



A QUASI EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF ALOE VERA GEL APPLICATION ON EPISIOTOMY WOUND HEALING AND PAIN AMONG POSTNATAL MOTHERS IN SELECTED HOSPITALS, PUNJAB

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ABSTRACT

Motherhood is a beautiful process whereby the mother safely delivers a child. Puerperium is a period when great changes take place in a woman's physical and mental setup that may pose a challenge to postnatal women in various ways. This is true, especially when she experiences pain of episiotomy wound after a normal delivery. The concern of health personnel during this period is to provide comfort to her, help her in relieving pain and to prevent infection. Enhancing healing of episiotomy wound is one of the major concerns after a normal delivery. Aloe vera gel is a only method for early wound healing and reduce the pain. Materials and Methods: A Quantitative Quasi experimental non randomized control group research design and approach was adopted. The study was conducted in district hospital/Women & children hospital Bathinda and civil hospital malout. Non Purposive sampling technique was used to select 60 sample, 30 in experimental and 30 in control group. Observation was adopted to assess the wound healing by REEDA scale and level of pain by numerical rating scale of postnatal mothers. Aloe vera gel application was provided to experimental group thrice a day 5 consecutive days in hospital and 4,5,6 day i inform the subject by telephone apply the aloe vera gel and control group received routine care. Episiotomy wound healing and pain Pre-intervention and post interventional assessments was done on 5 days in hospital and 7th post natal day sample coming in the hospital for follow-up then collected the post test and apply the aloe vera gel. Results: The study revealed that all postnatal mothers were having poor wound healing & severe pain in pre-intervention in both groups. In experimental group Maximum 28(93.33%) postnatal mothers very good wound healing and no pain, followed by only 2 (6.67%) postnatal mothers had good wound healing & mild pain. In control

group, Maximum 26(86.66%) postnatal mothers had good wound healing & 23(76.66%) postnatal mothers were having mild pain, followed by only 2(6.67%) postnatal mother had average & poor wound healing & no pain. While comparison of wound healing there was a big difference between in the both group. In experimental, Pre-intervention episiotomy wound healing was 15 ± 0 and post intervention 1.7 ± 0.78 't' test , $9.02 df-29$. In control group, pre-intervention episiotomy wound healing was 15 ± 0 and post intervention 3.8 ± 0.76 't' test $7.83 df-29$, pre- intervention in the both group 15 ± 0 not computed, post intervention 1.7 ± 0.78 and 3.8 ± 0.76 't' test $41.85 df-58$ in experimental and control group. In experimental group pre-intervention pain $9. \pm 16$ and post 0.13 ± 0.64 't' test $5.50 df-29$. In control group pre-intervention pain was 9.7 ± 0.46 and post intervention 2.3 ± 0.7 't' test $6.62 df-29$, Pre-intervention 't' test $2.6795 df-29$ and 0.13 ± 0.64 and post intervention 't' test $9.45 df-29$, Both group post test 1.7 ± 0.78 and 3.8 ± 0.76 't' test 41.85 in the wound healing and 0.13 ± 0.64 and 2.3 ± 0.7 't' test 9.45 is highly significant of the both group. In compare to highly significant different wound healing and level of pain in both groups. Conclusion- Aloe vera gel is considered to be more effective in healing of the episiotomy wound and reducing the level of pain.

Keyword: Aloe Vera Gel, Post- episiotomy wound and pain, postnatal mothers

INTRODUCTION

The moment a child is born, the mother is also born. She never existed before. The woman existed, but the mother, never. A mother is something absolutely new. ”

~Rajneesh

Motherhood is a beautiful process, where by mothers safely delivers a child. It is the magic of creation. Care must be given to ensure safe birth. Safe motherhood initiative announced in the year 1987 had set targets to reduce maternal mortality by 50% one decade. The safe motherhood aims at enhancing the quality of life.¹ The higher birth rate indicates that large number of episiotomies is being performed every day.²

Puerperium or postpartum period is the time during which the body adjusts both physically and psychologically. The word puerperium is from the Latin puer, meaning child, and parere, meaning “to bring forth”. The postpartum period is a critical stage for both the mother and baby. Both are recovering from the physical process of birth, and they are also initiating a new relationship. In the first few hours and days following childbirth, the mother undergoes dramatic physiological adaptations involving nearly every system of her body. Generally postpartum women experience relatively little discomfort and are most concerned with rest, relieving perineal discomfort, and learning about the newborn. Nevertheless, the postpartum period is a time of physical adjustment, healing, emotional mood swings and expanding roles.⁴

An episiotomy is the performed during second stage of labor with the purpose to enlarge the vaginal opening for delivery of the baby's head. The episiotomy may be incised midline down the centre of the perineum, or the medio-laterally, which extends in a diagonal angle to either the left or right side. With or without episiotomy, the perineum may suffer from lacerations during childbirth.¹⁰ The first performance of episiotomy was done in 1742, when perineal incisions were used to facilitate deliveries.¹¹

Many complementary and alternative therapies such as relaxation, ultraviolet radiation, sitz bath, and natural herbs are being used to enhance blood circulation, decrease pain, promote sleep, reduce swelling, increase oxygen capacity of blood and promote healing. It is estimated that American spent more than 27 billion dollars on CAM in 2005. This statistical reflects the level of consumer interest and demands for low technical medical and nursing intervention, and self directed healing, Aloe vera gel application is one of the complementary and alternative modality utilized to enhance episiotomy wound healing and reducing pain.²⁵

Aloe vera, the plant directed or in the form of commercially available gel, can be placed on cuts and burns for immediate relief. It contain gel and a sticky yellow residue called latex. Aloe vera is universally recognized as antimicrobid, antiviral, antibacterial and antifungal According to the National Institutes of health, it has been show that aloe vera can help promote healing of the skin. The aloe vera gel has immune modulatory properties that improve wound healing and reducing pain and skin inflammation.²⁶

Aloe vera, if taken orally, has been shown to stimulate the replication of skin fibroblasts, with an effect almost three times as great as healing in a control. This means that aloe vera could be an important way to enhancing wound healing. It is considered safe for both topical and oral use and where people react adversely; it tends to be towards a product additive, such as an anti-oxidant or stabilizer, rather than the aloe vera itself.²⁷

1.2 Need for the study

Episiotomy is used widely today because it prevents lacerations, heals better, easier to repair than a ragged tear, allows for easier and safer regression of the head thereby preventing possible brain damage reduced incidence of uterine prolapsed in subsequent deliveries. If performed before, tissues are overstretched, shortens the second stage of labour and it may prevent painful haemorrhoids. It is also performed for a majority of forceps deliveries especially in ATC (axis traction forceps) and also with breech and face deliveries.²⁸ The rate of episiotomy ranges from 50-90% in developing countries. In various countries routine episiotomy has been accepted medical practice for many years.²⁹

A study was conducted to calculate the percentage of episiotomy performed in the US. Out of all vaginal deliveries it was found to be 19.4%. Episiotomy rate was higher among white women (32.4%) than African American women (11.2%).³²

In India (WHO, 2010) the birth rate being very high 21.34 births/1,000 population the incidence of episiotomy wound is high. Midwives have an important role in the of perineal wounds following childbirth.³⁸

Pain following episiotomy appears to be universal. The mother undergoing episiotomy is characterized by greater blood loss in conjunction with delivery, and there is a risk of improper wound healing and increased pain during early puerperium.⁴⁴

Aloe vera, a popular houseplant, has a long history as multipurpose traditional. Aloe vera gel has been used for centuries as a natural remedy for many different ailments. The gel made from the pulp of aloe vera plant leaves, is rich with vitamins, minerals and antioxidants. These gel components have been proven in many studies to have wonderful benefits for wound healing and skin inflammation. Because of its bacteria killing effects, aloe vera can be used to disinfect wounds. It can protect your open wounds from certain microorganisms that can cause infections. To promote wound healing in the shortest time possible, with minimal pain, discomfort, and scarring to the patient, it is important to explore nutritional and botanical influences on wound outcome. Botanical extracts from aloe vera helps to improve healing time and wound outcome. Aloe vera is largely available in most of the part in India. Because of its medicinal importance and easy availability it can be used for episiotomy wound healing. It also increases collagen content and degree of collagen cross-linkage within the wound⁴⁹

During her clinical experience researcher found that post natal mothers who had undergone normal and instrumental delivery with episiotomy wound had complaints of pain, discomfort, infection of wound at suture site and delayed healing. Mothers were in great need of early wound healing and relief from pain. Thus researcher is motivated for aloe vera gel application on episiotomy wound for promoting early episiotomy wound healing and reducing pain.

System theory perspective states that the human system tends to favor a steady state in which there is orderly exchange of input within the human system and environment.

Investigator is dealing with the mothers having normal vaginal delivery with episiotomy as an open system, which is effected by certain interrelated subsystems i.e., Age, education, religion, eating habit, parity, type of episiotomy, episiotomy lengths in cm, head circumference, The Output mode consists of reduction in level of pain in both with aloe vera gel application.

RESEARCH METHODOLOGY

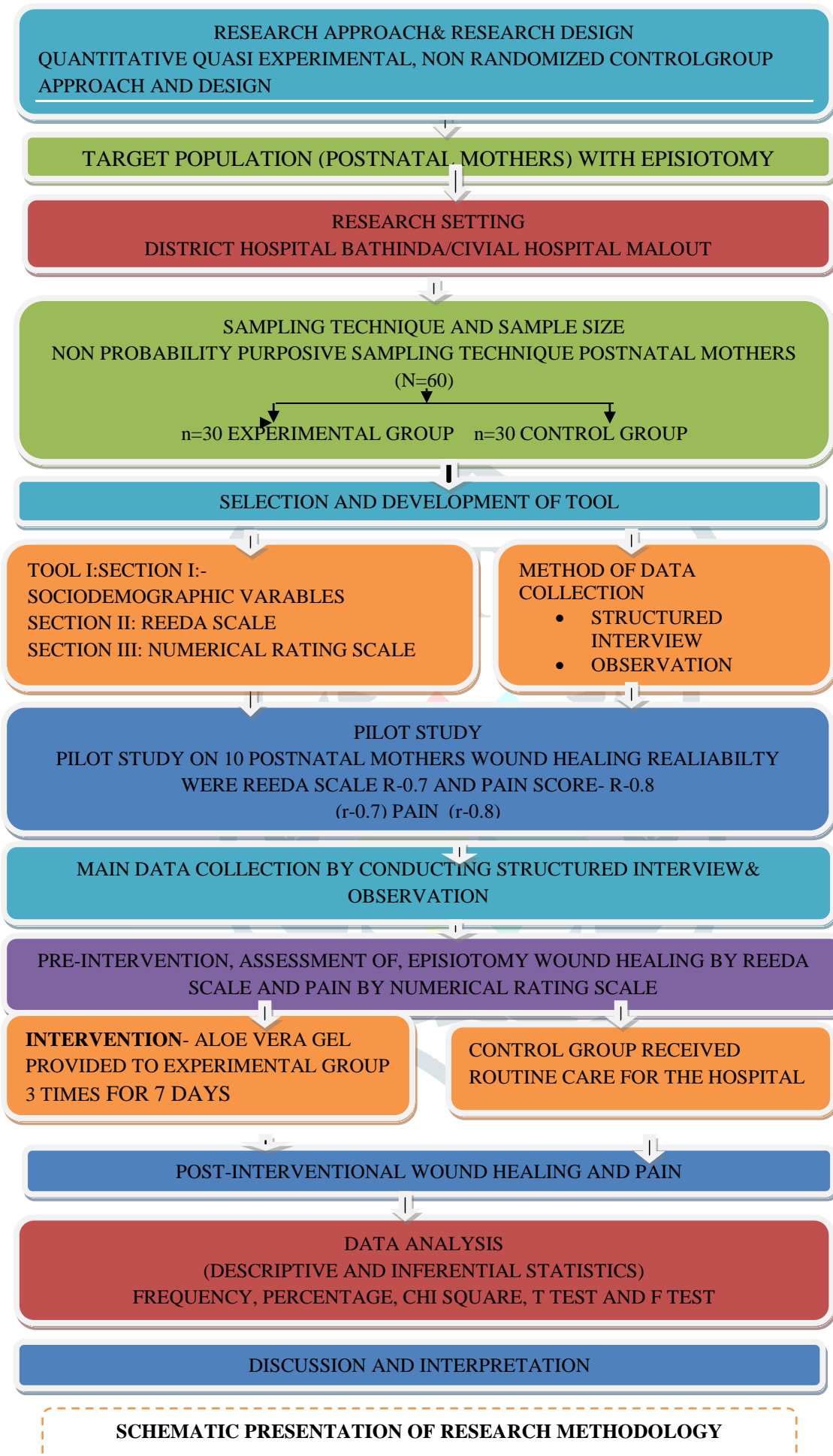


Data collection procedure

After obtaining permission from senior medical officer of hospitals and collage ethical committee, the study was conducted in the maternity units of hospital of Punjab. The data collection was conducted in the month of February, 2016. It was conducted in Women and Children hospital, Bathinda. A total of 60 admitted postnatal mothers with episiotomy wound and pain were selected based on inclusion and exclusion criteria through non-probability purposive sampling technique. Before giving the intervention, written consent were taken from postnatal mothers. Firstly, Pre-interventional assessment of wound healing and pain was done in both group i.e. experimental and control group. Intervention was provided to experimental group only. Intervention i.e application of aloe vera gel was done only in experimental group for 3 times in a day initiating from 0 day. Post-intervention assessment of wound healing and pain were done in both group experimental and control group. Post-intervention assessment of wound healing

were done daily and pain was recorded twice a day i.e. morning and evening for 5 consecutive days. Sample were assessed in hospital for 5 days i.e. 0,1st, 2nd, 3rd days and final assessment was done on 7th day as sample came to hospital for follow-up in both group experimental and control group firstly assess the sample and after apply aloe vera gel on episiotomy wound.





ANALYSIS, INTERPRETATION

The purpose of analysis is to reduce data to intelligible and interpretable form so that relation of research Problem can be studied and tested. This chapter deals with the analysis and interpretations of data regarding the pre interventional and post interventional episiotomy wound healing and pain among the postnatal mothers in selected hospitals, Punjab.

The data for analysis is organized and presented in accordance with the study

Objectives:

- Pre-intervention wound healing and level of pain
- Post-intervention wound healing and level of pain
- Comparison of effect of aloe vera gel
- Association of wound healing and level of pain with selected demographic variables

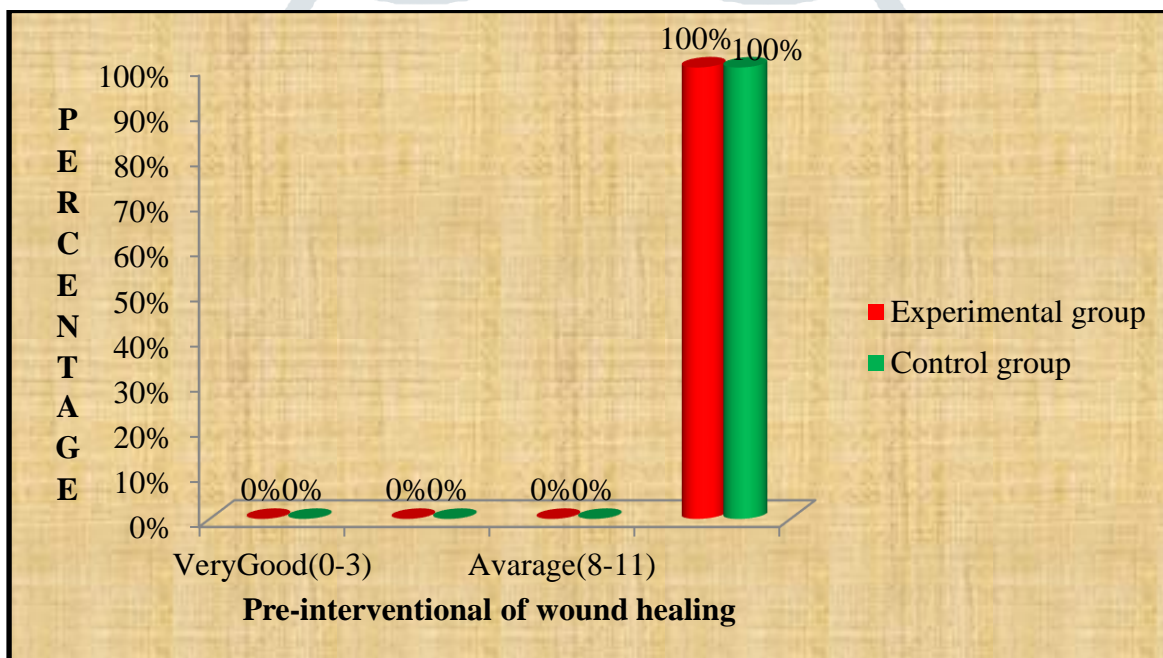


Figure:-13 Percentage distribution of the pre-interventional episiotomy wound healing in experimental and control group.

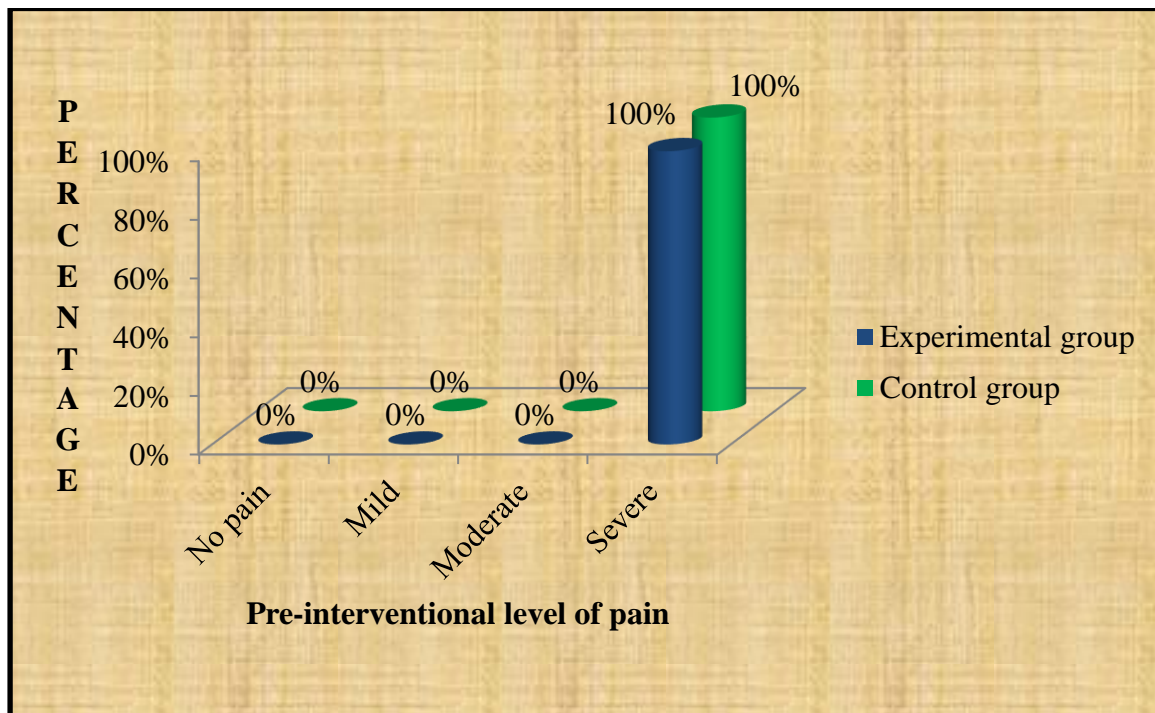


Figure 14. Percentage distribution of the pre-interventional level of pain in experimental and control group.

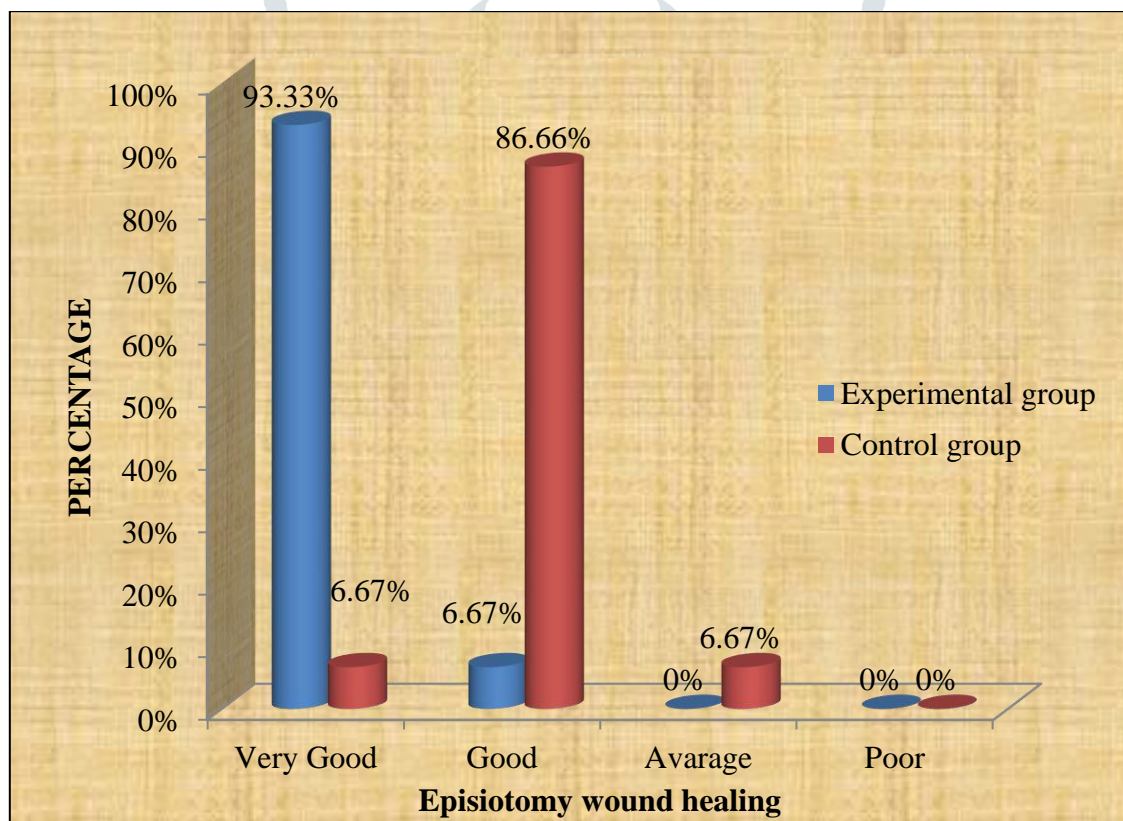


Figure 15. Percentage distribution of the post-interventional episiotomy wound healing in experimental and control group.

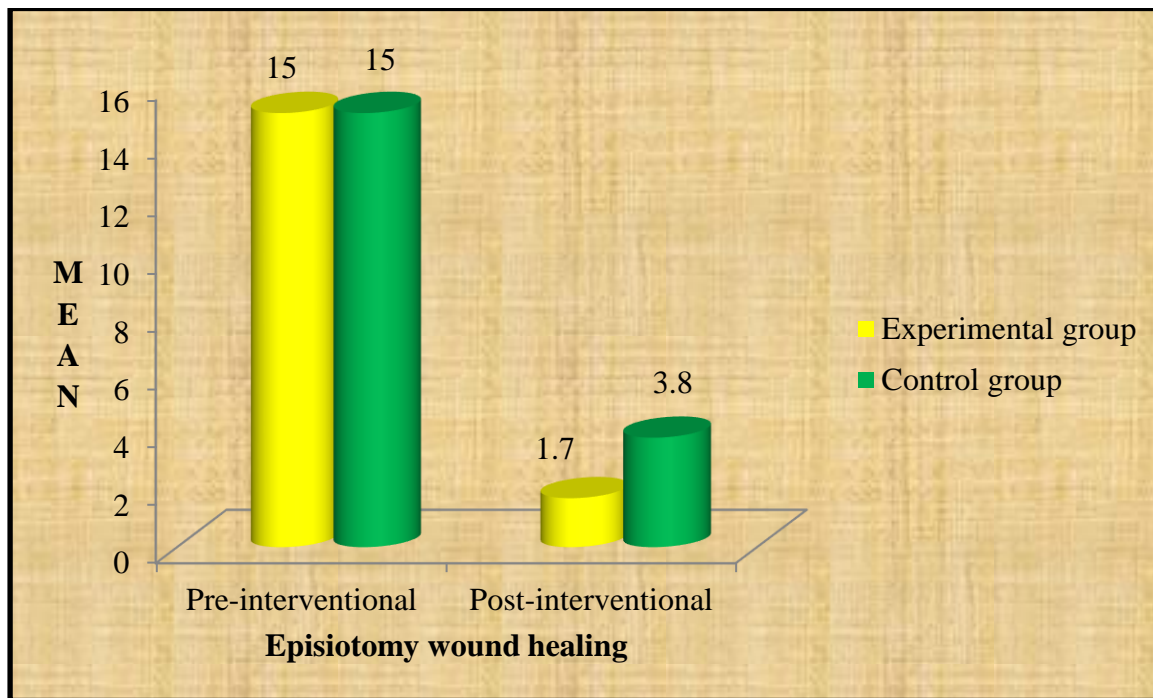


Figure17. Comparison the pre interventional and post interventional episiotomy wound healing and among post natal mothers in experimental and control group.

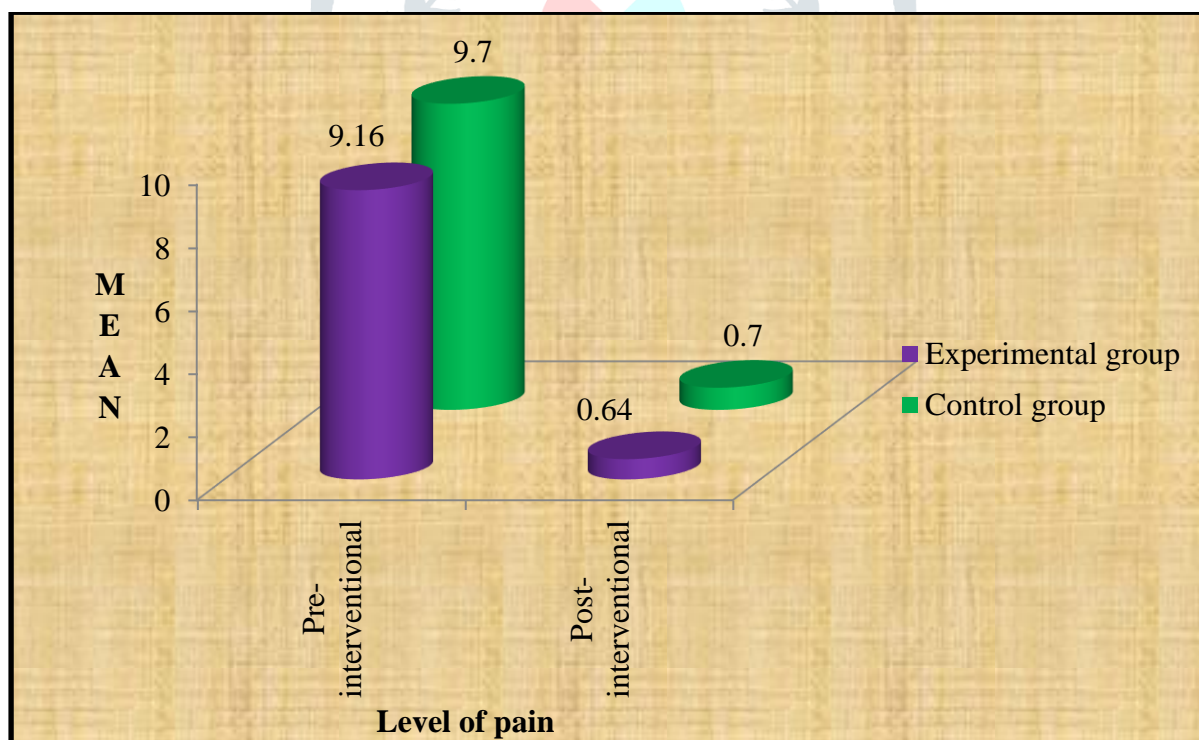


Figure16. Comparison the pre interventional and post interventional level of pain among post natal mothers in experimental and control group.

Summary

The current study was conducted to assess the effectiveness of aloe vera gel application on episiotomy wound healing and pain among postnatal mothers in selected hospitals, Punjab

The literature information enabled the researcher to study the extend of the selected problem, to develop research tool, to develop conceptual framework, data analysis and interpretation. The research design

used for the study was Quantitative Quasi-Experimental Non Randomized Control Group. Conceptual framework used for the study was General system theory. The study was done on 60 postnatal mothers in selected hospitals, Punjab at civil hospital/district hospital (women and children hospital) bathinda. Non-probability purposive sampling technique was used to select the sample. The tool used for the study was divided into three sections. The section I consist of selected demographic variables among Postnatal mothers in selected hospitals The section II was REEDA scale to assess the effectiveness of aloe vera gel application on episiotomy wound healing among postnatal mothers in selected hospitals Punjab. The section III was Numerical rating scale to assess the effectiveness of aloe vera gel application on episiotomy pain among postnatal mothers in selected hospitals Punjab.

DISCUSSION

Discussion was based on standard analysis, current trends and previous researches. The findings of present study revealed that most of the postnatal mothers experienced moderate wound healing and severe level of pain among the postnatal mothers. The aloe vera gel was effective in episiotomy healing and reducing the level of pain among the postnatal mothers.

Hypothesis H₁ and H₂ of study had been accepted as there was statistically significant difference between pre-intervention and post interventional of episiotomy wound and pain among the postnatal mothers.

4 Major Findings of Study:

Findings related to Demographic variable

- ❖ Majority of postnatal mothers were in the age group of 19-22 years, 18 (60%) in experimental group and 15 (50%) in the control group and minority of post natal mothers were in the age group of 23-26, years, 12(40%) in the experimental group and the age group of 27-30 years, 2(6.67%) in control group.
- ❖ Majority of postnatal mothers were in the education of primary 10(33.33%) in experimental group and illiterate 11(36.67%) in the control group. Minority of post natal mothers were in the secondary education 6(20%) in the experimental and 3(10%) in control group.
- ❖ Majority of postnatal mothers were in the Eating habit of non vegetarian 16(53.33%) in experimental group and 18(60%) in control group. Minority of post natal mothers were in the eggetarian 3 (10%) in the both group of Experimental and control group.
- ❖ Majority of postnatal mothers were in theReligion of Sikh 21(70%)in the both group experimental and control and Minority of post natal mothers were in the Muslim 2(6.67%) in the experimental group and Hindu 9(30%) in the control group.
- ❖ Majority of postnatal mothers were in the parity 1, 16(53.33%) in the experimental group and 22(73.33%) in the control group. Minority of post natal mothers were in the Parity 2, 14(46.67%) in the experimental group and, 8 (26.67%) in the control group.

- ❖ Majority of postnatal mothers were in the types of episiotomy medio lateral 30(100%) in the both group of experimental and control group.
- ❖ Majority of postnatal mothers were in the Episiotomy length 3 cm, 14(46.67%) in the experimental group and 15(50%) in the control group. Minority of post natal mothers were in 4 cm, 12(40%) in the experimental group and 15(50%) in the control group.
- ❖ Majority of postnatal mothers were in the No. of superficial stitches 3, 13(43.33%) in the experimental group and 14(46.67%) in the control group. Minority of post natal mothers were in 4(13.33%) in the both group experimental and control group.
- ❖ Majority of postnatal mothers were in the Neonatal head circumference, 33-34
- ❖ 18(60%) in the both group experimental and control group. Minority of post natal mothers were in 12(40%) in the both group experimental and control group.

1. Findings related to Pre-interventional episiotomy wound and pain among postnatal mothers:-

- ❖ During pre-interventional assessment, the study findings shows that in the both group, all postnatal mothers 30 (100%) had poor wound healing.
- ❖ Both group all postnatal mother 30(100%) had severe pain, in the experimental and control group

2. Findings related to Post- interventional episiotomy wound healing and pain among post natal mothers:-

During post-interventional assessment, the study findings shows that in the experimental group, Majority of mothers 28(93.33%) had very good wound healing and minority 2(6.67%) had good wound healing.

- In control group, Majority of 26(86.66%) had good wound healing and minority 2 (6.67%) had very good wound healing and 2(6.67%) had average wound healing.
- In the experimental group, Maximum 28 (93.33%) postnatal mothers had no level of pain, followed by only 2(6.67%) postnatal mothers had mild pain.
- In control group maximum 23(76.66%) postnatal mothers had mild level of pain, 2(6.67%) postnatal mothers had no pain, and 5 (16.67%) postnatal mother had moderate pain.

3. Finding related to compare the pre-interventional and post interventional episiotomy wound healing and level of pain among post natal mothers:-

- ❖ In experimental group, Pre-interventional episiotomy wound healing was 15 ± 0 followed by mean and post-interventional episiotomy wound healing was 1.7 ± 0.78 respectively. The value of paired of t test was 9.02 which is statistically significant at 0.05 level of significance. Aloe vera gel was effective in the episiotomy wound healing.
- ❖ In control group, Pre-interventional episiotomy wound healing was 15 ± 0 followed by post-interventional episiotomy wound healing was 3.8 ± 0.76 respectively. The value of paired of t test was 7.83 which is statistically significant at 0.05 level of significance.
- ❖ In experimental group, mean and SD values of Pre-interventional level of pain was 9.16 ± 0.98 followed by post-interventional level of pain was 0.13 ± 0.64 respectively. The value of paired

of t test was 5.50 which is statistically significant at 0.05 level of significance. Aloe vera gel was effective and reducing in the level of pain.

- ❖ In control group, Pre-interventional level of pain was 9.7 ± 0.46 followed by post-interventional level of pain was 2.3 ± 0.7 respectively. The value of paired t test was 6.62 which is statistically significant at 0.05 level of significance. Aloe vera gel was effective and reducing in the level of pain.

4. Findings related to association of pre and post episiotomy wound healing and pain among the postnatal mothers with demographic variable:

Pre-association

- No association of healing of episiotomy wound with the age, education, Eating habit, Religion, parity, Type of episiotomy, Episiotomy length, No. of superficial stitches, Neonatal head circumference
Association of level of pain Eating habit significant of ($F = 4.9601^*$) experimental group and all was non-significant.
- No association of healing of episiotomy wound with the age, education, Eating habit, Religion, parity, Type of episiotomy, Episiotomy length, No. of superficial stitches, Neonatal head circumference of control group.

Post-association:-

- ❖ Association of healing of episiotomy wound with the Neonatal head circumference significant of ($t = 37.53^*$) experimental group and all was non-significant of age, education, Eating habit, Religion, parity, Type of episiotomy, Episiotomy length, No. of superficial stitches in experimental group.
- ❖ No association of level of pain with the age, education, Eating habit, Religion, parity, Type of episiotomy, Episiotomy length, No. of superficial stitches, Neonatal head circumference of control group.

CONCLUSION:

1. The findings of present study revealed that most of study subjects had
2. Very good healing of episiotomy wound.
3. Aloe vera gel helped in healing of episiotomy wound and reducing the pain in experimental group from day 0 to day 7 which were found to be statistically significant.
4. Aloe vera gel was more effective in healing of episiotomy wound from day 0 to day 7 in experimental group as compared to hospital routine care in control group this mean difference was highly significant at p value < 0.05 .

LIMITATIONS OF THE STUDY

- Sample size of the study was small including 30 for experimental and 30 for control group. Hence it is difficult to make broad generalization.
- Due to short stay of the patient in the hospital during postpartum period the

frequency of intervention was less which again restricts the generalization of the study findings.

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