



*International Journal of Current Research  
and Academic Review*

ISSN: 2347-3215 Volume 3 Number 8 (August-2015) pp. 359-366

[www.ijcrar.com](http://www.ijcrar.com)



**Effectiveness of Self Perineal Care and Aseptic Perineal care towards  
Healing of Episiotomy wounds among Postnatal Mothers**

**Savithri Raman\***

Department of Maternity and Child Health, College of Nursing, Sultan Qaboos  
University, PO 66, Muscat

*\*Corresponding author*

**KEYWORDS**

Perineal care,  
Postnatal  
mother,  
Episiotomy,  
Healing

**A B S T R A C T**

The incidence of episiotomy continues to be high in Asian countries, therefore perineal episiotomy wounds commonly occur in women during labor. The assessment of perineal wounds is an important aspect of routine care women receive during the postpartum period. The purpose of this study was to compare the effectiveness of self perineal care (Group 2) and aseptic perineal care (Group 1) in healing episiotomy wounds of postnatal mothers. A quasi experimental study was conducted in the postnatal wards of St. John's Medical college Hospital and Research center, Bangalore. Purposive sampling method was used to select the mothers to Group 1 and Group 2 with total size of 100 postnatal mothers. The data was collected using REEDA observation checklist for episiotomy wound healing. An observation checklist to assess the performance of self perineal care. Data was analyzed by descriptive and inferential statistics. Results revealed that there was significant difference in episiotomy wound score between aseptic perineal care and Self perineal care on second and third postnatal days ( $p < .05$ ). Episiotomy wound score was lower in self perineal care group compared to aseptic perineal care. This is significant at  $p < 0.05$ . However there was a significant relationship between episiotomy wound score and baby weight ( $p < .001$ ). The study reveals that the self perineal care gives better wound healing and is cost effective method of perineal care, which makes every postnatal mother to be independent of taking care by her and can be effectively practiced even at home.

## **Introduction**

Episiotomy continues to be the most common Obstetric operation in Asian countries compared to the European countries (Frankman et al; 2009; Dahlen & Homer; 2008). Only a brief and selective review available on incidence of episiotomies in Asian countries. Although the rate of episiotomy show declining trend in European countries, In many parts of the world (such as Central and South America, South Africa, and Asia), episiotomy rates remain very high (Caroli & Belizan; 2007) For example, in much of Latin America, 9 of every 10 primiparas can still expect to receive an episiotomy. A systematic review on Asian ethnicity an independent risk factor for severe perineal trauma in childbirth revealed women born in Asian countries include south East Asia, China, India or Fiji reported to be significantly at risk for severe perineal trauma. The significance of this factor was related as anatomical variations (short perineal bodies) were thought to be possible reasons for these findings (Janet et al, 2012). The WHO recommends use of episiotomy only for selected indications. The benefits of episiotomy include reduction in 3<sup>rd</sup> and 4<sup>th</sup> degree perineal tears, ease of repair and wound healing, preservation of the muscular and fascial tissue and reduction in neonatal trauma. The repair of a surgical incision is also more likely to be anatomically correct and thus less likely to result in long term complications from irregular perineal lacerations (Pitanguí, Carvolthoz, Siquiras, Castro, Araujos, 2014). The most common complication of episiotomy includes fever, infection and bleeding, dehiscence and extension. The signs of infection include fever, wound tenderness and purulent discharge. Most infections will resolve with local perineal care. Care of Episiotomy wounds becomes an important aspect of postnatal care specifically on the healing of Episiotomy

wounds (Steen, 2007). Self perineal care meets one of Orem's techniques, like supportive educative nursing action, by instructing them in performing self perineal care. With 75% of home deliveries in India (Park 2000) practicing self perineal care at home enhances self esteem, Skill, knowledge, ability and confidence among postnatal women. Systemic reviews on many practices related to episiotomy wound care remain un-researched and therefore the need to evaluate effectiveness of self perineal care in healing episiotomy wounds remains necessary (Calvert and Fleming, 2000). There is paucity about evidence based information on postpartum perineal episiotomy wound management and best practice (Chiarelli and Cockburn, 1999). Many different recommendations' include emphasis on perineal hygiene, cryotherapy, elevation of the foot of the bed in the presence of edema, pelvic floor exercises. Various antiseptic solutions employed in care of episiotomy and perineum. Application of icepacks to relieve episiotomy pain but the effects expected short lived as they cool the superficial skin by numbing and do not influence in reducing inflammation or wound healing (Swain & Dahlen, 2012). Rhode and Barger (2011) expressed the view that if the sutures are not disturbed, he strongly recommends that daily washing with soap and water is sufficient in place of any manipulation over perineal care. A randomized clinical trial of the effect of low-level laser therapy for perineal pain and healing after episiotomy concluded that low level laser therapy did no good on accelerating episiotomy wound healing (Rhode and Barger, 2011).

## **Conceptual frame work**

The conceptual framework of this study is based on Orem's self care theory in belief that people have a natural ability for self care and nursing should focus on affecting

that ability (Cedar, 2009). Orem's philosophy is that "man has the innate ability to care for himself" where self care is defined as "the activities a person initiates and performs on his own behalf in order to maintain life, health and well being". Nurses and midwives have a major role in identifying and providing necessary supportive – educative care to mother who have undergone episiotomy. In this framework postnatal mothers are the dependent self-care agents for performing self perineal care. It addresses the relationship between self care and self care agent. This has met one of Orem's techniques, like supportive educative nursing action, by instructing them in performing self perineal care. On the other hand there are nursing agencies that perform perineal care for postnatal mothers.

The purpose of this study was to compare the effectiveness of self perineal care and aseptic perineal care in healing episiotomy wounds of postnatal mothers

### **Material and Methods**

**Design:** The study was based on "Orem's Self Care theory". A quasi-experimental design was used. By using purposive sampling technique, 100 postnatal mothers were selected, 50 mothers in Group 1 (aseptic perineal care) 50 mothers in group 2 (self perineal care).

**Study setting:** The research was conducted at postnatal wards of St. John's Medical college Hospital and Research Center, Bangalore with over 2500 births per year. Episiotomy suturing was done only by the Obstetricians. Episiotomy wound were repaired in three layers using absorbable synthetic sutures.

**Participants:** The participants were selected by using the labor room register by looking at the number of deliveries on a day to day

basis. All the odd numbers among delivered mothers were categorized as control group (aseptic perineal care) and all the even numbers among delivered mothers were categorized as experimental group (Self perineal care). After explaining the purpose of the study in detail, willingness was received by signing the consent form. The study subjects who meet the inclusion criteria, who had normal vaginal delivery with mediolateral episiotomy were included into two groups by using purposive sampling. The exclusion criteria for the study were the ones who had diabetes, sexually transmitted disease, puerperal sepsis, perineal tear, instrumental delivery, median episiotomy and handicapped. The Hospital human subjects' protection approval was received from the administrator and the Hospital ethics and research committee to conduct the study.

**Instrument:** The data collection instrument used were baseline demographics, A checklist on episiotomy wound assessment scale to measure episiotomy wound healing by modified REEDA scale (Redness, Edema, Discharge from Episiotomy site, Approximation), an observation checklist to determine the ability to perform self perineal care. Each statement is assigned with appropriate score of 0, 1, 2, and 3 with total score of 18. A score of more than 6 on 1<sup>st</sup> and 2<sup>nd</sup> day is a sign of infection and score of more than 3 on 3<sup>rd</sup> to 5<sup>th</sup> day is also a sign of infection. The instruments were validated by sending it to the experts in the field of nursing and obstetrics. The changes were made according to the comments of the expert. Reliability of both the tool was done using inter rater observation. For modified REEDA scale ( $r = 0.99$ ) and for the observation checklist to determine the ability to perform self perineal care ( $r = 0.75$ ). This shows high reliability.

**Intervention:** The postnatal mothers in control group received the routine aseptic episiotomy wound dressing by the staff nurses using Betadine (Povidone iodine) antiseptic solution every evening after 6 hours of postpartum period. Whereas the postnatal mother of experimental group were instructed on self perineal care based on the checklist consisting 10 steps of instructions that includes wash hands, remove pad from front to back, wipe from symphysis pubis towards the anus, wash perineum with soap and water and patted dry after bathing, voiding and bowel movements, fix the clean pad with care avoid touching the central area and wash hands.

A score of 1 on correct step and 0 for an incorrect step was awarded while performing the procedure by the postnatal mother. An observation Checklist on episiotomy wound assessment (REEDA) was utilized to assess the effectiveness of episiotomy wound healing in both the groups. This includes redness, edema, and discharge from episiotomy site, approximation and pain.

## **Findings**

### **The data obtained were analyzed by descriptive and inferential statistics**

The two groups with 50 mothers each were homogenous in terms of age, education, gestational age, parity, obstetrical problems, duration of rupture of membrane, baby weight, length of episiotomy wound and general postnatal health status. The primipara mothers were found more in both the groups with 33 mothers in Group 1 and 30 mothers in Group 2.

The reason for admission of many primipara mothers is their reference to institutional

deliveries. So also an equal proportion of mothers from both the groups did not have obstetrical problems. The 5 women who had obstetrical problem were pregnancy induced hypertension.

### **Comparison of Effectiveness of episiotomy wound healing of Group 1 vs. Group 2**

The data from above table displays that there is a significant difference in episiotomy wound score between Group 1 and Group 2 on second and third postnatal days ( $p < 0.05$ ). Although the episiotomy wound score of mothers in Group 1 was high on second 2.2 (S.D 1.3) and third 2.0 (S.D 1.1) postnatal day, it decreased on 4<sup>th</sup> day to 1.4 (S.D 1.1). But in group 2 the wound score is 1.7 (S.D 0.8) on 2<sup>nd</sup> day, 1.4 (S.D 0.8) on 3<sup>rd</sup> day, and 1.2 (S.D 1.3) on the 4<sup>th</sup> day.

### **Comparison of effectiveness of self perineal care over aseptic perineal care**

Findings on comparison of Group 1 and 2 suggested that when percentages were computed on all 4 postnatal days, in group 1, one mother on 2<sup>nd</sup> day, sixteen mothers on 3<sup>rd</sup> day and eight mothers on 4<sup>th</sup> day had infection.

When mean score was computed on all 4 days using the range. There were no mothers with infection. In group 2 computations showed no mothers with infection on 1<sup>st</sup> and 2<sup>nd</sup> post natal days but on third day 7 mothers and 4<sup>th</sup> day 4 mothers had infection. When mean score was computed on all 4 days as in Group 1 there were no mothers with infection. Although both the group do not show any sign of infection. The findings show Group 1 had increase of wound score on 2<sup>nd</sup> and 3<sup>rd</sup> postnatal day ( $p < .05$ ).

### **Effectiveness of episiotomy wound healing in postnatal mothers of Group 1 and Group 2 with selected variables**

The above table depicts that there is positive relationship between two variables, wound score and baby weight as well as wound score and episiotomy length. The higher the baby weight there is increase in episiotomy wound score it is significant at  $p < 0.01$  level. Similarly the longer the episiotomy length in both the Groups there is increased wound score seen on 3<sup>rd</sup> and 4<sup>th</sup> postnatal day. It is significant at  $p < 0.001$  level.

### **Description of self perineal care activities performed by group 2**

The findings on intervention for self perineal care group based on instructions revealed that all mothers had practiced the self perineal care instructions effectively at ( $p=0.22$ ). This could be possibly due to simple steps which are easy to follow and remember.

**Episiotomy wound Healing:** Overall the rate of episiotomy wound healing was better in self perineal care group compared with aseptic perineal care ( $p < .05$ ). In both the groups the rate of wound healing decreased from 1<sup>st</sup> postnatal day but increased from 3<sup>rd</sup> postnatal day onwards ( $p < .001$ ) with no sign of infection. This findings support the opinion of Nath (2000) as it is the normal inflammatory response to tissue injury. Mothers in Group 2 had closely similar episiotomy wound score on all four postnatal days, while the wound score in group 2 had slightly increased on 2<sup>nd</sup> and 3<sup>rd</sup> postnatal days but had no infection ( $p < .05$ ).

**Characteristics of participants:** The weight of the new born varied from 1490gms to 4090gms in both the groups with mean of 2741.6 in Group 1 and 2833

Gms in group 2. The baby weight in the present study matches with WHO standard in India that is at or above 2800gms. The episiotomy lengths of all postnatal mothers were in the range of 2.6 to 7.0cm with a mean of 4.2 in group 1 and 4.3 in group 2. So an average the length of episiotomy ranged to second degree tear (Guinness et. Al; 1991) investigated the effect of episiotomy on the incidence and severity of tear in spontaneous vaginal deliveries. In the no episiotomy group 60% ( $n=124$ ) delivered intact and 40% ( $n=81$ ) had tear. Only women with episiotomies sustained third or fourth degree tear ( $n=28$ ). Findings reveal fewer third degree lacerations in the no-episiotomy groups compared with the episiotomy groups.

The longer episiotomy length is related to greater tissue damage in both the groups resulting delay in episiotomy wound healing. The findings suggest delivery of large baby or extensive episiotomy enlarges the vaginal outlet as there is increased tension on perineum making gradual stretching of the perineum and increased amount of tissue loss (Vuolo, 2006). The trauma leads to fewer healing process and episiotomy wound heals with secondary intention.

The method of wound closure generally goes in 3 steps: Vaginal skin with continuous suture, the underlying muscles with interrupted suture, the perineal skin with either continuous or interrupted suture. Therefore in cases of increased baby weight or extensive episiotomy the incidence of length of time taken for healings extends as the layers of tissues involved in episiotomy is high. However the study shows that when the weight of the baby is less or shorter episiotomy length episiotomy wound heal earlier with primary intention.

**Table.1** Demographic characteristic of participants

Characteristics	Control group N=50			Experimental Group N=50			Statistical test		
	Range	Mean	S.D	Range	Mean	S.D	t	df	p
Age	18-35	24.2	4.3	17-38	23.4	3.8	0.96	98	0.34
Years of education	0-17	10.4	4.0	0-19	9.6	4.0	1.09	98	0.29
Gestation in weeks	32-41.5	38.4	2.0	30-43.3	38.9	2.0	1.01	98	0.31
Weight of the baby (gms)	1540-3640	2741	482.8	1490-4090	2833.0	508.1	0.92	98	0.36
Episiotomy length (cm)	2.6-6.0	4.2	0.8	3.0-7.0	4.3	0.8	0.64	98	0.52
Duration of rupture of membranes(hrs)	0.25 - 12	3.0	3.0	0.5-24	4.6	6.0	Z =0.83		P=0.41
Parity									
• Primiparous	33			30			X2=0.39		P= 0.53
• Multiparous	17			20					
Obstetrical Problems									
• No	45			45			0.00		P= 1.00
• Yes	5			5					

**Table.2** (REEDA Scale) Range, Mean, Standard deviation and 't' value from 1st postnatal to 4th postnatal days in mothers of Group 1 and Group 2

Number of postnatal days	Group 1 N=50			Group 2 N = 50			't' value df(98)	p value	'F' Value Df(1,98)
	Range	Mean	S.D	Range	Mean	S.D			
Day 1	1-4	1.6	0.9	1-4	1.5	0.7	0.62		
Day 2	1-7	2.2	1.3	1-4	1.7	0.8	2.31*	< .05	5.50
Day 3	1-6	2.0	1.1	0-4	1.4	0.8	2.4*		
Day 4	0-5	1.4	1.1	0-8	1.2	1.3	0.8		

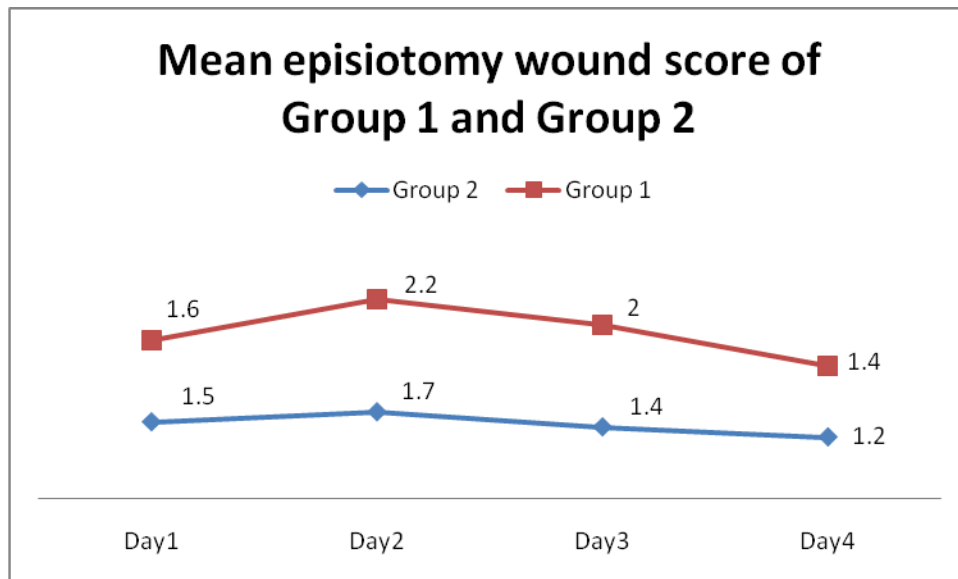
**Table.3** Comparison of episiotomy wound score from 1st postnatal day to 4th day of mothers in group 1 & 2 with selected variables like baby weight and episiotomy length

Correlation Matrix: Pearson's r values  
N=100

Variables	Day 1	Day 2	Day 3	Day 4
Baby Weight	.1740	.1771	.1858	.2996*
Episiotomy length	.1171	.2382	.3333**	.4552**

\*P <0.01 2 tailed significance }  
\*\*p <0.001

**Figure.1** Comparison of mean episiotomy wound score of postnatal mothers in Group 1 and Group 2



The increase of slight wound score in group 1 compared to group 2 on second and third day could be possibly due to lack of awareness on perineal hygiene, Reliance on staff's who attend to their regular perineal care, limited activity, as they are always restricted to bed and knowledge deficit on perineal toileting.

The need for scrupulous cleanliness is important because of heavy bacterial contamination due to proximity of rectum (Gould, 2007).

### **Recommendations for nursing practice**

Episiotomy has generated much debate and many studies have been designed to evaluate whether it improves maternal outcomes. Interventions on episiotomy wound management are very few in proving the effectiveness on wound healing (Christine et al, 2012). Although it is not always possible to wait for the results, strategies can be put in place to optimize healing. Considering the view of Orem, self management is critical for post partum women's positive quality of

life. The study has partly attempted to promote and prevent further perineal discomforts by self management. Therefore nurse or midwife during routine postpartum needs to identify the extent of injury, pain relief and persistent self perineal care management and be able to assess progress of wound healing.

### **Limitation**

Self perineal care was instructed to mothers on the first day, but not directly supervised on next following days. Some of the data's which is related to wound healing such as hemoglobin, nutritional status, socioeconomic condition, sitz bath and also antibiotic administered during labor was not included and not collected during the study. The deliveries all were conducted by obstetricians.

### **Conclusion**

The findings indicate that self perineal care offers better episiotomy wound healing than aseptic perineal care. Although antibiotics

are thought to be important in preventing infection, aseptic perineal care is too impractical and difficult to sustain in the perineum. Women should be encouraged by the nurse and midwives to undertake stringent perineal hygiene to help reduce the risk of contamination and enhance wound healing.

## References

- American College of Nurse-Midwives. Unnecessary Episiotomies: The Nurse-Midwifery Solution. 2004.
- Calvert S and Fleming V (2000) Minimizing postpartum pain: a review of research pertaining to perineal care in childbearing women. *Journal of Advanced Nursing*, 32: 407–415.
- Caroli G, Belizan J, (2000) episiotomy for vaginal birth. *Cochrane Database Systematic Review* CD 000081
- Cedar, IA (2009) Dorthea Orem's Self Care Theory as related to nursing practice in hemodialysis. *Journal of the American Nephrology Nurses' Association*, 36; 419-421.
- Chiarelli P & Cockburn J (1999) Postpartum perineal management and best practice. *Australian College of Midwives Incorporated Journal*, 12, 14-18. PMD: 10222939
- Dahlen, H & Homer, C (2008) Perineal trauma and postpartum perineal morbidity in Asian and non-Asian primiparous women giving birth in Australia. *J ObstetGynecol Neonatal Nurs*, 37, 455-63.
- Frankman E A, Wang L, Bunker C H & Lowder J L (2009) Episiotomy in the United States: has anything changed? *American journal of obstetrics and gynecology*, 200, 573.e1-573.e1-7.
- Gould D (2007) Perineal tears and episiotomy. *Nursing Standard*. 21,52, 41-46.
- Lowdermilk ,DL, Perry S E,& Cashion MC (2012) *Maternity Nursing*. In; chapter 14, *Nursing Care Of Family during the Fourth Trimester*. ISBN: 9780323066617
- Noronha J A (2004) Effectiveness of teaching on episiotomy & perineal care among primipara women of selected hospitals in Karnataka. *Nurs J India*, 95, 105-6. PMID: 15553882;
- Oladokun A, Babarinsa I, Adewole I O A, & Ojengbede, A (2000) 'A Sitz bath does not improve wound healing after elective episiotomy', *Journal Of Obstetrics & Gynaecology*, 20, 3, pp. 277-279, Academic Search Complete, EBSCOhost, viewed 23 September 2012.
- Park, K., (2000) *Text book of preventive and social medicine*. India M/s Banarisadas Bhanot publishers, 320.
- Petersen, M R (2011) Review of interventions to relieve postpartum pain from perineal trauma. *MCN Am J Matern Child Nurs*, 36, 241-5. [www.ncbi.nlm.nih.gov/pubmed/21709521](http://www.ncbi.nlm.nih.gov/pubmed/21709521).
- Pitangui, A.C. R; Carvolthoz, N.H.M.G; Siquiras, C.V; Castro, J.F.L; Araujos, R. C (2014) Occurrence and factors associated to the practice of episiotomy, *J NURS UFPE online*, Recife, 8(2):257-63
- Rhode M A & Barger M k( 2011) Perineal Care: Then and Now. *Journal of Nurse-Midwifery*, 35, 220-229.
- Santos J D, Oliveira S M, Nobre MR, Aranha A C & Alvarenga M B (2012) A randomised clinical trial of the effect of low-level laser therapy for perineal pain and healing after episiotomy: A pilot study. *Midwifery*, 5, 5.
- Swain J & Dahlen, H G (2013) Putting evidence into practice: A quality activity of proactive pain relief for postpartum perineal pain. *Women Birth*, 8, 65-70. doi: 10.1016/j.wombi.2012.03.004.
- Vuolo, J.C (2006) Assessment and management of surgical wounds in clinical practice. *Nursing Standard*. 20, 52, 46-56. PMID:16989341
- Wheeler J, Davis D, Fry M, Brodie P & Homer, C S (2012) Is Asian ethnicity an independent risk factor for severe perineal trauma in childbirth? A systematic review of the literature. *Women Birth*, 25, 107-13.