Original Research Paper

Volume-9 | Issue-8 | August - 2019 | PRINT ISSN No. 2249 - 555X

Obstetrics and Genecology

STUDY TO ASSESS THE EFFECTIVENESS OF INFRARED RADIATION THERAPY ON PAIN PERCEPTION AMONG POSTNATAL WOMEN WITH EPISIOTOMY AT SMCH

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ABSTRACT Pregnancy is a long and exciting special journey for an antenatal woman. A maternity service provides an important role in mother, baby and family during the antenatal period. 60(30 experimental group and 30 control group) postnatal mothers who met the inclusion criteria were selected by using purposive sampling technique. After selecting the sample, the investigator explained the purpose of the study and informed consent was obtained. Demographic variables were collected pre-test was done by using numerical pain scale (experimental and control group). For experimental group, infrared radiation application was given twice a day for three days. Control group receives the routine hospital care. On the third postnatal day post-test was done for experimental and control group. The data were tabulated and analysed by descriptive and inferential statistics. The result shows in experimental group pre-test 0(0%) were mild, 12(40%) were moderate, 18(60%) were severe. Control group 0(0%) were mild, 5(17%) were moderate, 25(83.3%) were severe. The result shows in experimental group post-test 21(70%) were mild, 9(30%) were moderate, 0(0%) were severe. Control group 0(0%) were mild, 9(30%) were moderate, 21(70%) were severe. The calculated 't' value significant at P<0.0005. The study indicate the application of infrared radiation application is effective for postnatal women with episiotomy.

KEYWORDS : Episiotomy, Infrared radiation application, postnatal mothers.

INTRODUCTION

Pregnancy is a long and very exciting special journey for an antenatal women. Maternity services should support the mother, her baby and her family during this journey with a view not only to their short-term safety but also to their long-term well being (UK Department of Health 1993).[1]

Women during postnatal period are subjected to high risk of morbidity and mortality from various causes like perineal pain and discomfort, episiotomy infections, puerperal sepsis etc.[2] Perineal pain and discomfort, episiotomy infections, puperial sepsis etc,perineal pain in the early postnatal period is one of the most common causes of maternal morbidity (Sleep, 1990 as cited by steen et,al.,2000).[3]

A multiple series of process occurs during child-birth. One such events is practice of episiotomy, which has undergo changes in popularity, with rationale for clinical practice.[4] Perineal incision including episiotomy is a long standard process for the outcome of vaginal delivery.[5]

Episiotomy is surgical cut made at the opening of vaginal during child birth to aid a difficult delivery and prevent rupture of tissue its performed during the second stage of labour .This first performance of episiotomy was done in 1742, when a perineal incision was used to facilitate difficult deliveries[6]. The popularity of episiotomy among obstetricians continued to grow with the introduction of local anaesthetic and suture material and as a result of advocacy for its performance by two obstetricians, De Lee and Pomeroy (Maier, 1997)[7].

It is performed to avoid severe perineal tears and injury to the anal sphincter, reduce risk of traumatic delivery of the baby[8]. Perineal trauma prevention is the most important consideration during delivery, it gives many midwives a sense of pride to complete a birth with no perineal trauma. However, this should not be at the expense of trauma to the vaginal mucosa.[9] Episiotomy range varies over worldwide, depending one the procedure is used in the hospital set up. Worldwide episiotomy rate is 27%, 54% are nulliparous and 6% are multiparous women (WHO 2003). In India, the birth rate is very high, 72.3 per thousand birth. The incidence of episiotomy was high. More moderate forms of genital cutting which account for an estimated 80% practice worldwide.[10]

Infrared therapy is a safe drug-free and effective reduce pain and inflammation throughout the body with the use of light. various interventions are found to aid the wound healing process which includes cleanliness, applying icepack, Sitzbath, perineal care, cooling pads, application of antiseptic solutions. Simple principle of episiotomy wound healing is good blood flow, oxygen, nutrients, and absence of infection.

MATERIALS & METHODS

60(30 experimental group and 30 control group) postnatal mothers who met the inclusion criteria were selected by using purposive sampling technique. After selecting the sample, the investigator explained the purpose of the study and informed consent was obtained. Demographic variables were collected pre-test was done by using numerical pain scale (experimental and control group). For experimental group, infrared radiation application was given twice a day for three days. Control group receives the routine hospital care. On the third postnatal day post-test was done for experimental and control group. The data were tabulated and analysed by descriptive and inferential statistics

METHODS AND MATERIALS

Instrument conditions Infrared radiation was discovered in 1800 by astronomer Sir William Herschel, who discovered a type of invisible radiation in the spectrum lower in energy than red light, by means of its effect on a thermometer. Infrared is a type of electromagnetic radiation, including wavelength between the 780 nm to 1000um. IR is divided into different bands: Near-infrared (NIR, 0.78-3.0um). Mid-infrared (MIR,3.0-5.0um) and far-infrared (FIR, 50.0-1000.0um). several studies have reported that IR can improve the healing of wounds, photo prevention, relieve pain, stiffness, fatigue of rheumatoid arthritis, ankylosing spondylitis, potentiate photodynamic therapy, treat ophthalmic, neurological, and psychiatric disorders, and stimulate the proliferation of mesenchymal and cardiac stem cells.

A descriptive study was chosen for the effectiveness of infrared radiation application on episiotomy pain among postnatal women with episiotomy at SMCH. 60 samples were selected who comes under the inclusive criteria by using purposive sampling technique. Data was collected by using demographic variables which include Age, Education, Occupation, Religion, No. Postnatal day, No. of .abortion etc., by Numerical pain scale. The tools were translated to Tamil language. Informed consent was obtained and data was collected.

RESULTS AND DICSUSSION:

Table 1: distribution of demographic variables of experimental and control group of postnatal mothers.

DEMOGRAPHIC VARIABLES	EXPERIMENTAL GROUP		CONTROL GROUP	
	NO	%	NO	%
1.AGE				
a)18-32yrs	3	10%	12	40%
b)22-25yrs	17	57%	9	30%
c)26-35yrs	10	33%	9	30%

2.EDUCATION				
a)SSLC	8	*27%*	5	17%
b)12th standard	8	*27%*	15	50%
c)Graduation	6	*20%*	7	23%
d)No formal education	8	*26%*	3	10%
3.OCCUPATION				
a)Government	2	7%	3	10%
b)Private	5	17%	4	13%
c)House wife	22	73%	23	77%
d)Agriculture	1	3%	-	-
4.RELIGION				
a)Hindu	9	30%	13	43.3%
b)Christian	11	36.6%	11	36.6%
c)Muslim	10	33.3%	6	20%
d)Others	-	-	-	-
5.NO.OF.ABORTION				
a)One	8	26.6%	9	30%
b)Two	2	6.6%	7	23.3%
c)More than two	-	-	-	-
d)Nil	20	66.6%	14	46.6%
6.WEIGHT OF THE BABY				
a)2.5kg	-	-	-	-
b)3kg	2	6.6%	-	-
c)3.5kg	20	66.6%	16	53.3%
d)Above 4kg	8	26.6%	14	46.6%
7.NO.OF.POSTNATAL DAY				
a)1st day	2	6.6%	3	10%
b)2nd day	4	13.3%	9	30%
c)3rd day	17	56.6%	7	56.6%
d)more than 3 days	7	23.3%	1	3.3%

Socio-demographic variables of postnatal mothers:

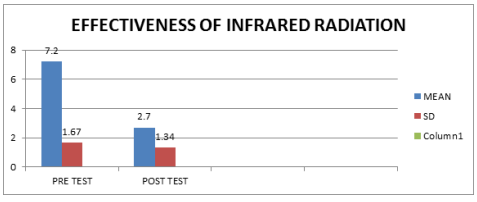
Over of 30 samples in experimental group Regarding age 3(10%) samples were come under the age group of 18-21 yrs,17(56.6%) samples were come under the age group of 22-25yrs,10(33.3%)samples were come under the age group of 26-34yrs.Regarding education 8(26.6%)samples were come under the SSLC,8(26.6%)samples were come under the 12th std,6(20%)samples were come under the graduation,8(26.6%)samples were come under the no formal education in the experimental group. Regarding occupation 2(6.6%)samples were come under the government job,5(16.6%)samples were come under the private job,22 (73.3%)samples were come under the house wife,1(3.3%) samples were come under the agriculture in the experimental group. Regarding religion 9(30%) samples were come under the Hindu, 11(36.6%) samples were come under the Christian, and 10 (33.3%) samples were come under the Muslim in the experimental group. Regarding No.of.abortion 8(26.6%) samples were come under the one abortion patient, 2(6.6%) samples were come under the two abortion patient, and 20 (26.6%) samples were come under the nil in the experimental group. Regarding weight of the baby 2(6.6%) samples were come under the 3kg of baby weight, 20(66.6%) samples were come under the 3.5kg of baby weight, and 8 (26.6%) samples were come under the above 4kg of baby weight in the experimental group. Regarding No.of.postnatal day 2(6.6%) samples were come under the 1st day of postnatal mother, 4(13.3%) samples were come under the 2nd day of postnatal mother, 17 (56.6%) samples were come under the 3rd day of postnatal mother, and7 (23.3) samples were come under the more than 3rd day of postnatal mothers.

Over of 30 samples in control group Regarding age 12(40%) samples were come under the age group of 18-21yrs,9(30%)samples were come under the age group of 22-25yrs,9(30%)samples were come under the age group of 26-34yrs in the control group. Regarding education 5(16.6%)samples were come under the SSLC,15(50%)samples come under the 12th std,7(23.3%)samples were come under the graduation,3(10%)samples were come under the uneducated in the control group. Regarding occupation 3(10%) samples were come under the government job,4(13.3%)samples come under the private job,23(76.6%)samples were come under the house wife in the uneducated in the control group. Regarding religion 13(43.3%)samples were come under the hindu,11(36.6%)samples come under the christian,6(20%)samples were come under the Muslim in the control group. Regarding abortion 9(30%)samples were come under the one abortion patient,7(23.3%)samples come under the two abortion patient,14(46.6%)samples were come under the nil in the control group. Regarding weight of the baby 16(53.3%) samples were come under the 3.5kg of baby weight, 14(46.6%) samples come under the above 4kg of baby weight in the control group. Regarding no. of. postnatal day 3(10%) samples were come under the 1st day of postnatal mothers, 9(30%) samples were come under the 2nd day of postnatal mothers, 17(56.6) samples were come under the 3rd day of postnatal mothers, 1(3.3%) samples were come under the more than 3rd day of postnatal mothers in the control group.

Table-2: To assess the effectiveness of infrared radiation therapy application on level of episiotomy pain among postnatal mothers.

LEVEL OF PAIN	MEAN	SD	PAIRED 't' VALUE
PRE-TEST	7.2	1.67	't' value+16.6 Df=28 (s)
POST-TEST	2.7	1.37	

The calculated 't' value for episiotomy pain in experimental group was t=16.6 which is found to be statistically highly significant at p<0.05 level. Then the calculated 't' value for episiotomy pain in control group was t=5.82 which is found to be statistically no significant at p<0.05 level. So the infrared radiation therapy application on episiotomy pain was effective in experimental group.



This present study is supported by **Elizebeth Rani** "A study to assess the effectiveness of infrared radiation therapy on pain perception and wound healing among primi postnatal women with episiotomy"(International Journal Of Advance Research, Ideas And Innovations In Technology)In this study, 60 postnatal mothers were selected. In demographic variables majority 17(56.7%) in experimental group and 21(70%) in control group belongs to the age group of 20-25 years of age, 10(33.3%) in experimental group and 9 (30%) control group had collegiate education above, 26(86.7%) in experimental group and 21 (70%) in control group were unemployed, 21(70%) in experimental group and 22(73.3%) in control group were booked. There was a significant reduction in pain perception after infrared radiation therapy in experimental group t=25.26(P<0.05)

Angel Rajakumari.G The evidence that the use of a specifically designd cooling gel pad is safe and effective localised method to alleviate perineal trauma without any adverse effects on healing.

Fahimeh Rashidi et.al., The main intensity in the first 24 hours postpartum was 4.39+/- 1.11 in phenytoin group and in betadine group it was 7.11+/- 1.48(p<0.0001). in 10th day after delivery, mean pain intensity in phenytoin and betadine groups was 0.72+/- 1.04 and 3.45 +/-2.00 respectively (P<0.001)

Maasumeh Kaviani et.al., study aim to assess the impact of olive leaf extract ointment on pain intensity and early maternal complications in Primiparous women. The results showd a significant difference between the olive leaf extract ointment group and the other groups regarding the improvement of episiotomy wound (p<0.001). pain intensity also significantly was reduced in this groups after delivery(p=0.029).

George D Gale et al the 21 patients received IR therapy and 18 received placebo therapy. These uniots met safety standards for food and drug administration's portability, the treated group recived IR therapy the pain was assessed overall, then rotating and bending in di fractions.

Kaled Mikki Zimmo et.al., This study assess the effects of training birth attendants in applying bimanuak perineal support during delivery by either animated instruction on tablets or hands-on training on episiotomy rates among Primiparous women. Of 46,709 women,12,841 were included. The overall episiotomy rate in the intervention hospitals did not change significantly after intervention 1, from 63.1 to 62.1% but did so after intervention 2 from 61.1 to 38.1%. rates after intervention2 changed from 65.0 to 47.3%. hands-on training of bimanual perineal support during delivery of Primiparous

women was significantly more effective in reducing episiotomy rates than animated instructions.

Hena Rani Barua et.al., Routine episiotomy during vaginal delivery is no longer preferred. However, practice of this procedure is still high, particularly in developing countries. Practice of episiotomy during vaginal delivery is yet to be explored. 433 women delivery vaginally. Primi were 53.34% (n=231) and multigravida 46.66% (n=202). Episiotomy was performed was performed in 156(36.03%). Episiotomy rate among primi was 47.19% (n=109) and among multi 24.26% (n=49) ($p<0.0001$). routine episiotomy rate is high.

Azam Mohammadi et.al., Analgesic and wound healing effects of cinnamon, a widely used spice, have been shown in laboratory rates. Aim of this study was to assess the effect of cinnamon on perineal pain and healing of episiotomy incision. Cinnamon shows significantly more improvement than the control group in healing score at 8h (-0.2,-0.4 to -0.04) and the 10-11th day after delivery (-1.6,-2.0 to -1.1). cinnamon can be used for reducing perineal pain and improving healing of episiotomy incision.

Samira Golezar : Study was to determine the effect on oral bromelain on perineal pain and wound healing after episiotomy in Primiparous women. Episiotomy pain significantly reduced in bromelain group compared with the placebo group($p<0.05$) and wound healing was faster in bromelain group compared with the placebo group($p<0.05$) on follow-up days.

Golozar S et.al., The purpose of this study was to determine the effect of bromelain on episiotomy wound healing in Primiparous women. The average scores of wound healing in bromelain group were significantly lower than placebo group on 3th, 7th and 14th day after delivery(P=0.001). There was a significant difference in total wound healing between the two grouos on 14th day after delivery (P=0.001).

CONCLUSION

While episiotomy may be beneficial for a subgroup of women and their infants. In choosing to perform an episiotomy. It is important to acknowledge the risks of lacerations, excessive blood loss, dyspareunia, postpartum perineal pain, and infection, and to take steps to minimize these risks

ACKNOWLEDGEMENTS

I wish to acknowledge the work of Mrs.G.Sathiyabama, M.sc(N), Asst.professor, Department of Obstetrical and Gynaecological Nursing, Saveetha College Of Nursing, Saveetha Institute of Medical And Technical and Sciences for his guidance, support, motivation and timely help during the entire course .

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