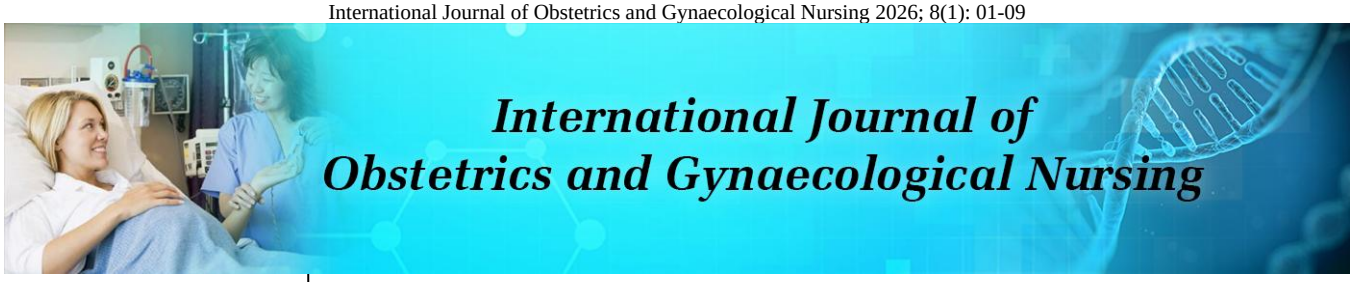

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A quasi-experimental study to assess the effectiveness of infrared lamp therapy on episiotomy wound healing among postnatal mothers in selected hospital Jalandhar, Punjab

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Abstract
Background of the study: Postpartum period is a very crucial period to care especially for mothers who had under gone episiotomy. Episiotomy care is very essential, if neglected it can lead to severe complications like infection, wound gapping etc. Infrared lamp therapy is effective for episiotomy wound healing. Therefore, the study titled "A Quasi-experimental study to assess the effectiveness of infrared lamp therapy on episiotomy wound healing among postnatal mothers in selected Hospital, Jalandhar Punjab.
Methodology: A quantitative research approach and a quasi-experimental, pre-test post-test control group design was used for the research study. The study was conducted at Civil Hospital, Jalandhar, Punjab. The study sample comprised of 60 postnatal mothers. Convenient sampling technique was employed to draw the sample. Mothers who had undergone left medio lateral episiotomy were included in the study and episiotomy wound was assessed by using 'REEDA scale'. Total 3 days infrared lamp therapy was given to experimental group and routine treatment to control group.
Results: The analysis of data revealed that infrared lamp therapy have significant effect on experimental group and routine treatment to control group. episiotomy wound healing and found statistically significant at $p<0.05$. On comparing episiotomy wound healing among postnatal mothers in experimental and control group significant difference was observed with 't' value (12.66) at $p<0.001$ level of significance. The study concluded that infrared lamp therapy has more significant effect on episiotomy wound healing among postnatal mothers. There was no association of episiotomy wound among postnatal mothers in control group, whereas in experimental group only educational status has effected on episiotomy wound among postnatal mothers.
Conclusions: There was significant improvement in wound healing in experimental group as compared to control group. Hence, it revealed that Infrared lamp therapy is an effective method of treatment on healing of episiotomy wound among post-natal mothers.

Keywords: Infrared lamp therapy, episiotomy wound and Post-natal mothers

Introduction
Motherhood is the only act that present in human from the heavenly wonder of creation. Imagine a life expand within the body of the mother, nourish with her lifeblood. And then there is the hugest wonder of all, this indefinite motion within her womb blooms into two tiny hands reaching out. The very process of giving birth is the most graceful one on earth and the mother attains unusual capacities and true nobility through childbirth.
Episiotomy is the surgical incision made under the effect of anesthesia to lengthen the vulval outlet during delivery and to reduce the risk of severe spontaneous, maternal trauma and to expedite the birth when there is evidence of fetal compromise**.** With or without episiotomy, the perineum may suffer from tearing during childbirth. It also decreases the incidence of cystocele, rectocele and stress incontinence.
Infra-red lamp is a simple and efficient treatment for pains and healing of episiotomy. It has a circular plate consists of 33 earth elements essential to the human body, when operate the plate emits a special band of infrared waves ranging from 2 to 25 microns in wavelength. The waves enter up to 3 inches into the body, increasing circulation and loosening tight muscles. This warming feels good, helps in relaxation, it also aids in cure damaged tissue. The infra-red lamp needs the of 220V / 250V and should be kept 50 cm away from

the affected area. The recommend time of heating is 15 to 30 minutes twice a day for three days. Infrared lamp is very secure and provides pain relief within 10-15 minutes without medications and help early healing of episiotomy with minimum side effects. This tool is used by NASA, the San Deigo Padres and the USA Olympic track and field team and other many.

REEDA scale is used to evaluate the healing process of wound. The perineum should be inspected every 8 hours or at least twice daily for signs of early developing complication. The REEDA scale was contributed by Nancy Davidson in 1970. The acronym REEDA is used as a reminder that the site of episiotomy or a perineum laceration should be assessed for these five signs. Redness of the wound may indicate the usual inflammatory response to injury.

If it is accompanied by pain or tenderness, it may indicate beginning of localized infection. Ecchymosis or edema indicates soft tissue damage marked by discoloration that can delay healing. There should not be discharge (sanguineous or purulent) from the wound and rapid healing necessitates the edges of the wound should be clearly approximate. The REEDA Scale measures wound healing in terms of infection. It is rated from 0 to 15. The higher score indicates infection and is inversely proportional to wound healing.This present study was design to evaluate the effectiveness of infrared lamp therapy on healing of episiotomy wound among postnatal mothers.

Objectives

1. To assess the pre-interventional condition of episiotomy wound among postnatal mothers in experimental and control group.
2. To apply infrared lamp therapy on episiotomy wound among postnatal mothers in experimental group.
3. To assess the post-interventional condition of episiotomy wound among postnatal mothers in experimental and control group.
4. To compare the pre-interventional and post-interventional condition of episiotomy wound among postnatal mothers in experimental and control group.
5. To find out the association of pre-interventional condition of episiotomy wound among postnatal mothers with their selected socio demographic variables.

Hypothesis:

H_1: There will be significant difference in episiotomy wound healing in experimental and control group after implication of infrared lamp therapy which will be assessed by using REEDA scale.

Delimitation: The study was limited to 60 postnatal mothers who have undergone vaginal delivery with episiotomy

Research Approach: A quantitative research approach was considered to be appropriate for the present study as the study aimed to assess the effectiveness of infrared lamp therapy on episiotomy wound healing among postnatal mothers in selected hospital Jalandhar, Punjab.

Research Design: A quasi-experimental, pre-test post-test control group design, was used to assess the effectiveness of infrared therapy on episiotomy wound healing among postnatal mothers.

Group: Postnatal mothers.

O_1- Pre-test
X- Intervention
O_2-Post-test

Experimental group O_1 - - - - - - - - - X - - - - - - - - - - O_2
Control group O_1 - - - - - - - - -- - - - - - X - - - - - - - - - - -O_2

Keys:

- **Pre-test (O_1):** Refers to the assessment of healing of episiotomy wound among postnatal mothers in experimental and control group.
- **Intervention (X):** Refers to the infrared lamp therapy given to the postnatal mothers admitted in postnatal wards of civil Hospital, Jalandhar, Punjab
- **Post-test (O_2):** Refers to re-assessment of healing of episiotomy wound among postnatal mothers in experimental and control group
- **Research Setting:** The study was conducted in postnatal wards of Civil Hospital, Jalandhar, Punjab.
- **Target Population:** The postnatal mothers who had undergone normal vaginal delivery with episiotomy.

Sample and Sampling Technique

- **Sample:** The sample for the present study consists of 60 postnatal mothers (30 in experimental group and 30 in control group) admitted at Civil Hospital, Jalandhar, Punjab.
- **Sampling Technique:** Convenient sampling technique was employed to draw the sample.

Inclusion and Exclusion Criteria

Inclusion Criteria

Postnatal mothers who

a) Were undergone normal vaginal delivery with episiotomy
b) Were willing to participate in the research study
c) Were admitted in postnatal ward for 3 days

Exclusion Criteria

Postnatal mothers who had:

a) Perineal tear
b) Infected perineum.
c) Instrumental vaginal delivery with episiotomy.
d) Any medical illness that interfere with healing such as diabetes.

Selection and Development of Tool

Description of Tool

The tool will be divided into three sections:

Part I: This part included Socio demographic variables data sheet to obtain general information of postnatal mothers which includes age, religion, are of residence, type of family, educational status, occupation, family monthly income, nutritional status Hb level, weight of mother, weight of newborn, parity, type of episiotomy, length of episiotomy**.**

Part II: REEDA scale (Nancy Davidson 1970)
It consists of standardized REEDA scale (Nancy Davidson 1972). It is a rating scale for assessment of wound healing. It consists of five parameters i.e. Redness, Edema, Ecchymosis, Discharge and Approximation. Each parameter is scored as 0 to 3. Minimum score was 0.

Criterion Measures
Episiotomy Wound Healing Score

- **Normal healing:** Score-0
- **Slow healing:** Score-5
- **Delayed healing:** Score-6-10
- **Absence of healing:** Score-11-15

Part III: Plan for infrared lamp therapy on episiotomy wound.

- **Validity of Tool:** To ensure validity of tool it was circulated to the experts from various fields.
- **Reliability of Tool:** Reliability of the tool was calculated by inter-rater method and it was found to be 0.9. The instrument was found to be reliable, and feasible for conducting the research study as the range of acceptability of reliability is from 0.6-1.0.
- **Pilot Study:** After obtaining permission from concern authority, at civil hospital, Jalandhar, Punjab. The pilot study was conducted on ($1/10^{th}$ of the total sample size) in experimental and control group. The sample consists of 10 postnatal mothers, subject were selected by convenient sampling technique, data were collected and analysed by using descriptive and inferential statistics. The study was found feasible. Data collection procedure:

Data will be collected from 60 subjects (30 in experimental group and 30 in control group). Purposive sampling technique will be used to select the sample from the population.

Research Variables

- **Dependent Variable:** In this study, dependent variable is episiotomy wound healing.
- **Independent Variable:** In this study, independent variable is the infrared lamp therapy.

Plan of Data Analysis
The collected data was analyzed using description and inferential statistics i.e. Frequency and percentage distribution, mean, mean difference, standard deviation 't'-test value, the tool was submitted to ethical committee for their approval. Descriptive statistics: frequency and percentage distribution was used to describe the socio demographic variables.
Mean and standard deviation were used to assess the effectiveness of infrared lamp therapy

1. Inferential statistics: Paired 't'- test and unpaired 't''-test were used to compare the difference between pre-interventional and post interventional condition of episiotomy wound among postnatal mothers.
Chi-square test was used to find out the association of pre-interventional condition of episiotomy wound among postnatal mothers with their selected socio-demographic variables.

Organization and Presentation of the Data for Analysis
Data was entered in master sheet, for tabulation and statistical processing in order to find out the relationship, the data was tabulated, analyzed and interpreted by using descriptive and inferential statistics. The data is being represented under following sections.

- **Section I:** Description of socio demographic variables by using frequency and percentage
- **Section II:** Assessment of pre-interventional condition of episiotomy wound among postnatal mothers in experimental and control group.
- **Section III:** Assessment of post-interventional condition of episiotomy wound among postnatal mothers in experimental and control group.
- **Section IV:** To compare the pre-interventional and post-interventional condition of episiotomy wound among postnatal mothers in experimental and control group.
- **Section V:** To find out the association of pre-interventional condition of episiotomy wound among postnatal mothers with their selected socio demographic variable

Section 1: Description of Socio-demographic variables by using frequency and percentage.

Table 1: Frequency and Distribution of Postnatal Mothers According to Socio Demographic Variables N=60

Socio demographic variables	Experimental group (n=30)		Control group (n=30)		df	Chi-square
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)		
1. Age (in years)					3	6.12^{NS}
a. 18-23	08	26.67	03	10		
b. 24-29	10	33.33	08	26.67		
c. 30-34	05	16.67	06	43.33		
d. 35 and more	07	23.33	13	20		
2. Religion					3	6.83^{NS}
a. Sikh	10	33.33	11	36.67		
b. Hindu	08	26.67	09	30		
c. Muslim	03	10	08	26.67		
d. Christian	09	30	02	6.67		
3. Residence					2	1.27^{NS}
a. Rural	15	50	19	63.33		
b. Urban	12	40	08	26.67		
c. Slum	03	10	03	10		
4. Type of family					1	0.60^{NS}

a. Nuclear	14	46.67	17	56.67		
b. Joint	16	53.33	13	43.33		
5. Education						
a. No formal education	19	63.33	16	53.33	3	5.83^{NS}
b. Primary education	06	20	13	43.33		
c. Secondary education	03	10	01	3.33		
d. Graduate and above	02	6.67	00	00		
6. Occupation						
a. Home maker	27	90	24	80	1	1.17^{NS}
b. Govt. job	00	00	00	00		
c. Private job	03	10	06	20		
d. Self-employer	00	00	00	00		
7. Family monthly income						
a. < 10000	19	63.33	22	73.33	1	0.69^{NS}
b. 10001-15000	11	36.67	08	26.67		
c. 15001-20000	00	00	00	00		
d. >20000	00	00	00	00		
8. Nutritional status						
a. Vegetarian	13	43.33	14	46.67	1	0.60^{NS}
b. Non-vegetarian	17	56.67	16	53.33		
9. Hb level						
a. < 9 gm/dl	05	16.67	00	00	2	11.67^{NS}
b. 9-11	13	43.33	25	83.33		
c. 11-13	12	40	05	16.67		
d. >13 gm/dl	00	00	00	00		
9. Weight of (mother)						
a. < 60 kg	08	26.67	07	23.33	2	0.09^{NS}
b. 61-70 kg	17	56.67	18	60		
c. 71-80 kg	05	16.67	05	16.67		
d. >80 kg	00	00	00	00		
10. Weight of newborn						
a. < 2 kg	00	00	01	3.33	3	1.27^{NS}
b. 2-2.5 kg	15	50	16	53.33		
c. 2.5-3 kg	12	40	11	36.67		
d. > 3kg	03	10	02	6.67		
11. Parity						
a. Primiparous	19	63.33	17	56.67	1	0.27^{NS}
b. Multiparous	11	36.67	13	43.33		
12. Type of episiotomyz						
a. Medial	09	30	12	40	1	0.65^{NS}
b. Medio lateral	21	70	18	60		
13. Length of episiotomy						
a. 2-3 cm	13	43.33	13	43.33	1	00^{NS}
b. 3-4 cm	17	56.67	17	56.67		

Table 1 Revels frequency and percentage distribution of characteristics of study subjects. A total of 60 postnatal mothers admitted in selected hospital of Jalandhar were studied to assess the effectiveness of infrared lamp therapy on episiotomy wound healing among postnatal mothers among them 30% subjects were in experimental group and 30% subjects were in control group from whom the socio demographic characteristics were analysis.

Section II: Assessment of pre-interventional condition of episiotomy wound among postnatal mothers in experimental and control group.

Objective 1: To assess the pre-interventional condition of episiotomy wound healing among postnatal mothers in experimental and control group.

Table 2: Mean and Mean Percentage of Pre-interventional Condition of Episiotomy Wound among Postnatal Mothers in Experimental and Control Group N=60

Condition of episiotomy wound	Experimental group (n=30)			Control group (n=30)		
	Mean	SD	Mean Percentage (%)	Mean	SD	Mean percentage (%)
Pre-interventional score	8.4	1.328	56	8.1	1.44	54

Maximum score=15
Minimum score=00

Table 2 shows that mean score of experimental group was 8.4(±1.328) with mean percentage of 56% where as in control group mean score was 8.1(±1.44) with mean percentage of 54%

Table 3: Frequency and Percentage Distribution of Pre-interventional Condition of Episiotomy Wound among Post-natal Mothers in experimental and control group.

Criterion	Scale	Experimental group		Control group	
		Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Normal healing	0	00	00.00	00	00.00
Slow healing	1-5	00	00.00	00	00.00
Delayed healing	6-10	29	96.67	30	100
Absence of healing	11-15	1	3.33	00	00.0

Maximum score-15
Minimum score-00

Table 3 figure (4) shows that the frequency and percentage distribution of pre-interventional condition of episiotomy wound among postnatal mothers were 96.67% (29) had delayed healing where as 3.33% (1) had absence of healing in experimental group. On the other hand 100% (30) had delayed healing. None of the patient had normal healing. slow healing and absence of healing.
Hence, it can be said that majority of the postnatal mothers had delayed healing in both experimental and control group and least were having absence of healing in experimental group.

Table 4: Mean and Mean Percentage of Post-interventional Condition of Episiotomy Wound Healing among Postnatal Mothers in Experimental and Control Group. N=60

Condition of episiotomy wound	Experimental group (n=30)			Control group (n=30)		
	Mean	SD	Mean Percentage(%)	Mean	SD	Mean percentage(%)
Post-interventional score	4.33	0.958	28.86	7.76	1.13	51.73

Maximum score-15
Minimum score-00

Table 4 shows that mean of pre-interventional score of episiotomy wound in experimental group was 4.33(±0.958) with mean percentage of 28.86% and in control group mean score was 7.76(±1.13) with mean percentage of 51.73%
Hence, it can be said that score of episiotomy wound was moderate among the postnatal mothers in experimental group and mild in control group.

Table 5: Frequency and Percentage Distribution of Post-interventional Condition of Episiotomy Wound among Postnatal Mothers in experimental and control group.

Criterion	Scale	Experimental group		Control group	
		Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Normal healing	0	00	00.00	00	00.00
Slow healing	1-5	26	86.67	00	00.00
Delayed healing	6-10	04	13.33	30	100
Absence of healing	11-15	00	00.00	00	00.00

Maximum score-15
Minimum score-00

Table 5 figure (5) shows that the frequency and percentage distribution of post-interventional condition of episiotomy wound among postnatal mothers 86.67% (26) had slow healing and 13.33% (04) had delayed healing in experimental group, whereas 100% (30) had delayed healing and none of the patient had normal healing, slow healing, and absence of healing in control group.
Hence, it can be said that most of the postnatal mothers had slow healing in experimental group and delayed healing in control group.

Section III: Comparison of pre-interventional and post-interventional condition of episiotomy wound among post-natal mothers in experimental and control group

Objective-4: To compare the pre-interventional and post-interventional condition of episiotomy wound healing among post-natal mothers in experimental and control group.

Table 6: Comparison of Pre-interventional and Post-interventional Condition of Episiotomy Wound among Postnatal Mothers in Experimental and Control Group

Interventions	N	Experimental group			Control group			df	Unpaired 't' test
		Mean	SD	MD	Mean	SD	MD		
Pre-intervention	30	8.4	1.328	4.07	8.1	1.44	0.34	58	0.8365
Post-intervention	30	4.33	0.958		7.76	1.13		58	12.66***
Paired 't' test	df=29	't'=23.58**							

Maximum score-15
*** Significant at $p<0.001$
Minimum score-00

Table 6 figure (6) shows that in experimental group the mean of pre-interventional condition of episiotomy wound was 8.4(±1.328) and mean of post-interventional condition of episiotomy in control group was 4.33(±0.95). This difference in the means of pre-interventional and post-interventional condition of episiotomy wound was statistically significant at $p<0.001$. In control group mean of

pre-interventional condition of episiotomy wound was 8.1(±1.44) and mean of post-interventional condition of episiotomy in control group was 7.76(±1.13). This difference in the means of pre-interventional and post-interventional condition of episiotomy wound was statistically non-significant at $p<0.05$

Section IV: Association of pre-interventional condition of episiotomy wound among post-natal mother with their selected socio-demographic variables

Objective 5: To find out the association of pre-interventional condition of episiotomy wound among post-natal mother with their selected socio-demographic variables

Table 7: Association of Pre-interventional Condition of Episiotomy Wound among Postnatal Mother in EXPERIMENTAL GROUP with their Selected Socio-demographic Variables N=60

Socio-demographic variables	Level of healing		df	Chi-square	P value
	Delayed healing	Absence of healing			
1. Age (in years)					
a. 18-23	07	01	3	2.78^{NS}	0.42
b. 24-29	10	00			
c. 30-34	05	00			
d. 35 and more	07	00			
2. Religion					
a. Sikh	10	00	3	1.05^{NS}	0.78
b. Hindu	07	01			
c. Muslim	03	00			
d. Christian	09	00			
3. Residence					
a. Rural	15	00	2	1.54^{NS}	0.56
b. Urban	11	01			
c. Slum	03	00			
4. Type of family					
a. Nuclear	14	00	1	0.88^{NS}	0.34
b. Joint	15	01			
5. Education					
a. No formal education	19	00	3	15.95**	0.01
b. Primary education	06	00			
c. Secondary education	03	00			
d. Graduate and above	01	01			
6. Occupation					
a. Home maker	26	01	1	0.11^{NS}	0.74
b. Private job	03	00			
7. Family monthly income					
a. < 10000	19	00	1	1.77^{NS}	0.18
b. 15001-20000	10	01			
8. Nutritional status					
a. Vegetarian	13	01	1	0.75^{NS}	0.38
b. Non-vegetarian	16	00			
9. Hb level					
a. < 9 gm/dl	04	00	2	5.27	0.71
b. 9-11	13	01			
c. 11-13	12	00			
10. Weight of (mother)					
a. < 60 kg	08	07	2	0.70^{NS}	0.70
b. 61-70 kg	16	18			
c. 71-80 kg	05	05			
11. Weight of newborn					
a. 2-2.5 kg	15	00	2	1.54^{NS}	0.46
b. 2.5-3 kg	11	01			
c. > 3kg	03	00			
12. Parity					
a. Primiparous	18	01	1	1.54^{NS}	0.46
b. Multiparous	11	00			
13. Type of episiotomy					
a. Medial	09	00	1	0.43^{NS}	0.51
b. Medio lateral	20	01			
14. Length of episiotomy					
a. 2-3 cm	13	00	1	0.76^{NS}	0.38
b. 3-4 cm	16	01			

Maximum score=15
**Significant at $p<0.01$
Minimum score= 00

Table7 shows that in experimental group the calculated chi square value for age, religion, are of residence, type of family, occupation, family monthly income, nutritional status Hb level, weight of mother, weight of newborn, parity, type of episiotomy, length of episiotomy was statistically non-significant at $p<0.05$. Only educational status was statistically significant at $p<0.01$ level.
Hence, it can be said that age, religion, area of residence,

type of family, occupation, family monthly income, nutritional status Hb level, weight of mother, weight of newborn, parity, type of episiotomy, length of episiotomy has no effect on episiotomy wound among postnatal mothers in experimental group, only educational status has effected on episiotomy wound among postnatal mothers in experimental group**.**

Table 7: Association of pre-interventional condition of episiotomy wound among post-natal mothers in CONTROL GROUP with their selected socio-demographic variables N=60

Socio demographic variables	Level of healing		df	Chi-square	P value
	Below median	Above median			
1. Age (in years)			3	3.60^{NS}	0.30
a. 18-23	03	00			
b. 24-29	04	04			
c. 30-34	07	06			
d. 35 and more	02	04			
2. Religion			3	0.54^{NS}	0.91
a. Sikh	06	05			
b. Hindu	04	05			
c. Muslim	05	03			
d. Christian	01	01			
3. Residence			2	4.21^{NS}	0.12
a. Rural	08	11			
b. Urban	05	03			
c. Slum	03	00			
4. Type of family			1	0.001^{NS}	0.97
a. Nuclear	09	08			
b. Joint	07	06			
5. Education			2	3.03^{NS}	0.21
a. No formal education	07	09			
b. Primary education	09	04			
c. Secondary education	00	01			
6. Occupation			1	0.02^{NS}	0.88
a. Home maker	13	11			
b. Private job	03	03			
7. Family monthly income			1	0.35^{NS}	0.55
a. < 10000	11	11			
b. 10001-20000	05	03			
8. Nutritional status			1	1.02^{NS}	0.31
a. Vegetarian	08	06			
b. Non-vegetarian	08	08			
9. Hb level			1	0.4^{NS}	0.52
a. 9-11	14	11			
b. 11-13	02	03			
10. Weight of (mother)			2	4.13^{NS}	0.12
a. < 60 kg	03	04			
b. 61-70 kg	11	07			
c. 71-80 kg	02	03			
11. Weight of newborn			3	4.79^{NS}	0.18
a. < 2 kg	01	00			
b. 2-2.5 kg	08	08			
c. 2.5-3 kg	06	05			
d. > 3kg	01	01			
12. Parity			1	0.59^{NS}	0.44
a. Primiparous	08	09			
b. Multiparous	08	05			
13. Type of episiotomy			1	0.06^{NS}	0.80
a. Medial	06	06			
b. Medio lateral	10	08			
14. Length of episiotomy			1	0.61^{NS}	0.43
a. 2-3 cm	08	05			
b. 3-4 cm	08	09			

Maximum score=15
Non-Significant at $p<0.05$
Minimum score= 00

Table 7 shows that in control group the calculated chi square value for age, religion, are of residence, type of family, educational status, occupation, family monthly income, nutritional status Hb level, weight of mother, weight of newborn, parity, type of episiotomy, length of episiotomy was statistically non-significant at $p<0.05$.

Hence, it can be said that age, religion, are of residence, type of family, occupation, family monthly income, nutritional status Hb level, weight of mother, weight of newborn, parity, type of episiotomy, length of episiotomy has no effect on episiotomy wound among postnatal mothers in control group.

Major findings of the study

Section I: Description of socio demographic variables

In Experimental group (10) 33.33% postnatal mothers were in age group of 24-29, (10) 33.33% postnatal mothers were in Sikh religion, (15) 50% postnatal mothers were living in rural area, (16) 53.33% postnatal mothers were living in joint family, (19) 63.33% postnatal mothers were illiterate, (27) 90% postnatal mothers were homemaker, (19) 63.33% postnatal mothers had monthly income less than 10,000 and ≥10001-15000, (17) 56.67% postnatal mothers were non-vegetarian, (13) 43.33% postnatal mothers having Hb level 9-11gm/dl, (17) 56.67% postnatal mothers having 61-70 kg weight, (15) 50% newborn having 2-2.5 kg weight, (19) 63.33% postnatal mothers were primiparous, (21) 70% postnatal mothers having medio lateral episiotomy, (17) 56.67% postnatal mothers having episiotomy length 3-4 cm.

In Control group (13) 43.33%, postnatal mothers were in age group of 30-34, (11) 36.67%, postnatal mothers were in Sikh religion, (19) 63.33%, postnatal mothers were living in rural area, (17) 56.67% postnatal mothers were living in nuclear family, (16) 53.33% postnatal mothers were illiterate (24) 80% postnatal mothers were homemaker, (22) 73.33% postnatal mothers had monthly income less than 10,000 and ≥10001-15000, (16) 53.33% postnatal mothers were non-vegetarian, (25) 83.33% postnatal mothers having Hb level 9-11gm/dl, (18) 60% postnatal mothers having 61-70 kg weight, (16 53.33%) newborn having 2-2.5 kg weight, (17) 56.67 postnatal mothers were primiparous, (18) 60% postnatal mothers having medio lateral episiotomy, (17) 56.67% postnatal mothers having episiotomy length 3-4 cm.

Section 2: Assessment of pre-interventional condition of episiotomy wound among postnatal mothers in experimental and control group.

Objective 1: To assess the pre-interventional condition of episiotomy wound healing among postnatal mothers in experimental and control group.

In Experimental group mean score was 8.4(±1.328) with mean percentage of 56% (29) 96.67% postnatal mothers were having episiotomy wound (1) 3.33% average mothers having episiotomy wound.

In Control group mean score was 8.1(±1.44) with mean percentage of 5 4% (30) 100% postnatal mothers were having episiotomy wound and no one is having severe infection

Objective 3: To assess the post-interventional condition of episiotomy wound among post-natal mothers in experimental and control group.

- In experiment group mean score of experimental group was 4.33±(0.958) with mean percentage of 28.86% (26) 86.67% postnatal mothers having episiotomy wound and least (4) 13.33% were having episiotomy wound.
- In control group mean score was7.76±51.73 with mean percentage of 51.73% (30) 100% postnatal mothers having episiotomy wound and no one is having severe infection.

Section 3: Comparison of pre-interventional and post-interventional condition of episiotomy wound among post-natal mothers in experimental and control group

Objective-4: To compare the pre-interventional and post-interventional condition of episiotomy wound healing among post-natal mothers in experimental and control group.

- In Experimental group mean score of pre-interventional condition of episiotomy wound among postnatal mothers was 8.4±1.328
- In Control group the mean score of pre- interventional condition of episiotomy wound among postnatal mothers score was 8.1±1.44
- In experimental group the mean score of post-interventional condition of episiotomy wound among postnatal mothers was 4.33±0.958
- In Control group the mean score of post-interventional condition of episiotomy wound among postnatal mothers was 7.76±1.13

Section IV: Association of pre-interventional condition of episiotomy wound among post-natal mother with their selected socio-demographic variables

Objective 5: To find out the association of pre-interventional condition of episiotomy wound among post-natal mother with their selected socio-demographic variables.

Table 7 shows that in experimental group the calculated chi square value for age, religion, are of residence, type of family, educational status, occupation, family monthly income, nutritional status Hb level, weight of mother, weight of new born, parity, type of episiotomy, length of episiotomy was statistically non-significant at $p<0.05$.

Hence it can be said that age, religion, are of residence, type of family, occupation, family monthly income, nutritional status Hb level, weight of mother, weight of new born, parity, type of episiotomy, length of episiotomy has no effect on episiotomy wound among postnatal mothers in experimental group. Only educational status has effect on episiotomy wound among postnatal mothers in experimental group and was statistically significant at $p<0.01$.

Table 7 shows that in control group calculated chi square value for age, religion, are of residence, type of family, educational status occupation, family monthly income, nutritional status Hb level, weight of mother, weight of new born, parity, type of episiotomy, length of episiotomy was statistically non-significant at $p<0.05$.

Conclusion

It was concluded from the findings of the study there was significant reduction in the condition of episiotomy wound among postnatal mothers after administration of infrared lamp therapy. Hence, the use of infrared lamp therapy in reduction of episiotomy wound was effective. Furthermore the study concluded that there was no statistically significant association of episiotomy wound healing among postnatal mothers with age, religion, residence, type of family, monthly income, nutritional status, Hb level, weight of the mother, weight of the newborn, parity, type of episiotomy and length of episiotomy at $p<0.05$.

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