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EFFICACY OF KRISHNA MUSHALI SIDDHA KSHEERA PAKA IN THE MANAGEMENT OF STANYA KSHAYA"

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ABSTRACT

Stanya kshaya is the common problem noticed in about 40% patients in our clinical practice. It is a condition where mother experience insufficient production of breast milk, due to adaptation of Western culture,women get exposed to stress & strain. Lactation is the process associated with psychosomatic condition & life style. Breast milk provides good health & proper nourishment to the newborn. It contains several antibodies which resist the infection& protect the infant. It is preferred nutrition for infants, immunologically superior to any known substitute. **Objectives of study:** To assess the efficacy of *krishna mushali mula siddha ksheerapaka* in *stanya kshaya.* **Materials and Methods**: Patient were selected according to inclusion criteria & are divided into two groups each of 15 & finding were recorded before treatment & after each follow up. a) The trail drug treatment-*Krishna mushali mula siddha ksheerapaka* 100ml is given in divided dose for 45 days after meal. b) Control group treatment-*Shatawari mula siddha ksheerapaka* 100ml is given in divided dose for 45 days after meal. Sample procedure: - Simple random sampling method. A special case-sheet is designed and entries are made in it from time to time. **Results and Interpretation**: *Krishna mushali mula*, knowing its *madhura rasa, madhura vipaka, sheeta virya, guru snigdha guna, kaphaprada, vrsya, balya, rasayana, brumhana* properties a hypothesis designed as it should increase *Stanya* due to *samana guna.* **Conclusion:** *Krishna mushali mula siddha kshirapaka* acts as *stanya vardhaka*. And this trail drug has no side effects, safe to use like control drug. so, *krishna mushali siddha ksheera paka* accepted as *stanya janana*.

KEYWORDS: *Stanyajanana, Krishna mushali, ksheerapaka*, Lactation.

INTRODUCTION

Along with the joys of motherhood comes the responsibility of nurturing the new born. For good health of new born, proper nourishment is utmost important. This nourishment is provided by breast milk.

In our classics it is mentioned that *Bala rogas* are caused due to the vitiation of *stanya* i.e., breast milk. So, breast milk plays an important role in **bala.**[1]

Breast milk is the first fundamental rights of the new born. Breast milk is universally recognized as the preferred nutrition for infants, which a mother can give to her child. It contains all the nutrients for normal growth & development of a baby from the time of birth to the first six months of life. Ensuring exclusive breast feeding for six months has a potential to reduce under five-mortality rate by 13%, the most effective intervention that are known to reduce newborn & child deaths.[2]

It also provides several antibodies which help the infant to resist the infection by lethal bacteria.

Stanya kshaya is a condition where mother experiences insufficient production of breast milk to feed her baby. It is a common problem noticed in about 40% of patient in clinical practice due to adaptation of western culture, today's busy, stress, strained day to day life activities, improper & unhealthy food habits. According to ayurveda, *Stanya Kshaya* occurs due to *manasika* & *shareerika* condition of mother ie *krodha, shoka, avatsalyatwa, langana, vyayama, ruksha anna pana, aayasa,* excessive use of *shodhana karma.*[3] In modern, which can be compared same with prolactin reflex i.e., milk secretion & oxytocin reflex i.e., milk ejection respectively.

Ayurveda offers natural, holistic support without any side effects. Many drugs, formulations are mentioned in

classics for the treatment of *stanyakshaya*. Among them *Acharya kashyapa* mentioned that the milk treated with aphrodisiac drug acts as **stanya vardhaka.[4]** And *Acharya susrutha* mentioned *kapha vardhaka dravya prayoga* in *stanya kshaya.*

According to *sharangadhara, mushali* is one of the best example for *vrishya* group of drugs[5]. The drug *krishna mushali* has *madhura rasa, madhura vipaka, guru snigdha guna, sheeta virya, santarpaniya, preeranam, kaphavardhaka, vrsya, balya, rasayana,brumhana* properties.[6] So, it is an attempt to verify the claim that *vajeekarana dravya siddha ksheera* is a *stanya vardaka.*

Aims & objectives of study
To assess the efficacy of *krishna mushali mula siddha ksheerapaka* in *stanya Kshaya.*

MATERIAL AND METHODOLOGY

Source of data
The patients were screened on the basis of symptoms from the IPD of Shri.J.G.C.H.S. Ayurvedic medical college & Hospital Ghataprabha, who fulfilled the inclusion criteria, were randomly selected for the study.

Methods of Collection of Data
1. Study Design
For the present clinical study, excluding imports 30 patients are selected on the basis of inclusion criteria & divided in to two groups each of 15.

- The trial drug treatment, *Krishna Mushali Mula siddha ksheerapaka* 100ml will be given in divided dose for 45 days after meal.
- Control group treatment, *Shatawari mula siddha kshirapaka* 100ml will be given in divided dose for 45 days after meal.

Preparation of *Ksheera Paka*
One part of coarse powder taken, 8 parts of milk added & mixed with 32 parts of water & boiled till only milk parts remains, filtered & used.

Dose-50ml
To make formulation more effective, dose is increased to 100ml.

Preparation of *Krishna Mushali Mula Siddha Ksheera Paka & Shatawari Mula Siddha Ksheera Paka*
12.5gm of *Krishna mushali* coarse powder, 100ml of milk added & mixed with 400ml of water & boiled till milk part remains (*Ksheeravasesam*), filtered & taken in divided dose (i.e., 50ml ml bid)

12.5gm of *Shatawari* coarse powder, 100ml of milk added & mixed with 400ml of water & boiled till milk part remains (*Ksheeravasesam*), filtered & taken in divided dose (i.e., 50ml bid)

Due to inconvenience in preparing *ksheera paka* every day in the Bhaishajya department of our college & its

storage. I has prepared *krishna mushali* coarse powder & made in to a packets. And I had given instruction about the preparation of *ksheerapaka* to patients.

2. Selection Criteria
Inclusion Criteria
1. Age group of patients in between 18-35 yrs.
2. Patients from 5th day of delivery.
3. Patients with previous history of Lactational deficiency.
4. Breast feeding frequency more than 4-5times /day.
5. Patients either of Primigravida or Multigravidae will be selected.

Exclusion Criteria
1. Patients with Congenital anomalies, Breast atrophy, Cancers, Mastitis, Shock, previous menstrual disorders will be excluded from study.
2. Patients having h/o, Infections & Systemic diseases.
3. Postpartum hypopitutarism.

3. Assessment Criteria
Parameters of assessment are taken according to,

Subjective Parameters
1) *Stana mlanata: Shushkatwa. Stanya alpata. Stanya asambhava*.
If all the three signs are present it is grade III(+++)
If only two signs are present it is grade II(++)
If only one sign is present it is grade I(+)

2) *Stanya Ejection*: No Ejection -0
Drop by drop -1
Stream like -2
Forceful -3

3) Breast feeding Frequency: - Normal is 8-12times/day.
Any reduced frequency of feeding is noted.
Feeding 0-2times/day – 0
Feeding 3-5times/day – 1
Feeding 6-8times/day – 2
Feeding 9-12times/day – 3

4) Pertaining to Baby: - Hunger, Cry, Stools, Urinary output, sleep.

Objective Parameters
1. Weight of the baby
In the first few days after birth, newborn loses extracellular fluid equivalent to About 10% (100g, 200g,300g) of body weight.

Full term infants regain their birth weight by the age of 10days, they gain weight at a rate of approximately 25-30g per day for first 3months.

2. Breast Engorgement was rated on a 4 point scale.
0- No engorgement
1- Slight engorgement

2- Moderate engorgement, no *vedanahara aushadhi* required.
3- Severe pain, *vedanahara aushadhi* required.

3. Milk Ejection
It was evaluated by manual pressure on the nipple and observations recorded on a 4-point scale.
0-Absent secretion.
1-Few drops on pressure.
2-Moderate secretion on pressure.
3-Abundant spontaneous secretion.

The two objective parameters were combined to give a lactation score (range 0-6).

Both milk secretion score and breast engorgement score will be combined to form a lactation score (0-6).A lactation score above 4 indicates good lactation. The time

taken to reach a good lactational score in each patient will be recorded.

If the lactation score is,
4 & above- Treatment is considered as Successful
2-3 - Treatment is considered as Improved
0-1 -Treatment is considered as unsuccessful.

Investigation
1. CBC
2. Urine routine/ micro.

OBSERVATIONS AND RESULTS

The data observed in group A & group B are analyzed statistically & effect of treatment is assessed among subjective parameters such as *Stanamlanata*, *Stanya* ejection, Breast feeding frequency & Objective parameters such as Weight of baby, Breast engorgement, Milk ejection on manual pressure on nipple.

A. *Stana Mlanata*
Table 1:

Groups	Mean score				M.Diff	S.D	S.E	T value	P value	Remarks
	BT	15th	30th	AT						
Group A	1.46	1.46	1.16	0.00	1.46	1.032	0.077	3.40	< 0.001	Significant
Group B	1.33	1.26	1.16	0.00	1.33	0.940	0.3423	2.74	< 0.001	Significant

GROUP A – Mean score of *stana mlanata* before treatment was 1.46 & is reduced to 0 after the treatment, t- value is 3.40 with the significance of p=<0.001 after the treatment.

GROUP B – Mean score of *stana mlanata* before treatment was 1.33 & is reduced to 0 after the treatment, t- value is 2.74 with the significance of p=<0.001 after the treatment.

B. *Stanya* Ejection
Table 2:

Groups	Mean score				M.Diff	S.D	S.E	T value	P value	Remarks
	BT	15th	30th	AT						
Group A	0.066	0.53	0.93	1.2	1.134	0.801	0.293	2.73	< 0.001	Significant
Group B	0.096	0.53	0.93	1.2	1.134	0.424	0.2914	2.45	< 0.001	Significant

Group A-mean score of stanya ejection before treatment was 0.066 & is increased to 1.2 after the treatment, t-value is 2.73 with significance of P=<0.001 after the treatment.

Group B- mean score of stanya ejection before treatment was 0.096 & is increased to 1.2 after the treatment, t-value is 2.45 with the significance of P=<0.001 after the treatment.

C. Breast Feeding Frequency
Table 3:

Groups	Mean score				M.Diff	S.D	S.E	T value	P value	Remarks
	BT	15th	30th	AT						
Group A	0.066	0.66	1.066	1.53	1.464	1.035	0.3782	2.66	< 0.001	significant
Group B	0.26	0.66	1.066	1.53	1.464	0.282	0.3758	1.236	< 0.001	significant

Group A- Mean score of breast feeding frequency before treatment was 0.066 & is increased to 1.53 after the treatment, t-value is 2.66 with the significance of P=<0.001 after the treatment.

Group B- Mean score of breast feeding frequency before treatment was 0.26 & is increased to 1.53 after the

treatment, t-value is 1.236 with the significance of P=<0.001 after the treatment.

D.Weight Of baby
Table 4:

Groups	Mean score				M.Diff	S.D	S.E	T value	P value	Remarks
	BT	15th	30th	AT						
Group A	3.4	3.2	3.0	3.8	0.49	0.282	0.103	2.76	< 0.001	significant
Group B	3.6	3.3	3.1	4.0	0.63	0.212	0.129	3.45	< 0.001	significant

Group A- Mean score of weight of baby before treatment was 3.4 & is increased to 3.8 after the treatment, t-value is 2.76 with significance of P=<0.001 after the treatment.

Group B- Mean score of weight of baby before treatment was 3.6 & is increased to 4.0 after the treatment, t-value is 3.45 with significance of P=<0.001 after the treatment.

E. Breast Engorgement
Table 5:

Groups	Mean score				M.Dff	S.D	S.E	T value	P value	Remarks
	BT	15th	30th	AT						
Group A	0.26	0.66	0.93	1.8	1.54	1.088	0.3979	2.76	< 0.001	Significant
Group B	0.26	0.66	0.93	1.8	1.54	0.325	0.3952	2.63	< 0.001	Significant

Group A- Mean score of breast engorgement before treatment was 0.26 & is increased to 1.8 after the treatment, t-value is 2.76 with the significance of P=<0.001 after the treatment.

Group B- Mean score of breast engorgement before treatment was 0.26 & is increased to 1.8 after the treatment, t-value is 2.63 with the significance of P=<0.001 after the treatment.

F.Milk Ejection on Mannual Pressure On Nipple-
Table 6:

Groups	Mean score				M.Diff	S.D	S.E	T value	P value	Remarks
	BT	15th	30th	AT						
Group A	0.33	0.93	1.6	2.06	1.736	1.022	0.4485	2.28	< 0.001	Significant
Group B	0.53	0.933	1.6	2.06	1.736	0.282	0.4470	2.66	< 0.001	Significant

Group A- Mean score of milk ejection manually before treatment was 0.33 & is increased to 2.06 after the treatment; t-value is 2.28 with the significance of P=>0.001 after the treatment.

Group B- Mean score of milk ejection manually before treatment was 0.53 & is increased to 2.06 after the treatment, t-value is 2.26 with the significance of P=>0.001 after the treatment.

Over all results of the study
Table 7:

Lactation score	Group A		Group B	
	No of pt	percentage	No of pt	Percentage
Successful	9	60%	11	73.3%
Improved	6	40%	5	26.6%
Unsuccessful	0	0%	0	0%
Total	15	100%	15	100%

Pictures of experimental study
Yavakuta churna **of** *Krishna mushali mula* **&** *shatawari mula*

Krishna Mushali Mula Siddha Ksheera Paka

DISCUSSION

Discussion on Conceptual Study
Utpatti of *Stanya* according to Ayurvedic classics

- *Rasa dhatu*

Stanya & *arthava* are the *upadhatu* of *rasa*. *Upadhatus* are those which get nourished by corresponding dhatu.

Sushruta acharya mentioned that the *rasa dhatu* is the ultimate outcome of the food which possess all following criteria i.e.

It should include *pancha bhoutika* constitutes, *chaturvidha anna* (*bhoja, bhakshaya,lehya, peya*), *shadrasayukta*, constituting dwividha & *ashta vidha veerya* & properties sufficient to maintain the tridoshic balance.such food after digestion becomes two parts ie *sara* & *kita tejarupa saara bhaga* which is micro in size known as *rasa*.[7] Hence any defect in above criteria obviously vitiates *rasa dhatu* & further it vitiates its upadhatus.

- **From** *rakta dhatu*

According to *kashyapa*, after fertilization. Some quantity of food nourishes breast milk in pregnant woman.[8] Blood is the only media for circulation of hormones & blood carries the breast milk producing hormones. In this way blood play role in production of breast milk.

- **From** *raja*

The left over *raja* after formation of *garba* goes upward to *stana* & there by the action of *pitta*, colour of *raja* changes from red to pale white & transformed into *stanya*, the *piyusha* (colostrum) actually resembles this type of *stanya*.[9]

DISCUSSION ON THE DRUG

- In Ayurveda, Kashyapa mentioned that the vrsya drug treated with milk acts as *stanya vardhaka*. Keeping these aspects in mind, this study has been undertaken. It is an attempt to verify the claim.
- Krishna *mushali* is one of the vrsya drug. We know that vrudhi is attained by the application of *samanya dravya*, *samanya guna* & *karma*.
- *Krishna mushali* has properties like *madhura rasa, madhura vipaka, sheeta virya, guru* & *snigdha guna, kaphavardhaka, vrsya, balya, snehana, brumhana* properties.
- It is observed that the drug & *stanya* contain similar properties like *madhura rasa, madhura vipaka, guru snigdha guna, sheeta veerya, kaphavardhaka doshagnata, vrsya* & *balya karma*.
- And *ksheerapaka* is more reliable for separation of more active principles from the drug, add them in to milk.[10] So, the drug given in the form of

ksheerapaka. Therefore, *krishna mushali siddha ksheerapaka* causes increase of breast milk secretion.

- By the end of 2nd & 3rd follow up most of the patients achieved *stanya vridhi*.
- If the score is between 4 above- Treatment is considered as Successful, 2-3 – Treatment is considered as Improved & 0-1 - Treatment is considered as unsuccessful.
- The *krishna musali siddha ksheera paka* achieved in increasing lactation, in 9 patients it is successful i.e. 60%, & in 6 patients it is improved i.e. 40%. By *shatawari siddha ksheera paka*, the 11 patients it is successful i.e. 73.3% & in 5 patients it is improved i.e. 26.6%
- When comparison was made in between the trail drug & control drug to find out the efficacy of trail drug, there is no that much of difference. Therefore, both are effective in achieving the lactation.

CONCLUSION

1. *Stanya kshaya* is the common problem noticed in clinical practice.
2. Adequate lactation has been defined as secretion of 300ml (10 ounces) daily by the 5th day & 480 ml by the 10th day. If these amounts are not achieved a baby of normal weight will not be adequately fed & such a situation is termed clinically as lactational deficiency.
3. It can be concluded that the claim made by *Acharya kashyapa* is verified ie the milk treated with aphrodisiac drug acts as *stanya janana*.
4. In this clinical study there were two groups, 15 patients in each group. Group A is treated with trail drug & Group B is treated with control drug. When overall results were glanced, *Krishna musali siddha ksheera paka* showed the 60% successful & 40% improved where as *shatawari siddha ksheera paka* showed 73.3% successful & 26.6% improved, even though both are having good results in achieving the lactation. The control drug is better than trail drug.
5. The result of this study gives positive response.

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