

A Quasi Experimental Study to Determine the Effect of Foot Reflexology on Pain Intensity and Duration of Labor among Primigravida Mothers Admitted in Labor Room at Selected Government Hospital of Indore During the Year 2017-18

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Abstract

Introduction: Mankind has experienced pain since the beginning of time. According to the definition of the international Association of pain, pain is an unpleasant mental and emotional experience, which is accompanied with tissue damage. One of the most severe pains known to human is labor pain, which is synonymous with parturition. During delivery, excessive pain leads to fear and anxiety.

Materials & Methods: Quantitative approach was used with nonequivalent control group design. Study setting was selected Government Hospital, Indore. Population of this study was Primigravida mothers in first stage of labour with 5-6 cm cervical dilatation. 15 primigravida mothers in each group fulfilling sample criteria with the use of purposive sampling technique.

Results: The mean difference was 1.85 with SD of ± 1.45 . The t value computed was 4.62 at df 38 at level of $P < 0.05$. Hence, it is inferred that foot reflexology is effective in reducing labor pain perception.

Conclusions: The t value computed was 4.62 at df 38 at level of $P < 0.05$. Hence, it is inferred that foot reflexology is effective in reducing labor pain perception.

Keywords: Quasi Experimental; Effect of Foot Reflexology; Pain; Labor

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Introduction

Motherhood is a gift of God to women”.

- Mother Theresa

Generally there are two options for pain relief during labour and for augmentation of labour; these use pharmacological and non-pharmacological methods. Pharmacological methods have adverse effect on both fetus and mother.

Mankind has experienced pain since the beginning of time. **According to the definition of the international Association of pain**, pain is an unpleasant mental and emotional experience,

which is accompanied with tissue damage. One of the most severe pains known to human is labor pain, which is synonymous with parturition. During delivery, excessive pain leads to fear and anxiety. Generally there are two options for pain relief during labour and for augmentation of labour; these use pharmacological and non- pharmacological methods. Pharmacological methods have adverse effect on both fetus and mother.

Every greatest pleasure is followed by greatest pain. It is perfectly true for labor pain. The main reasons for labor pain are uterine contraction, uterine segment distension, drawing of pelvic ligaments, cervical dilatation etc. When a woman goes into labor she has to undergo a lot of unbearable pain along with stress and anxiety. Normal human body can bear up to 45 Del (unit) of pain, but during labour a woman feels up to 57 Del of pain. With this it could be assumed that how intense the pain would be which mother experiences during labour.

Materials & Methods:

Research Approach: Quantitative Approach

Research Design: Nonequivalent Control Group Design

Setting of the Study: Selected Government Hospital, Indore

Population: Primigravida mothers in first stage of labour with 5-6 cm cervical dilatation

Sample: 15 primigravida mothers in each group fulfilling sample criteria

Sampling Technique: Purposive sampling technique with alternate method

Objectives of the study

01. To assess the pre and post level of pain in primigravida mothers during first stage of labour in experimental and control group.
02. To assess the labor duration (5cm to full dilatation of cervix) in primigravida mothers during first stage of labour in experimental and control group.
03. To evaluate the effectiveness of foot reflexology on pain perception in primigravida mothers during first stage of labour in experimental group.
04. To compare labor pain intensity in primigravida mothers of experimental group and control group.
05. To compare labor duration in primigravida mothers of experimental group and control group.
06. To find out the association between the levels of pain in primigravida mothers during first stage of labour with their selected demographic variables.

Results

Section I: Frequency and percentage distribution of socio-demographic data of variables of mother in control group and experimental group.

This section deals with the demographic data variable. The variables collected from 40 primigravida mothers were tabulated and summarized using frequency and percentage. Data description in this section include the variable of mother's such as age, education, occupation, family income, type of family, religion, admission and antenatal visits.

Table No.1 Frequency and percentage distribution of samples according to age.

N=40

Age (in years)	Experimental group		Control group	
	Frequency	Percentage (%)	Frequency	Percentage (%)
<20	2	10	4	20
20-25	17	85	16	80
26-30	1	5	0	0
31-35	0	0	0	0

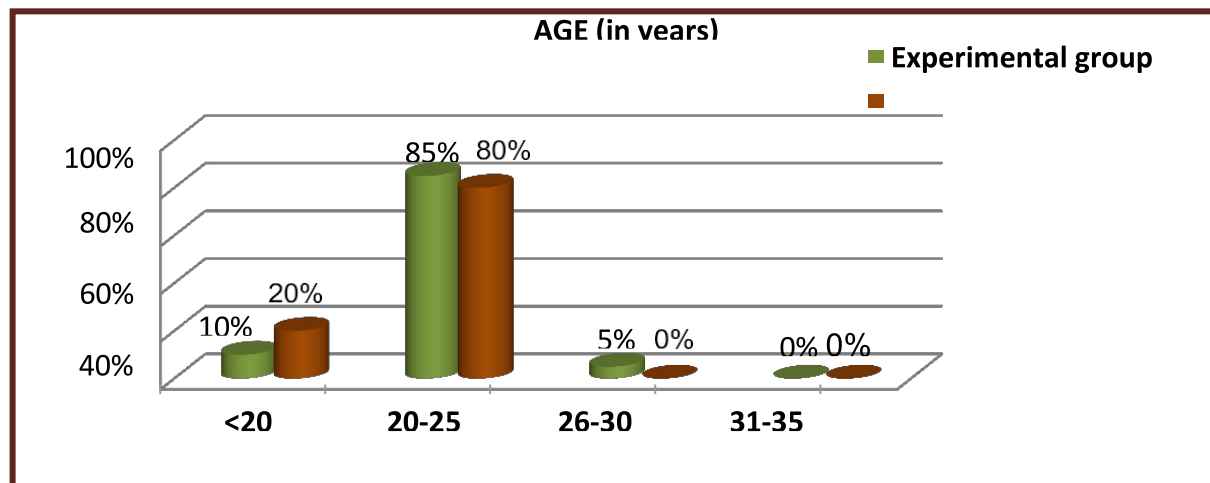


Figure 1 Bar diagram showing distribution of age (in year)

Table No.2 Frequency and percentage distribution of samples according to family income.

N=40

Family income (per month)	Experimental group		Control group	
	Frequency	Percentage (%)	Frequency	Percentage (%)
< Rs.10000/-	7	35	6	30
Rs.10000- Rs.15000/-	9	45	10	50
Rs.15000- Rs.20000/-	4	20	4	20
> Rs.20000/-	0	0	0	0

Table no.3 Frequency and percentage distribution of samples according to education.

N=40

Education	Experimental group		Control group	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Never beento School	4	20	3	15
Primary	10	50	9	45
Middle	3	15	4	20
Secondary	3	15	4	20
Graduate or Above	0	0	0	0

Table No.4 Frequency and percentage distribution of samples according to occupation.
N=40

Occupation	Experimental group		Control group	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Homemaker	14	70	13	65
Working	6	30	7	35

Table No.5 Frequency and percentage distribution of samples according to type of family.
N=40

Type of family	Experimental group		Control group	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Nuclear	5	25	9	45
Joint	14	75	11	55
Extended	0	0	0	0

Table No.6 Frequency and percentage distribution of samples according to religion.

N=40

Religion	Experimental group		Control group	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Hindu	15	75	16	70
Muslim	5	25	4	30
Christian	0	0	0	0
Others	0	0	0	0

Table no.7 Frequency and percentage distribution of samples according to admission.
N=40

Admission	Experimental group		Control group	
	Frequency	Percentage(%)	Frequency	Percentage (%)
Booked	18	90	17	85
Unbooked	2	10	3	15

Table No. 8 Frequency and percentage distribution of samples according to antenatal visits.
N=40

Antenatal visits	Experimental group		Control group	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Never	2	10	1	5
Once	0	0	0	0
Twice	3	15	5	25
Thrice	5	25	3	15
>thrice	10	50	11	55

Section II: Description of level of pain (pre and post test with foot reflexology) among primigravida mothers in control group and experimental group.

Table no. 9 showing frequency and percentage distribution of level of pain (pre and post-test with routine care) among primigravida mothers in control group.

S:no	Level of pain	Pre test		Post test			
				0 hour (just after therapy)		1 hour after therapy	
		N	%	N	%	N	%
1	Mild pain	7	35	0	0	0	0
2	Moderate pain	13	65	4	20	1	5
3	Severe pain (strong pain)	0	0	16	80	19	95

Table No. 10 Distribution of level of pain (pre and post test with foot reflexology) among primigravida mothers in experimental group.

N=40

S:no	Level of pain	Pre test		Post test			
				0 hour (just after therapy)		1 hour (after therapy)	
		N	%	N	%	N	%
1.	Mild pain	7	35%	0	0%	0	0%
2.	Moderate pain	12	60%	11	55%	6	30%
3.	Severe pain (strong pain)	1	5%	9	45%	14	70%

Section III: Description of assessment of labor pain intensity by numerical pain rating scale showing effectiveness of foot reflexology in control group and experimental group.

Table no. 11 showing effectiveness of foot reflexology on level of pain intensity among experimental group at 0 and 1 hour of intervention.

S.no.	Variables	Mean	Standard deviation	Mean difference	SE	't' value	Table value
1.	Experimental Group	4.25	1.68				
	Pre-test						
	Post test						
	At 0 hour (just after therapy)	6.35	1.23	0.45	0.34	6.04*	2.0
	At 1 hour	7.30	1.45	0.23	0.40	7.61*	2.35
*significant at P<0.05 level							

Table no. 12 Showing comparison of pre and post test scores of level of pain intensity among experimental and control group.

N=40

Group	Mean	Sd	Std error	Df	‘t’ value	Table value
Pre-test painscore						
Experimentalgroup	4.05	1.36	0.30	38	0.681**	2.02
Control group	4.25	1.68				
** Non-Significant at P<0.05						
Posttest pain score						
At 0 hour						
Experimental	6.35	1.23	0.392	38	3.57*	2.02
Group Control group	7.75	1.25				
At 1 hour						
Experimental group	7.30	1.45	0.40	38	4.62*	2.02
Control group	9.15	1.04				
*Significant at P<0.05 level						

The t value computed was 4.62 at df 38 at level of P<0.05. Hence, it is inferred that foot reflexology is effective in reducing labor pain perception.

Section IV: Description of Assessment of Labor Duration (5 cm to full cervical dilatation) by simplified WHO partograph.

Table no. 13 showing frequency and percentage distribution of duration of labor (5 cm to full cervical dilatation) by simplified WHO partograph.

Duration of Labor (in minutes)	Control group		Experimental group	
	Frequency	Percentage (%)	Frequency	Percentage (%)
<240 mins (<4hrs)	3	15%	5	30%
240-300 mins (4-5hrs)	13	65%	14	70%
301-360mins (5-6hrs)	4	20%	1	0%

Table no. 13 shows that in control group majority of mothers 13(65%) had labor duration between 4-5 hour, whereas 4(20%) had labor duration between 5-6 hour, and 3 had duration less than 4 hour. In control group, majority of mothers 14 (70%) had active phase labor duration between 4-5 hour, 5 had labor duration less than 4 hour, whereas 1 (5%) had labor duration between 5-6 hour.

Group	Mean	Mean difference	Sd	Std error	Df	't' value	Table value
Experimental group	249.25	29.25	34.35	11.81	38	2.476*	2.02
Control group	278.50		40.13				

Table no. 14 showing effectiveness of foot reflexology on duration of labor among experimental and control group.

N=40

Group	Mean	Mean difference	Sd	Std error	Df	't' value	Table value
Experimental group	249.25	29.25	34.35	11.81	38	2.476*	2.02
Control group	278.50		40.13				

22Table no. 14 shows that there was a significant difference in labour duration of experimental group and control group at $t_{38} = 2.47$ significant at $p < 0.05$ level, in which labour duration was measured from 5cm cervical dilatation to full dilation of cervix. Hence it was inferred that foot reflexology is effective in minimizing the duration of labour.

Conclusions

The most joyful experience in a women's life is giving birth to a child, but undeniably it is most painful one.

Labor pain is the pain which is unavoidable for any women during their birthing process, but then it can be reduced or minimized with many non-pharmacological methods without any side effect or harms either to baby or mother.

This study reveals that foot reflexology is one of the alternative methods which is accepted by mothers to reduce labor pain perception and minimize duration of labor among primigravida mothers without any risk of stopping the contraction.

Hence midwives, mothers and their birth companions must be taught about foot reflexology so that use of medical interventions for reducing labor pain may be minimized and thereby providing positive birthing experiences to mothers.

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