

Original Research Article

## Effectiveness of Selected Mind Body Interventions on Anxiety Related to Childbirth and Labour Outcome among Parturient Women Undergoing Medical Induction of Labour

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### ABSTRACT

**Background:** Labour is a series of events that take place in the genital organs in an effort to expel the viable products of conception out of the womb through the vagina into the outer world. It is an intense process that creates a high level of emotional stress and anxiety for a woman. Medical induction is most often employed because a fetus is considered overdue, although there are other medical issues that arise that make induction recommended. Normally, Anxiety during labour interferes with the labour process and utilization of Medical Induction during labour intensifies Anxiety.

**Purpose:** To assess the effectiveness of Selected Mind Body Interventions on Anxiety related to Childbirth and Labour Outcome among Parturient Women undergoing Medical Induction of Labour.

**Materials and Methods:** Anxiety related to Childbirth was assessed by Wijma Delivery Expectancy Questionnaire (WED-Q Version-A). Primi Parturient woman undergoing Medical Induction of Labour were divided into experimental group and control group by Purposive Sampling. Selected Mind body Interventions were demonstrated and parturient women undergoing Medical Induction of Labour in Experimental group was motivated to perform the interventions. Labour outcome variables included

**Results:** Post test Anxiety Score was significantly lower in Experimental group than the Control group and there was a difference in Labour outcome between experimental group and control group.

**Conclusion:** Practicing the Selected Mind Body Interventions are safe, helps to reduce the anxiety level, improves the confidence, develop the healthy attitude towards labour Process.

**Keywords:** Selected Mind Body Interventions, Anxiety, Labour Outcome.

### INTRODUCTION

Anxiety is the body's natural response to danger, when you feel threatened, under pressure, or are facing a stressful situation. <sup>[1]</sup> Labour is one of the greatest events in every woman's life. It is the fulfillment of their dreams and the same time also experience anxiety about to cope with these great events in their lives. <sup>[2]</sup>

It is natural to experience a certain

amount of fear and anxiety in anticipation of giving birth. <sup>[3]</sup> Primigravida mothers usually have increased anxiety and concern about labour and the delivery. As fear and anxiety heighten, inhibiting the effectiveness of contractions, increasing discomfort and further heightening fear and anxiety. <sup>[4]</sup> In an ideal world, all pregnancies would go to term and labour would begin spontaneously, but some women need a

little bit of help during labour. [1] Induction of labour is a therapeutic option when the benefits of delivery outweigh the risks of continuing pregnancy. [5]

Due to the advancement in science and technology, the methods for safe and fast labour are developed and using these methods is collectively known as induction of labour. During the last 30 years the state of the uterine cervix has been recognized as having a major influence on the success of attempts to induce labour. [2]

Induction of labour is the stimulation of uterine contraction prior to the onset of spontaneous labour. It is an obstetrics intervention that should be used when elective birth will be beneficial to mother and baby. It means initiation of uterine contractions by any method (medical, surgical or combined) for the purpose of vaginal delivery. In 20% of gravid women, labour induction is indicated at term. [5]

Methods of inducing labor include medical method, surgical method and combined method. In Medical methods drugs like prostaglandins- PGE<sub>1</sub>, PGE<sub>2</sub>, oxytocin and mifepristone are used. PGE<sub>2</sub> is primarily important for cervical ripening. PGE<sub>1</sub> which is known as misoprostol is currently being used either transvaginally or orally. Similarly it is effective for cervical ripening and labour induction. [2]

Medical induction is most often employed because a fetus is considered overdue, although there are other medical issues that arise that make induction recommended. This can cause added stress and anxiety for a mother to go into labor 'on time.' [6] Stress and anxiety make the body to produce fight-or-flight hormones, such as adrenaline, cortisol and epinephrine. These stress hormones reduce the flow of blood carrying oxygen to the fetus, suppress the release of oxytocin, and slow down the labour. Whenever we feel stressed and anxious, muscles become tensed. If that tension isn't released and goes on for too long, body will become tired more quickly. Keeping stress hormones at bay during early labour will encourage body to produce more

oxytocin and help labour to progress. [7]

Mind body interventions involve learning and using very simple relaxation techniques. These methods quiet the mind, which in turn calms the body. When practiced consistently, they are beneficial in managing anxiety. [8] These can be learned to induce mental relaxation and alter negative thinking related to anxiety to change the perception of a stressful event, leading to better adapted behaviour and coping skills. [9]

Deep breathing increases the supply of oxygen to brain and stimulates the parasympathetic Nervous system and promotes a state of calmness. Breathing techniques helps to feel connected to our body which brings awareness away from the worries and quiets the mind. [10]

Affirmations for anxiety are one way of dealing with anxiety problems. Repeating The Affirmations over and over again can have a calming and soothing effect. As anxiety is basically a mind problem, the solution also has to be a mind solution. [11] The idea is to create positive feelings, so that when we use these affirmations it automatically creating a neural connection not only with the words what we said but with the emotions those words bring up. [12]

## **MATERIALS AND METHODS**

### **❖ Objectives:**

- To assess the pretest and post test level of Anxiety related to Childbirth among Parturient Women undergoing Medical Induction of Labor in experimental and control group.
- To assess the post test Score of labor outcome among Parturient Women undergoing Medical Induction of Labor in experimental and control group.
- To evaluate the effectiveness of Selected Mind body Interventions on Anxiety related to Childbirth among Parturient Women undergoing Medical Induction of Labor between experimental and control groups.

- To determine the effectiveness of Selected Mind body Interventions on Labor outcomes among Parturient Women undergoing Medical Induction of Labor between experimental and control group as assessed by check list.
- ❖ **Hypotheses:**
  - **H<sub>1</sub>:** The Mean Posttest scores of Anxiety level related to Childbirth will be lower than the Mean Pretest scores among Parturient Women undergoing Medical Induction of Labor who are subjected to Selected Mind body Interventions in Experimental group.
  - **H<sub>2</sub>:** The Mean Posttest scores of Anxiety level related to Childbirth will be lower than the Mean Posttest scores among Parturient Women undergoing Medical Induction of Labor who are subjected to Selected Mind body Interventions than those who do not
  - **H<sub>3</sub>:** The Mean Posttest scores of Labor outcomes will be better among Parturient Women undergoing Medical Induction of Labor who are subjected to Selected Mind body Interventions than those who do not
- ❖ **Research approach:** Quantitative - Evaluative approach was used
- ❖ **Research design:** Quasi experimental design - Pre test and Post test design.
- ❖ Validity and Reliability was obtained for tool from experts. Ethical clearance was obtained.
- ❖ **Settings:** Study was conducted in Antenatal ward and Labour Room in selected Hospitals.
- ❖ **Samples:** It comprised of 30 parturient women who were subjected to Medical Induction of Labour.
- ❖ **Sampling Method:** Purposive sampling technique
- ❖ **Sample Size:** n=30 (15=Experimental Group, 15 = Control Group)
- ❖ **Variables**
  - **Independent variable:** Selected Mind Body Interventions
  - **Dependent variable:** Anxiety and Labor Outcomes-Type of delivery, Additional dosage of Prostaglandin, Failure of Induction, Duration of Labour, Complications during Labour Process, APGAR Score.
  - **Extraneous variables:** Babies' Birth weight, Oxytocin Infusion These extraneous variables were not taken care in present study.
- ❖ **Criteria for sample selection:**
  - The inclusion criteria were Primi Parturient Women between 37- 42 weeks of gestation who were subjected to Medical Induction of Labour especially with Prostaglandin gel.
  - Exclusion Criteria included Malpresentations, Abnormal Fetal Heart Rate, Medical (Diabetes Mellitus, Cardiac diseases, Respiratory diseases) and Obstetric (Gestational Diabetes Mellitus, Pre eclampsia, Leaking Membrane, Premature Rupture of Membrane) Complications.
- ❖ **Methods of Data Collection:** Written informed consent was obtained from each participant. Anxiety of Childbirth was assessed by Wijma Delivery Expectancy Questionnaire (WED-Q Version-A). The W-DEQ (version A) measures the Anxiety of childbirth. The rating scale which consists of 33-items has the score ranging from 0 to 5 per item, i.e. 'Not at all' to 'extremely' with a minimum score of 0 and a maximum of 165. The higher the score, the greater the Anxiety of childbirth manifested. Primi Parturient woman undergoing Medical Induction of Labour were divided into experimental group and control group by Purposive Sampling.
- **Intervention:** Basics of Anxiety, its effects on labour outcome and the effects of Selected Mind Body Interventions (Deep breathing exercise, Active Visualization with birth

affirmations, walking with birth affirmations) on anxiety were discussed to Experimental group and their doubts were cleared. Mind Body Interventions helps to calm and relax the mind, alleviate the Anxiety, connect with fetus and help to feel more positive about labour. In Experimental group Participants were motivated to do the Selected Mind Body Interventions with 2 hours of intervals till the Active phase of labour. Control group received only the Routine Hospital care. Post test (Anxiety of Childbirth and Labour Outcome) was done for both groups. Labour outcomes that included Type of delivery, Additional dosage of Prostaglandin, Failure of Induction, Duration of Labour, Complications during Labour Process, APGAR Score were noted using the check list. The data were analyzed using “Paired t test” and “independent t test” at 0.05 as a level of

significance with SPSS package 21Version.

## RESULTS

### Interpretations of Demographic Variables among Primi Parturient women undergoing Medical Induction of Labour

Regarding Age Majority of Samples in Experimental (47%) and Control Groups (67%) were between 24-29 ages. Majority were Hindus from both groups (60% vs. 60%). All samples were married living with spouse in both groups. According to Kuppaswamy’s Socio-Economic Status Scale majority of samples belonged to upper Middle. Most of the samples residences were Urban and they were Nuclear Family. One participant had the family history of mental illness in Experimental and none of the Samples of control group have ever been diagnosed with Mental Illness.

Table1: Comparisons of Obstetric Variables among Primi Parturient women undergoing Medical Induction of Labour n=30

S.N	Obstetric Variables	Experimental Group=15		Control Group=15	
		Frequency	Percentage	Frequency	Percentage
1.	<b>Gestational Weeks</b>				
	a. 37-38 Weeks	1	7	0	0
	b. 39-40 Weeks	3	20	3	20
	c. >41 Weeks	11	73	12	80
2.	<b>Indications of Induction Of Labor</b>				
	a. Post dated	11	73	12	80
	b. Intra Uterine Growth Restriction	0	0	0	0
	c. Others	4	27	3	20
3.	<b>Attendance of Antenatal Check up</b>				
	a. Yes	14	93	15	100
	b. No	1	7	0	0

### Regarding Obstetric Variables Maternal Characteristics did not have difference between two groups

Table 2: Mean, Standard deviation of Anxiety related to childbirth among Primi Parturient women undergoing Medical Induction of Labour (Experimental group) n=30

Experimental Group=15	Mean	SD	Std. Error Mean
Pre test	89.60	33.24	8.58
Post test	42.60	12.90	3.33

In table -2 showed that Mean Posttest scores 42.60 of Anxiety level related to Childbirth was lowered than the Mean Pretest scores 89.60 among Parturient Women undergoing Medical Induction of Labor who are subjected to Selected Mind body Interventions in Experimental group. The above findings accepts the Research Hypotheses (H<sub>1</sub>)

Table 3: Pre and Post test Difference of Experimental Group n=30

Experimental Group n=15	Paired Differences				t Value (Calculated Value)	df	table Value	
	Mean Enhancement	SD	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower				Upper
Pre test & Post test	47.00	22.01	5.68	34.80	59.19	8.26*	14	2.145

p value=0.05 level of significance \* = Significant

The results of paired 't'-test were used to compute the pre test and post test in Experimental group. Table 3 showed the calculated 't' value 8.26 of Experimental group which was more than the table value 2.14. This indicates that, Selected Mind body Interventions were effective in reducing the level of Anxiety related to

Childbirth among Parturient Women undergoing Medical Induction of Labor.

Table 4: Mean, Standard deviation of Anxiety related to childbirth among Primi Parturient women undergoing Medical Induction of Labour (Control group) n=30

Control Group=15	Mean	SD	Std. Error Mean
Pre test	91.00	34.96	9.02
Post test	88.40	28.67	7.40

Table 5: Pre and Post test Difference of Control Group n=30

Control group n=15	Paired Differences				t Value (Calculated Value)	df	table Value	
	Mean enhancement	SD	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower				Upper
Pre test & Post test	2.60	12.23	3.15	-4.17	9.37	0.823 NS	14	2.145

p value=0.05 level of significance NS= Not Significant

Table 6: Post test Scores of Mean, Standard deviation of Anxiety related to childbirth among Primi Parturient women undergoing Medical Induction of Labour between Experimental and Control group n=30

Group (Post test Scores)	n	Mean	SD	df	t Value (Calculated Value)	table Value
Experimental Group	15	42.6	12.90	28	*5.9	2.05
Control Group	15	88.4	28.6			

p value=0.05 level of significance \* = Significant

Table 7: Comparisons of Post Assessment of Labour Outcomes between Experimental and Control Group n=30

S.N	Variables	Experimental Group n=15		Control Group n=15	
		Frequency	Percentage	Frequency	Percentage
1	<b>Type of delivery</b>				
	▪ Normal Vaginal delivery	10	67	8	53
	▪ Assisted Vaginal delivery	3	20	3	20
2	▪ Caesarean Section	2	13	4	27
	<b>Additional dosage of Prostaglandin.</b>				
	▪ Yes	12	80	14	93
	▪ No	3	20	1	7
	<b>If Yes, No of doses</b>				
3	▪ 2 <sup>nd</sup> dose	9	75	6	43
	▪ 3 <sup>rd</sup> doses	3	25	8	57
3	<b>Failure of induction</b>	2	13	4	27
4	<b>Duration of labour</b>				
	▪ Normal	13	87	9	60
	▪ Abnormal	2	13	6	40
4	<b>Complications during labor Process</b> Ex: Obstructed Labor, Prolonged Labor				
	<b>Present</b>	2	13	5	33
	<b>Absent</b>	13	87	10	67
5	<b>APGAR Score</b>				
	▪ Excellent	13	87	9	60
	▪ Moderately depressed	2	13	4	27
	▪ Severely depressed	-	-	2	13

The results of paired 't'-test were used to compute the pre test and post test in control group had been given in table 4. It revealed that the calculated 't' value 0.823 was less than the table value i.e. 2.14. This indicates that there was no significant difference between mean pre test scores and post test scores of Anxiety related to Childbirth among Parturient Women undergoing Medical Induction of Labor who were not subjected to Selected Mind body

Interventions.

Table 5 reflected the comparison of mean Posttest Scores between the two groups. The Mean Posttest scores of Experimental group 12.90 which was lowered than the Mean Posttest scores of control group 28.6. The above findings accept the (H<sub>2</sub>) Hypotheses.

The calculated 't' value 5.9 was more than the table value 2.05 at 0.05 level of significance with degree of freedom 28.



This indicates that there was a significant effectiveness in Selected Mind body Interventions in reducing the level of anxiety related to childbirth among Parturient Women undergoing Medical Induction of Labor.

The above table represents the Post assessment of Labour Outcomes between Experimental and Control Group. Regarding the type of delivery 67% of the parturient women underwent Normal vaginal delivery in Experimental group. In relation to failure of Induction the experimental group were (13%) less when compared to control group. 87 % of women had Normal duration of labour in Experimental group. And also very less number of women (12%) had complications during labor process. In regard to fetal outcome 87% of newborn babies belongs to mother of Experimental group had an Excellent APGAR Score when compared to control group.

## **DISCUSSIONS**

Childbirth is a time of enormous stress for many women especially for those who give birth to their first child with Induction of Labour. This Study evaluated the Effectiveness of Selected Mind Body Interventions on Anxiety related to childbirth and Labour Outcome among Parturient Women Undergoing Medical Induction of Labour. The results of the study suggested that the Selected Mind Body Interventions were effective in reducing the level of Anxiety related to childbirth.

In terms of labour outcome, findings showed the significant differences were found in the type of delivery, failure of induction, APGAR Score between the experimental group when compared to the control group.

This finding was consistent with the following studies; M. Laursen, C. Johansen, M. Hedegaard were done a prospective cohort study to examine the associations between fear of childbirth and emergency caesarean section and between fear of childbirth and dystocia or protracted labour

and fetal distress. The results were Fear of childbirth in early (16 weeks,  $6 \pm 29$  days) and late (31 weeks,  $4 \pm 21$  days) pregnancy was associated with emergency caesarean section: OR, 1.23 (1.05-1.47) and 1.32 (1.13-1.55), respectively. When fear of childbirth was expressed at both interviews, the OR was 1.43 (1.13-1.80). Women who feared childbirth had an increased risk for dystocia or protracted labour (OR, 1.33; 1.15-1.54), but not for fetal distress (OR, 0.94; 0.72-1.23). Study concluded that, Fear of childbirth during pregnancy was associated with dystocia and emergency caesarean section but not with fetal distress. [13]

Jocelyn Toohill, Jennifer Fenwick, Jenny Gamble and Debra K Creedy, conducted a study on Prevalence of childbirth fear in an Australian sample of pregnant women. Results were Prevalence of childbirth fear was 24% overall, with 31.5% of nulliparous women reporting high levels of fear compared to 18% of multiparous women. [14]

Adams S, Eberhard-Gran M, Eskild A conducted a prospective study on to assess the association between fear of childbirth and duration of labour. Results revealed that Fear of childbirth was present in 7.5% (165) of women. Using a linear regression model (crude unstandardised coefficient 1.54; 95% confidence interval 0.87-2.22, corresponding to a difference of 1 hour and 32 minutes). Study concluded that Duration of labour was longer in women with fear of childbirth than in women without fear of childbirth. [15]

Positive thinking plays a significant role in dealing with anxiety, and challenging our negative thoughts which has the potential to provide our mind with some relief over its anxiety symptoms. Negative thinking is anxiety. It's not a matter of whether or not you have the thought consciously. In order to be afraid of things, and in order to feel fear, anxiousness, or stress, our mind has to be focusing on the negative, so the fact that we are experiencing anxiety is an indication that

these negative thoughts are occurring. Affirmations are type of "new age" positivity technique that is designed to counter negative thinking by repeating positive phrases to our self, and many people use these affirmations to help them control their anxiety. Affirmations are designed to provide an alternative way of thinking. Many experts believe that repeating positive phrases to our self is something our mind needs to hear in order to start thinking more positivel. <sup>[16]</sup>

## CONCLUSIONS

There are multiple studies evaluating the Mind Body Interventions on Anxiety related to childbirth but, present study specifically considered the Anxiety of Primi Parturient women undergoing Medical Induction of labour. Women who received the Selected Mind Body Interventions had decreased level of Anxiety, lower rates Cesarean section compared to control group. And also this intervention helps to improve the parturient woman's emotional wellbeing. Selected Mind Body Interventions appears to be safe in Labour, reduces the level of anxiety related to childbirth and leads to improved labour outcomes. The results of this study suggested that Selected Mind Body Interventions have a significant impact on parturient women's Anxiety. Future studies should evaluate the effect of Mind body interventions on Anxiety related to childbirth among antenatal women.

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