



## RESEARCH ARTICLE

### EFFECT OF DRY HEAT ON EPISIOTOMY WOUND HEALING AND LEVEL OF PAIN AMONG POST NATAL MOTHERS

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#### ARTICLE INFO

##### **Article History:**

Received 28<sup>th</sup> February, 2017  
Received in revised form  
22<sup>nd</sup> March, 2017  
Accepted 04<sup>th</sup> April, 2017  
Published online 30<sup>th</sup> May, 2017

##### **Keywords:**

Dry heat, Episiotomy,  
Wound Healing, Pain,  
Post Natal Mothers.

#### ABSTRACT

Enhancing healing of episiotomy wound is one of the major concerns after a normal delivery. The study aimed to identify the effectiveness of dry heat on reducing pain and wound healing. With use of universal pain scale and REEDA scale were measured from sample of 20 from experimental and control group on 1<sup>st</sup>, 3<sup>rd</sup> and 5<sup>th</sup> postnatal day. The experimental group had a significant improvement in wound healing and level of pain.

#### INTRODUCTION

To facilitate the birthing process and prevent perineal tear, episiotomy is routinely done, but there are many complications associated with episiotomy wound. With proper episiotomy care, infection can be prevented and healing takes place faster. (Rattan, 2014). Health care is dynamic field, ever spiraling to words greater improvement and innovative technologies and intervention. Perineal wounds are either a tear or an episiotomy (Al-Ghamari, 2016). Perineal pain is most commonly associated with vaginal delivery with episiotomy. The care of episiotomy is an important aspect of postnatal care and dry heat is one of the most popular methods of relieving episiotomy discomfort and pain (Behmanesh, 2013). Approximately 33% of women with vaginal deliveries received an episiotomy in 2000. However; the prevalence of episiotomy can vary between countries. Studies have reported that 10% of women experienced pain for more than two months following spontaneous vaginal delivery with the rate rising to 30% for those who had an assistant vaginal birth. One recent study revealed that episiotomies were performed in 97.3% of 510 Primiparous women undergoing vaginal deliveries. As advancement in science took place, dry heat applications came into existence like electric heat lamps, peri lights, infrared rays, etc. Studies say that dry heat applications are more effective than moist heat application, as the effect of the dry heat lasts for a longer time and keeps the wound dry and hastens healing.

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Most of the women are encouraged to take a regular bath and acetaminophen for pain control. Also heat can be used to decrease the woman's discomfort. Heat increases circulation to the perineal area and relaxes the tissue. Either moist or dry heat can be applied after the first 24 hours (Kaur, 2013). Approximately 70% of women who have a vaginal birth will experience some degree of damage to the perineum, due to a tear or cut (episiotomy), and will need stitches. Asian race are presumed to have smaller and tighter perineum, so the routine episiotomy may reduce the risk of perineal tearing during delivery (DUTTA, 2013). It may causes mental disorders in mother during postpartum and change her attitude and activities towards her neonate (Sagar, 2015). The application of water externally to the body for therapeutic effect is a practice called Hydrotherapy or Water therapy." One of the most popular methods of using hydrotherapy is the sitz bath Originating in Germany, a sitz bath is natural method of soaking in very warm water. Doing this repeatedly is said to stimulate the lymphatic system, increase circulation and remove toxins. (McGuinas, 2004) Sitz bath is the form of water bath, which is coming back into popularity as a low risk. Sitz bath-term comes from the German verbs "sitzen" meaning to sit. Local anesthesia in the form of sprays, creams and ointments penetrate into the sensory nerve endings and reduce the response to sensory stimuli by producing a depressant effect on the peripheral nerves. In this era of advanced modern technology all mothers are looking hopefully at nurses to help in bringing down the maternal morbidity rate and relieve them from suffering, pain and discomfort after child birth. Thus, it becomes the nurse's responsibility to identify the ways of preventing and reducing maternal morbidity as well as to

identifying the cost effective measures in relieving pain (Sheikhan, 2012). A descriptive scale known as the REEDA scale (Davidson, 1974) measuring five components associated with the healing process. The acronym REEDA is derived from five components that have been identified to be associated with the healing process. These are: redness, edema, ecchymosis, discharge and approximation of skin edges. Each category is assessed and a number assigned for a total REEDA score ranging from 0–15. The higher scores indicate increased tissue trauma. This tool appears to be the first systematic attempt to evaluate postpartum healing, which acknowledges the need for a standardized assessment tool independent of the severity of the perineal injury Brooke Anspach, 1915, an associate in Gynecology at the University of Pennsylvania in annual meeting of the AGS declared that episiotomy wound reduce the physical incapacity following labour and by facilitating delivery would reduce infant mortality and maternal morbidity, some studies have linked episiotomy with increased perineal damage, postpartum pain, blood loss and infection. Any procedure which tends to lesser irksomeness and boulder will find a ready ear in the profession. The mother is vulnerable to get infection in the postnatal period. Perineal management is increasingly becoming part of midwives role. Not only to prevent puerperal sepsis but also intervention towards the goal of relieving mother pain, discomfort, to promote healing and prevent complication of episiotomy (Das, 2012).

non probability type of convenient sampling techniques was used. The intervention dry heat was done using a hair dryer two times daily once in the morning and once in evening for 10 minutes with intervals after 12 hours of delivery for five consecutive days and assessment was done in the 1<sup>st</sup>, 3<sup>rd</sup> and 5<sup>th</sup> day. The socio demographic data like age, education, religion, occupation, type of family, socioeconomic status, area of residence was collected and the level of pain was assessed with the help of universal pain scale, absence of pain, mild pain, moderate pain and severe pain where the lowest score is 0 and highest being 10 and assessment of episiotomy wound healing by standardized REEDA scale was used where healed, mildly healed, moderately healed and not healed. The reliability of the tool confirmed at 0.87 through chronbach co-efficient estimation. The data was analyzed by using SPSS version 21. The baseline characteristics were analyzed by percentage, mean and SD. The independent ‘t’ test showed the difference in mean score among the groups.

**RESULTS**

Majority of mothers 48% belong to the age group 25-30 years, 56% had secondary level education 83.2% women were house wife, 79.5% women belongs to middle class, Day one in pre-test 88.2% had severe pain and in post test 50.5% had severe pain, post-test in 3<sup>rd</sup> day 47.5% had severe pain and on post-test in 5<sup>th</sup> day only 5% had severe pain in both groups.

**Table 1. Comparing mean level of pain among both the groups**

Intervention	DAY 1		DAY 3		DAY 5		‘t’ on 1 <sup>st</sup> day	‘p’ value	‘t’ on 3rd day	‘p’ value	‘t’ on 5th day	‘p’ value
	M	SD	M	SD	M	SD						
Dry heat	1.3	0.47	1	0	0	0	14.17	≤0.0001*	13.08	≤0.0001*	15.16	≤0.0001*
Control	2.95	0.22	2.5	0.51	2.05	0.60						

\*significant

**Table 2. Comparing mean on REEDA scale among both the groups**

Intervention	DAY 1		DAY 3		DAY 5		‘t’ on 1 <sup>st</sup> day	‘p’ value	‘t’ on 3rd day	‘p’ value	‘t’ on 5th day	‘p’ value
	M	SD	M	SD	M	SD						
Dry heat	3.1	1.44	1.05	0.75	0	0	15.8	≤0.0001*	12.6	≤0.0001*	10	≤0.0001*
Control	11.3	2.48	7.05	1.98	2.95	1.31						

\*significant

Episiotomy rates vary widely worldwide, depending on whether the procedure is used restrictively-routinely. The world wide episiotomy rate was 27%, 54%, are nulliparous and 6% are multiparous women (WHO 2003). Rates vary from 8% in the Netherland, 13% in England to 25% in USA. Among English speaking Countries, US had the highest episiotomy rate varying greatly from region. One in 3 mothers who delivered vaginally in the US from 1995 to 2003 had episiotomies. In India the birth rate is very high 56% of women had an episiotomy Compared to the 46% of white women. The difference between these % age (10%) is measure of the excess frequency of episiotomy in Indian women. According to the American collage of obstructive and gynecology approximately 1 in 3 women having a vaginally delivery also has an episiotomy (Al-Ghamhari, 2016).

**MATERIAL AND METHODS**

This study was done in two groups with pre-test post-test quasi experimental design one receiving the intervention and other taken as control group with a sample of 20 in each group and

Infection rate in pre-test 85.75% had moderate infection. In post-test 3<sup>rd</sup> and 5<sup>th</sup> day mild infection was 50.5% and 40% respectively. The mean percentage of pain score in dry heat is 1.3, and in control group it is 2.95. The mean percentage of REEDA score in dry heat is 3.1 and 11.3 in control group. This strongly supports that the effect of dry heat on pain and REEDA scale assessment is more than control group.

**DISCUSSION**

The main aim of the study was to explore the effectiveness of dry heat on episiotomy wound healing and level of pain. Most of the study samples in both the groups are above 25 years of age. This study reveals that in experimental group (dry heat) mean was 1.3 in 1<sup>st</sup> day, 3<sup>rd</sup> day it was 1 and in 5<sup>th</sup> day it was 0. The rate of wound healing mean in dry heat was on 1<sup>st</sup> day 6.95, 3<sup>rd</sup> day it was 5.6 and in 5<sup>th</sup> day it was 2.5. Whereas in control group on 1<sup>st</sup> day the mean of the pain was 2.95, 3<sup>rd</sup> day it was 2.5 and in 5<sup>th</sup> day it was 2.05. The mean of the wound healing on 1<sup>st</sup> day was 11.3, 3<sup>rd</sup> it was 7.5, 5<sup>th</sup> day was 2.95 in control group. The findings shows that the dry heat has

intensive effect on Episiotomy wound healing and reduction of pain than without any intervention. The above findings are supported by Mr. Budhi Baruah and Sudha A Raddi states that the felt pain of postnatal mother due to episiotomy wound is decreased by the application of infrared radiation (lamp). Paired “t” test showed that there was significant difference in episiotomy wound healing between infrared radiation and control group. Chi-square test revealed that there is no significant association between episiotomy wound healing and age, parity, body weight, Hb% level and episiotomy reason of postnatal mother (Baruah).

### Limitation

The study result is limited for generalization due to few samples in a restricted set up.

### Ethical approval

The study proposal was duly approved by the Hospital Ethical Research committee before commencement of the main study. The permission was accorded priorly from the medical superintendent of the hospital. The mothers were explained about the purpose of the study & mothers those were not willing to participate were excluded.

### Acknowledgement

I really appreciate the contribution of ward sisters in assisting in completion of study and the Doctor in Charge, in guiding for correct assessment.

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