

RESEARCH ARTICLE

EFFECT OF CAROM SEED SMOKE ON EPISIOTOMY WOUND HEALING AND LEVEL OF PAIN AMONG POST NATAL MOTHERS

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ABSTRACT

Routinizing the episiotomy has proven to be an effective means of accomplishing the transformation of natural childbirth into a surgical procedure. Enhancing healing of episiotomy wound is one of the major concerns after a normal delivery. The study aimed to identify the effectiveness of carom seed smoke 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 1st, 3rd and 5th postnatal day. The experimental group had a significant improvement in wound healing and level of pain.

Key words: Carrom Seed Smoke, Episiotomy, Wound Healing, Pain, Post Natal Mothers.

INTRODUCTION

To facilitate the birthing process and prevent perineal tear, episiotomy is routinely done, but there are many complications associated with episiotomy wound. Routinizing the episiotomy has proven to be an effective means of accomplishing the transformation of natural childbirth into a surgical procedure. With proper episiotomy care, infection can be prevented and healing takes place faster (Rattan *et al.*, 2014). Health care is dynamic field, ever spiraling to worlds greater improvement and innovative technologies and intervention. Perineal wounds are either a tear or an episiotomy (Al-Ghammari *et al.*, 2016). Perineal pain is most commonly associated with vaginal delivery with episiotomy. The care of episiotomy is an important aspect of postnatal care and carom seed smoke is one of the age old 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 assisted 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, the naturally available remedies are replaced by many modern therapy and among them dry heat applications came into existence like electric heat lamps, peri lights, infrared rays, etc and also application of moist heat in terms of hydrotherapy and sitz bath are considered. 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. 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 (D.C.DUTTA, 2013). It may causes mental disorders in mother during postpartum and change her attitude and activities towards her neonate (Sagar, 2015). Carom seed has many properties which can be used for wound healing and preventing infections. 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). *Trachyspermum ammi* Linn. (*T. ammi*), belonging to Umbelliferae family, is an Ayurvedic plant with important medicinal properties. It is known by various vernacular names such as Bishop's weed (Sanskrit), Carom seed (English name) and Ajowan or Ajwain or Omum (Indian name) [1,2], Kammun or Al-Yunan (Arabic), Hounastan (Armenian), Xi Ye Cao Guo Qin (China), Ajwan (Dutch), Adiowan, Ajowan. *T. ammi* fruit have traditionally been used as medicinal plant for the treatment of indigestion and dyspepsia and many other

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gastric disorders. Therefore, ethanolic extract of *T. ammi* fruit was used for investigation of antiulcer activity by using pylorus ligation, as antisecretory model and indomethacin induced ulcer model, ethanol induced ulceration model, cold restraint stress induced ulcer model as cytoprotective model. The extract at dose of 100 mg/kg and 200 mg/kg showed significant protection ($P < 0.001$) by reducing ulcerative lesions when compared with control group of animals. The findings indicated that *T. ammi* fruit extract have significant antiulcer activity. Mucus is secreted by the mucus neck cells, serves as first line of defense against ulcerogens and covers the gastric mucosa preventing its physical damage and back diffusion of hydrogen ions. In the present study, *T. ammi* increased mucus secretion.

The major constituent of mucus is mucopolysaccharides which are responsible for viscous nature and gel-forming properties of the mucus. The gel is reported to be resistant to a number of ulcerogens including acid, NSAIDs, i.e. indomethacin, etc. Therefore, increase in the production of mucus may be one of the important contributing factors for ulcer protective role of *T. ammi* fruit anticholinergic and antihistaminic activities. In addition, it also has β -adrenergic stimulatory effects. In a previous report, specific effects of *T. ammi* on mechanical activity of ileum, both qualitatively and quantitatively were determined. Anaesthetized rats were used for mechanical recording through isolated organ bath and oscillograph in the study. The affect obtained on intestinal motility was also tested for receptors identification and differentiation with cholinergic and adrenergic agents. The results demonstrate the effective concentrations of acetylcholine causing 50% of maximum response (EC_{50}) obtained in the presence of 0.01 extracts in all five sets of experiments, were significantly higher than those of saline ($P < 0.000$) and also the maximum response to acetylcholine obtained in the presence of extracts were lower ($P < 0.000$). The results of the study therefore specified a competitive antagonism effect of *T. ammi* at acetylcholine receptors. Antihypertensive, antispasmodic and bronchodilating studies. The antihypertensive, antispasmodic and bronchodilating activity of aqueous and methanol extract of *T. ammi* seeds was studied to rationalize some of its traditional uses. It was observed that the extract causes dose dependent fall in blood pressure, inhibits the bronchoconstriction and has hepatoprotective effects and thus provides sound mechanistic basis for some of their folkloric uses (Info, 2014).

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). 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-Ghammari, 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 non probability type of convenient sampling techniques was used. The intervention carom seed smoke was given 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 1st, 3rd and 5th 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 cronbach 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 50% belong to the age group 25-30 years, 54% had secondary level education 85.2% women were house wife, 75.5% women belongs to middle class, Day one in pre-test 88.2% had severe pain and in post test 65.5% had severe pain, post-test in 3rd day 45.5% had severe pain and on post-test in 5th day only 15% had severe pain in both groups. Infection rate in pre-test 86.75% had moderate infection. In post-test 3rd and 5th day mild infection was 55.5% and 40% respectively. The mean percentage of pain score in carom seed smoke is 2.85, and in control group it is 2.95. The mean percentage of REEDA score in carom seed smoke is 7.15 and 11.3 in control group. This strongly supports that the effect of carom seed smoke on pain and REEDA scale assessment is more than control group.

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

Intervention	DAY 1		DAY 3		DAY 5		't' on 1 st day	'p' value	't' on 3rd day	'p' value	't' on 5th day	'p' value
	M	SD	M	SD	M	SD						
Carom Seed Smoke	2.85	0.36	1.95	0.22	1.1	0.97	1.042	0.30	4.395	≤0.0001*	6.216	≤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 st day	'p' value	't' on 3rd day	'p' value	't' on 5th day	'p' value
	M	SD	M	SD	M	SD						
Carom Seed Smoke	7.15	0.81	2.4	1.27	0.2	0.41	9.36	≤0.0001*	8.81	≤0.0001*	8.92	≤0.0001*
Control	11.3	1.80	7.05	1.98	2.95	1.31						

*significant

DISCUSSION

The main aim of the study was to explore the effectiveness of carom seed smoke 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 (carom seed smoke) mean was 2.85 in 1st day, 3rd day it was 1.95 and in 5th day it was 1.1. The rate of wound healing mean in carom seed smoke was on 1st day 7.15, 3rd day it was 2.4 and in 5th day it was 0.2. Whereas in control group on 1st day the mean of the pain was 2.95, 3rd day it was 2.5 and in 5th day it was 2.05. The mean of the wound healing on 1st day was 11.3, 3rd day it was 7.5, 5th day was 2.95 in control group. The findings shows that the carom seed smoke has gradual but remarkable effect on Episiotomy wound healing and reduction of pain with continuous use than without any intervention.

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.

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