A Study to Evaluate the Effectiveness of Olive Oil Back Massage on Low Back Pain During First Stage of Labor Among Primi Mothers Who are Admitted in Labor Room at Kasthurba Memorial Hospital, Dindigul

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Abstract: *Childbirth is one of the most marvelous and memorable segments in a women's life. Low back pain is normally attributed to the pressure baby's head puts on the lower back. It cannot be prevented, but the pain can be eased by using non-pharmacological methods like back massage.* <ins>*Objectives*</ins>*: To assess the pretest and posttest level of low back pain in experimental and control group. To compare the pretest and posttest level of low back pain in experimental and control group. To compare the posttest level of low back pain between experimental and control group. To determine the level of satisfaction on olive oil back massage among experimental group. To associate post level of low back pain in experimental group with their demographic variables.* <ins>*Methods And Materials*</ins>*: Evaluative Approach and quasi experimental design (Nonequivalent pretest posttest control group design) design used, 60 samples collected by purposive sampling technique, 30 in experimental group and 30 in control group. The instrument consists of three sections, Part I: Demographic data, Part II: Visual Analogue Scale was used to assess the level of low back pain during active first stage of labor, Part III: Rating scale was used to assess the level of satisfaction after intervention. RESULTS: The paired 't' value of level of low back pain was 12.914 at 0.05 level of significance shows that there is a significant difference between the pretest and posttest level of low back pain in the experimental group. The paired 't' value of level of low back pain was 5.294 at 0.05 level of significance shows that there is a significant difference between the pretest and posttest level of low back pain in the control group. The independent 't' value was 4.310 at 0.05 level of significance shows that there is a significant difference in the level of low back pain between experimental group and control group. Regarding the level of satisfaction on olive oil back massage, majority 20(66.6%) of primi mothers were adequately satisfied; and least 10(33.3%) of primi mothers were moderately satisfied. No significant association was found in the level of low back pain when compared to the age, education, residence, type of family, income, and religion (p>0.05) in the experimental group.* <ins>*Conclusion*</ins>*: Based on statistical findings, it is evident that the olive oil back massage among primi mothers reduce the level of low back pain in experimental group.*

Keywords: Olive oil, Massage, Low back pain, Primi mother, First stage labor

1. Introduction

Evaluate the effectiveness of olive oil back massage on low back pain and during first stage of labor among primi mothers.

Child birth has been associated with low back pain. Low-back pain is a major component of labor pain in a substantial number of women. It can radiate to the buttocks and down to the thighs with the cramp like sensations. Massage is a cost-effective nursing intervention that can decrease pain and anxiety during labor and psychological support during labor. Using essential oils, olive oil, and relaxation techniques are reducing the labor pain, perception without any side effects. Massage stimulates the body to release endorphins, which are natural pain killing and mood lifting substances. **Fields., (1997)** demonstrated that massage therapy during labor was highly correlated with decreased labor pain, decreased anxiety, and shorter labors. Olive oil has pain killing properties. Scientists were discovered that a new compound in extra virgin oil that acts the same way as anti-inflammatory drugs. The researchers estimated that 50 grams of olive oil provides about 10% of the ibuprofen needed for adult pain relief.

2. Methodology

Evaluative approach and quasi experimental design (Nonequivalent pretest posttest control group design) was used for the study. The study was done among Primi mothers in active first stage of laborand satisfied the inclusion criteria. The sample size was 60. Out of which 30 samples belong to experimental group and 30 belong to control group. Purposive sampling technique was used to select the samples. The pretest assessment of low back pain was done for both experimental and control group by visual analogue scale. The olive oil back massage was given for 10 minutes for every one hour with 10 ml of olive oil for experimental group. This was followed for three times, in three hours. The post test was done after 15 minutes of every olive oil back massage. Primi mothers in control group were given routine hospital care, and then the post test was done after one hour of pretest. Finally, the level of satisfaction on olive oil back massage was assessed by using rating scale among experimental group. The reliability of the rating scale was established by using interrater method and Karl Pearson coefficient formula to find the equivalence of the tool and found to be reliable (r=0.9). The value was found to be reliable (r=0.9). Hence it was considered and feasible for proceeding main study.

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Ethical Consideration

The research proposal was approved by dissertation committee prior to conduct pilot study and main study. The written permission was obtained from the nursing superintendent and chief medical officer of Kasthurba hospital, Dindigul. Oral consent of each subject was obtained before starting the data collection. Assurance was given to them that confidentiality would be maintained.
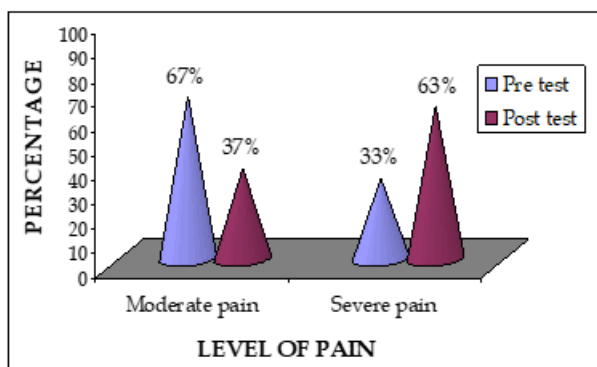
3. Results

Table 1: Frequency and percentage distribution of pretest and posttest level of low back pain in experimental group & control group, n_1 = 30 n_2 =30

Category of pain	Experimental Group				Control Group			
	Pretest		Post Test		Pretest		Post Test	
	F	%	F	%	F	%	F	%
No pain (0)	-	-	-	-	-	-	-	-
Mild Pain (1-3)	-	-	-	-	-	-	-	-
Moderate Pain(4-6)	13	43%	24	80	20	67%	11	37%
Severe Pain (7-9)	17	57%	6	20	10	33%	19	63%
Worst pain (10)	-	-	-	-	-	-	-	-
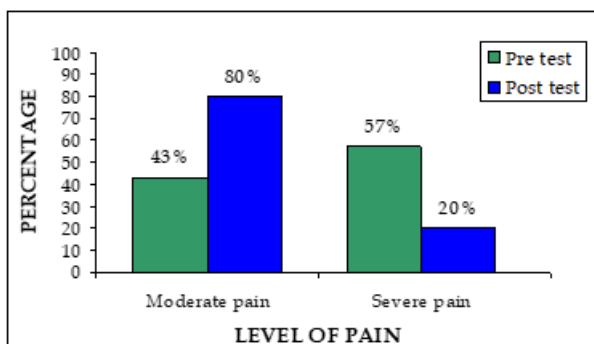
Figure 1: Frequency and Percentage distribution of pretest and Post test level of low back pain in experimental group

Figure 2: Frequency and Percentage distribution of pretest and Post test level of low back pain in control group

Table 2: Comparison of Mean, standard deviation and paired 't' value of pretest and posttest level of low back pain in experimental group, n= 30

Test	Mean	SD	Mean Difference	Paired 't' value	Table value
Pre-test	7	1	1	12.914*	1.699
Post test	6	0.547			

df= 29   * - Significant   P< 0.05

The analysis reveals that, the posttest mean score of level of low back pain 6(SD±0.547) was lower than the pretest mean

score 7(SD±1), the paired 't' value was 12.914 (table value=1.699) at p<0.05 level of significance shows that there is a significant difference in the level of low back pain between the pretest and posttest in experimental group.

Table 3: Comparison of mean, standard deviation and paired 't' value of pretest and posttest level of low back pain in control group, n= 30

Test	Mean	SD	Mean Difference	Paired 't' value	Table value
Pre-test	6	0.793	1	5.294*	1.699
Post test	7	1.095			

df= 29   *- Significant   P< 0.05

The analysis reveals that, the posttest mean score of level of low back pain 7(SD±1.095) was higher than the pretest mean score 6(SD±0.0.793), the paired 't' value was 5.294 (table value=1.699) at p<0.05 level of significance shows that there is a significant difference in the level of low back pain between the pretest and posttest in control group.

Table 4: Comparison of mean, standard deviation and Independent 't' value of post test level of low back pain between experimental group and control group, n_1=30; n_2=30

Test	Mean	SD	Mean Difference	Paired 't' value	Table value
Experimental group	6	0.547	1	4.310*	1.645
Control group	7	1.095			

df = 58   * - Significant   P< 0.05

The mean posttest level of low back pain in the experimental group (6+0.547) was significantly lower than the mean posttest level of low back pain in the control group 7(SD+1.095). Independent 't' value was 4.310 (table value = 1.645) at p<0.05 level of significance shows that there is a significant difference in the level of low back pain between experimental group and control group.

Table 5: Frequency and percentage distribution of the level of satisfaction on olive oil massage therapy among experimental group, n= 30

Level of satisfaction	Experimental group	
	Frequency	%
Dissatisfied	-	-
Moderately Satisfied	10	33%
Adequately Satisfied	20	67%
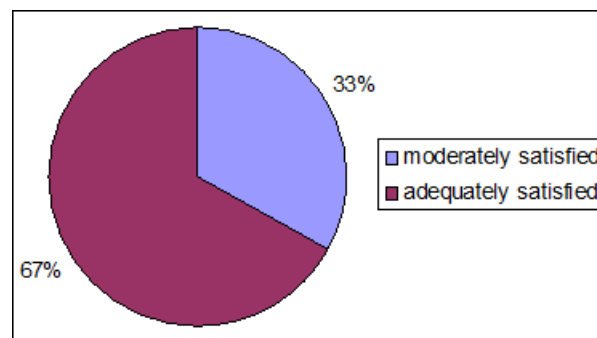
Figure 3: Frequency and percentage distribution of posttest level of satisfaction on olive oil back massage in experimental group

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Table 6: Association between the level of low back pain in experimental group with their selected demographic variables，(n= 30)

S. No	Demographic variables	None		Mild		Moderate		Severe		Worst		$\chi 2$	Table value	Inference
		F	%	F	%	F	%	F	%	F	%			
I	Age (in years)													
a)	18-25	-	-	-	-	19	63	5	17	-	-	0.05 (df=2)	5.99	NS
b)	26-30	-	-	-	-	5	17	1	3	-	-			
c)	31-35	-	-	-	-	-	-	-	-	-	-			
II	Education													
a)	Illiterate	-	-	-	-	6	20	1	3	-	-	2.73 (df=3)	7.81	NS
b)	Primary	-	-	-	-	5	17	-	-	-	-			
c)	Higher Secondary	-	-	-	-	8	26	4	13	-	-			
d)	Graduate	-	-	-	-	5	17	1	3	-	-			
III	Residence													
a)	Urban	-	-	-	-	11	37	2	7	-	-	0.28 (df=1)	3.84	NS
b)	Rural	-	-	-	-	13	43	4	13	-	-			
IV	Family													
a)	Nuclear	-	-	-	-	13	40	4	13	-	-	0.28 (df=1)	3.84	NS
b)	Joint	-	-	-	-	11	40	2	7	-	-			
V	Income													
a)	Below Rs 3000	-	-	-	-	2	7	-	-	-	-	0.69 (df=2)	5.99	NS
b)	Rs3000- Rs 5000	-	-	-	-	9	30	3	10	-	-			
c)	Above 5000	-	-	-	-	13	43	3	10	-	-			
VI	Religion													
a)	Hindu	-	-	-	-	18	60	3	6	-	-	1.85 (df=2)	5.99	NS
b)	Muslim	-	-	-	-	1	3	1	7	-	-			
c)	Christian	-	-	-	-	5	17	2	7	-	-			

df= 1   (P<0.05)

No significant association was found in the level of low back pain when compared to the age, education, residence, type of family, income, and religion (p>0.05) in the experimental group.

4. Conclusion

Based on statistical findings, it is evident that the olive oil back massage among primi mothers reduce the level of low back pain ('t' value = 4.310) in the experimental group. Therefore, the investigator felt that more importance should be given to the assessment of low back pain by using standardized tool following which olive oil back massage can be given as a non - pharmacological measure to reduce low back pain during first stage of labor.

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