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A STUDY TO ASSESS EFFECTIVENESS OF FOOT REFLEXOLOGY THERAPY ON PAIN AMONG THE PRIMIGRAVIDA MOTHERS UNDERGOING BIRTHING PROCESS IN SELECTED HOSPITALS.

Ms. Pratiksha Bhaisare [1a]*, Dr. Sujata Sawant [2b], Ms. Sukanya Alhat [3c], Ms. Preeti Gaikwad [4c], Ms. Rohini Ingale [5c], Mr. Vaibhav Shirsath [6c]

a) Clinical Instructor Dr. D. Y. Patil Institute of Nursing Education Pimpri, Pune
b) Principal, Dr. D. Y. Patil Institute of Nursing Education Pimpri, Pune.
c) Students of TYGNM of Dr. D. Y. Patil Institute of Nursing Education, Pune.

Abstract

Introduction: This study was conducted with an aim of assessing effect of foot reflexology, a noninvasive therapy on the labour pain among the primigravida mothers undergoing the birthing process. Foot reflexology therapy has gained attention over a period of time as a non-invasive and holistic approach for pain relief.

Objectives:

Objectives of the study were:

1) To assess the level of pain among the primigravida mothers undergoing the birthing process.
2) To assess the effectiveness of foot reflexology therapy on pain among primigravida mothers undergoing birthing processes.
3) To find out the association between pain with the demographic variables.

Methods: Current study utilized one group pre-test post-test quasi experimental design to attain the study objectives. Pretest was conducted with the help of a checklist by the investigator, then foot reflexology was done for the participants & post test was conducted. The sample consisted of 60 primi mothers undergoing birthing process.

Result: The findings of the study revealed that all primigravida mothers undergoing the birthing process had severe pain irrespective of their demography. After provision of foot reflexology a remarkable reduction in pain level was seen among primigravida mothers.

Conclusion: Foot Reflexology has proven to be effective in reducing the level of pain among the primigravida mothers undergoing the birthing process.

Key words: Assess, Effectiveness, Foot Reflexology, Primigravida, Birthing Process

1. Introduction:

A less-researched integrative therapy called Reflexology applies physical techniques to the hands or feet; the manipulation targets particular foot areas and activates neural pathways to promote the body's overall functioning.[1]

Numerous primigravida have reported high levels of anxiety regarding the course of labor and its results, as well as varying degrees of pain during the process. Anxiety that turns into terror is a typical labor-related problem, particularly for primigravida. Research has indicated that non-pharmacological methods, specifically breathing techniques, can effectively alleviate labor pain and anxiety in expectant women. This is particularly true for massage, Reflexology,

deep breathing techniques, and Lamaze breathing. Improved neonatal outcomes and a shorter labor period have been associated with non-pharmacological methods. According to our comprehensive study, massage helps minimize labor pain. It is linked to increased alertness, relaxation, and mood, as well as lower levels of the stress hormone cortisol and anxiety symptoms.[2]

Applying the right amount of pressure to particular spots on the hands, feet, or ears is known as Reflexology. According to reflexologists, these locations and reflex points represent various bodily systems and organs and are advantageous to the organs and an individual's overall health. A reflexology massage stimulates specific foot focus points using the thumb and forefinger. According to some estimates, the foot contains around 7,000 nerve endings that connect to different body organs. Numerous bodily issues can be helped by stimulating and applying pressure to these nerve terminals. (10) The benefits of foot reflexology include increased circulation, elimination of toxins, and lymphatic drainage stimulation. It speeds up physical healing, stress reduction, sleep, and clarity in addition to reducing stiffness and increasing flexibility.[3]

Reflexology involves applying manual pressure to particular body parts—typically the hands or feet—that are believed to correlate with particular internal organs. Promoting the self-healing abilities of the organs connected to the corresponding bodily zones is the goal of stimulating those zones. William Fitzgerald first devised these procedures as "Zone therapy," but Eunice Ingham improved them, and her reflexology method is still in use today. The so-called Head zones, which bear the name of neurologist Henry Head, should not be confused with these reflex zones either.[4]

Women find non-pharmacological approaches more convenient and acceptable than pharmaceutical ones, and there have been few documented side effects. Examples include music therapy, Reflexology, massage, acupuncture, relaxation treatment, and other non-pharmacological techniques. In certain nations (including Iran and Turkey), interest in foot reflexology massage has grown annually in recent years. Research on how foot reflexology massage affects maternal anxiety, pain, labor duration, labor satisfaction, and vital signs has steadily grown. The outcomes, however, differed from study to study. While the study by Levy et al. came to mixed conclusions, the study by Akköz Çevik et al. demonstrated that foot reflexology dramatically decreased maternal anxiety levels.[5]

Due to its advantages, foot reflexology has become more popular as a complementary therapy. These include the reduction of pain in a variety of conditions, including lymphoma, post-operated tibia fracture, acute low back pain, post-cesarean section, migraine, post-vaccination pain in infants up to 12 months of age, rheumatoid arthritis, colorectal cancer, multiple sclerosis, primiparous women, metastases, and chronic renal failure. This treatment involves stimulating the nerves corresponding to organs or glands through reflex sites on the sole. Its implementation must be a deliberate process that includes careful planning, enabling the utilization of components to intensify and broaden its impact.[6]

One non-pharmacological technique for reducing fatigue in hemodialysis patients is Reflexology. Reflexology involves applying pressure to the reflex spots on the hands, feet, and ears, which stand in for all of the body's organs, glands, and components. People can preserve homeostasis and use non-pharmacological methods to reduce or completely eradicate their health issues by applying pressure to the identified reflex spots with the fingers. Reflexology

promotes endorphin release, neuron stimulation, and blood circulation. Reflexology is a non-invasive, safe, and affordable treatment for various illnesses when appropriately used. Hemodialysis patients who had foot Reflexology reported feeling less tired and engaging in more physical activity.[7]

2. Research Methodology

Research Approach

The evaluative approach would help the investigators evaluate the effect of Foot Reflexology therapy, which is "effectiveness of Foot Reflexology Therapy among the Mothers undergoing the Birthing Process."

Research Design

The present study used a quasi-experimental one-group, a pre-test, and a post-test investigator design. The group conducted a pre-test using a checklist.

Variables under Study:

Independent Variable: Foot reflexology

Dependent variable: Level of pain

Hypothesis

H_0: - There is no significant difference between pretest & posttest pain scores after foot reflexology.

H_1: - There is no significant difference between pretest & posttest pain scores after foot reflexology.

Study Setting:

The study was conducted at a selected hospital. The rationale for selecting this setting was that it was easy to transport, the subject was familiar with the setting, and the hospital had administrative approval. The subjects cooperated, and the hospital was available.

Sampling Technique: The researcher used non-probability convenience sampling technique.

Sample Size: 60 primi gravida mothers undergoing birthing process.

Sampling Criteria:

- **Inclusion criteria:**

1. Primi gravida mothers undergoing birthing & willing to participate in the study.
2. Primi gravida mothers undergoing the birthing process who are available during the data collection period.

- **Exclusion criteria:**

1. Mothers who are Multigravida
2. Mothers who have any history of Diabetes Mellitus or have PIH / GDM.

Study Tool:

The investigator developed the tool necessary tool for the study. It also contained a written informed consent for participation in the study.

The tool was OSCE (Objective structured clinical examination) based & consisted of two sections:

Section 1: Consist of demographic variables of students in the study, i.e., Age, Previous knowledge, source of information, Labour Type, and Educational Status.

Section 2: Foot Reflexology Checklist & Standardized Pain Scale.

Interpretation of Scores:-

No Pain -0, Mild Pain 01 – 03, Moderate Pain 04-06, Severe Pain 07- 10

Reliability

The reliability was established by an inter-rater method using Cohen's kappa formula. The reliability coefficient correlation for the checklist was r = 0.89.

Data Collection

The data-gathering process began in 2024. The investigator visited the selected hospital and obtained the necessary permission from the concerned authority. The investigator introduced themself and informed the staff about the nature of the study to ensure better cooperation during data collection.

The investigator personally approached each subject, explained the purpose of the study, and explained how it would benefit them. The investigator confirmed their willingness to participate in the study. The investigator collected the group of subjects, made them comfortable, and orientated them to study by administering an objective structured clinical examination (OSCE). Once the OSCE was completed, the Pain Scale was scored

4. Result:

Section I

Description of samples based on their personal characteristics

N=60

Demographic variable	Freq	%
Age		
20-25 years	32	53.3%
26 - 30 years	28	46.7%
Education		
Primary	10	16.7%
Secondary	33	55.0%
Graduate	15	25.0%
Postgraduate	2	3.3%
Employment		
Working	38	63.3%
Unemployed	22	36.7%
Have you heard about foot reflexology		
Yes	27	45.0%
No	33	55.0%
Do you know the techniques of foot reflexology		
Yes	19	31.7%
No	41	68.3%
Do you have any previous knowledge regarding foot reflexology		
Yes	21	35.0%
No	39	65.0%
Planned pregnancy		
Yes	48	80.0%

No	12	20.0%
Labour type		
Spontaneous	57	95.0%
Induced	3	5.0%
IV fluids used		
Yes	60	100.0%
No	0	0.0%

Table 1: Description of samples based on personal characteristics.

Table 1 shows that, 53.3% of the Primigravida Mothers undergoing birthing process had age 20-25 years and 46.7% of them had age 26-30 years. 16.7% of them had primary education, 55% of them had secondary education, 25% of them had graduation and 3.3% of them had post-graduation. 63.3% of them were working and 36.7% of them were unemployed. 45% of them had heard about foot reflexology. 31.7% of them knew the techniques of foot reflexology. 35% of them had previous knowledge regarding foot reflexology. 80% of them had planned pregnancy. 95% of them had spontaneous labour and 5% of them had induced labour. All of them had used IV fluids.

Section II

Analysis of data related to the level of pain among the Primigravida Mothers undergoing birthing process

N=60

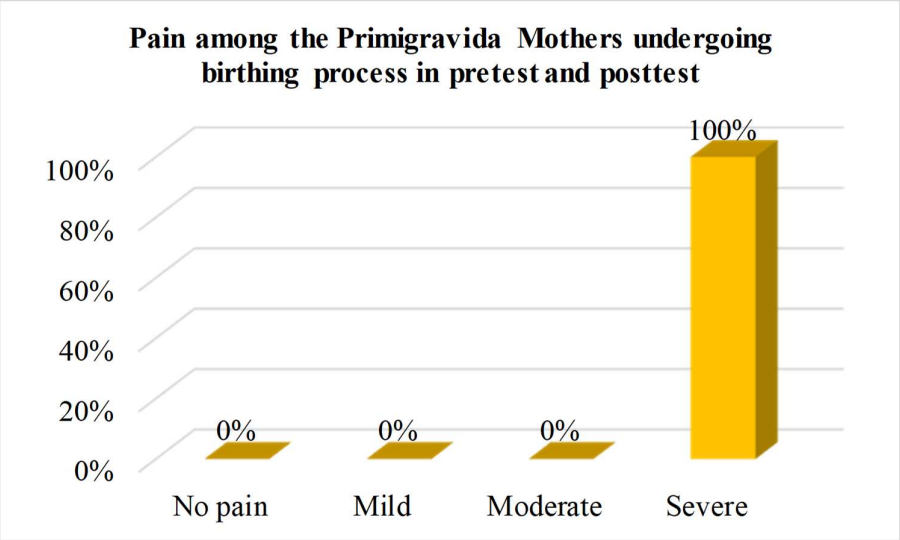

Fig 1 : Level of pain among the Primigravida Mothers undergoing birthing process

Fig 1 shows that, all the primigravida mothers undergoing birthing process had severe pain.

Section III

Analysis of data related to the effectiveness of foot reflexology therapy on pain among the Primigravida Mothers undergoing birthing process

N=60

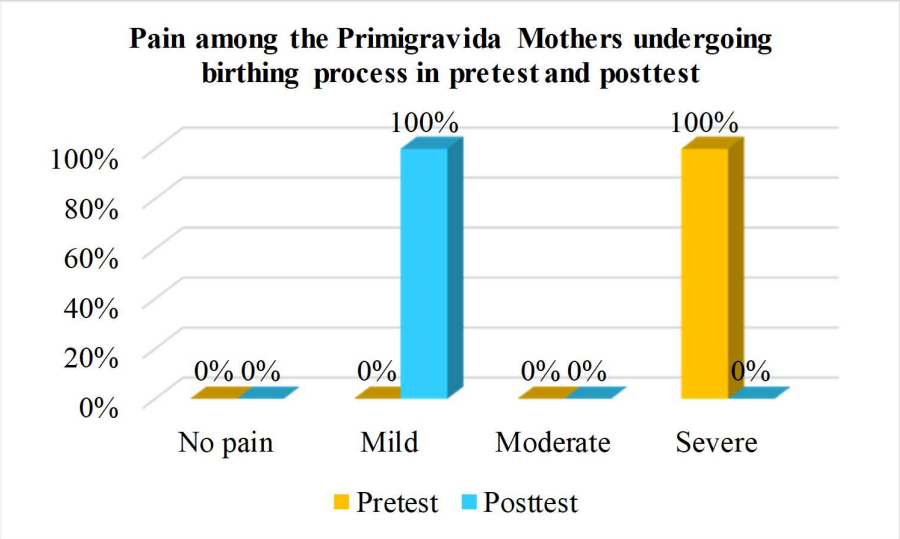

Fig 2 : Effectiveness of foot reflexology therapy on pain among the Primigravida Mothers undergoing birthing process

Fig 2 shows that, in pretest, all the primigravida mothers undergoing birthing process had severe pain. In posttest, all of them had mild pain. This indicates that there is remarkable improvement in the pain among primigravida mothers after foot reflexology therapy.

Paired t-test for the effectiveness of foot reflexology therapy on pain among the Primigravida Mothers undergoing birthing process

N=60

	Mean	SD	T	df	p-value
Pretest	9.1	0.8	48.9	59	0.000
Posttest	3.1	1.0			

Table 2 : Paired t-test for the effectiveness of foot reflexology therapy on pain among the Primigravida Mothers undergoing birthing process

Table 2 shows that, the researcher applied paired t-test for assessing the effectiveness of foot reflexology on pain level among the primigravida mothers undergoing birthing process. Average pain score in pretest was 9.1 which reduced to 3.1 in posttest. T-value for this test was 48.9 with 59 degrees of freedom. Corresponding p-value was small (less than 0.050), the null hypothesis was rejected. Average pain score in posttest was significantly small than that in pretest. Therefore it is evident that the foot reflexology is significantly effective in reducing pain among primigravida mothers undergoing birthing process.

Section IV

Analysis of data related to the association of pain among primigravida mothers undergoing birthing process with the demographic variables

All primigravida mothers undergoing birthing process had severe pain irrespective of their demography.

5. Discussion

A study was carried out to assess the effect of reflexology on pain intensity and duration of labour on primiparous women in 2010. 120 parturient women with low-risk pregnancies were

randomly assigned to three. The inclusion and exclusion criteria identified low-risk women without obstetric or medical issues and were used to enroll the subjects. 120 singleton pregnant women who met this and other pertinent requirements and were between 18 and 35 at gestational weeks 37 and 42 were included. Using the clinical trial's random allocation program, the subjects were divided into three groups—Reflexology, support, and regular care. Each group's sampling days were chosen at random. When 6-7 cm of dilation occurs, the reflexology group experienced much less discomfort than the other two groups during dilatation of 6-7 cm and 8-10 cm ($p<0.001$). Regarding pain severity in dilation 6-7 cm and 8-10 cm, there was no statistically significant difference between the support and usual care groups ($p=0.07$). Three groups' mean pain scores before the intervention were determined, and the Kruskal Wallis test revealed no discernible differences between the study groups. With a cervical dilation of 4-5 cm, the reflexology group experienced an average pain severity of 4.5±1.06, the support group experienced 6.25±0.84, and the usual care group experienced 7.23±0.83. At this point, the statistical tests revealed a significant difference between the research groups ($p<0.001$). Additionally, the Mann-Whitney test results revealed that the reflexology group and routine care group, reflexology group and support group, and support group and routine care group all showed significant differences ($p<0.001$, $p<0.001$, and $p<0.001$, respectively).[8]

Similarly in this study all primigravida mothers undergoing birthing process had severe pain irrespective of their demography

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