

PSYCHOLOGICAL ASPECTS OF MOTHERS UNDERGOING INDUCTION OF LABOUR IN COMPARISON WITH SPONTANEOUS LABOURUmadevi N¹, Nurul Ameen A. M², Seeniammal³**HOW TO CITE THIS ARTICLE:**

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ABSTRACT: INTRODUCTION: Induction of labor is one of the most common interventions practiced in modern obstetrics. Induction is indicated before the spontaneous onset of labor when the benefit to the mother or the fetus is perceived to outweigh continuation of pregnancy. It causes changes in the psychology of mothers during labor. **OBJECTIVES:** To compare the psychological aspects and intensity of pain in mothers undergoing induction of labor with those who labor spontaneously. **MATERIAL AND METHODS:** Prospective comparative study- 75 each in study and control group selected by systematic random sampling method. **STATISTICAL ANALYSIS:** Statistical tests of significance- Chi square test and Fisher's exact test were used. P value <0.05 was considered significant. **RESULTS:** Induced mothers felt significantly more pain (p=0.00002). Incidence of anxiety (p=0.034) and depression (p=0.014) were significantly higher in the induced group. **CONCLUSION:** The psychological aspects of labor induction which though very relevant receives less attention in our settings. Incidences of pain, anxiety and depression were significantly higher among the induced women. The results imply that the psychological aspects should be given due consideration and steps to reduce the suffering like review of indications for inductions need to be undertaken along with steps to reduce the negative psychological impacts in induced women.

KEYWORDS: Psychological, labor, induction of labor, spontaneous labor Induced Labor, Obstetric Pain.

INTRODUCTION: Induction of labor is defined as an intervention intended to artificially initiate uterine contractions resulting in progressive effacement and dilatation of cervix. When it is believed that the clinical course and outcome of pregnancy would be better if the pregnancy was interrupted rather than allowed to carry on in its natural course, induction of labor is carried out [RCOG 2008].

Induction of labor is one of the most common interventions practiced in modern obstetrics. Overall, throughout the world, up to 20% of women have labor induced by one method or the other. Induction is indicated before the spontaneous onset of labor when the benefit to the mother or the fetus is perceived to outweigh continuation of pregnancy.

The pregnancy experience can be seen as a major occurrence in women's global development. It is an extremely significant transition moment which causes deep physical and emotional changes, thus requiring numerous adaptation.¹⁻⁴ Induction of labor also causes changes in the psychology of mothers during labor.

Perception of pain, including pain of uterine contraction, is a complex process that involves interaction of both central and peripheral mechanisms and continuous interchange of information among nociceptive and descending anti nociceptive pathways. Pain perception involves sensory, emotional, behavioral and environmental factors. Most women rate pain of childbirth as the most painful experience of their lives.

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Labor pain is nearly a universal experience for childbearing women but threshold of this pain varies between individuals. The pain perception in child birth and satisfaction depends on various pre delivery and intrapartum factors. Pre delivery factors include social status, parity, prenatal education, counseling, while intrapartum factors influencing satisfaction are type of labor-spontaneous/induced labor, mode of delivery, duration of labor, medical intervention and personal support.

Therefore the present study is intended to know about the various changes in the psychology of mothers, their reactions to induction of labor in comparison to spontaneous labor and also the difference in pain perception between the two groups.

AIMS AND OBJECTIVES:

1. To study the psychological aspects of mothers undergoing induction of labour in comparison with mothers labouring spontaneously.
2. To compare the intensity of pain in patients undergoing induction of labour with that of mothers labouring spontaneously.

MATERIALS AND METHODS: A Prospective comparative study was conducted in the Department of Obstetrics & Gynecology, IMCH, Government Medical College, Calicut over a period of 2 years from March 2012 to June 2012. 75 women at term undergoing induction of labor was compared with another 75 women at term who labored spontaneously, The Inclusion criteria were Primigravida with Singleton pregnancy and gestational age between 37 and 40 weeks. Women excluded from the study were Multigravida and those with pregnancies before 30 and above 40 weeks of gestation and those with multiple pregnancies, malpresentations and having history of psychiatric illness.

During the study period total number of deliveries was 5657. Total number of primigravida during this period were 2612. With exclusion criteria taken into consideration 75 mothers in each of the groups were selected by systematic random sampling method. In the study group, mothers were questioned about any knowledge of induction and their opinion about induction. They were also asked if they had agreed to induction gladly, indifferently or reluctantly or whether they had refused it. In the postpartum period they were questioned about their immediate reactions to the induction of labor with particular reference to the intensity of pain following induction and they were requested to fill questionnaires regarding anxiety and depression. The spontaneously laboring control group was requested to complete a questionnaire post-delivery, which contained the section pertaining to the actual labor, anxiety and depression. Anxiety was measured by using State Trait Anxiety Inventory Scale, depression was assessed using Edinburgh Postnatal depression scale and pain was measured using verbal rating scale. The Primary outcome measures studied were anxiety, depression and perception of pain. The secondary outcome measures included attitude towards induction of labor, length of labor and the mode of delivery.

Statistical analysis: Statistical analysis was done using SPSS version 16.0 for Windows. Data was expressed as number and percentages. Comparison was done by chi square test and Fisher's exact test. Risk was explained in terms of relative risk (RR) and odds ratio (OR). 95% confidence interval (CI) for the same is also given. A p value <0.05 was considered to indicate statistical significance.

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RESULTS: The demographic variables like age, educational status and socioeconomic status were comparable between the two groups.

			AGE			Total
			<= 20	21 - 29	>= 30	
GROUP	Study (Induced)	Number	21	50	4	75
		%	28.0%	66.7%	5.3%	100.0%
	Control(Spontaneous)	Number	21	52	2	75
		%	28.0%	69.3%	2.7%	100.0%
Total		Number	42	102	6	150
		%	28.0%	68.0%	4.0%	100.0%

Table 1 - Maternal age

Maternal age was comparable between the groups, $p = 0.703$.

			EDUCATION				Total
			High School	Pre Degree	Degree	PG	
GROUP	Study (Induced)	Number	11	47	17	0	75
		%	14.7%	62.7%	22.7%	.0%	100.0%
	Control (Spontaneous)	Number	12	42	20	1	75
		%	16.0%	56.0%	26.7%	1.3%	100.0%
Total		Number	23	89	37	1	150
		%	15.3%	59.3%	24.7%	.7%	100.0%

Table 2 - Education

Educational status of patients of the two groups were comparable, $p=0.667$.

			Socioeconomic Status		Total
			Lower	Upper	
GROUP	Study (Induced)	Number	64	11	75
		%	85.3%	14.7%	100.0%
	Control (Spontaneous)	Number	59	16	75
		%	78.7%	21.3%	100.0%
Total		Number	123	27	150
		%	82.0%	18.0%	100.0%

Table 3 - Socioeconomic status

Socio economic status was comparable between the two groups, $p=0.288$.

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PRIMARY OUTCOME MEASURES:

1. PAIN: In the study group the Incidence of severe pain was significantly higher among PGE₁ induced patients. Pain however was not increased with repeat induction, the severity of pain increased with increase in 1st stage duration but it did not increase with increase in ripening delivery interval. In the control group severe pain was not found to be statistically significant among patients with prolonged labor, Severe pain was significantly higher among study group, RR = 1.59 (1.27 – 1.98), p=0.00002.

		PAIN			Total
			Moderate	Severe	
GROUP	Study (Induced)	Number	10	65	75
		%	13.3%	86.7%	100.0%
	Control (Spontaneous)	Number	34	41	75
		%	45.3%	54.7%	100.0%
Total		Number	44	106	150
		%	29.3%	70.7%	100.0%

Table 4 – Perception of Pain

ANXIETY: In the study group the Incidence of anxiety was significantly higher among patients with ripening delivery interval ≥ 12 hrs (p=0.023), Also 47/47 (100%) of the patients with antenatal complications in the study group were anxious while only 22/28 (78.6%) of the patients without antenatal complications were anxious and this difference was statistically significant. There was no association of anxiety with intrapartum/ postpartum complication like prolonged labor, mode of delivery and NICU admission of newborn.

Incidence of anxiety was significantly higher among induced patients, RR = 1.15 (1.01 1.31), p=0.034.

		ANXIETY			Total
			Anxious	Not anxious	
GROUP	Study (Induced)	Number	69	6	75
		%	92.0%	8.0%	100.0%
	Control (Spontaneous)	Number	60	15	75
		%	80.0%	20.0%	100.0%
Total		Number	129	21	150
		%	86.0%	14.0%	100.0%

Table 5 - Anxiety

DEPRESSION: In the study group the Incidence of depression was significantly higher among patients with ripening delivery interval ≥ 12 hrs. p = 0.008, No statistically significant association with antenatal complications, intrapartum and postpartum complications were observed, No statistically significant association with duration of 1st stage, mode of delivery, NICU admission were seen. In the control group 3/75 (4%) were depressed. The incidence of depression was significantly higher among patients with postpartum complications.

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Incidence of depression was significantly higher among induced patients, RR = 4 (1.18 13.6), p=0.014.

			Depression		Total
			Depressed	Not depressed	
GROUP	Study (Induced)	Number	12	63	75
		%	16.0%	84.0%	100.0%
	Control (Spontaneous)	Number	3	72	75
		%	4.0%	96.0%	100.0%
Total		Number	15	135	150
		%	10.0%	90.0%	100.0%

Table 6 - Depression

SECONDARY OUTCOME MEASURES:

- 1. ATTITUDE TOWARDS INDUCTION:** 66 (88%) patients were glad about induction, while 8(10.7%) patients were indifferent and 1(1.3%) patient was reluctant.
- 2. SOURCE OF INFORMATION ON INDUCTION:** 84% of the patients had idea of labor induction from the information they had received from relatives and friends while 9.3% got the information from hospital and 6.7% reported to have learnt of it from the media
- 3. DURATION OF 1ST STAGE:** 1ST stage duration was not significantly prolonged in the study group.
- 4. MODE OF DELIVERY:** Majority of patients in both the groups delivered vaginally. Though CS rate was high in the study group it was not found to be statistically significant. The commonest cause for CS in the study group was failed induction.

DISCUSSION: The present study investigates the issue of psychological aspects of labor induction which though very relevant receives less attention in our settings. The findings of the study are a reflection of the significance of this aspect and the need to consider the same during inductions of labor.

With the parameters like age, educational and socioeconomic status being comparable, majority of the women who were induced experienced different types of psychological effects. Incidences of pain, anxiety and depression were significantly higher among induced patients.

The majority of these women were glad about induction -66 (88%) patients, 8(10.7%) patients were indifferent and only 1(1.3%) patient was reluctant.

Induction did not show any significant prolongation of the first stage duration in the study group.

With majority of the patients in both the groups delivering vaginally the higher CS rate in the study group was not found to be statistically significant.

In the induced group incidence of severe pain was significantly higher among PGE1 induced patients. Pain was not associated with repeat induction. Though severity of pain did not increase with increase in ripening delivery interval it increased with increase in 1st stage duration.

The induced women also showed significantly higher incidence of anxiety when the ripening delivery interval ≥ 12 hrs p = 0.023. All of the patients (100%) of with antenatal complications in the study group were anxious while only 22/28 (78.6%) of the patients without antenatal complications

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were anxious and this difference was statistically significant. There was no association with intrapartum/ postpartum complications. There was no association with prolonged labor, mode of delivery and NICU admission.

The incidence of depression was significantly higher among the induced women with ripening delivery interval ≥ 12 hrs. $p = 0.008$, No statistically significant association of depression with antenatal complications, intrapartum and postpartum complications were seen. Similarly any statistically significant association with duration of 1st stage, mode of delivery, NICU admission was not seen.

The implication here is that the psychological aspects of the women being induced should be given due consideration and the steps to reduce the suffering like reviewing the indications for inductions need to be undertaken along with steps to reduce the negative psychological impacts in induced women.

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