

Effectiveness of Aloe Vera Gel Vs Lavender Oil on Episiotomy Wound among Postnatal Mothers in a Selected Hospital, Mangalore

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Abstract

Introduction: The mother undergoing episiotomy has a greater blood loss in conjunction with delivery and there is a risk of improper wound healing and increased pain during early puerperium. The objective of the study was to determine and compare the effect of aloe vera gel and lavender oil on healing of episiotomy wound and pain among postnatal mothers.

Methods: An evaluative approach with pre- test post- test design (quasi experimental) was used for this study. Forty mothers who had an episiotomy wound were selected by non-probability purposive sampling technique (twenty mothers in the aloe vera gel group and twenty mothers in lavender oil group). Each group received treatment for two days. REEDA scale, and universal pain assessment tool were used.

Results: The computed 't' value of wound healing (0.623) was lesser than table value (1.96) ($t_{38}=1.96$, $p<0.05$) and 't' value of pain (2.307) was greater than the table value (1.96) ($t_{38}=1.96$, $p<0.05$). Hence it shows aloe vera gel and lavender oil were equally effective in wound healing, whereas aloe vera gel was found to be most effective in reducing pain as the mean post test pain score in aloe vera gel (3.8 ± 1.02) was lower than mean post test pain score in lavender oil group (4.55 ± 0.97).

Conclusion: The findings of the study indicated that aloe vera gel is effective in reducing episiotomy wound pain than lavender oil among postnatal mothers.

Keywords: Effectiveness, Aloe vera gel, Lavender oil, Episiotomy wound, Postnatal mothers

Introduction

Motherhood is a beautiful process and is the magic of creation. Care must be given to ensure safe childbirth. Midwives have a very important role to play in the care of perineal wounds following childbirth.¹

Episiotomy is the surgically planned incision on the perineum and the posterior vaginal wall during the second stage of labour.² Episiotomy is the most common perineal surgical incision in obstetrics and midwifery.³

Various interventions are found to reduce episiotomy pain and enhance healing process, which include administration of analgesics, cleanliness, applying ice pack, topical application by dry heat (infra red therapy), sitz bath, performance of Kegel's exercise and perineal care.⁴

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How to cite this article: Menezes PM. Effectiveness of Aloe Vera Gel Vs Lavender Oil on Episiotomy Wound among Postnatal Mothers in a Selected Hospital, Mangalore. *Int J Nurs Midwif Res* 2017; 4(3): 48-54.

Digital Object Identifier (DOI): <https://doi.org/10.24321/2455.9318.201732>

ISSN: 2455-9318

Aloe vera the plant can be snapped off and placed on cuts and burns for immediate relief. The long, green leaves contain aloe gel and a sticky yellow residue called latex. Aloe latex contains anthraquinone glycosides. Aloe is universally recognized as antimicrobial, antiviral, antibacterial, and antifungal. They do best in bright sunlight and do not tolerate temperatures below 45 degrees. For this reason, in most parts of the country, aloe vera is raised as a houseplant.⁵

It is a popular remedy for sunburn and skin rashes. The slightly sticky gel inside each leaf soothes the skin and, according to the National Institutes of Health, studies have shown aloe vera can help promote healing of the skin.

Reports state that the government exported Rs 10000 crores of medicinal plant like aloe vera by the end of 2010. Transparent gel from the pulp of the fresh leaves of aloe vera has been used topically for thousands of years to treat wounds, burns, and numerous other dermatologic conditions. The aloe vera gel has immune modulatory properties that may improve wound healing and skin inflammation.^{5, 6}

Lavender, also known as *Lavandula angustifolia*, is one of the most widely used, versatile herbs known today. It is considered a member of the Labiatae family, which also includes mints and the plant originated in England, France, Tasmania, and Yugoslavia. The main chemical components of lavender oil are α -pinene, limonene, 1, 8-cineole, cis-ocimene, trans-ocimene, 3-octanone, camphor, linalool, linalyl acetate, caryophyllene, terpinen-4-ol and lavendulyl acetate.⁷

The therapeutic properties of lavender oil are antiseptic, analgesic, anti-convulsant, anti-depressant, anti-rheumatic, anti-spasmodic, anti-inflammatory, antiviral, bactericide, carminative, cholagogue, cicatrisant, cordial, cytophylactic, decongestant, deodorant, diuretic, emmenagogue, hypotensive, nervine, rubefacient, sedative, sudorific and vulnerary. Its cicatrisant properties help the skin heal faster and the cytophylactic properties will help it do so with less scarring. The soothing and anti-inflammatory action of lavender oil will also have a balancing action on the skin.⁸

Need for the study

Most women who have an episiotomy it results in a lot of problems with pain, incontinence, and poor healing. Most women say that they didn't feel anything when their episiotomy was performed. The tissues around the vagina are tightly stretched when they are giving birth, and a cut can be made very easily. However, recovering from an episiotomy can be quite painful. The potential side

effects of an episiotomy are infection, bruising, swelling, bleeding, extended healing time, painful scar which may require a period of abstinence from sexual intercourse, future problems with incontinence.⁹

A descriptive study conducted on "Measurement and characteristics of perineal pain in primiparous undergoing episiotomy" among 40 primiparous women in Brazil, results showed that participants had a mean pain score of 4. The intensity of pain assessed by McGill pain questionnaire was reported as moderate. The findings of the study showed that interventions have to be carried out to reduce pain in postnatal mothers.¹⁰

Objectives

The objectives of the study were to:

- Assess the episiotomy wound score and pain before and after application of aloe vera gel and lavender oil among postnatal mothers
- Determine the effect of aloe vera gel on healing of episiotomy wound and pain among postnatal mothers
- Determine the effect of lavender oil on healing of episiotomy wound and pain among postnatal mothers
- Compare the healing score of episiotomy wound and pain after application of aloe vera gel and lavender oil among postnatal mothers
- Find an association between pre intervention episiotomy wound score and pain score and selected demographic variables of postnatal mothers

Methods

An evaluative approach with pre- test post- test design (quasi experimental) was used for this study. The conceptual framework used in this study was General Systems Theory introduced by Ludwig Van Bertalanffy (1968). Forty mothers who had an episiotomy wound were selected by non-probability purposive sampling technique (twenty mothers in the aloe vera gel group and twenty mothers in lavender oil group). Informed consent was obtained from all patients for being included in the study. Each group received treatment for two days. Data was collected by using demographic proforma, REEDA scale, and universal pain assessment tool. The data was analyzed using descriptive and inferential statistics.

Results

Comparison of pre and post test pain score show that the lowest pain score during pre test was 3 in aloe vera group and 6 in lavender oil group; whereas for post test, the lowest pain score was 1 in aloe vera group and 3 in lavender oil group.

Table 1. Frequency and percentage distribution of pre and post intervention pain score among aloe vera gel and lavender oil group

n=40

Score	Aloe vera Gel group n=20				Lavender Oil group n=20			
	Pretest		Post test		Pretest		Post test	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1	-	-	1	5	-	-	-	-
2	-	-	1	5	-	-	-	-
3	1	5	4	20	-	-	3	15
4	-	-	9	45	-	-	7	35
5	1	5	5	25	-	-	6	30
6	7	35	-	-	6	30	4	20
7	7	35	-	-	7	35	-	-
8	4	20	-	-	7	35	-	-
9	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-

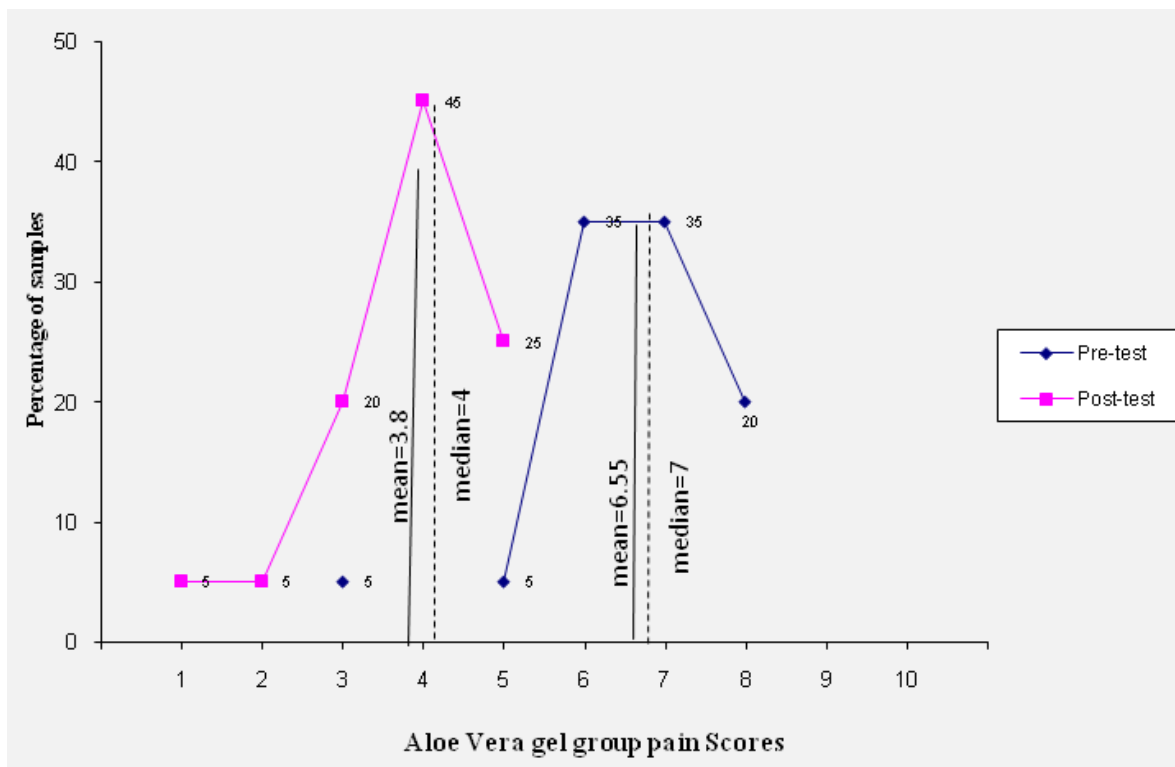


Figure 1a. Line graph showing the comparison of pre and post-test pain score among mothers in aloe vera gel group

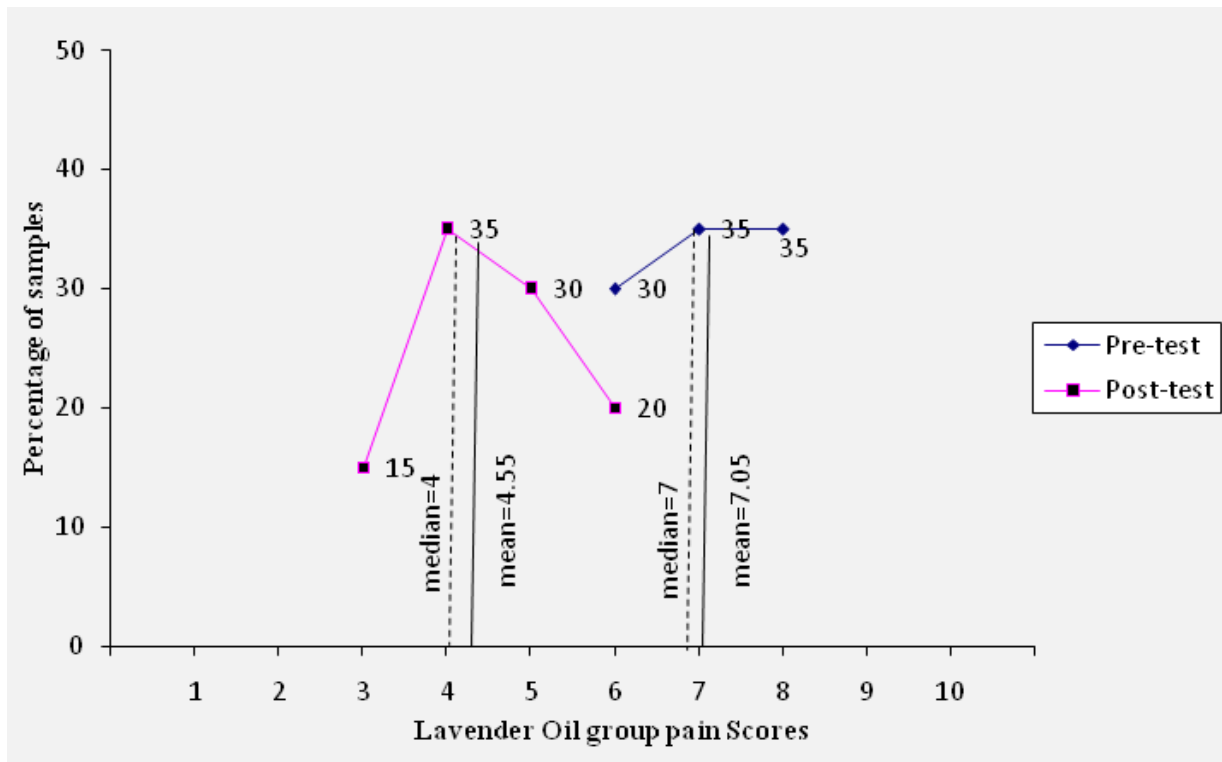


Figure 1b. Line graph showing the comparison of pre and post-test pain score among mothers in lavender oil group

Highest percentage (45%) in aloe vera gel group and (35%) in lavender oil group, the mothers pain score was 6 in aloe vera gel and 7 in lavender oil group during pre test whereas

during post test the highest percentage of mothers (45%) in aloe vera gel group and (35%) lavender oil group had pain score 4.

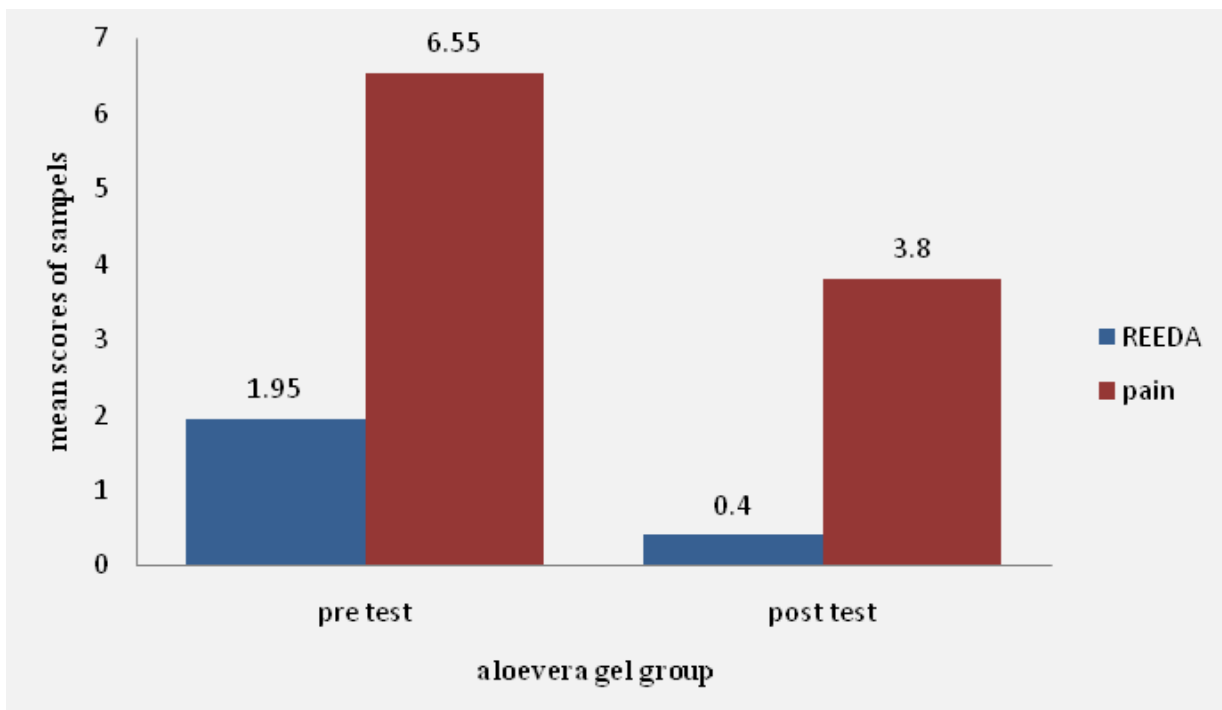


Figure 2. Clustered bar diagram showing mean episiotomy wound healing and pain score in aloe vera gel group pre and post intervention

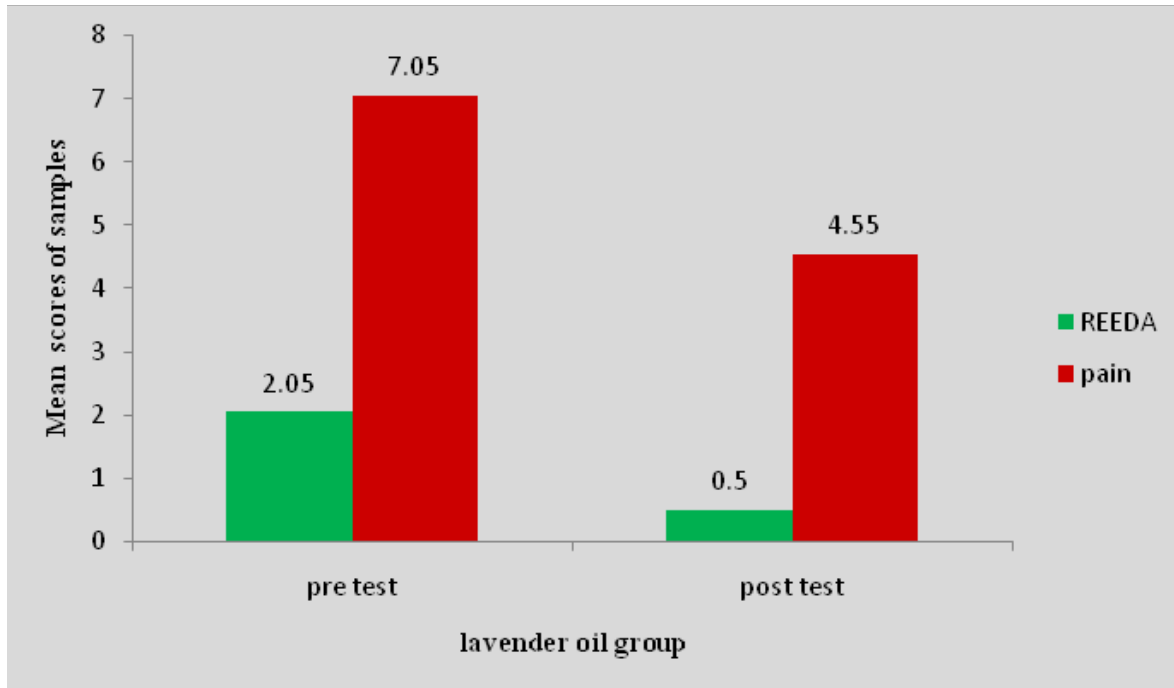


Figure 3. Clustered bar diagram showing mean episiotomy wound healing and pain score in lavender oil group pre and post intervention

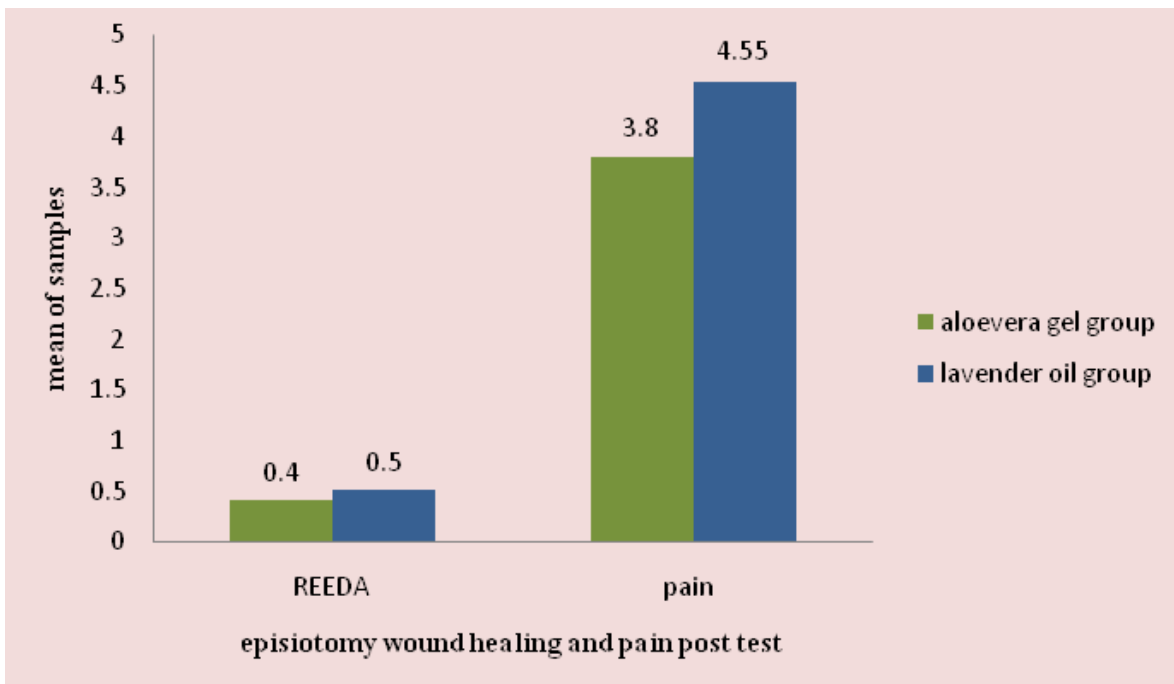


Figure 4. Clustered bar diagram showing mean episiotomy wound healing and pain score in aloe vera gel group and lavender oil group post intervention

Pre test mean and median score were 6.55 and 7 in aloe vera gel group and 7.05 and 7 in lavender oil group respectively, which were around (45%) in aloe vera gel

group and 35% in lavender oil group of maximum score. The actual mean difference in aloe vera gel group was 2.75 and 2.5 in lavender oil group respectively.

Table 2. Mean, standard deviation and paired 't' value between pre and post intervention of wound healing and pain score of aloe vera gel group

Aloe vera gel	Pretest		Post test		Mean difference	't' value
	mean	SD	mean	SD		
REEDA	1.95	0.49	0.4	0.48	1.55	11.461*
Pain	6.55	1.16	3.8	1.02	2.75	15.639*

t₁₉=2.09, p<0.05;df=19; *=significant at 0.05 level

Table 3. Mean, standard deviation and paired 't' value between pre and post intervention of wound healing and pain score of lavender oil group

Lavender oil	Pretest		Post test		Mean difference	't' value
	mean	SD	mean	SD		
REEDA	2.05	0.66	0.5	0.5	1.55	13.58*
Pain	7.05	0.80	4.55	0.97	2.5	21.79*

t₁₉=2.09, p<0.05; df=19; *=significant at 0.05 level

Paired 't' test was used to assess the effectiveness. The computed 't' value of wound healing (11.461) and pain (15.639) was greater than table value 2.09 (t₁₉=2.09, p<0.05). Hence aloe vera gel was effective in episiotomy wound healing and pain. The study finding is supported by a study conducted in Iran wherein the wound healing at the end of the second post operative week was significantly greater in aloe Vera group compared with placebo group (p<0.001). Patients needed fewer analgesics post operatively (p<0.001). The study concluded that "application of aloe Vera cream on the surgical site is effective in reducing postoperative pain."¹¹

The computed 't' value of wound healing (13.58) and pain (21.79) was greater than table value (2.09) (t₁₉=2.09, p<0.05). Hence lavender oil was effective in episiotomy wound healing and pain. The study finding is supported

by a clinical trial conducted to assess the use of lavender oil essence for episiotomy pain relief among primiparous women in Iran. 60 qualified primiparous women admitted for labour were randomly categorized into two groups: case group using with Lavender oil and control that using with hospital protocol. Participants pain and discomfort were recorded using a Visual Analogue Scale (VAS) and a Redness, Edema, Ecchymosis, Discharge Scale (REEDA). Pain was evaluated at 4 h, 12 h and 5 days following episiotomy. There was a statistical difference in pain intensity scores between the 2 groups after 4 h (p = 0.002, and 5 days (p = 0.000) after episiotomy and the REEDA score was significantly lower in the experimental group 5 days after episiotomy (p = 0.000). They concluded that use of Lavender oil essence can be effective in reducing perineal discomfort following episiotomy.^{12, 13}

Table 4. Mean, standard deviation and independent 't' value during post intervention of wound healing and pain score among aloe vera gel and lavender oil group

REEDA	Groups	Mean	Standard deviation	Mean difference	't' value
	Aloe vera gel	0.4	0.48		
Lavender oil	0.5	0.5			
Pain	Aloe vera gel	3.8	1.02	0.75	2.307*
	Lavender oil	4.55	0.97		

t₃₈=1.96, p<0.05;df=38; NS=Not significant *=significant at 0.05 level

Independent 't' test was used to compare the effectiveness between aloe vera gel and lavender oil groups. The computed 't' value of wound healing (0.623) is lesser than table value (1.96) (t₃₈=1.96, p<0.05) and 't' value of pain (2.307) is greater than the table value (1.96) (t₃₈=1.96, p<0.05). Hence it shows aloe vera gel and lavender oil were equally effective in wound healing, whereas aloe vera gel was found to be most effective in reducing pain

as the mean post test pain score in aloe vera gel (3.8±1.02) was lower than mean post test pain score in lavender oil group (4.55±0.97).

Conclusion

The findings of the study indicated that aloe vera gel and lavender oil are both effective in wound healing whereas

aloe vera gel is effective in reducing episiotomy wound pain compared to lavender oil among postnatal mothers.

Conflict of interest: None

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Date of Submission: 2017-06-01

Date of Acceptance: 2017-10-24