21	34.4	1	6.6	0.03
Baby handed to husband	No	26	42.6	11	73.3	0.03
Apprehension for baby	Yes	46	75.4	12	80	0.71
Worried about feeding	Yes	51	83.6	13	86.6	0.77
Postpartum stay (days)	>7	50	81.9	8	53.3	0.02
Recreation in ward	No	17	27.8	3	20	0.54
Whether able to connect to family	No	21	34.4	13	86.6	0.0003
Disturbed sleep	Yes	35	57.3	9	60	0.85
Decreased appetite	Yes	11	18.0	3	20	0.85

DISCUSSION

Coronavirus disease 2019 (COVID-19) has affected everyone around the world causing disruption of obstetric health services.⁶ The Indian government imposed a complete lockdown in March 2020 and implemented measures in order to curb the spread of the highly contagious COVID-19 infection. Mandatory institutional isolation was also imposed in an effort for the same. The compulsory institutional isolation was an unpleasant experience for those patients who had to undergo it. Separation from their family, the loss of freedom, and boredom was very distressing for the patient.⁷ Confinement, loss of usual routine, and reduced social and physical contact with others were frequently shown to be stressful to the participants. Also, stigmatization and treating the COVID-infected patient as an outcast led a psychological turmoil for the COVID-positive patient.⁸⁻⁹

Pregnant women are especially prone to anxiety, and its prevalence is reported to be between 15 and 23%, in comparison with 3 to 5% of anxiety symptoms in the general population.¹⁰ The uncertainty of the COVID-19 pandemic makes them more prone to severe anxiety.¹¹ Approximately 10% of pregnant women experience postnatal depression globally, which is a cause for adverse obstetric outcomes if left untreated.⁹ In our study, the incidence was found to be 24.5% in COVID-infected patients.

In our study, it was observed that the patients if presented with symptoms related to COVID infection, they had the apprehension about the increasing severity of the disease and also that they could likely infect the newborn and other family members.

Studies show that longer durations of quarantine were associated with poorer mental health. Patients quarantined for more than 10 days further intensified stress-related symptoms.^{8,11} Similarly, in our study, patients with isolation of more than 7 days were found to have a statistically significant association with EPDS score.

Well-being of the newborn is the main maternal concern. Women feel worried about feeding, and risk of infection of the infant after birth. Lack of communication and difficulty in accessing

help from family and near ones is also accentuated anxiety of the mother.^{8,9,12} Similarly, in the present study, handing over the neonate to the attendants and lack of communication were the major factors contributing to the emotional distress.

The study was an effort to demonstrate that the psychological impact of institutional isolation which can be devastating for the patient and can have long-lasting consequences. Therefore, the use of isolation as a policy to contain the spread of COVID-19 requires us to reduce the adverse effects associated with it.¹³

CONCLUSION

The COVID-19 pandemic has been an eye-opener and has emphasized that deterioration of mental health is a major health issue in any natural catastrophe. Strategies should be instituted to identify women at risk and provide them professional health as required. Communication is the key to the managing the stress-related problems. Provision of information about diet and exercise during the postnatal period also remains important. Isolation can be frustrating and stressful so means of recreation and counseling about how to get away with loneliness and boredom should be part of management protocols. Women who are temporarily separated from infants following birth should be specially taken care of. Assistance from healthcare providers is crucial to help the patients and allay their anxiety during the pandemic.

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