

VALIDATION OF THE EFFECT OF AN AYURVEDIC THERAPEUTIC PROCEDURE, DASHMOOLKWATH&DHOOPAN – FUMIGATION WITH MEDICINAL HERBS DURING FIRST WEEK OF PUERPERIUM: AN OPEN CLINICAL TRIAL

Seema R. Gholap¹, N. V. Khairnar²

¹Asso. Professor, ²Asst. Professor,
Dept. of Prasutitantra-Strirog, BVDU COA, Pune – 43), Maharashtra, India

Email:seemaghohlap43@gmail.com

ABSTRACT

Dhoopan or fumigation with medicinal fumes is an important part of the *sutika-paricharya* according to *Kashyap Samhita*. *Dhoopan* drugs/herbs have medicinal properties like anti-inflammatory, anti-microbial action etc. Aim of this study was to validate the effect of an *Ayurvedic* therapeutic procedure, *Dashmool-kwath & dhoopan* – fumigation with medicinal herbs during first week of puerperium. For fumigation *Agaru, Kushdha & Guggul* were used. Total 50 patients from second to eight day of puerperal period were included in this study, divided in Trial & Control group. Trial group treated with *Dhoopan, Dhashmulakwath & Control* group with Antibiotics, Anti-inflammatory drugs & locally Betadine ointment. Trial group showed significant action as anti-inflammatory & antimicrobial.

Keywords: *Agaru, Guggulu, Dhoopan, Dashmool, Sootika*

INTRODUCTION

Puerperium is considered as period of approximately 6 weeks after delivery of placenta. During this period the genital organs revert back to their approximate pre pregnant state. Puerperium is a peculiar period due to following factors.

1. It's a state of low immunity due to wounds, lacerations in cervix, vagina, placental site and blood loss.

2. Female genital tract especially vaginal canal is normally loaded with many pathogenic organisms like staphylococci, streptococci, E-coli, Bacteroides group, Clostridium welchii, Doderlein's bacilli and yeast like fungus candida albicans. These organisms do not normally cause infections but they can become virulent in patients with lowered immunity.(1)

3. There is considerable amount of pain in genital and perineal area due to wounds and surgical incision like episiotomy.
4. Wound healing and involution of pelvic organs can be affected due to infection and low immunity.
5. Puerperal sepsis is a grave complication occurring due to following factors.
 - A. Antepartum factors: - 1. Malnutrition and anaemia. 2. Premature rupture of membranes. 3. Chronic debilitating illness. 4. Leaking.
 - B. Intrapartum factors: - 1. Repeated vaginal examinations. 2. Traumatic operative delivery. 3. Dehydration & keto-acidosis. 4. Prolonged rupture of membranes. 5. Postpartum and antepartum haemorrhage. 6. Retained products of conception. 7. Placental site lying close to the vagina (placenta previa).

Prevention of the disease and maintenance of health is the aim of *Ayurveda*. This principle applies to puerperium also. To prevent puerperal complications like puerperal sepsis *Ayurveda* recommends dietary and life style regimen. It is called as “*Sutika-Paricharya*”. *Dhoopan* or fumigation with medicinal fumes is an important part of this *sutika-paricharya* according to *KashyapSamhita* (2). *Dhoopan* drugs/herbs have the properties like anti-inflammatory, anti-microbial and pain relief. (3) It is an important local treatment which can prevent puerperal complications arising due to infections. (ref. Verse no. 22, *sutikopkramaniyaadhyay*, *Khil-Sthana*, *KashyapSamhita*). To evaluate the actual effect of *Dhoopan* it was decided to divide the subjects into 2 groups. Effect of *Dhoopan* was compared with effect of antibiotics.

DHOOPAN CONCEPT IN AYURVED: - *Dhoopan* (fumigation with herbs & fire) basically involves use of fumes of medicinal herbs by depositing them on fire like coal. Most *dhoopan* drugs contain volatile or aromatic oils which have actions like anti-microbial, anti-inflammatory and analgesic. During ancient times when germ theory of disease was not conceived it was recommended to ward off evil spirits (unseen, unknown bad agents causing diseases). *Dhoopan* has been recommended in various disorders as well as to maintain health (*charya*). Various drugs are listed to be used in various forms of *dhoopan*. For example, inhalation of medicated smoke is called as *Dhoom-pana* (smoking), subjecting a body part of whole body to the fumes is called *dhoopan*. It was also recommended to purify air in a room or even clothes of new-born etc. In this study we studied local effects of *dhoopan* on yoni (female genital organs especially vagina).

To make the *Dhoopan* process safe and easy, with the help from engineers, a *Dhoopan Yantra* was designed, a fume delivery system which we named *dhupanyantra*. This machine also made the procedure much safer than traditional method which involves dangers like suffocation, burn etc.

1. Aims & Objectives

Aim: - To Validate the effect of an *Ayurvedic* therapeutic procedure, *Dashmoolkwath & dhoopan* – fumigation with medicinal herbs during first week of puerperium.

Objectives: -

- A. To study the effect of *dhoopan* on
 1. Wound healing in perineal and genital area.

2. Involution of uterus.
3. Analgesic action.
- B. To examine possible mode of action of *Dhoopan*.
- C. To examine adverse effects if any.

Hypothesis:-*Dhoopan* drugs/herbs are found to have properties like anti-inflammatory, anti-microbial and pain relief. It is an important local treatment which can prevent puerperal complications arising due to infections.

2. Study design: -

2.1. Selection and exclusion criteria of study participants.

A. **Inclusion criteria:** - Puerperal patients who had vaginal delivery with episiotomy from 2nd to 8th day post- partum.

B. Exclusion criteria: -

1. Caesarean section delivery.
2. Anaemia (Hb % less than 8 gm%).
3. Known asthma.
4. Known drug allergy.

2.2. Study groups: - Subjects were divided in two groups.

A. A group (Trial group): - 25 subjects. They were given *Dhoopan*. + *dashamul-kwath* 20ml-twice per day after meals for 7 days.

B. B group (Antibiotic group): - 25 subjects were selected. They were given Antibiotics (ampicillin + cloxacillin 500 mg thrice a day for 7 days), anti-inflammatory (Ibuprofen + paracetamol twice a day for 5 to 7 days). Local application of Betadine ointment at episiotomy for 7 days twice daily.

2.3. Sample size: - Total 50 patients divided in two groups.

2.4. Treatment details:-

2.5. Group A (trial group):

A. *Dhoopanchoorna*, a fine powder was prepared from following ingredients (4,5,6,7).

1. **Bark of Agar** (*Aquilariaagallocha*) 1 gm.

2. Root of *Kushtha* (*Saussurealappa*). 1 gm.

3. Resin of *Guggulu* (*ComiferaMukul*). 1 gm.

4. *Ghrita* (ghee – clarified butter) as required.

B. Duration: - From 2nd to 8th day postpartum (Total 7 days), twice a day. Duration of one session 5 minutes.

C. Position: - *Dhoopan* was given in squatting position.

2.6. Dhupan Yantra:- The powder was mixed with *ghrita* and deposited on a hot electrical plate which was covered by a conical lid with an opening. This opening has an exhaust fan to push the fumes into tube. A long flexible rubber tube was attached to the opening in the lid to carry the fumes. Patients were instructed to grasp the tube and hold it just outside the vulval opening.

D. *Dashmoolakwath* was procured from local reputed pharmacy. It was given orally; 20 ml twice a day after meals for 7 days.

B (antibiotic group): -

A. Ampicillin 250 mg + Cloxacillin 250 mg tablet (total 500 mg). Ibuprofen 350 mg + paracetamol 500 mg tablet.

B. Both tablets thrice a day for 7 days.

C. After meals.

D. Povidone iodine ointment for local application on episiotomy wound twice a day for 7 days.

2.7. Outcome measures: - All patients (from both groups) were examined for

1. Pain (abdominal and perineal).
2. Inflammation.
3. Wound healing.
4. Uterine involution.
5. Presence of bacteria in lochia by vaginal swab culture (on second day & on 8th day).
6. Vaginal pH and temperature (before & after *dhoopan*).

7. Haemoglobin percentage (on third day post-delivery).

3. Assessment of efficacy: -

3.1. Specification of efficacy parameters

- A. Pain – mild, moderate, severe.
- B. Perineal wound inflammation – Oedema, redness, and edges.
- C. Involution of uterus – level below umbilicus.
- D. Vaginal pH and temperature.
- E. Lochia – Amount, nature and smell.
- F. Anti-microbial action – was assessed by doing culture of vaginal discharge on 2nd and 8th day.

3.2. Methods and timing for assessing, recording and analysing of efficacy parameters.

Each patient was observed for signs & symptoms of pain, inflammation & involution daily. To assess antimicrobial action on vaginal discharge culture was done on 2nd and 8th day postpartum (on 1st and last day of treatment).

DISCUSSION

50 cases divided in two groups (trial & control) were completed following selection criteria within 4 months. Following discussion is done along the line of assessment of efficacy parameters mentioned earlier

Pain at episiotomy site: - Most of the **Trial group subjects** had similar relief from pain at episiotomy site as compared to **control group**. Statistical analysis also shows this effect.

Guggul (ComiferaMukul) (4) has anti-inflammatory & analgesic properties.(8,9,10)

1. Hence its fumes act as analgesic & anti-inflammatory as well as *dhupan* increases local vaginal temperature by an average of 0.5 F. This rise in temperature produces

soothing effect which is helpful in pain relief.

- 2. Perineal wound inflammation (effect on wound healing): - All patients of Trial group showed normal wound healing. The medicinal fumes have volatile oils which possess anti-inflammatory property. The anti-inflammatory effect helped in good wound healing by preventing wound infection. *Dhupan* also has drying effect; which caused reduction in vaginal discharge; thus helping in prevention of inflammation & infection.
- 3. Involution of uterus: - Both groups showed similar pattern of involution. This shows that *dhupan* also maintains normal involution. This action is due to anti-microbial action of *dhupan*. (The authors have done before and after treatment vaginal swab culture to prove the anti-microbial action). Major cause of delayed or sub-involution is infection of uterus especially placental site(1). By preventing infection and inflammation *dhupan* helps to maintain normal involution.
- 4. Vaginal pH: - Vaginal pH was observed before & after *dhupan*; daily. Presence of blood & other discharge makes the vaginal pH alkaline. Normal vaginal pH in non-pregnant state is acidic (Between 3.5 to 5.5). During Trial study the average pH before *dhupan* was 7.2 (alkaline) and average pH after *dhupan* was 6.5 (acidic). This significant reduction in pH helps to boost natural defence mechanism of vagina (acidic pH reduces pathogenic organisms). This finding can be interpreted as indirect anti-microbial action of *dhupan*.
- 5. Vaginal Temperature: - Vaginal temperature was taken before and after *dhupan*

every day. The average vaginal temperature before *dhupan* was 99.2 F and after *dhupan* it was 99.7 F. This significant rise in vaginal temperature has two effects. First; it helps in soothing the pain and discomfort at episiotomy, second; it helps in reducing pathogenic micro-organisms (The authors have done before and after treatment vaginal swab culture to prove the anti-microbial action). Thus *dhupan* has analgesic and anti-microbial properties.

6. Lochia – Amount, nature and smell: - There was no sign of any abnormal or increased lochial discharge in both the groups. Some patients from trial group showed reduction in discharge. This may be due to drying effect of *dhupan*. This finding shows; *dhupan* maintains normal lochia by preventing infection.
7. Anti-microbial action: - This was assessed by taking vaginal culture swabs before and after treatment in both groups (First swab on 2nd day & last swab on 8th day). The reports showed vaginal flora containing staphylococci, streptococci, E-coli, Enterococcus fecalis, Klebsiellapneumoniae etc. The organisms remained same in before and after *dhupan* as well as before and after antibiotics. This shows that there was no significant difference between both the groups. It can be argued that *dhupan* also keeps check on the growth of pathogenic organisms. It may have some bacteriostatic action.
8. Mode of action of *dhupan*: - According to Ayurved *dhupan dravyas* have *Katu-Tikta-Ushna* & aromatic properties. When put on fire these *dravyas* burn and get converted into gaseous form and volatile oils. These drugs enter into smallest units of tissue of

genital tract (*sookshma-strotogami*). Thus *dhupan* prevents infection and pain by keeping the lochia sterile & by keeping the wound healing on normal course.

CONCLUSION

Dhupana is a local treatment during first week of puerperium played important role in prevention of episiotomy wound infection, so promoted wound healing by its anti-inflammatory and anti-microbial properties & also having analgesic action.

Dhupan reduces pH of vaginal secretions making it acidic from alkaline, thus improving natural defence mechanism of female genital tract and it keeps the growth of bacterial flora in check *Dhupan* is economical, easy to perform and effective procedure without any harmful side effects

Thus the primary aim of validation of efficacy of *dhupan* procedure has been achieved.

REFERENCES

1. Datta D. C (2011), Textbook of gynaecology and obstetrics: anatomy of female genital organs, CBS publishers, Delhi, 7th edition: page no. 144-153.
2. Vridhajivaka, kashyapa, vatsya, kashyapasmhita, khilasthana, sutikaupkramaniya, 11/12, Hemaraj Sharma, chaukhamba Sanskrit prakashan, Varanasi, 2000:306
3. The Ayurveda Pharmacopoeia of India, part 1st/volume 1, kushta, first edition, 1990 Pg. No. 30
4. The Ayurveda Pharmacopoeia of India, part 1st/volume 1, guggulu, first edition, 1990.

5. The Ayurveda Pharmacopia of India, part 1st/volume 1, Agar, first edition, 1990 Pg. No. 34.
6. Bhavmishra, Bhavaprakashnighantu, Karpuradivarga/22, Sambodhita Parivardhita-Sanskarana Chunekar/ Pandey, Chaukhmbha Bharti Akadami Varanasi Prakashana, 2010:185.
7. Bhavmishra Bhavprakash Nighantu Karpuradi Varga/38-40, Chunekar/ Pandey, Chaukhmbha Bharti Akadami Varanasi Prakashana, Sambodhita Parivardhita Sanskarana 2010:195.
8. Arora RB, Kapoor V, Gupta SK, et al. Isolation of a crystalline steroidal compound from Commiphora mukul & its anti-inflammatory activity. Indian Journal of Exp Biol 1971;9(3):403-404.
9. Saeed MA, Sabir AW (2004). Antibacterial activities of some constituents from oleo-gum-resin Commiphora mukul. Fitoterapia. 75(2): 204-208. Satyavati GV, Dwark.
10. Sharma J N, Comparison of the anti inflammatory activity of commiphora mukul (an indigenous drug) with those of [phenylbutazone and ibuprofen in experimental arthritis induced by mycobacterial adjuvant. Arzmeimittelforschung-27.1455-1457

Source of Support: Nil

Conflict Of Interest: None Declared

How to cite this URL: Seema R. Gholap & N. V. Khairnar: Validation Of The Effect Of An Ayurvedic Therapeutic Procedure, Dashmoolkwath&Dhoopan – Fumigation With Medicinal Herbs During First Week Of Puerperium: An Open Clinical Trial. International Ayurvedic Medical Journal {online} 2017 {cited September, 2017} Available from:

http://www.iamj.in/posts/images/upload/3260_3265.pdf