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EVALUATION OF THE EFFECT OF GOKSHURSIDDHA GHRUTA IN 6TH MONTH OF PREGNANCY

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ABSTRACT

Ayurveda is a science of life. Everyone wants to live a healthy life.The healthy life begins with the healthy foetus and it depends upon the health of mother.To creat a healthy progeny the mother's health is prime important.So in *Ayurveda Garbhini paricharya* is adviced [1]. It includes *Masanumasik pathya*- monthly dietary regimen, *Garbhopghatakar bhavas* – Activities and substances that are harmful to foetus, *Garbhasthapak dravyas* – medicines which are beneficial for maintenance of pregnancy. In *Haritsamhita, Balchikitsa* is described from pregnancy.If foetus is well nourished then a healthy neonate is borned. So it is importantnt to follow *garbhini paricharya* . During pregnancy baby gets its nutrition from mother through placenta. The nutritional requirement varies from month to month and as per the foetal development. *Ayurveda* has explained the *masanumaik pathya* -monthly dietary regimen. By following this *masanumasik pathya* a healthy baby can be delivered. This *garbhini paricharya* is explained from first month to nine month of pregnancy. Out of these the study was done of 6th month pregnancy. As per the *Sushrutaarcharya Gokshursiddha Ghruta* is adviced in 6th month of pregnancy [2].

Keywords: Garbhini, Garbhini Paricharya, Garbhini Shoth, Gokshur siddha Ghruta

INTRODUCTION

Ayurveda is a science of life. Everyone wants to live a healthy life. The healthy life begins with the healthy foetus and it depends upon the health of mother. To creat a healthy progeny the mother's health is prime important. So in *Ayurveda Garbhini paricharya* is adviced [1]. It includes *Masanumasik pathya*- monthly dietary regimen, *Garbhopghatakar bhavas* – Activities and substances that are harmful to foetus, *Garbhasthapak dravyas* – medicines which are beneficial for maintenance of pregnancy *Ayurveda* has explained the *masanumaik pathya* -monthly dietary regimen. By following this *masanumasik pathya* a healthy baby can be delivered. This *garbhini paricharya* is explained from first month to nine month of pregnancy. Out of these the study was done of 6th month pregnancy. As per the *Sushrutaarcharya Gokshursiddha Ghruta* is adviced in 6th month of pregnancy [2].

The growth of the fetus is almost getting completed at the end of 6th month. Also in 6th month according to *Ayurveda*, there is a development of *Nakha, Roma* and *Kesha* which are called as 'Mala'. All these *malas* get formed into the body of the fetus by the process of 'Sukshmapachan' & these malas get transferred in to mother via fetus. So if they all not get excreted from the mother's body then they will produce 'Garbhaupdrava' in the fetus. So *Gokshursiddha Ghruta* is adviced in 6th month [2]. As *Gokshur* is the 'Diuretic drug' so by its action all the *malas* which are produced are get excreted from the body of the mother, so subsequently extra "*Kleda*" get removed & avoids "*Garbhaupdrava*".

AIMS & OBJECTIVE-AIM- To evaluate the effect of Gokshursiddha Ghruta in 6th month of pregnancy.

OBJECTIVE- 1. To review *Garbhini Paricharya* from *Ayurvedic* literature. 2. To evaluate the effect of *Gokshursiddha Ghruta* in *Garbhini* from 6th month till delivery. 3. To collect and study necessary information about *Gokshur* and *Goghrut.*

MATERIAL AND METHOD- 1. *Gokshur* -Gokshur is *Madhur,Madhur* and *sheet viryatmak* with *sheeta a*nd *snigdha guna* [3]. Goghrut also *Madhur,Madhur* and *sheet viryatmak* with *vattoghna, pittaghna, snigdha* and *balya gunatmak*. So *Gokshursiddha ghruta* is *Madhur, Madhur* and *sheet viryatmak* with *sheeta* and *snigdha guna.*

PREPARATION OF DRUG *Gokshu*r fruit *churna* (1 part) taken, *kalk* is made then *Goghruta* four times of *kalk* is added,four times of *goghruta* water is added (1:4:16) . Then above mixture is

heated until *siddhi lakshans of Ghruta* are achieved [6, 7].

METHODOLOGY AND CLINICAL STUDY

METHODS: *Garbhini* who have completed their fifth month were randomly selected for study from OPD/IPD of *PRASUTITANTRA and STREEROG* Department of Dr D Y Patil college of Ayurved & Research centre, Pimpri Pune.

INCLUSION CRITERIA: 1. Patients completed their 5th month of pregnancy.2. Pregnancy with B.O.H, Preeclampsia in previous pregnancy, PIH, Anaemia,Malnourished women, IUGR ,oligohydramnios

EXCLUSION CRITERIA: 1. Pregnancy complicated by placenta previa, abruptio Placentae, coexisting Fibroid and malignancy. 2. Systemic diseases such as Bronchial Asthma, Hepatitis B, HIV 3. Pregnancy with G.D.M, Obesity.

CLINICAL TRIAL DESIGN- Randomised clinical trial was conducted on 60 patients as per the IEC suggestion. According to selection criteria, 60 patients were selected randomly and divided in two groups trial group and control group. In trial group 30 patients randomly selected and *Gokshursiddha Ghrut* 1 tola (10 ml) once a day in the morning ,orally with lukewarm water for Whole 6th month with iron, calcium and protein is given. In Control group also 30 patients selected randomly and only iron, calcium and protein given to compare the effect of trail group.

FOLLOW UP - weekly in 6th month, then every 15 days till delivery and for 7th month, 8th month, 9th month observations are done only on 15th and 30th day.

ASSESSMENT CRITERIA- SUBJECTIVE CRITERIA:

Symptom	Grade 0 clear	Grade 1 mild	Grade 2 moderate	Grade 3 severe
Pedal oedema	No pitting oedema	Both ankle or feet, slight pitting	Both feet hands, lower arms and lower legs, somewhat deeper pit.	Both legs, arms, feet and face, pit is noticeably deep.
Heart burn	No heartburn sensation	Burning sensation in the center of the chest	Burning sensation in the chest with headache	Burning sensation, headache with chest pain
Backache	No backache	Mild lower backpain	Pelvic and lumber pain	Rhythmic cramping pain
Leg cramps	No leg cramps	Low pain in calf muscles	Very painful spasm in calf muscles	Severe pain in calf muscles
Dizziness	No dizziness	Feel dizzy	Persists dizziness and fatigue	Falling dizziness
General weakness	No general weakness	Feeling weak	Exhaustion, tiredness	Extreme weakness

OBJECTIVE CRITERIA: Pulse, Blood pressure, weight, fundal height

LABORATORY INVESTIGATION ANC profile with obstetric USG of fifth month

RESULT -STATISTICAL ANALYSIS

1.Pulse-

Pulse	6 Month		9 Month		Paired t	P
	Mean	Sd	Mean	Sd		
Group-A	79.87	2.285	80.73	1.530	1.783	0.085 NS
Group-B	79.53	2.209	80.80	2.384	2.129	0.042 Sig

Pulse:- Clinical study shows that there was no significant change in both the groups. All *Garbhini* nearly had normal pulse rate shown in clinical study. when the data for trial group was analysed with paired T test (1.783) it shows statistically no significant result (p 0.085).When the data for control group was analysed with paired T test (0.521) it shows statistically significant result (p 0.605).When the data for Trial & Control group was compared with each other by unpaired t test (0.521), it shows statistically no significant result (p 0.605).

Pulse	Mean difference	Sd	Unpaired T	P
Group-A	0.87	2.662	0.521	0.605 NS
Group-B	1.27	3.258		

2.Blood pressure-Systolic blood pressure

SBP	6 Month		9 Month		Paired T	P
	Mean	Sd	Mean	Sd		
Group-A	113.33	5.467	115.33	5.074	1.649	0.110 NS
Group-B	116.00	6.215	121.33	6.288	3.764	0.001 Sig

SBP	Mean difference	Sd	Unpaired T	P
Group-A	2.00	6.644	1.787	0.079 NS
Group-B	5.33	7.761		

Diastolic blood pressure

DBP	6 Month		9 Month		Paired T	P
	Mean	Sd	Mean	Sd		
Group-A	71.67	5.307	72.00	4.068	0.328	0.745 NS
Group-B	74.00	5.632	76.67	4.795	2.504	0.018 Sig

DBP	Mean difference	Sd	Unpaired t	P
Group-A	0.33	5.561	1.586	0.118 NS
Group-B	2.67	5.833		

Blood pressure: Gestational hypertention shown in *Garbhini* are mildly reduced by Gokshur.

SBP: When the data for trial group was analysed with paired T test (1.649) it shows statistically no significant result (p 0.110). When the data for control group was analysed with paired T test (3.764) it shows statistically significant result (p 0.001).When the data for Trial & Control group was compared with each other by unpaired t test (1.787), it shows statistically no significant result (p 0.079).

DBP: When the data for trial group was analysed with paired T test (0.328) it shows statistically no significant result (p 0.745). When the data for control group was analysed with paired T test (2.504) it shows statistically significant result (p 0.018). When the data for Trial & Control group was compared with each other by unpaired

t test (1.586), it shows statistically no significant result (p 0.118)

3.Weight-

Maternal weight gain: The *Bruhankarma* has occurred from 6th month onwards in pregnancy. The *Gokssursiddha Ghruta* helps for weight gain by its properties- *Guru Guna, madhur rasa* & *vipaka* and *bruhan* action. *Gokshursiddha Ghruta* contains protein, vitelline and sugar. When the data for trial group was analysed with paired T test (34.328) it shows statistically highly significant result (p <0.001). When the data for control group was analysed with paired T test (23.264) it shows statistically highly significant result (p <0.001).When the data for Trial & Control group was compared with each other by unpaired t test (2.071), it shows statistically significant result (p 0.043).

Weight	6 Month		9 Month			P
	Mean	Sd	Mean	Sd	Paired t	
Group-A	52.073	6.119	59.287	5.826	34.328	<0.001 HS
Group-B	56.837	6.610	63.326	6.488	23.264	<0.001 HS

Weight	Mean difference	Sd	Unpaired t	P
Group-A	7.21	1.151	2.071	0.043 Sig
Group-B	6.49	1.527		

4.Fundal height-

Fundal Height	6 Month		9 Month		Paired t	P
	Mean	Sd	Mean	Sd		
Group-A	20.00	0.000	35.93	.365	239.0	<0.001 HS
Group-B	20.00	0.000	35.87	.730	119.0	<0.001 HS

Fundal height: In *garbhini gokshursiddha ghrut* helps in *mansadhatu Poshankarma* in *Garbha & Garbhini.* When the data for trial group was analysed with paired T test (239.0) it shows statistically highly significant result (p <0.001). When the data for control group was analysed with paired T test (119.0) it shows statistically highly significant result (p <0.001). When the data for Trial & Control group was compared with each other by unpaired t test (0.447), it shows statistically no significant result (p 0.656).

Fundal Height	Mean difference	Sd	Unpaired T	P
Group-A	15.93	0.365	0.447	0.656 NS
Group-B	15.87	0.730		

5.Pedal oedema-

Pedal Oedema	6 Month		9 Month		Wilcoxon Signed Ranks Test Z	P
	Mean score	Sd	Mean score	Sd		
Group-A	.90	.845	0.00	0.000	3.834	<0.001 HS
Group-B	.37	.615	1.20	.805	4.134	<0.001 HS

Pedal oedema: In *garbhini* pedal oedema is reduced due to diuretic action of *Gokshur.* This result in trial group shows statistically highly significant as z was 3.834 & p was <0.001. In control group it shows statistically highly significant as Z was 4.134 & p was p <0.001.When the data for Trial & Control group was compared with each other, it shows Z was 5.985 & p was < 0.001. So group A is highly significant.

Pedal Oedema	Mean difference score	Sd	Mann-Whitney Z	P
Group-A	0.90	0.845	5.985	<0.001 HS
Group-B	0.37	0.699		

6.Heart burn-

Heart Burn	6 Month		9 Month		Wilcoxon Signed Ranks Test Z	P
	Mean score	Sd	Mean score	Sd		
Group-A	1.20	0.761	0.03	0.183	4.326	<0.001 HS
Group-B	0.37	0.490	0.00	0.000	3.317	0.001 Sig

Heart burn: *Gokshursiddha ghrut* helps for *pittashaman* in *Garbhini.* Result in trial group shows highly significant as z was 4.326 & p was <0.001. In control group it shows statistically significant as Z was 3.317 & p was p <0.001. When the data for Trial & Control group was compared with each other, it shows Z was 3.918 & p was < 0.001. so group A is highly significant.

Heart Burn	Mean difference score	Sd	Mann-Whitney Z	P
Group-A	1.17	0.791	3.918	<0.001 HS
Group-B	0.37	0.490		

7.Backache-

Backache	6 Month		9 Month		Wilcoxon Signed Ranks Test Z	P
	Mean score	Sd	Mean score	Sd		
Group-A	0.40	0.724	0.47	0.507	0.500	0.617 NS
Group-B	0.47	0.730	0.67	0.547	1.054	0.292 NS

Backache: Backache is reduced due to analgesic and *vatashamak* action of *Gokshur* and also reduced due to calcium and protein. Result in trial group shows statistically no significant as z was 0.500 & p was 0.617.In control group, it shows statistically no significant as Z was 1.054 & p was p 0.292.When the data for Trial & Control group was compared with each other, it shows Z was o.878 & p was 0.380. So result is no significant.

Backache	Mean difference score	Sd	Mann-Whitney Z	P
Group-A	-0.07	0.740	0.878	0.380 NS
Group-B	-0.20	0.997		

8.Leg cramps-

Leg Cramps	6 Month		9 Month		Wilcoxon Signed Ranks TestZ	P
	Mean score	Sd	Mean score	Sd		
Group-A	0.43	.679	0.00	0.000	2.919	0.004 Sig
Group-B	0.30	.535	.03	.183	2.309	0.021 Sig

Leg cramps: In trial group leg cramps were slightly reduced early than control group. indicates that p *Gokshursiddha Ghrut* provides nourishment to *mansdhatu.* And *Gokshur* helps in *vatashaman.* Result in trial group shows statistically significant as Z was 2.919 & p 0.021. When the data for Trial & Control group was compared with each other, it shows Z was 0.850 & p was 0.395. So result is not significant.

Leg Cramps	Mean difference score	Sd	Mann-Whitney Z	P
Group-A	0.43	0.679	0.850	0.395 NS
Group-B	0.27	0.583		

9.Dizziness-

Dizzines	6 Month		9 Month		Wilcoxon Signed Ranks Test Z	P
	Mean score	Sd	Mean score	Sd		
Group-A	.13	.346	0.00	0.000	2.0	0.046 Sig
Group-B	.10	.305	0.00	0.000	1.732	0.083 NS

Dizziness: In *garbhini* dizziness is controlled in control group. But heart burn with dizziness in trial group was reduced by *gokshursiddha ghrut* due to *pittashamak* action. Result in trial group shows statistically significant as Z was 2.0 & p was 0.046. In control group, it shows statistically significant as Z was 1.732 & p was p 0.083. When the data for Trial & Control group was compared with each other, it shows Z was 0.399 & p was 0.690. So result is no significant.

Dizzines	Mean difference score	Sd	Mann–Whitney Z	P
Group-A	0.13	0.346	0.399	0.690 NS
Group-B	0.10	0.305		

10.General weakness

General Weakness	6 Month		9 Month		Wilcoxon Signed Ranks Tests Z	P
	Mean score	Sd	Mean score	Sd		
Group-A	.70	.702	0.00	0.000	3'827	<0.001 HS
Group-B	.63	.718	0.00	0.000	3.578	<0.001 HS

General weakness: *Garbhini* having weakness in 5th month, it reduced early in trial group than control group due to nutritive function of *Gokshur* to *garbhini* and *garbha* & also it is *bruhaniya* and *rasayan*. Result in trial group shows highly significant as Z was 3.827 & p was <0.001. In control group it shows statistically highly significant as Z was 3.578 & p was p < 0.001. When the data for Trial & Control group was compared with each other, it shows Z was 0.421 & p was 0.673. So result is no significant

General Weakness	Mean difference score	Sd	Mann-Whitney Z	P
Group-A	0.70	0.702	0.421	0.673 NS
Group-B	0.63	0.718		

11.Mode of delivery-

Mode of delivery: In trial group normal delivery more than control group. % of normal delivery was 66.7% and LSCS was 33.3%. This shows Significate results.

Mode of delivery	GroupA	GroupB	Total	%
LSCS	7	13	20	33.3
Normal	23	17	40	66.7
Total	30	30	60	100

12. Birth weight-

Birth weight: When the data for Trial & Control group was compared with each other by unpaired t test (0.072), it shows no significant result (p 0.9432).

BWT	Mean	Sd	Unpaired T	P
Group-A	2900.00	276.680	0.072	0.942 S
Group-B	2893.67	390.795		

DISCUSSION - In *samhita, Garbhini paricharya* is explained to conserve maternal health as well as to improve the fetal outcome of pregnancy. In pregnancy, there is a development of physiological edema. Due to *doshvruddh*i it may be converted into pathological edema. The component of drug therapy includes *tridosh shaman*, *agnidipan, aampachak, lekhana, and medhya rasayan. Gokshur* is having the properties of best diuretic and *vatahar.* It act by reducing the intravascular volume, thus prevent further accumulation of fluid and ultimately influence the other blood pressure controlling mechanism like renal, cardiac, endocrine and CNS. It may remove all the excretory fluids by normalizing their proper flow within the body due to its *vatanulomak* property. Clinical study shows that there was no significant change in pulse in both the groups. *Garbhini* having previous history pregnancy history of gestational hypertention and both the groups show significant changes in blood pressure, weight gain in *garbhini* and fundal height is significant in trial group than control group, pedal edema in trial group has highly significant result, Heart burn in trial group had relief than in control group, backache in control group had more relief than trial group. Leg cramps in trial group reduced quickly than control group. dizziness in trial group were satisfying result than in control group. General weakness relief in trial group were more significant than control group. Birth weight in trial group results were more satisfying then control group. Mode of delivery, in trial group number of normal delivery more than control group.

CONCLUSION

Gokshursiddha Ghrut contains *pittashamak, varnaprasadan dravyas. Gokshur* has *madhur vipaka* and *sheet virya*. As *Rakta* and *Pitta* have *Ashraya ashray bhava, Gokshursiddha Ghrut* carry out pittashaman and raktashodhan karya. *Gokshursiddha Ghrut* helps in formation of qualitative and quantitative *rasa dhatu* and in turn helps to form well nourished *saptadhatu.* Also *Gokshur* is a *prithvi mahabhuta pradhan dravya* hence it promotes *mansdhatu vardhan* of *garbha* and *garbhini.* No side effects of drug are seen during the clinical trial.By using this drug, we can improve the maternal and fetal outcome in pregnancy.

BIBILOGRAPHY

[1] Bramhanand Tripathi, Charak-chandrika, Charak Samhita, Sutrasthan Chaukhmbasur Bharati Prakashan, Varanasi 1/24 , Edition 2003,pg no 10.

[2] Sushrut Samhita, Shri Bhaskara Govinda Ghanekar, Montilban-arasidassu Shushrita sharir Sthana 10/4, 5th Edition, pg no 350,351.

[3] Dravyaguna Vidnyan Aacharya Priyavat Sharma, Chaukhamba Bharati Academy, Reprint 2006, pg no 632,633,634.

[4] Sushrut Samhita, Aacharya Sushrut, Dr Anantram Sharma Chaukhamba Sanskrit Sansthan , Varanasi, pg no 127.

[5] Dravyagunavigyan, Aacharya Priyavat Sharma, Chaukhamba Bharati Academy, Reprint 2006, pg no 632.

[6] Sharangdhar samhita, Pandit Sharangdh archarya, Pandit Damodar, pg no 212.

[7] Bhaishajyaratnawali, Kaviraj shree Ambikadatta Shastri Ayurved-acharya, Chaukhamba Prakashan, Varanasi, pg no 671 .