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Research Article

A CLINICAL STUDY ON EVALUATION OF POST CESARIAN BREAST MILK SECRETION WITH *SHATAVARIKALPA*: AYURVEDIC FORMULATIONS

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ABSTRACT

Sutika is the stage as placenta out from the womb for 1st to 6th weeks. *Sutika* is the condition in which she had feeling of mother and due to this *Prakrut vata* helps to initiation of Breast milk secretion, for all this there is changes takes place in hormone, this all done by *Prakrut vata dosha* and balance of *Kapha doshas*. Shushrut mentioned *Mudhagarbha* in which *Vipatan* (incision) done by *Vaidyas* into uterus to take out baby from womb, after expulsion of placenta the lady is called *Sutika* (puerperial stage). Breast secretion were observed in post caesarian patient after 3-4 days, as baby not delivered by *Prakrut prasava*. The Ayurvedic formulation having property to provide stability to the mother in *Sutika awstha*, digestive *Rasa dhatu* and provide proper digestive milk nutrients to the baby for their proper growth and development. Galactogogues are substances used to induce, maintain, and increase milk production, both in humanclinical condition(like noninfectious agalactias and hypogalactias). *Shatavari* is a good herbal galactogogues which increase milk production after post caesarian section.

Aim: To study the evaluation of Breast milk secretion with Ayurvedic formulations and to avoid modern medicines in post cesarian section cases side effects on breast secretion and use of antacid property of *Shatvari kalpa.*

Methodology: Oral medication *Shatavarikalpa* were administered to the patient of post cesarian, after two days when shifted to oral diet for 1 month. **Result:** A total no. of 100 patients were included in this study out of which 50 patients were treated with Ayurvedic formulation and 50 were treated with modern analgesics with antibiotics. In trial group on day 7th 41(82%) patients having good secretion and on day 15th 44 (88%) patients good secretion were observed. In control group on day 7th 31 (62%) patients having good secretion and on day 15th 35 (70%) patients were observed. Average duration of stay at the IPD was 7 days and follow upon 15th day.

Conclusion: The administration of *Shatavarikalpa* helps in adequate milk secretion for neonate growth. This combination maybe an effective alternative for act as an antacid treatment administered to patients undergoing post caesarian section cases.

KEYWORDS: Shatavarikalpa, Breast milk secretion, Post cesarian, Antacid.

INTRODUCTION

Ayurveda, the Indian system of medicine practiced today has its roots in the Vedic thinking. Ayurveda is one of the world oldest holistic (whole body) healing system[1]. The World Health Organization - WHO has estimated that major percentage of the population in developing countries depends primarily upon herbal medicine for basic health care. Ayurveda is one of the Indian traditional system which comprise herbal medicine. The traditional systems of medicine, commonly referred to as 'Complementary and Alternative Medicine' (CAM) are widely used and looked upon for possible and safe solutions to present day health and medical problems.[2] Ayurveda follows its own unique philosophy and methodologies to address issues of health care.[3, 4]

Ayurveda, as usual being explicit, describes this condition as *Sutika Avastha*. That is even the corner stone of women's life, is also considered here. Of course *Sutika* is not a *Rogi*, the *Paricharya* explained to Sutika in *Prasavottara Kaala* is like *Dinacharya*, *Ritucharya* as explained for *Swashta*. There are ample changes occurring in *Garbhavastha* and *Prasavastha*. A *Sutika's Sharira* is thought to be *Shoonya-Sharira* after delivery due to exertion of labour pains & excretion of moisture (*Kleda*) & blood.[5]

Acharya Sushruta & Acharya Vagbhat[6] has given it a time period of 1½ months/ until she restarts her menstrual cycle again. According to Acharya Kashyap, Sutika-Kaala is upto 6 months[7] and Acharya Bhavprakash, is upto 4 months.

Charya Charaka has given a schedule of [8-9] days in Ch. Sha. 8/48 for *Sutika* in which he has mentioned the management of early puerperium including *Snehpana*, *Abhyanga, Udarveshtana, Yavagupana* etc. by which he has indicated that early puerperium (*Sadya-Prasutakaala*) is the time period in which a *Sutika* needs extra special care until she returns to her normal physiology progressively.

Breast milk is uniquely superior for infant feeding. it is the normal food for infants from birth. It contains all of the essential nutrients, antibodies and other factor important for growth and development. Breast milk can be provided exclusively for around the first 6 months, meeting all of the infants nutritional needs. Breast milk is still very important beyond the first 6 months. Once complementary foods are introduced Breast milk continue to provide important nutrients and growth factor up to 2 years..Breast milk also contains important non-nutritional components, such as antimicrobial factor that are important for passive protection against infections and immune mediated diseases and modulate immunological development. Providing Breast milk has many benefits to both the mother and infant. It contains all the nutrients the infants needs for proper growth and development, these nutrients includes proteins, fats, carbohydrates, minerals, vitamins and trace elements. Milk production is essential for optimal feeding of infants and has a direct impact on growth, development, and health in neonatal period.

Nutritive demand of a neonate completely depends on breast feeding. Inadequate breast feeding affects health of baby. *Shatavari* is proven herb for increasing lactation. The root extract of A. racemosus is prescribed in Ayurveda to increase milk secretion during lactation. Oral intake of *Shatavari* pasted with milk is useful in inadequate lactation.[10] 'Ricalex' tablets with *Shatavari* as content (Aphali pharmaceutical Ltd. Ahmednagar) has shown to increase milk production in females complaining of deficient milk secretion.[11] Increased weight of the mammary glands was observed in weaning rats, when alcoholic extract of *Shatavari* was used as Systemic administration ailing with inhibited involution of lobulo-alveolar tissue and maintained milk secretion.[12] Enhance milk output is reported in women complaining of scanty breast milk, on 5th day after delivery, treated with *A. racemosus* along with some other herbal substances in the form of a Commercial preparation, lactare (TTK Pharma, Chennai).[13-14]

Charak Samhita written by Charak and Ashtang Hridyam written by Vagbhata, the two main texts on Ayurvedic medicines, lists *Asparagus racemosus* as part of the formulas to treat disorders affecting women's health. In modern Ayurvedic practices the roots of plant are considered to be effective as antispasmodic, appetizer, stomach tonic, aphrodisiac, galactogogue, astringent, antidiarhoeal, antidysentiric, laxative, anticancer, anti-inflammatory, blood purifier, antitubercular, antiepileptic and also in night blindness, kidney problems and in throat complaints. Further, it is mentioned as *Medhya*- the plants which increase intelligence and promote learning and memory and as *Rasayana*, the rejuvenator herbs which improves health by increasing immunity, vitality and resistance, imparting longevity as well as protection against stress. This herb is also mentioned as balya means a strength promoter, *Stanyaa*- galactogogue and *Jeevaniya*- an erythropoetic.

Herbal galactogogues have also properties to induce and produce milk production. in this study *Shatavari* is the drug which is used as a herbal galactogogues properties. It is used after post caesarian section cases. Galactogogues are synthetic or plants molecules used to induce, maintain, and increase milk production, which mediate complex processes involving interaction between physical and physiological factor. Among the most important factors are hormones such as prolactin.

Most common galactogogues for human use are metrochlopramide, dpmperidone, chlormazine and sulpiride. These galactogogues having significant side effects in mother dry mouth syndrome or hyposalivation, hythmia gastrointestinal disorders, cardiac arrlethargy, extrapyramidal symptoms such as hyperhidrosis, facial seborrhea, hypertention tremor.

AIM

To study the evaluation of Breast milk secretion, antacid and other benefits in Post Caesarian Section cases.

OBJECTIVES

- To study the effect of *Shatavarikalpa* on breast milk secretion.
- To study the effect of antacid property and other various parameters of puerperium.

Materials

Table 1: *Shatavari kalpa*

1.	*Shatavari*	*Acparagus racemosa*	*Madhura, Tikta, Katu*	*Katu*	*Sheeta*	*Tridosh shamak*	*Vrushya, Dahashmak, Garbhasthapak, Stanayajanan*
2.	*Sarkara*		*Madhur*	*Madhura*	*Sheeta*	*Vata-pitta shamak*	*Vrushyavajikaran, Vedanastahpana, Shothahara, Garbhahayasthapan*
3.	*Ela*	*Eletharia cardemomum*	*Katu*	*Madhura*	*Sheeta*	*Tridosha hara*	*Mukhashodhan, Dahaprashamana Balaya, Anuloman*

METHODOLOGY

1) Drugs Review

Group A- Shatavarikalpa with Antibiotics and other Ayurvedic formulations.

Group B- Antibiotics, Anti- inflammatory, serratiopeptides and Antacids.

2) Number of patients: Total - 100

- Group A - 50
- Group B - 50

3) Selection Criteria

Inclusion Criteria :

- All patients will be of post caesarian section cases.
- Patient will be taken of all gravida.
- HIV, VDRL, and HBsAG should be negative.

Exclusion Criteria

- Patient is having PIH, GDM, CardiacDisorder, Anaemia
- Patient is suffering from infection.
- History of previous abdominal surgery.
- HIV, VDRL, HBsAG positive

Discontinous Criteria

- Severe illness during study.
- Development of any side effect.
- If patient suffer from severe infection during study.
- Gastritis
- Pyrexia
- Excessive wound discharge after dressing.

Table 2: Management for first forty eight hours of Post Caesarian Section was IV Antibiotics with antacids and analgesics as patient was kept nil by mouth (NBM) Ayurvedic Drug

Drugs	**Form**	**Route**	**Dose**	***Anupana***	**Duration**
	2nd Day Evening				
Shatavari Kalpa	Granules	Orally	10 gm. 12 hourly	Milk	15 days

Table 3: Modern Drugs(no any other galactogouge)

Drugs	**Route**	**Dose**	***Anupana***	**Duration**
Tab. Ziprax 200 12hrly	Oral	200 mg. 12 hourly	water	5 days
Tab. Emanzen-D (Seratiopeptidiase) 12 hrly	Oral	8 hourly	water	5 days
Tab. Rantac 150 12hrly.	Oral	12 hourly	water	5 days

Table 4: Duration of Study

Particular	**Group**	
	Trial group	**Control group**
Number of Patients	50	50
Route	Oral	Oral
Place	Bharati Vidyapeeth Ayurved Hospital. IPD of Prasuti and streerog department	Bharati Vidya peeth Ayurved Hospital. IPD of Prasuti and streerog department
Duration	5 days in IPD & Ayurvedic formulations continue till 1 months	5 days after shifted IRON/CAL
Follow Up	15th day after caesarian in OPD	15th day after caesarian in OPD

Assessment Criteria

Each patient was assessed for the following criteria:-

1. Gravidity: This was assessed form history taken in case format report such as gravida, parity, abortion, miscarriage, IUD.

2. *Prakruti*: This was assessed by the factors as mentioned in the case format report.

3. Age: This was assessed by categorizing the different age group such as, from 18 to 25 years, 26 to 33 years, 34 to 41 years.

4. BP: This was monitored 6 hourly manly, from day one today seven and record was kept daily to rule out any side effects of the drugs.

5. Pulse: This was monitored manually 6 hourly daily to rule out any side effects of the drugs.

6. Agni (Digestive power): This was assessed by questioning the patients about their desire to take food and ability to digest the food and feeling hungry.

Table 5: Gradations for assessment of *Agni*

Grades	Criteria
Grade 1 (*Uttam*)	Feeling of hunger between 6 to 8 hours
Grade 2 (*Madhyam*)	Feeling of hunger between 8 to10 hours
Grade (*Heena*)	Feeling of hunger more than 12 hours

7.Tongue: This was assessed by the presence of coating (i.e. *Saam* and *Niraam*) present on the tongue from day one today seven and on day fifteen.

8.Uterine Involution: This was assessed in centimeter as above pubic symphysis from day one today seven and on day fifteen follow up.

Table 6: Uterine Involution as per modem criteria

Grades	Rate of Involution in Cm.
Day 1 To 3	2 – 3 Cm.
Day 4 To 7	3 – 5 Cm.
Day 15	Complete involution

The rate of involution of uterus was clinically assessed by noting the regression of fundal height in relation to pubic symphysis in cms. The measurements were taken carefully at fixed time. Bladder was emptied before and preferably the bowel too. The uterus was centralized and then the measurement was taken with tape. Sub involution, if any was mentioned.

9. Breast Secretion: This was assessed as Fulfillment of baby's daily nutritional needs from postpartum day one today seven and day fifteen.

Table 7: Gradation of Breast secretion

Grade	
Grade 0	No Secretions
Grade 1	Fulfillment of baby's nutritional needs on day one
Grade 2	Fulfillment of baby's nutritional needs on day two to three
Grade 3	Fulfillment of baby's nutritional needs on day four to seven

10.Breast Engorgement: This was assessed by hardening of Breast, rise in local temperature from day one today seven.

11.Lochial Discharge: a) Colour: This was assessed by the colour of discharge as red, pink and yellow on pad, from day one today seven and on day fifteen follow up.

Table 8: Gradations for assessment of Lochial Discharge

Grade	*Varna* (colour)
Grade 1	Red
Grade 2	Pink
Grade 3	Yellow

b) Quantity: This was assessed by the numbr of pads used, from day one today seven and on day fifteen follow up.

Table 9: Gradations for assessment of Quantity of Lochial discharge

Grade	No of pads / day
1	1 pads
2	2 pads
3	3 or more pads

12. Haemogram

a) This was assessed by investigating the blood for haemoglobin, Pre Operative, Post operative day three and one day fifteen follow up.

b) Leucocyte Count (WBC Count): This was assessed by investigating the blood for leucocyte count upto 15000/cumm and above 20000/cumm

c) Platelets Count: This was assessed by investigating the blood for platelets count ranging from less than 1.5 lakhs/cumm, between 1.5 lakhs/cumm to 5 lakhs/cumm.

13.Bowel Opening: This was assessed by questioning the patient about defecation from day one today seven daily and advised suppository on day three if defecation absent till day three.

14.Body Temperature: This was assessed through Thermometer by measuring Body Temperature (Axillary) daily from day one today seven. It was assessed, as 96 degree to 98 degree and above 99 degree.

Observations and Statistical Analysis

Table 10: Breast secretions

Breast Secretion	Median		Wilcoxon Signed Rank W	P-Value	% Effect	Result
	Day 1	Day 15				
Trial Group	3.0	1.0	-4.388[a]	0.005	75.3	Highly Significant
Control Group	2.0	1.0	-4.400[a]	0.021	63.2	Significant

Using one tailed Wilcoxon signed rank test, to test the hypothesis –

H_0 : Median improved Breast Secretion before and after treatment is zero or less.

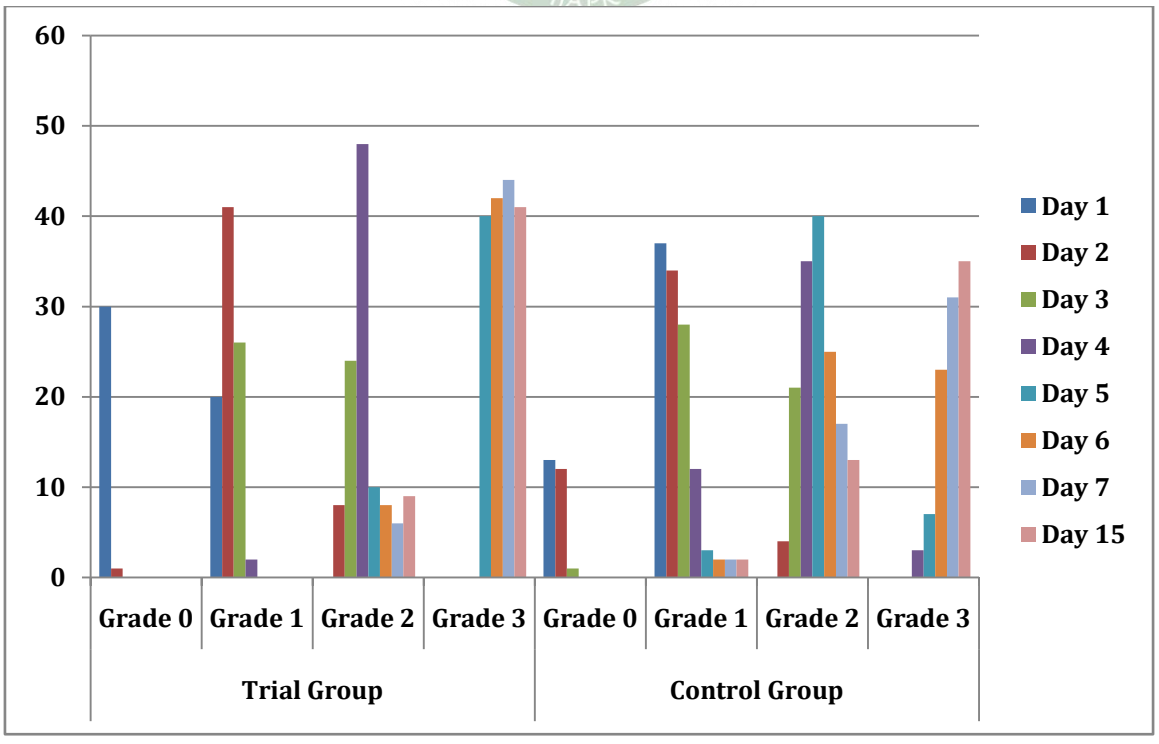
H_1 : Median improved Breast secretion before and after treatment is greater than zero.

- For trial group, the median improved Breast secretion before treatment and after treatment is highly significant (P-value = 0.005) at 5% level of significance.
- For Control group, the median improved Breast Secretion before treatment and after treatment is significant (P-value = 0.021) at 5% level of significance.

Table 11: Trial group considered as more effective as compared to control for breast secretion

Breast Secretion	Trial Group				Control Group			
	Grade 0	Grade 1	Grade 2	Grade 3	Grade 0	Grade 1	Grade 2	Grade 3
Day 1	30	20	0	0	13	37	0	0
Day 2	1	41	8	0	12	34	4	0
Day 3	0	26	24	0	1	28	21	0
Day 4	0	2	48	0	0	12	35	3
Day 5	0	0	10	40	0	3	40	7
Day 6	0	0	8	42	0	2	25	23
Day 7	0	0	6	44	0	2	17	31
Day 15	0	0	9	41	0	2	13	35

Graph : Breast secretions



- In trial group on day 7th 41(82%) patients having good secretion and on day 15th 44 (88%) patients good secretion were observed.

- In control group on day 7th 31(62%) patients having good secretion and on day 15th 35 (70%) patients were observed.

Table 12: *Agni* (digestive power)

Agni	Median		Wilcoxon Signed Rank W	P-Value	% Effect	Result
	Day 1	Day 7				
Trial Group	3.0	1.0	-2.935[a]	0.003	75.3	Significant
Control Group	3.0	3.0	-1.890[a]	0.059	23.1	NS

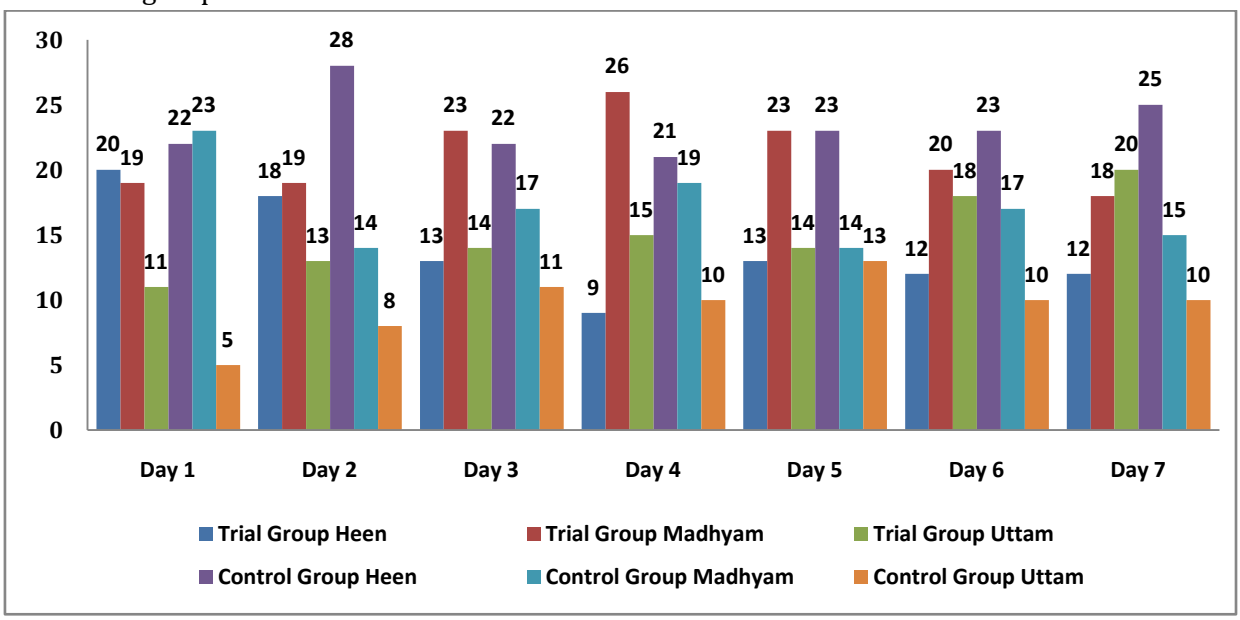
Using one tailed Wilcoxon signed rank test, to test the hypothesis –

H_0 : Median increase in Digestive power before and after treatment is zero or less.

H_1 : Median increase in Digestive power before and after treatment is greater than zero.

For, the median increase in Digestive power before treatment and after treatment is significant (P-value < 0.003) at 5% level of significance. i.e. it can be stated that, there is highly significant improvement in Digestive power in trial group.

For group B, the median increase in Digestive power before treatment and after treatment is significant (P-value < 0.059) at 5% level of significance. i.e. it can be stated that, there is significant improvement in Digestive power in Control group.



Thus, it was observed that in Trial group.

- Within 24 hours of treatment, 20 patients (40%) had *Heenaagni* (poor appetite), 19 patients (38%) had *Madyam* Agni (moderate appetite) &11 patients (22%) had *Uttam agni* (adequate appetite).
- From second day remarkable Agni *Deepan* was observed till seventh day.
- Till day seven of treatment, 12 patients (24%)had *Heena agni,* (poor appetite) 18 patients (36%) had *Madyam* agni (moderate appetite) and 20 patients (40%) had *Prakrut* (*uttam*) *Agni* (adequate appetite).

Similarly in Control group

- 22 patients (44%) had *Heena agni* (poor appetite), 23 patients (46%) had *Madyam agni* (moderate appetite) &5 patients (10%) had *Prakrut uttam agni* (adequate appetite) in first 24 hours.
- Till day seven, 25 patients (50%) had *Heena agni* (poor appetite)15 patients (30%) had *Madyam agni* (moderate appetite) and 10 patients (20%) had *Prakrut* (uttam) *Agni* (adequate appetite).

Thus it is seen that in trial group Agni *Deepan* was enhanced from second day of treatment. It was not significant in control group.

Table 13: Uterine involution

Uterine Involution	Median		Wilcoxon Signed Rank W	P-Value	% Effect	Result
	Day 1	Day 15				
Trial Group	2.0	1.0	-4.602[a]	0.000	68.7	Significant
Control Group	2.0	1.0	-4.966[a]	0.000	62.3	Significant

Using one tailed paired t test, to test the hypothesis –

H_0 : Mean reduction in Uterine involution before and after treatment is zero or less.

H_1 : Mean reduction in Uterine involution before and after treatment is greater than zero.

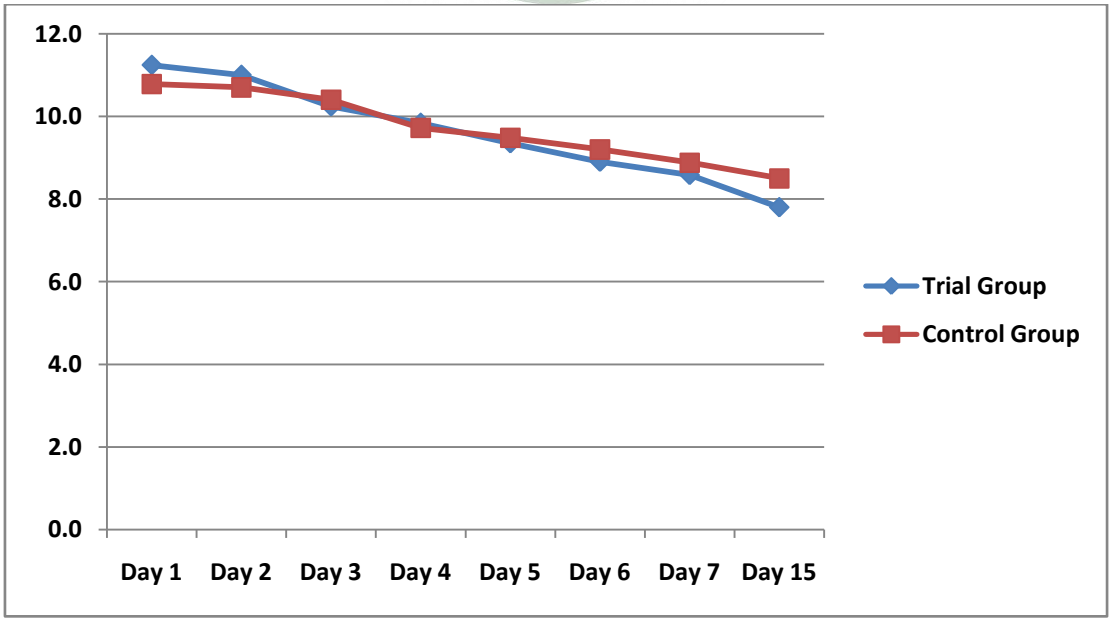
For Trial group, the mean reduction in Uterine involution before treatment and after treatment is significant (P-value < 0.00) at 5% level of significance. i.e. it can be stated that, there is significant Uterine involution observed in Trial group.

For Control group, the mean reduction in Uterine involution before treatment and after treatment is significant (P-value <0.00) at 5% level of significance. i.e. it can be stated that, there is significant Uterine involution observed in Control group.

Table 14: Significant Uterine involution observed in Trial Group and Control group

Uterine Involution	Trial Group (in cm above pubic symphysis)	Control Group (in cm above pubic symphysis)
Day 1	11.2	10.8
Day 2	11.0	10.7
Day 3	10.2	10.4
Day 4	9.8	9.7
Day 5	9.3	9.5
Day 6	8.9	9.2
Day 7	8.6	8.9
Day 15	7.8	8.5

Graph : Uterine involution



In trial group, on day 1st average uterine involution 11.7cm (in cm above pubic symphysis) were observed and after treatment on day 7, average 8.6cm and on day 15th average uterine involution 8.5cmwere observed.

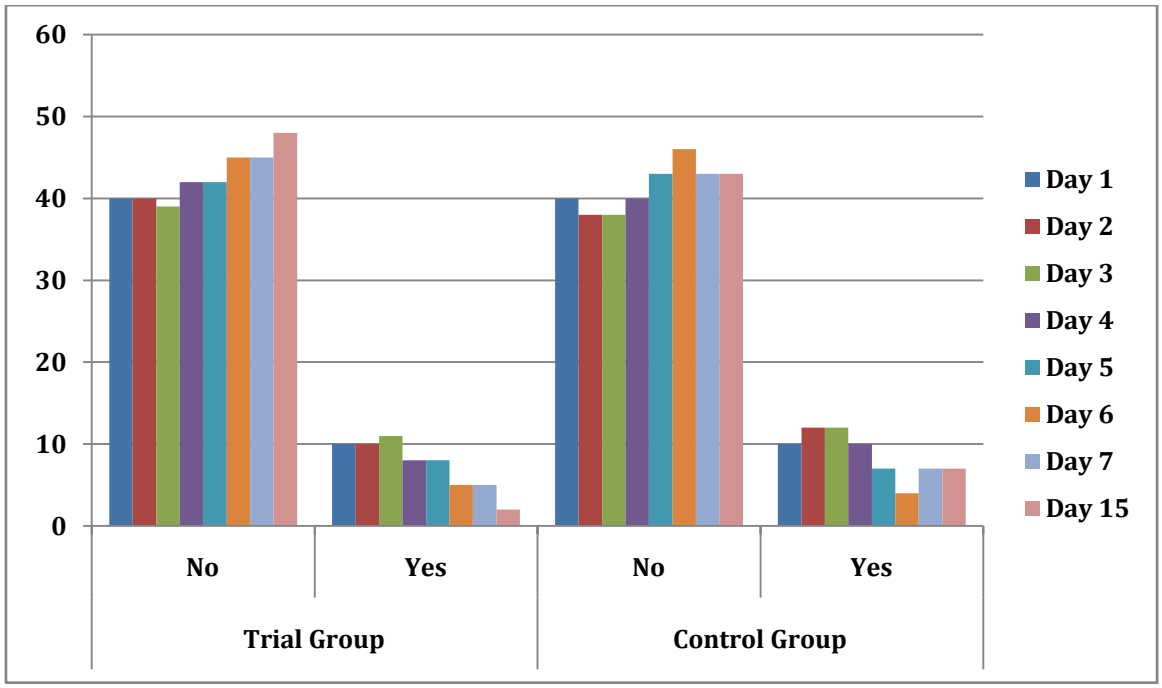
In trial group, on day 1st average uterine involution 10.8cm(in cm above pubic symphysis) were observed and after treatment on day 7, average 8.9cm and on day 15th average uterine involution 8.5cmwere observed.

In control group on day 1st10(20%) having *Saam jivha* and on day 7th 7(14%) patients and on day 15th 7(14%) patientsand40(80%) having *Niraam jivha* and on day 7th 43(86%) patients and on day 15th 43 (86%) patients were observed.

Table 14: Tongue observation (*Jivha*)

Tongue Examination	Trial Group		Control Group	
	Absent	Present	Absent	Present
Day 1	40	10	40	10
Day 2	40	10	38	12
Day 3	39	11	38	12
Day 4	42	8	40	10
Day 5	42	8	43	7
Day 6	45	5	46	4
Day 7	45	5	43	7
Day 15	48	2	43	7

Graph : Tongue observation (*Jivha*)



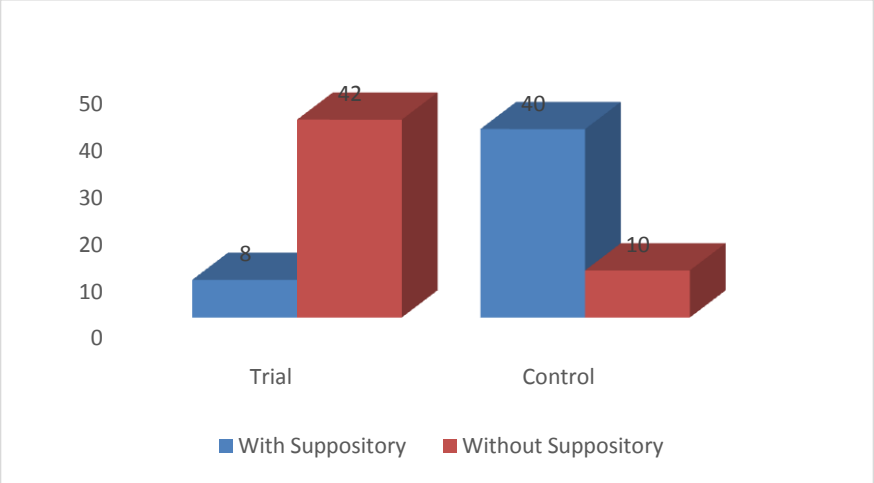
In trial group on day 1st10(20%) having *Saam jivha* and on day 7th 5(10%) patients and on day 15th 2 (4%) patients and on day 1st 40(80%) having *Niraam jivha* and on day 7th 45(90%) patients and on day 15th 48 (96%) patients were observed.

In control group on day 1st10(20%) having *Saam jivha* and on day 7th 7(14%) patients and on day 15th 7(14%) patientsand40(80%) having *Niraam jivha* and on day 7th 43(86%) patients and on day 15th 43 (86%) patients were observed.

Bowel opening (*Malapravrutti*)

Stool Pass	Trial	Control
With Suppository	8	40
Without Suppository	42	10

Graph 19 : Bowel opening (Malapravrutti)



- In trial group out of 50 patients, bowel opened in 8 patients (16%) with suppository and 42 patients (84%) without suppository after treatment on day three was significant.
- In Control group out of 50 patients, bowel opened in 40 patients (80%) with suppository and 10 patients (20%) without suppository after treatment on day three was not significant.
  Thus, trial group can be considered as more effective as compared control group drug which shown that trial group drug also act on bowel motility.

6. Haemoglobin

Hb% Examination	Mean		t-Value	P-Value	Result
	BT	AT			
Trial Group	11.6	11.1	4.923	0.000	Significant
Control Group	11.8	11.0	6.604	0.000	Significant

Using one tailed paired t test, to test the hypothesis –

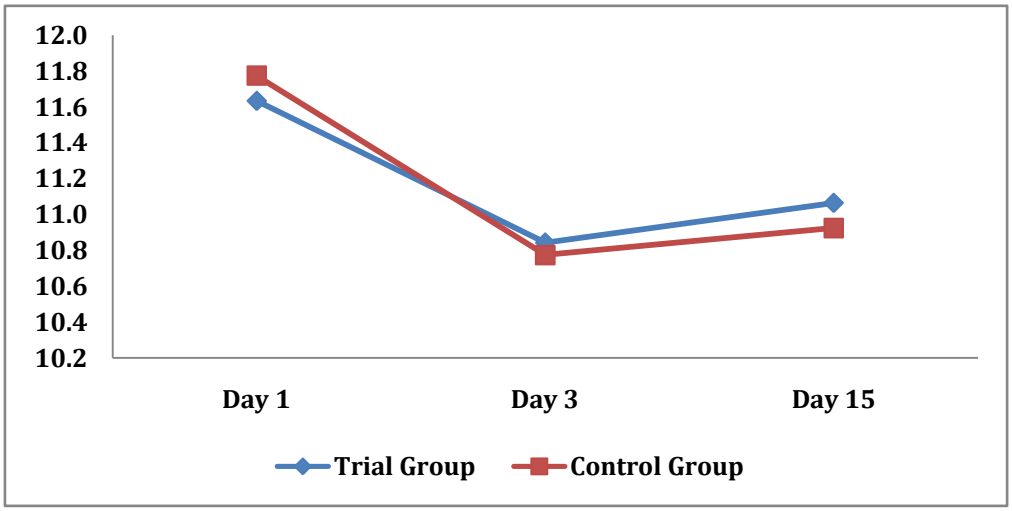
H_0 : Mean maintenance in Haemoglobin before and after treatment of post operative is zero or less.

H_1 : Mean maintenance in Haemoglobin before and after treatment of post operative is greater than zero.

For trial group, the mean maintenance in a before treatment and after treatment is significant (P-value < 0.000) at 5% level of significance. i.e. it can be stated that, there is significant maintenance in Haemoglobin inspite of not given any haematanic.

For Control group, the mean maintenance in Haeoglobin before treatment and after treatment is significant (P-value < 0.000) at 5% level of significance. i.e. it can be stated that, there is significant maintenance in Haemoglobin inspite of given haematanic for 1 month.

HB% Examination	Trial Group	Control Group
Day 1	11.6	11.8
Day 3	10.8	10.8
Day 15	11.1	10.9



In Trial group, average Haemoglobin percentage before surgery was 11.6 gms%, on day three it was 10.8 gms% and on day fifteen it was 11.1gms%.

In Control group, average Haemoglobin percentage before surgery was 11.8gms%, on day three it was 10.8gms% and day fifteen it was 10.9gms%.

DISCUSSION

Integrated management in post caesarian section cases was observed effective in this study. This management is not an easy task. Ayurvedic formulation have shown their great result on various parameters observed.

All patients tolerated these Ayurvedic formulations very well.

Random selection of patients done for this study. All types of *Prakruti's* were observed. But most of them were of *Vata-Pitta & Kapha-Pitta prakruti* in both groups.

Involution is the process by which the uterus is transformed from pregnant to non pregnant state. It is a physiological process occurring after parturitions, the hypertrophy of the uterus has to be undone since it does not need to house the fetus anymore. Delayed decrease in size of the uterine height indicated infection.

Uterine involution is a physiological process. It cannot be suppressed by any means. A good action found in uterine involution as it act as a *Garbhashaya sodhaka* action.

Shatavari has more than 50 organic compounds including steroidal saponins, glycosides, alkaloids, polysaccharides, mucilage, racemosol and isoflavones which are responsible for the multiple medicinal properties exhibited by the herb.

Shatavari is one of great rejuvenating and restorative herbs used in Ayurveda. According to Ayurveda, there are three vital energies or *Doshas* in the body known as *Vata, Pitta*, and *Kapha*. These three *Doshas* are delicately balanced in a unique proportion in every individual. Good health can be enjoyed only when this balance is maintained. *Shatavari* has proved to be extremely effective in restoring the balance of the *Pitta dosha*,

Breast Milk Secretion is very important for neonatal nourishment. *Shatavari* have *Madhura* and *Sheeta guna* which help in milk production. An ancient texts Sushrut and Charak Samhitas mentioned *Shatavari* is *Stanyajanan*. It increases milk production. It has phytoestrogenic properties which help in hyperplasia in aleolar tissues and acini and increases milk production.

According to chemical ingredients of *Shatavari*, it act as galactogouge. *Shatavari* roots reveals the presence of steroidal saponins (as *Shatavari* I-II) in which have estrogenic activity result from hormone and primary role seems to be potentiation of PRL production.

Shatavari is used in Ayurveda for dyspepsia (*Amlapitta* or acid regurgitation) and to increase milk secretion in a lactating woman. as its major component, has been reported to cause significant rise in scrum prolactin levels. The alcoholic extract of *Asparagus racemosus* has been shown to increase the prolactin levels in female. Dopamine released within the walls of the stomach as an endogenous neurotransmitter is known to impede gastric emptying.

The present study was undertaken as a part of a project to identify indigenous drugs with antidopaminergic activity. The dried root of *Shatavari* is used in Ayurveda for both relief of *Amlapitta* and *Shoola* (dyspepsia) and to increase milk yield in lactating women.

We found that the effect of *Shatavari* on gastric emptying was comparable with metoclo-pramide, and its traditional use in dyspepsia may be justifiable. The usefulness of any potential anti-dyspeptic drug may therefore possibly be predicted from its effect on gastric emptying]. As *Shatavari* accelerates gastric emptying rate, further studies are in progress in dyspepsia patients. The present study proved the mechanism of action of *Shatavari*.

Maintenance of body temperature within normal limit is a sign of health. Ayurvedic formulations proved to be equally potent in maintaining health.

Lochial discharge is outcome of physiological process after delivery. Shedding of deciduas is a physiological process, it was found in trial group pink color was found early on pads as compared to control group. This may be due to Ayurvedic formulations which is having good *Garbhashaya shodhak* action. So, it acts and shedding entire decidual surface.

Haemoglobin levels were maintained in both groups inspite of iron supplementation in modern medicine group. *Saubhagya shunthi pak* contains Jaggary which is reach in non heam iron. Ayurvedic formulations were continued in trial group till one month after delivery & hemoglobin was recorded on fifteenth day. Nutritionists quotes that ten gm of jaggary contain 3% iron of daily value & it can used to support other medicine & dietary components for increasing haemoglobin level.

Bowels were opened naturally without laxatives in Ayurvedic formulations group. This is achieved due to improved digestive power by those combinations. Ayurvedic formulations have property of *Katu katu ushna guna* and act as a *Deepan pachana* and *Shatavari kalpa* acts as a laxatives by its *Madhura* and *Sheeta viryatmaka dravya.* Ayurvedic texts mentioned that these drugs have potent action which leads to *Agnivardhan*.

CONCLUSION

Integrated management is the different approach which was taken as, an effort to develop amalgation effect in post operative in obstetrics. This study has been done to avoid some side effects of modern medicines and also act to overcome all factors of puerperium like *Agni Mandya, Dhatu Kshya Janya Vata prakopa, Stanja Janan* etc.

Breast secretions is highly significant in Trial group than in Control group, as *Shatavari* is good Galactogouge action.

Bowel Opening is more significant in Trial group than in Control group as it was without laxatives.

Uterine involution and Lochial discharge, both are physiological process, it resulted according to physiology.

Thus, it can be concluded, Ayurvedic Formulations proved to be choice of management for Post Caesarian patients.

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