Research Paper   **Medical Science**

Effect of Foot Reflexology on Labour Pain During the First Stage of Labour

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ABSTRACT
Pregnancy is a crucial period and childbirth represents the most painful event in most women's lifetime. Foot Reflexology is an ancient non-invasive technique, used widely as one of the non-pharmacological methods for pain relief. Aim: To assess the effect of foot reflexology on pain among parturient mother during first stage of labour .Methodology: Quasi experimental research design with non equivalent control group before after design was used,30 in experimental and 30 in control group respectively. The tools used for data collection were socio demographic proforma, clinical data sheet, numerical pain rating scale and observation checklist. Thirty subjects in the experimental group received foot reflexology at 1-3 cm cervical dilatation and 5-7 cm cervical dilatation for 30 minutes and thirty subjects in the control group received routine care. Pretest was conducted before intervention and post test was conducted 30 minutes after the intervention at 1-3 cm and 5-7 cm cervical dilatation for both groups. Results: The result shows that the severity of labour pain in the experimental group was lower than the control group (p <0.01). Conclusion: The findings showed that foot reflexology was found to be effective in reducing labor pain.

KEYWORDS : Effect, labour pain , foot reflexology,first stage of labour

1.Introduction
Child birth is one of the exciting and often most joyful experiences in a woman's life. It is the fulfillment of their dreams. At this time, the mothers need lot of support for the realization and acceptance of child birth as a normal physiological phenomenon[1].

A woman's reaction to labour pain may be influenced by the circumstances of her labour, including the environment and the support she receives. Support from the midwife may include helping the woman in her wish to avoid pharmacological pain relief or helping her to choose pharmacological or non-pharmacological methods of pain relief. In order to achieve this goal midwives should keep up to date with non-pharmacological methods of pain relief [2].

Foot Reflexology is an ancient non-invasive technique in which massage and pressure is given to specific points on the feet known as reflex points, so as to relieve pain, thus helping in relaxation [4]. Reflexology encourage the production of endorphins and encephalin, which brings on a sense of euphoria and help with pain relief[3].

Even though there has been enormous growth in complementary alternative medicine research in the past decade, few well-designed studies on the use of CAM in pregnancy or childbirth have been conducted.

2. Review of Literature
Hamidzadeh A(2012) conducted a randomized clinical trial among 100 parturient mothers at Fatemiyeh Hospital, Iran to evaluate the effects of foot reflexology on labor pain in the first stage of labor, on labor duration, and on patient satisfaction. There were significant differences between the groups in subjective labor pain scores immediately and 20, 60, and 120 minutes after intervention   (P ≤ .001)[4].

3.Research question
A study on effect of foot reflexology on pain among parturient mother during the first stage of labour in a selected hospital at Thiruvananthapuram.

4.1. Objectives
1. To assess the effect of foot reflexology on pain among parturient mother during first stage of labour.
2. To determine the association between pain perceived by the parturient mother and parity.

4.2. Hypotheses

H_1: There is a significant difference in the level of pain perceived by the parturient mother after foot reflexology.

H_2.There is a significant association in the level of pain perceived by the parturient mother and parity.

5. Research methodology
Research approach - Quantitative research

Research design -Quasi experimental design (Non equivalent control group before after design)

Independent variable-foot reflexology
Dependent variable –Level of pain

5.1. The setting of the study
• Labour room of Sree Gokulam Medical College Hospital and Research Foundation .

5.2. Population
• All parturient mothers in first stage of labour.

5.3.Sample size
• A total of sixty subjects were selected for the study, thirty each in experimental and control group

5.4. Sampling technique
• Convenient sampling

Inclusion Criteria
• Parturient mother who have completed 37 week of gestation.
• Parturient mother with singleton pregnancy.
• Parturient mother with normal fetal presentation.
• Parturient mother with a cervical dilatation >1cm and duration of uterine contractions 30-40 seconds.

Exclusion criteria
• Parturient mother with pregnancy associated complications
• Parturient mother who use any form of analgesics
• Parturient mother with any foot deformities.

5.5 Data collection Tools/Technique
• Socio demographic proforma
• Clinical data sheet.
• Numerical pain rating sale
• Observation check list

5.6.Data collection procedure

Sixty parturient mothers who met the inclusion criteria were selected by convenient sampling.30 subject were included in the experimental group and 30 in control group. Informed consent was obtained prior to the pilot study. Confidentiality was assured to all subjects.

The subject's socio demographic data were collected through structured interview schedule and assessed the pain level of parturient mothers using numerical pain rating scale and observation checklist before starting the intervention. After the pretest two sessions of reflexology was given to the experimental group at 1-3 cm and 5-7 cm cervical dilatation for 30 minutes each respectively. Post test was assessed after 30 minute of each session using numerical pain rating scale and observation checklist.

In the control group routine care was given to the parturient mother and pretest was assessed at 1-3 cm cervical dilatation Post test was assessed after 1 hour at 1-3 cm cervical dilatation and 5-7 cm cervical dilatation.

5.7.Plan for data analysis

The data collected were analysed using both descriptive and inferential statistics.Effect of foot reflexology was analysed using independent t test and Analysis of co-variance (ANCOVA) Association between parity and labour pain perception was analysed by using chi- square test.

6.Findings
6.1.Description of subject characteristics

46.7 % of subjects in the control group and half of the subjects in the experimental group belonged to the age group of >27 years. 40 % and 43.3 % of subjects in the control and experimental group completed higher secondary education respectively. 36.7 % in the control group and more than half of the subjects (53.3 %) in the experimental group were housewives. More than half of the subjects in the control group (53.3 %) and experimental group (66.7%) belonged to Hindu religion. More than half of the subjects (53.3%) in the experimental group had a monthly income of 5001-10000.In the control group 33.3 % of subjects had a monthly income between5001-10,000 and another 33.3 % subjects had a monthly income above 15,000. Majority of the subjects in the experimental group(83.3%) and control group(86.7%) had satisfactory marital relationship. Half of the subjects in the control group and majority of the subjects (70 %) in the experimental group had a planned pregnancy .More than half of the subjects in the control group (56.7%) and experimental group (53.3%) had received antenatal health education / counseling.

6.2 Effect of foot reflexology on level of pain among parturient mother
Table :1

	group	mean	SD	N	T
Pre test	Control	6.2	1.6	30	0.92
	Experimental	6.6	1.5	30	
I post test	Control	8.4	1.1	30	6.96**
	Experimental	6.5	1.0	30	
II post test	Control	9.7	0.4	30	11.67**
	Experimental	8.1	0.6	30	

Table 1: shows that both group had similar pain perception at pre test level. During I & II post test the mean pain score of experimental group was significantly less than that of the control group.

The current findings support the study findings of another study (Dolatian M) on the effect of reflexology on pain intensity and duration of labor. Findings shows that Pain intensity at all the three stages of cervical dilatation was significantly lower in the reflexology group[5].

6.3. Section IV: Association between parity and labour pain perceptions before foot reflexology

Parity	Mild / Moderate Pain		severe		df	X^2	p
	f	%	f	%			
Primipara	8	27.6	20	64.5		8.21**	0.004
Multipara	21	72.4	11	35.5	1		

Table 2: shows that there was significant ($\chi2$ =8.21**, $p<0.05$) association between parity and pain perception. So it can be concluded that primipara had more severe pain perception than multipara.

The study findings were consistent with a study of Gaston JF et al was conducted to describe the dimensions of pain during the progression of labor in primiparas and multiparas.The result shows that primiparas reported more intense sensory pain in Stages I and III and more intense affective pain in all three stages of labor than the multiparas even though they consumed significantly more pain medications than the multiparas[6].

7.Conclusion

The study proved that foot reflexology is effective in reducing labour pain. It also proved that parity is having a significant effect on labour pain. Properly using of this technique, reflexology can reduce the labor pain and consequently prevent from using pharmacological methods such as palliative medicines which unconsciously can impose certain side effects to the individual. Furthermore, the results of this study should be considered in fields such as increase midwives skills in labor pain relief and wider application of midwifery staff and also educational and care planning in promoting women's health and application of the new techniques in complementary medicine.

8.1.Nursing implications

The findings of the study have the following implication in nursing practice

Implications for Nursing Practice
- Foot reflexology help in reducing the need and frequency of administration of analgesics.
- Foot Reflexology help to conserve the energy of the mother during first stage, which helps to put her own effort during second stage
- Foot reflexology should be made as an integral part of pain relief in the management of labour pain

Implications for Nursing Education
Nurse educators should encourage nursing students to utilize as measure for the labour pain reduction

Implications for Nursing Research
- The study will be a valuable reference material for future researcher
- The findings of the study would help to expand the scientific body of professional knowledge upon which further researchers can be conducted

8.2.Limitation
- It needs much explanation to get consent from the mothers and her relatives
- The data was collected using convenient sampling method
- Study was limited to study on first stage of labour
- Blinding technique would have been followed to avoid investigators bias

8.3. Recommendations
- Similar study can replicate on a large scale
- Similar study can be conducted in other way like increasing frequency and duration of foot reflexology.

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