

# A Comparative Study to Assess the Problems Faced During Postnatal period among Mothers with Normal Vaginal Delivery and Cesarean Delivery at Selected Private Maternity Care Hospital of the Nadiad city, Gujarat.

## ABSTRACT

**Introduction:** Postnatal period brings many physiological changes in mothers. This period is crucial for the mother as there is a new addition to her life. Hence the health of the postnatal mother is associated with the type of delivery.

**Objective:** This study aims to assess and compare the problems faced during postnatal period among mothers with normal vaginal delivery and cesarean delivery.

**Method:** Quantitative research approach & a comparative descriptive research design was used with 60 postnatal mothers who had fulfilled the inclusion criteria, among them 30 mothers with normal vaginal delivery and 30 mothers with cesarean delivery were selected using purposive sampling technique. Data was collected using modified standardized observation checklist to assess the problems faced during postnatal period among mothers with normal vaginal delivery and cesarean delivery.

**Setting:** The postnatal ward of selected private maternity care hospital-N.D. Desai medical college and hospital of Nadiad city, Gujarat.

**Results:** There was statistically significant difference found in problems faced during postnatal period in group 1 and group 2 which shows that mean difference between group 1 and group 2 was 1.79 and standard deviation 0.15. In group 1 overall percentage of severity of pain according to mild, moderate, severe and no pain criteria were 57%, 20%, 0% and 23% respectively and in group 2 overall percentage of severity of pain according to mild, moderate, severe and no pain criteria were 0%, 70%, 30% and 13% respectively

**Conclusion:** The study concluded that postnatal mothers with cesarean delivery have to face more problems than those following normal vaginal delivery. The level of pain score was also high in mothers with cesarean delivery

**Keywords:** Cesarean Delivery (CD), Normal vaginal delivery (NVD), Postnatal period

## 1. INTRODUCTION

Postpartum period begins with the delivery of the baby and lasts till 6 weeks after that. Physiological changes during postnatal period help the reproductive organs to revert back in pre-pregnancy state. The increasing rate of cesarean delivery is a major public health concern during the last decade in both developed and developing country including India. The postnatal health varies for a mother who had a normal vaginal delivery when compared to a cesarean delivery. During postnatal period, mothers' postnatal health is under the influence of medical, psychological and socio-demographic factors associated with childbirth such as mother's age, height, weight, parity, mode of delivery, occupation, education, dietary pattern, gestational week, no of living children etc. [1]

**Need of the Study:** Normal vaginal delivery and cesarean delivery both modes of childbirth carry a certain risk and cause the postnatal problems. Vaginal births result in shorter hospital stay, lower infection rates, and quick recovery time while pain from the cesarean section may last longer than normal vaginal delivery. A mother who has delivered the baby vaginally can initiate the breastfeeding sooner than cesarean delivery. Moving around and mobilization is also difficult in mothers with cesarean delivery. Mothers with first cesarean section are more likely to have a cesarean section in future. With the help of this study, a nurse will be able to find out the problems faced during postnatal period among mothers with NVD & CD. [2]

### 1.1 Objectives

To find out the problems faced during postnatal period among mothers with normal vaginal delivery.

To find out the problems faced during postnatal period among mothers with caesarean delivery.

To compare the problems faced during postnatal period between mothers with normal vaginal delivery and caesarean section delivery.

### 1.2 Assumption

1. The problem faced during post-natal period among mothers with normal vaginal delivery and caesarean delivery can be observed.
2. Problem faced during post-natal period are more common among mothers with caesarean delivery as compared to mothers with the normal vaginal delivery.

## 2. MATERIALS AND METHODS

### 2.1 Research Approach

A Quantitative research approach

### 2.2 Research Design

Non-experimental, comparative descriptive research design

### 2.3 Variables

1. **Research variable:** In this study the research variables are the problems faced during postnatal period among mothers with NVD & CD.
2. **Demographic variable:** In this study the demographic variables are Age, Height, Weight, Religion, Maternal educational, Husband education, Occupation, Type of work, Type of family, Dietary pattern, Family income per month, Residential area, No. of live children, Previous history of CS, Type of CS & Postnatal day.

### 2.4 Sampling Method

Non-probability purposive sampling technique was used to select the samples has been prepared after meeting inclusion criteria. Prior to the interview postnatal mothers were made clear about the objectives of this study and inform consent form. It is to be notes that participation was voluntarily and they could opted not to willing for participation.

### 2.5 Instrument for Data Collection

For the data collection tool has been prepared in two categories.

1. Questionnaire related to socio-demographic and obstetrical history information
2. Questionnaire related to postnatal problems faced by mothers with NVD and CD.

## 2.6 Study Population and Setting

Postnatal ward of selected private maternity care hospital-N.D. Desai Medical College and Hospital of Nadiad city

## 2.7 Sample Size

Sample size for the study comprised of 60 postnatal mothers; 30 mothers with NVD and 30 with CD

## 2.8 Criteria for Sample Selection

### 2.8.1 Inclusive criteria

- Mother who will give consent to take part in research.
- Postnatal mothers in age group between 18-45 year.
- Postnatal mothers with normal vaginal delivery and cesarean delivery.
- Postnatal mothers including primipara and multipara with or without episiotomy.
- Those who **could** understand Gujarati and Hindi language.
- Postnatal **mothers who were** present at the time of data collection.

### 2.8.2 Exclusive criteria:

- PN mothers who **were not willing** to participate.
- PN mothers who **were not** present at the time of data collection.
- PN Mothers who **had** any medical problems.

## 2.9 Tool for data collection:

1. Part- I : Socio-demographic information : This consist of 14 items for demographic data and 5 items for obstetrical information
2. Part-II : A Modified standardized observation checklist tool is used

## 2.10 Procedure for Data Collection

Researcher has taken formal authorization from the Medical Superintendent of selected private maternity care hospital - N.D. Desai Medical College and Hospital of Nadiad city, Gujarat. The samples collected from the postnatal wards of N.D. Desai Medical College and Hospital, Nadiad. The investigator prepared the master data collection schedule for the entire data collection plan.

- A. Informed consent was taken from the eligible participate in the study.
- B. 60 selected postnatal mothers using non- probability purposive sampling technique were selected.
- C. Baseline data was collected from mothers.
- D. 15-20 minutes was taken for interview from each sample for data collection. On average 5-8 samples were selected for data collection on a single day.
- E. The entire samples gave cooperation data collection procedure and no major problem was faced during data collection.

## 3. RESULTS

### 3.1 Section I: Description of samples (Postnatal mothers with NVD and CD) in terms of demographic variables.

**In Group 1 (NVD)**, majority, 63% samples were in the age group 21-25 years, 50% samples were in the height between 151-160cm, 53% samples belonged to the weight group of 56-65 kg, 73% was Hindu, 60% samples had the education up to primary, 40% samples were the daily laborer/farmer, 53% samples were doing moderate work, 60% samples belonged to joint family, 70% were vegetarian, 56% samples had monthly income of 5001-15,000, 76% were from rural area, 60% samples had one living child, 70% samples were primipara, 70% had normal vaginal delivery with episiotomy, 60% samples belonged to the 2-5 of postnatal day.

**In Group 2 (CD)**, majority, 46% samples belonged to the age group of 21-25 years, 60% samples belonged to the height between 151-160 cm, 36% samples belonged to the weight group of 66-75 kg, 63% were Hindu, 46% samples had education up to primary, 46% were housewife, 66% samples were doing moderate work, 66% samples belonged to nuclear family, 50% were vegetarian, 60% samples had family income of 5000-15000, 60% were from rural area, 46% samples had one living child, 43% were

primipara and 43% were 2<sup>nd</sup> Para 70% samples had elective cesarean delivery, 40% of samples belonged to the 2-5 of postnatal day.

### 3.2 Section II: Assessment and Comparison of problems faced during postnatal period among mothers with NVD and CD

**In group 1 (NVD)**, majority 36% samples were having episiotomy pain, 57% samples had mild pain, 50% samples had initiated the BF within 1-4 hours, 60% samples preferred sitting position while BF, 100% samples had initiated the regular diet, 67% samples had lochia serosa, 93% samples had moderate flow of lochia, 93% samples did not have foul smelling lochia, 46% samples had normal coping.

**In group 2 (CD)**, majority, 93% samples had surgical scar pain, 70% samples had moderate pain, 50% samples had initiated BF within & more than 4 hours, 80% samples preferred side-lateral position while BF, 70% samples were immobilized, 80% samples had initiated regular diet, 80% samples had lochia rubra, 73% samples had moderate flow of lochia, 97% samples did not have foul smelling lochia, 53% samples had anxiety.

In group 1 (NVD) average mean score of problems faced during postnatal period was 6.36 with standard deviation 8.67. In group 2 (CD) average mean score of problems faced during postnatal period was 8.15 with standard deviation 8.52. As a consequence, there was statistically significant difference found between problems faced during postnatal period between mothers with normal vaginal delivery (Group 1) and cesarean delivery (Group 2). The mean difference between group 1 and group 2 was 1.79 and standard deviation 0.15. Thus, it reveals that overall problems faced during postnatal period are more likely to observe in mothers with cesarean delivery than normal vaginal delivery.

**TABLE 1: Frequency and percentage distribution of selected Socio-demographic variables of postnatal mothers with Normal Vaginal delivery and Caesarean delivery.**

Demographic variables		Group			
		Normal delivery		CS delivery	
		N1	%	N2	%
Age (In years)	18 – 20yr	0	0%	2	6%
	21 – 25yr	19	63%	14	46%
	26 – 30yr	9	30%	11	36%
	>31yr	2	6.66%	3	10%
Height	140 – 144cm	1	3%	1	3%
	145 – 150cm	9	30%	9	30%
	151 – 160cm	15	50%	18	60%
	161 – 175cm	5	16%	2	6%
	>176cm	0	0%	0	0%
Weight	46 – 55kg	6	20%	7	23%
	56 – 65kg	16	53%	9	30%
	66 – 75kg	6	20%	11	36%
	>76kg	2	6%	3	10%
Religion	Hindu	22	73%	19	63%
	Muslim	6	20%	9	30%
	Christian	2	6%	2	6%
	Others	0	0%	0	0%
Maternal Education	Informal Education	3	10%	1	3%
	Primary	18	60%	14	46%
	Higher Secondary	9	30%	13	43%
	Graduate	0	0%	2	6%
	Post-Graduate and Above	0	0%	0	0%
Husband's Education	Informal	0	0%	0	0%
	Primary	11	36%	6	20%
	Higher Secondary	19	63%	15	50%
	Graduate	0	0%	8	26%
	Post-Graduate and Above	0	0%	1	3%

Occupation	Self Employed	5	16%	3	10%
	Government	0	0%	0	0%
	Private Job	7	23%	9	30%
	Daily Labourer/Farmer	12	40%	4	13%
	Housewife	6	20%	14	46%
Type Of Work	Heavy Work	10	33%	4	13%
	Moderate Work	16	53%	20	66%
	Mild Work	4	13%	6	20%
	Sedentary Life	0	0%	0	0%
Type Of Family	Nuclear Family	12	40%	20	66%
	Joint Family	18	60%	10	33%
	Extended Family	0	0%	0	0%
Dietary Pattern	Vegetarian	21	70%	15	50%
	Non-Vegetarian	9	30%	9	30%
	Eggetarian	0	0%	6	20%
Family Income Per Month	<5000/-	4	13%	2	6%
	5001-15000/-	17	56%	18	60%
	15,001-25,000/-	9	30%	8	26%
	>25,001	0	0%	2	6%
Residential Area	Urban	7	23%	12	40%
	Rural	23	76%	18	60%
No. Of Live Children	0	1	3%	1	3%
	1	18	60%	14	46%
	2	9	30%	12	40%
	3	2	6%	3	10%
	>4	0	0%	0	0%

**TABLE 2: Frequency and percentage distribution of selected demographic variable related Obstetrical History of postnatal mothers with Normal Vaginal delivery and Caesarean delivery.**

Obstetrical history		Group			
		Normal delivery		CS delivery	
		N1	%	N2	%
Parity	Primipara	21	70%	13	43%
	2 <sup>nd</sup>	7	23%	13	43%
	3 <sup>rd</sup>	2	6%	4	13%
	Multipara	0	0%	0	0%
Type of delivery	Normal vaginal delivery	9	30%	0	0%
	Caesarean delivery	0	0%	30	100%
	Normal vaginal delivery with episiotomy	21	70%	0	0%
Previous H/O CS	Yes	0	0%	15	50%
	No	30	100%	15	50%
Type of Caesarean	Elective	0	0%	21	70%
	Complication	0	0%	9	30%
	No	30	100%	0	0%
Postnatal day	0	0	0%	6	20%
	1	2	6%	11	36%
	2-5	18	60%	12	40%
	>6	10	33%	1	3%

**TABLE 3: Frequency and percentage distribution of problems faced during postnatal period among mothers with Normal Vaginal delivery and Caesarean delivery.**

Sr. No.	Characteristics	Category	NVD		CD	
			N1	%	N2	%
(1)	<b>Pain</b>					
	Site of pain (Up to 7 days)	Surgical scar pain	0	0%	28	93%
		Back pain	3	10%	22	73%
		Lower abdomen	9	30%	4	13%
		Head ache	0	0%	8	26%
		Leg cramps	1	3%	1	3%
		Body ache	1	3%	2	6%
		Episiotomy pain	11	36%	0	0%
		No pain	7	23%	0	0%
	Severity of pain (Wong-Baker Faces pain scale)	Mild	17	57%	0	0%
Moderate		6	20%	21	70%	
Severe		0	0%	9	30%	
No pain		7	23%	4	13%	
(2)	<b>Breast &amp; Breastfeeding problems</b>					
	Problem with breastfeeding	Not Given	2	7%	3	10%
		Within 1-4 Hours	15	50%	11	36%
		More than 4 Hours	3	10%	15	50%
		More than 1-2 days	4	13%	1	3%
		Less secretion of the breast milk	0	0%	5	16%
		Twin Baby/Multiple	0	0%	0	0%
		Artificial feeding	6	20%	2	6%
	Breast complication	Breast engorgement	4	13%	1	3%
		Breast sepsis	0	0%	0	0%
		Redness	1	3%	0	0%
		Swelling	0	0%	4	13%
		Lumpy breast	2	7%	0	0%
		Cyst / Tumor	0	0%	0	0%
		Normal	23	77%	25	83%
	Abnormality of nipple	Inverted nipple	3	10%	1	3%
		Cracked nipple	0	0%	0	0%
Long nipple		0	0%	0	0%	
Short nipple		0	0%	0	0%	
Nipple pain		0	0%	4	13%	
Normal		27	90%	25	83%	
Preferred position during breastfeeding	Sitting	18	60%	6	20%	
	Semi setting	3	10%	6	20%	
	Side lateral	7	23%	24	80%	
	Not initiated	2	7%	4	13%	
(3)	<b>Problem with self-care</b>	Immobilization	2	7%	21	70%
		Weakness	3	10%	18	60%
		Poor perineal hygiene	4	13%	12	40%
		Poor breast care	2	7%	4	13%
		Dirty dressing	0	0%	15	50%
		No any problem	19	63%	4	13%
		(4)	<b>Nutritional and diet</b>	Initiation of regular diet	30	100%
Bloating	0			0%	7	23%
Constipation	0			0%	5	17%
Anorexia	0			0%	4	13%
Normal	0			0%	5	17%

(5)	<b>Bowel difficulties</b>	Hard stool	8	27%	11	37%
		Loose motion	1	3%	5	17%
		Piles	1	3%	1	3%
		Fistula	0	0%	0	0%
		Normal	20	67%	14	47%
(6)	<b>Bladder difficulties</b>	Catheterization	2	7%	11	37%
		Dysuria	0	0%	3	10%
		Burning Micturition	3	10%	3	10%
		Normal	25	83%	14	47%
(7)	<b>Lochia Type</b>	Rubra	10	33%	24	80%
		Serosa	20	67%	5	17%
		Alba	0	0%	1	3%
	<b>Amount</b>	Scanty	2	7%	7	23%
		Moderate	28	93%	22	73%
		Heavy	0	0%	1	3%
	<b>Smell</b>	None	28	93%	29	97%
Foul		2	7%	1	3%	
(8)	<b>New born disorder</b>	Yes	4	13%	5	17%
		No	26	87%	25	83%
(9)	<b>Psychological problem</b>	Anxiety	3	10%	16	53%
		Restlessness	0	0%	5	17%
		Insomnia	0	0%	12	40%
		Difficulty in bonding with baby	12	43%	3	10%
		Normal coping	15	46%	11	37%

**Table: 4 Mean, Mean Difference, Standard Deviation (SD) of the problems faced during postnatal period among mothers with Normal Vaginal delivery and Caesarean delivery.**

	<b>No. of Postnatal mothers</b>	<b>Mean</b>	<b>Mean Difference</b>	<b>SD</b>
Group 1 (NVD)	30	6.36	1.79	8.67
Group 2 (CD)	30	8.15		8.52

## **DISCUSSION**

The questions were asked to mothers based on the tool and their response were marked. This study is limited to the selected private maternity care hospital- N.D. Desai Medical College and Hospital of Nadiad city of Gujarat state.

A study conducted at the immunization clinic and pediatric OPD of a selected territory care hospital, Bangalore, with the aim of to assess and compare the quality of life among postnatal mothers after normal delivery and caesarean delivery. The result of the study evidenced that the mother who underwent caesarean section was more fatigued when compared to normal delivery mothers and also the quality of life was find to be better among normal delivery mothers than those who had caesarean section.[3] Another study was carried out with the aim to compare quality of Life in Women after Normal delivery and Caesarean section. The study was conducted in Isfahan health centers, affiliated by Isfahan University of Medical Sciences. The findings suggested that normal delivery might lead to a better quality of life especially resulting in a superior physical health.[4] A comparative study was conducted to assess the maternal morbidity among the mothers with normal vaginal delivery and caesarean delivery. The main objective was to compared maternal morbidity between planned vaginal and planned caesarean delivery. For healthy primiparous women, planned caesarean delivery decreases certain morbidities. Labored caesarean delivery had increased risks compared with both

vaginal delivery and unlabored caesarean delivery.[7]

Above all research studies and other studies as well, suggest that there are significant differences in the postnatal problems among mothers with NVD and CD. Most of the studies done in this field have suggested that there are many health ailments associated with the caesarean delivery than the normal vaginal delivery. This study reflects on this and carried out to compare the problems which are associated with it in the N.D. Desai Medical College and Hospital of Nadiad city of Gujarat state.

After the analysis and comparison, it was found that PN mother with CD face more problems than PN mothers with NVD. These problems are back pain, surgical scar pain, delayed in initiation of breastfeeding, difficulty in breastfeeding positioning, delayed in initiation of regular diet, immobilization, weakness, catheterization, and anxiety. The level of pain is also high in mothers with cesarean delivery than normal vaginal delivery.

## **CONCLUSION**

The purpose of the study was to identify the problems faced during postnatal period among mother with NVD and CD. Based on assessment and comparison of problems faced during postnatal period among mothers with NVD and CD, it is concluded that the PN mother with CD faces more problems than PN mothers with NVD.

## **DISCLAIMER**

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

## **CONSENT**

Informed consent form was acquired from the participants prior to data collection.

## **ETHICAL APPROVAL**

The study was approved by the institutional Ethical Committee of Dinsha Patel College of nursing, Nadiad, there are total 15 members in the Committee from various fields. The ethical approval. Reference number is **DPCN/2ndIEC/2020-21/15** and a formal written permission was gathered from the authority of or Principal of Institute prior to data collection.

## **COMPETING INTERESTS**

Authors have declared that no competing interests exist.

## REFERENCES

- 1) <https://www.healthline.com/health/pregnancy/c-section-vs-natural-birth-2>
- 2) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4280556/>
- 3) **Reghunath Divya; C. Sangeetha; 2019;** A comparative study to assess the quality of life among mothers after normal vaginal delivery and caesarean section at a selected hospital, Bangalore; Available: [https://www.ijhsr.org/IJHSR\\_Vol.9\\_Issue.8\\_Aug2019/48.pdf](https://www.ijhsr.org/IJHSR_Vol.9_Issue.8_Aug2019/48.pdf)
- 4) **Torkan Behnaz; Parsay Sousan;** postnatal quality of life in women after normal vaginal delivery and caesarean section. <https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/1471-2393-9-4>
- 5) **World Health Organization; News Portal.** Available: <https://www.who.int/news/item/16-06-2021-caesarean-section-rates-continue-to-rise-amid-growing-inequalities-in-access>
- 6) **Nierenberg Cari; Wild Sarah;** Vaginal Birth Vs. C-Section: Pros and Cons. Available: <https://www.livescience.com/45681-vaginal-birth-vs-c-section.html>
- 7) **Romao Mattea; Cacciatore Alessandra; et al.; 2010;** Postpartum period, Available: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3279173/>
- 8) **Maryam Zakerihamidi; Robab Latifnejad Roudsari; Effat Merghati Khoei; 2015;** Vaginal Delivery vs. Cesarean Section: A Focused Ethnographic Study of Women's Perceptions in The North of Iran Available: [https://www.researchgate.net/publication/270277861\\_Vaginal\\_Delivery\\_vs\\_Cesarean\\_Section\\_A\\_Focused\\_Ethnographic\\_Study\\_of\\_Women's\\_Perceptions\\_in\\_The\\_North\\_of\\_Iran](https://www.researchgate.net/publication/270277861_Vaginal_Delivery_vs_Cesarean_Section_A_Focused_Ethnographic_Study_of_Women's_Perceptions_in_The_North_of_Iran)
- 9) **Sharma Shanta; Dhakal Indra; 2018;** Complications among mothers and new-born due to delivery process in selected hospitals of Rupandehi district Nepal. Available: [https://www.researchgate.net/publication/326212407\\_Complications\\_among\\_Mothers\\_and\\_New\\_Born\\_Due\\_to\\_Delivery\\_Process\\_in\\_Selected\\_Hospitals\\_of\\_Rupandehi\\_District\\_Nepal](https://www.researchgate.net/publication/326212407_Complications_among_Mothers_and_New_Born_Due_to_Delivery_Process_in_Selected_Hospitals_of_Rupandehi_District_Nepal)
- 10) **Geller Elizabeth J.; Wu Jennifer M.; et al. 2010;** Maternal outcomes associated with planned vaginal versus planned primary caesarean delivery. Available: <https://pubmed.ncbi.nlm.nih.gov/20235001/>
- 11) **Webb David A; Bloach Joan R; et al. 2008;** Postpartum physical symptoms in new mothers: their relationship to functional limitations and emotional well-being; Available: <https://pubmed.ncbi.nlm.nih.gov/18844643/>
- 12) **Juan Miguel Martinez - Galiano; Miguel Delgado-Rodriguez; et al. 2019;** Symptoms of discomfort and problems associated with mode of delivery during the puerperium: An observational study. Available: <https://pubmed.ncbi.nlm.nih.gov/31752197/>
- 13) **Panth Asha; Kafre Praveena; 2018;** maternal satisfaction on delivery service among post-natal mothers in a government hospital, Mid-Western Nepal. Available: <https://www.hindawi.com/journals/ogi/2018/4530161/>
- 14) **Badrunnesa Begum; Rashid Uz Zaman; 2009;** Comparisons of risks and benefits of normal vaginal and caesarean section deliveries in a public tertiary hospital in Bangladesh. Available: <https://pubmed.ncbi.nlm.nih.gov/19377421/>
- 15) **Pain scale:** <https://www.verywellhealth.com/pain-scales-assessment-tools-4020329>