A COMPARATIVE STUDY TO ASSESS THE EFFECTIVENESS OF LAVENDOR OIL SITZBATH VERSUS   BETADINE SITZ BATH ON EPISIOTOMY WOUND HEALING AMONG POSTNATAL MOTHERS IN SELECTED HOSPITAL OF AGRA

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ABSTRACT

Episiotomy is a common surgical procedure performed during second stage of labour to enlarge the vaginal introitus and facilitate delivery. Although episiotomy aids in safe delivery of the child, the discomfort of episiotomy is an added concern in the already over stressed situation of puerperium. Postpartum period is a period when the mother experiences intense physical and emotional stress due to exhaustion anxiety and excitement. Episiotomy pain often interferes with even basic daily activities of the postnatal mother. Considering the high rates of episiotomy, following vaginal deliveries, we need to offer patients treatment alternatives for perineal pain, based on scientific evidence. To compare the pre and posttest level of wound healing scores among post-natal mothers in experimental group I (Betadine sitzbath). To compare the pre and posttest level of wound healing scores among post-natal mothers in experimental group II (Lavendor oil sitzbath). To compare the effectiveness of posttest level of wound healing scores among postnatal mothers between experimental group I&II. To find out the association between the posttest level of episiotomy wound healing scores with their selected demographic variables in experimental group I. (betadine sitzbath) To find out the association between the posttest level of episiotomy wound healing scores with their selected demographic variables in experimental group II. (Lavender oil sitzbath). A Quasi-Experimental (two group pre-test, post-test) design was used for this study. The sample size consisted of 60 primi postnatal mothers who had normal vaginal delivery with episiotomy, it is clearly proved by this study that Lavendor oil Sitzbath is effective more than betadine sitz bath on episiotomy wound healing.
Keywords: Comparative study, Effectiveness, Episiotomy, Wound healing, Lavender oil, Postnatal mothers, Sitz bath, Betadine solution.

INTRODUCTION:

Episiotomy is a common surgical planned incision on the perineum and the posterior vaginal wall during the second stage of labour to enlarge the vaginal introitus to facilitate easy and safe delivery of the fetus, to minimize the overstretching and rupture of perineal muscles and fascia and to reduce the stress on the fetal head. Episiotomy is also helpful in reducing duration of second stage of labor.[1]
 Post-partum period lasts from delivery to six weeks afterward, it is also known as fourth trimester. The post-natal mothers experience various physiological and psychological changes when she makes the transition from the pregnant woman to a mother. The needs of the client and the family during the post-partum period can be met through coordinated multi-disciplinary care of the mother, child

and the family.[2]

Every woman who became pregnant have to undergo the process of delivery. Sometimes it may be normal or forceps, vacuum and caesarean section. In normal process of delivery, the baby is delivered per vagina, an episiotomy is performed by health care provider or midwife. .[3]

Episiotomy infection can be observed by persistent redness and swelling, separation of wound edges, purulent discharge and persistent pain. The immediate complications related to episiotomy are extension of the incision, vulval hematoma, infection, wound dehiscence, injury to the anal muscles and necrotizing fasciitis. The remote complications related to episiotomy are dyspareunia, chance of perineal lacerations and scar endometriosis. .[4]

Episiotomy wound can cause a considerable discomfort and pain in the perineum is extremely tender area and the muscles of perineum are involved in many activities. e.g. sitting, walking, controlling urination and defecation. This discomfort interferes with the rest and sleep. Mother feels discomfort even when she holds her baby and it affects breast feeding and newborn care. A cortisone-based cream or a sitz bath helps to decrease inflammation to relieve tension in that area. .[5]

A sitz bath or hip bath is a bath in which a person sits in water up to the hips. It is used to relieve discomfort and pain. The term sitz bath is derived from the German word Sitz bath, meaning a bath (Bad) in which one sits (sitzen). Sitz baths may either be warm or cool. Warm baths are recommended for reducing the itching, pain and discomfort. An ordinary bathtub can be filled with 3 to 4inches (7.6 to 10.2cm) of hot water about 110°F (43°C), and sat in for 15–20 minutes or until the water cools down. Sitz bath is one of the easiest and more effective way to ease pain and lessen discomfort associated with a painful condition in the pelvic area.[6]

Objectives:

1. To compare the pre and posttest level of wound healing scores among post-natal mothers in experimental group I (Betadine sitzbath)

2. To compare the pre and posttest level of wound healing scores among post-natal mothers in experimental group II (Lavendor oil sitzbath).

3. To compare the effectiveness of posttest level of wound healing scores among postnatal mothers between experimental group I&II.

4. To find out the association between the posttest level of episiotomy wound healing scores with their selected demographic variables in experimental group I. (betadine sitzbath)

5. To find out the association between the posttest level of episiotomy wound healing scores with their selected demographic variables in experimental group II. (Lavendor oil sitzbath).

Methodology

Study design

In this study, quasi experimental (two group pre-test, post-test) research design was adopted.

Study population

The population selected for this study was postnatal mothers admitted in postnatal ward.

Study area

Study was conducted in Pushpanjali hospital and research centre Delhi gate Agra U.P.

Sample size

In this study the total sample size is 60 primi postnatal mothers who had undergone episiotomy,

fulfilling the selection criteria from selected hospital at Agra. The sample were divided into two groups. Among them 30 samples were assigned to experimental Group I, remaining 30 samples were assigned to experimental Group II.

Sampling method

In this study Purposive sampling technique is used. Purposive sampling technique is a non-probability sampling technique. In which samples are selected because they have characteristics that you need in study.

Inclusion criteria

• Primi postnatal mothers

• Postnatal mothers with episiotomy

• Postnatal mothers who are willing to participate

• Postnatal mothers who are present during the time of study.

Exclusion criteria

• Postnatal mothers who are seriously ill

• Postnatal mothers with both episiotomy and perineal tear

• Postnatal mothers with puerperal infection

• Postnatal mothers who have obstetric complications like GDM and PIH etc.

Data collection tool

The tool was designed in two sections. Section A consists of structured interview schedule and section B consists of REEDA scale assessment of episiotomy wound healing. The tool was used to collect the data from postnatal mothers.

Development of tool

The study tool considered of two section-

SECTION --A

To assess the demographic profile, the structured interview schedule was used. It consists of demographic data of episiotomy wound healing such as age, educational status, occupation, family income, religion, gravida, mode of delivery, type of family. No score was given to this demographic profile. The data was used for descriptive statistics.

SECTION--B

REEDA scale assessment of episiotomy wound healing.

REEDA acronym is used as a nursing tool when evaluating an episiotomy wound which is invented by Nancy Davidson – (1974). REEDA stands for redness, edema, ecchymosis (purplish patch of blood flow), discharge, and approximation (closeness of the skin edges). This tool is used to assess healing based on a 3-point scale; a score of 3 signifies an assessment of very poor wound healing

Data collection

A formal written permission was obtained from the Pushpanjali hospital and research centre Agra. The data was collected in the month of August and September 15/08/2012 to 20/09/2022. 60 subjects were collected by using purposive sampling technique. The researcher introduced himself to the respondents. And explained the purpose of study to the post-natal mothers. after this investigator collected the data from post-natal mothers by using structured interview schedule and REEDA scale

assessment of episiotomy wound healing.

The main study was conducted with 60 samples, and the samples were divided in two groups (I&II). Among that 30 samples were experimental group I and other 30 samples were experimental group II, and who met the inclusion criteria were selected by purposive sampling technique. The experimental Group I from the postnatal ward I, and the experimental group II from postnatal ward II.

The first two weeks the experimental group I was selected from the postnatal ward I and demographic variables were collected on the basis of inclusion criteria and pre-test was conducted on the first day morning, the wound healing was assessed by REEDA scale. Then the intervention of betadine sitz bath was given for 10-15 minutes, twice a day daily (Morning & Evening) for three days to experimental group I. Then the post test was done with the same scale on 3rd day evening in postnatal ward I.

Next two weeks of period, the experimental group II was selected from the postnatal ward II and demographic variables were collected on the basis of inclusion criteria and pre-test was done on the first day morning, the wound healing was assessed by REEDA scale. Then the intervention of lavendor oil sitzbath was given for 10-15 minutes, twice a day daily (morning& evening) for three days to experimental group II. Then the post-test level of wound healing was assessed with the same scale. The data were analysed and tabulated using descriptive and inferential statistics.

0ral permission was obtained from each participant prior to the study. The purpose of the study was explained to the subjects prior to the study. They were assured that their responses would be kept confidential and used only for the research purpose. The collected data was then organized for analysis.

Statistical analysis

The data analysis was done in accordance with the objectives of the study. the collected data was tabulated and analyzed by calculating frequency, percentage, Mean, standard deviation, paired T test, independent T test, and Chi square test. levels of significance chosen were $P < 0.05$. bar graphs, column diagrams were used to depict the findings. The data collected will be analyzed by using descriptive and inferential statistics.

<div align="center">TABLE-1</div>

SI. No	Demographic Variables	Group –I N=30		Group –II N=30		Total N=60	
		F	%	F	%	F	%
1	**Age in years** a) 15-25 b) 26-35 c) 36 & Above	20 10 0	67 33 0	20 10 0	67 33 0	40 20 0	67 33 0

2	**Educational Status**						
	a) No Formal	1	3	4	13	5	8
	b) Primary	8	27	6	20	14	23
	c) High School	2	7	8	27	10	17
	d) High Secondary	10	33	6	20	16	27
	e) Graduate and Post Graduate	9	30	6	20	15	25
3	**Occupation**						
	a) Housewife	21	70	17	56	38	64
	b) Farmer	0	0	0	0	0	0
	c) Office Worker	1	3	8	26	9	15
	d) Others	8	26	5	16	13	21
4	**Income per Month**						
	a) Rs. 3000&below	22	73	21	70	43	72
	b) Rs. 3001-5000	1	3	5	17	6	10
	c) Rs. 5001 & above	7	24	4	13	11	18
5	**Religion**						
	Hindu	20	67	22	74	42	70
	Christian	8	26	4	13	12	20
	Muslim	2	6	4	13	6	10
6	**Type of family** Nuclear Joint family	14 16	46 53	16 14	53 46	30 30	50 50

Table -1 Frequency percentage distribution of demographic variables

.   **TABLE-2.1**

Level of infection	PRE-TEST		POST TEST	
	NO	**%**	**NO**	**%**
No infection (0)	2	7	21	70

Mild infection (1-5)	27	90	9	30
Moderate infection (6-10)	1	3	-	-
Severe infection (11-15)	-	-	-	-

Table 2.1: Frequency and percentage distribution of pre-test and post-test level of wound healing in experimental group I

TABLE:2.2

N=30

SI. No	Group	N	Wound healing	Mean	SD	Mean difference	Paired 't'	Table Value
1	I	30	Pre test	9.3	1.104	8.74	38.870	2.060
			Post test	0.56	0.670			

df =29

P< 0.05***

Table: 2.2   Comparison of Mean, Standard deviation, Mean difference and Paired "t" value between pretest and posttest score on wound healing in Group- I.

TABLE 3.1

Level of infection	PRE-TEST		POST TEST	
	NO	%	NO	%
No infection (0)	3	10	25	83.3
Mild infection (1-5)	24	80	5	16.7
Moderate infection (6-10)	3	10	-	-
Severe infection (11-15)	-	-	-	-

TABLE 3.2

SI. NO	Group	N	Wound healing Score	Mean	SD	Mean difference	Paired t value	Table Value
					0.95			

SI. No	Group	N		Mean		Mean difference		Table Value
1.	II	30	Pre test	9.2	9	8.97	53.926	2.060
			Post test	0.23	0.424			

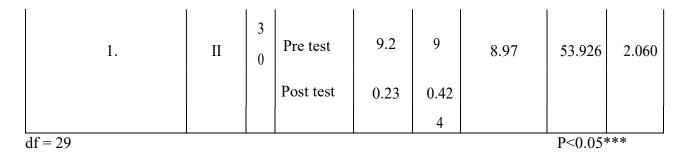df = 29   P<0.05***

Table 3.2: Comparison of Mean, Standard deviation, mean difference and paired "t" value between pretest and posttest score on wound healing in group- II.

TABLE 4
n=60

SI. No	Group	N	Wound healing score	Mean	SD	Mean differenc e	independent "t" value	Table Value
1.	I	30	After betadine sitzbath	0.56	0.670	0.33	2.537	2.001
2.	II	30	After Lavendor oil sitzbath	0.23	0.424			

df = 58   P<0.05***

Table -4   Comparison of Mean, standard deviation, Mean difference and Independent "t" value between betadine sitzbath and Lavendor oil sitzbath on wound healing score in group I&II.

TABLE; 5.1

S. No	Demographic Variables	Episiotomy Wound Healing						X2	Table Value	Infer ence
		No infection		Mild Infection		Moderate Infection				
		N	F	N	F	N	F			

1	Age in years									
	15-25	3	10	7	23	2	7	4.17	12.59 (df=6)	NS
	26-35	8	27	7	23	1	3			
	36 & Above	-	-	2	7	-	-			
2	Educational Status									
	No Formal Primary	2	7	-	-	-	-	10.02	2.178 (df=12)	S
	High School	-	-	2	7	1	3			
	High Secondary	5	17	12	40	2	7			
	Graduate &	1	3	1	3	-	-			
	Post Graduate	3	10	1	3	-	-			
3	Occupation									
	Housewife	7	23	12	40	3	10	7.8	2.262 (df=9)	S
	Farmer	-	-	3	10	-	-			
	Office worker	2	7	-	-	-	-			
	Others	2	7	1	3	-	-			

Table; 5.1   Association between posttest score level of wound healing score among mothers in experimental group I with their selected demographic variables. (Betadine sitzbath)

TABLE 5.2

SI. No	Demographic Variables	Episiotomy Wound Healing						X2	Table Value	Inference
		No infection		Mild Infection		Moderate				
		No	F	No	F	No.	F			
1	Age in years									
	15-25	13	43	4	14	-	-	1.424	12.59 (df=6)	NS
	26-35	10	33	1	3	-	-			
	36& Above	2	7	-	-	-	-			
2	Educational									

	Status								
	No Formal	2	7	-	-	-	-		
	Primary High	3	10	-	-	-	-	5.97	2.178	S
	School	13	43	2	7	-	-		(df=12)	
	High Secondary	4	13	3	10	-	-			
	Graduate &									
	Post Graduate	3	10	-	-	-	-			
3	**Occupation**									
	Housewife	9	30	3	10	-	-			
	Farmer	10	33	-	-	-	-	3.151	2.262	S
	Office Worker	2	7	-	-	-	-		(df=9)	
	Others	4	13	2	7	-	-			

Table 5.2 Association between posttest e level of wound healing score among mothers in experimental group II with their selected demographic variables. (Lavendor oil sitzbath)

Ethical clearance and informed consent
Institution's ethical review committee's permission was taken. Written permission was obtained from the ethical committee of Pushpanjali hospital and research centre A gra.   after explaining the type and purpose of study. Oral consent was obtained from each selected sample by explaining the purpose of the study before collecting the data and assessing the wound healing. The responses of participants were kept confidential.

RESULTS

Findings related to socio-demographic variables

It was founded that

- Regarding age in experimental group I, majority 20(67%) of primi mothers belonged to the age group of 15-25 years and 10(33%) belonged to age group of 26-35 Years. In experimental group II majority of mothers 20(67%) belonged to the age group of 15-25 years and 10(33%) belonged to the age group of 26-35 years.
- With regard to education in experimental group I, majority of the mothers 10(33%) had higher secondary school education. In experimental group II majority of the mothers 8(27%) had high school education.
- Regarding occupation in experimental group I, majority of the mothers 21(70%) were house wives and least 1(3%) was office worker.
- In experimental group II majority of the mothers 17(56%) were house wives and least 5(16%) were coolie workers.
- Regarding religion in experimental group I, majority of primi mothers 20(66%) were Hindus,

and the least 2 (6%) were Muslims and 8(26%) were Christians. In experimental group II, majority of primi mothers 22(73%) were Hindus, and 4(13%) were Muslims and 4(13%) were Christians.

- In regard to income, in experimental group I majority of mothers 22(73%) had income Rs 3000&below, and least 1(3%) had income Rs 3001-5000. In experimental group II majority of mothers 21(70%) had income Rs 3000 & below.

- Regarding type of family, in experimental group I majority of the primi mothers 14(47%) were from nuclear family and 16(53%) were from joint family. In experimental group II majority of the primi mothers 16(53%) were from nuclear family and 14(47%) were from joint family.

The first objective of the study was to compare the pre and posttest level of wound healing among mothers in experimental group I (Betadine sitzbath).

- The mean wound healing score in experimental group I before betadine sitzbath is 9.3 (SD±1.104) and after Betadine sitzhbath is 0.56 (SD±0.670) respectively. The paired t-test value is 38.870, which is significant at P<0.05 level.

- The study findings were performed to investigate the effectiveness of Povidine -Iodine sitzbath for episiotomy wound healing in primi postnatal mothers. The findings shows that the mean post test score is 0.27 (SD±0.514), the mother had adequate wound healing and the pretest score is 0.83 (SD±0.728) shows poor wound healing. Analysis reveals that there was significant difference between the mean wound healing score of the post-natal mothers in the pretest &post test scores. Therefore povidine – Iodine (10%) can be used as wound healing agent. Hence the research hypothesis H1; There is a significant difference between the mean pretest & posttest scores of betadine sitzbath on episiotomy wound healing among postnatal mothers in experimental group I was accepted.

The Second objective of the study was to compare the pre and posttest level of wound healing among mothers in experimental group II (Lavendor oil sitzbath)

- The mean wound healing score in experimental group II before Lavendor oil sitzbath is 9.2 (SD±0.959) and after Lavendor oil sitzhbath is 0.23 (SD±0.424) respectively. The paired t-test value is 53.926, which is significant at P<0.05 level.

- The study findings were performed to investigate the effectiveness of lavendor oil sitzbath for episiotomy wound healing in primi postnatal mothers. The findings show that in paired "t" test the calculated value is 2.82 is more than the table value is 1. 701.. Analysis revealed that there was significant difference between mean wound healing score of the post-natal mothers in the pretest &posttest scores. Therefore, lavendor oil sitzbath can be used as wound healing agent. Hence the research hypothesis H2; There is a significant difference between the mean pretest & posttest scores of lavendor oil sitzbath on episiotomy wound healing among postnatal mothers in experimental group II was accepted.

The third objective of the study was to compare the effectiveness of posttest score of wound healing among mothers between experimental group I & II.

*   The mean posttest wound healing score in group I is about 0.56 (SD±0.670) and group II is about 0.23 (SD±0.424) respectively. The independent t-test value 2.537 (p<0.05). The calculated value is more than the table value.

*   The study findings were performed to investigate the effectiveness of Betadine sitzbath & Lavendor oil sitzbath in wound healing in postnatal mothers. After intervention, 10% of them from experimental group I developed mild infection and none of participants from experimental group II had infection in observation. The result shows that there is a significant wound healing after Lavendor oil sitzbath in experimental group II than after betadine sitzbath in experimental group I that the mean post test score is7.10 (SD±1.768). The calculated Independent 't' value (2.647) was greater than the expected value of 't' (2.0). Hence the hypothesis H3: There is a significant difference between the mean post test score of betadine sitzbath and mean post test score of lavendor oil sitzbath on episiotomy wound healing among postnatal mothers in experimental group I & II was accepted.

*   Therefore, it is clearly proved by this study that Lavendor oil Sitzbath is effective more than betadine sitz bath on episiotomy wound healing.

The fourth objective of the study was to find out the association between the post test score of Betadine Sitzbath on episiotomy wound healing with their selected demographic variables.

*   Chi-square values were calculated and the results shows that there was no significant association found between the posttest level of wound healing among primi postnatal mothers with their selected demographic variables in experimental group – 1

*   The study findings in which age of mother, education, occupation, family income, has no significant association with demographic variables and wound healing in experimental group. Hence the hypothesis.

*   H4: There will be a significant association between the mean post score on wound healing among mothers in experimental group 1 with their selected demographic variable was rejected.

*   The fifth objective of the study was to find out the association between the post test scores of lavendor oil Sitzbath on episiotomy wound healing with their selected demographic variables.
*   Chi-square values were calculated and the results showed that there was no significant association found between the posttest level of wound healing among primi postnatal mothers with their selected demographic variables in experimental group – II
*   The study findings in which age of mother, education, occupation, family income, has no significant association with   their selected demographic   variables and wound healing in experimental group.

- Hence the hypothesis H5: there is a significant association between posttest score of wound healing among primi postnatal mothers in experimental group 1 with their selected demographic variables were rejected.
- From the above discussion it is concluded that Lavendor oil Sitzbath has better effect on episiotomy wound healing than Betadine sitzbath.

DISCUSSION

- In this chapter, an attempt has been made to relate the findings of the present study to the studies done earlier. The finding of the present study has been discussed in accordance with the objectives of this study.
- Among 60 postnatal mothers with episiotomy wound incision, most of the mothers 20 (67%) under the age group 15-25 years in group I and 20(67%) were under the age group of 15-25 years in group II.
- With regard to educational status, 10 (33%) of the postnatal mothers having higher secondary education in group I and 8(27%) were high school education in group II.
- Majority of the postnatal mothers were housewives 21(70%) in group I and 17 (56%) in group II.
- In group I, the 22 (73%) the postnatal mothers were having the family income of Rs.3000 and below and group II, the 21 (70%) were having the family income of Rs. 3000 and below.
- Regarding gravida 100% of the postnatal mothers were primi gravid woman in group I and group II.
- 100% (60) of postnatal mother had normal vaginal delivery.
- 100% (60) of postnatal mothers used absorbable suture materials.
- Regarding Religion majority 20 (67%) postnatal mothers belongs to Hindu religion in group I and 22(73%) were in group II.
- Regarding type of family the majority 16(53%) of the postnatal mothers belongs to joint family in group I and the majority 16(53%) of the postnatal mothers were from nuclear family in group II.
- In experimental group I the post-test level of wound healing mean score, 0.56(SD±0.670) is lower than the pre-test mean scoring 9.3(SD±1.104). The paired 't' value for experimental group I was 38.870 (table value= 2.060) is significant at P< 0.05 level. In experimental group II, the post-test mean score 0.23(SD±0.424) which is lower than the pre-test mean score 9.2(SD±0.959). The paired 't' value for experimental group II was 53.926 (table value= 2.060) which is significant at P< 0.05 level.
- Independent "t" value was 2.537 (table value=2.001) which is significant at P<0.05 level. It indicates that there is a significant difference between the post-test level of wound healing between experimental group I& II.
- No significant association was found between post-test level of wound healing in relation to age, income, gravida, mode of delivery, religion, type of family (P<0.05) in experimental group I & II.
- The study revealed that Lavendor oil sitzbath was highly effective in improvement of

episiotomy wound healing among primi post-natal mothers.

Conclusion:

• The present study was done to assess the effectiveness of Betadine sitz bath and Lavendor oil sitzbath among primi postnatal mothers with episiotomy wound healing during postnatal period in Pushpanjali hospital and research center Agra. Based on statistical findings, the mean posttest score of experimental group II (0.23 (SD±0.424)) was significantly lower than the mean posttest score of experimental score of group I (0.56 (SD±0.670)). Independent 't' value was 2.537 (table value= 2.001) which is significant at P< 0.05. Therefore, the investigator felt that there is a significant difference on episiotomy wound healing between Lavendor oil sitzbath and Betadine sitzbath.

• Statistically proved that lavendor oil sitzbath is more effective in episiotomy wound healing than betadine sitzbath among postnatal mothers

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