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Dr. Tripti Agrawal
Assistant Professor, Prasuti &
Stri Roga, Ch. Brahm Prakash
Ay. Charak Sansthan, New
Delhi, India

Manjari Dwivedi
Ex. Professor & Head, Prasuti &
Stri Roga, Faculty of Ayurveda,
Banaras Hindu University,
Varanasi, Uttar Pradesh, India

Dr. Prashant Kumar Gupta
Lecturer, Deptt of Balroga, Lalit
Hari State Ayurveda Post
Graduate Medical College,
pilibhit, Uttar Pradesh, India

Effect of Yashtimadhu (*Glycyrrhiza glabra*) and Gokshur (*Tribulus terrestris*) powder in minor ailment of pregnancy on women

Dr. Tripti Agrawal, Manjari Dwivedi and Dr. Prashant Kumar Gupta

Abstract

Though procreation is a normal physiological process, but all women who become pregnant are not physiologically normal, on the other hand the growing fetus increases the demand of maternal body. The goal of medical care during pregnancy remains directed at increasing the likelihood of a favourable maternal and neonatal outcome, consideration should be given to how a woman's life can be affected by factors that arise during pregnancy. When we turn the pages of various Samhitas we find that sign and symptoms of pregnancy and other changes during pregnancy have been studied very carefully and the diet and drugs prescribed to the garbhini has been formulated accordingly. So study was designed to evaluate effect of madhuyasti and gokshuru in minor ailment of pregnancy on women. The drug compound has reduced the minor ailments and increased the weight gain of pregnant women. Not only this, the drug was also found effective to maintain the psyche of patient in terms of her being, becoming and belonging and improved her quality of life and also outcome of pregnancy.

Keywords: triclosan, TCS, determination, detection, sensor

Introduction

Though procreation is a normal physiological process, but all women who become pregnant are not physiologically normal, on the other hand the growing fetus increases the demand of maternal body. Here lies the importance of obstetrician. The constructive regulation of physiological function as well as the pathological condition is the basic aim of antenatal care. The goal of medical care during pregnancy remains directed at increasing the likelihood of a favourable maternal and neonatal outcome, consideration should be given to how a woman's life can be affected by factors that arise during pregnancy. An awareness of these factors and how they influence a woman's functional status may lead to the ability to provide effective interventions to protect a woman's health-related functional status when complications arise during pregnancy.

A special dietary regime and code of conduct has been advocated for the garbhini right from the first day till the ninth month of pregnancy. This regime has been formulated considering the different physiological changes taking place in the pregnant women and to minimize the minor ailments and major complication during pregnancy (constipation, oedema, weakness, tendency to PIH etc). When we turn the pages of various Samhitas we find that sign and symptoms of pregnancy and other changes during pregnancy have been studied very carefully and the diet and drugs prescribed to the garbhini has been formulated accordingly.

The aim of present study to see the effect of Madhuyasti and Gokshura on women during pregnancy. In pregnancy, ayurvedic classics advocates madhur aushadi drugs. Madhuyasti and gokshura are the drugs having madhur rasa, madhur vipaka and sheet virya properties, also these drugs are specially advised in pregnancy.

Madhuyasti have antiemetic, anti-inflammatory effect and also having anabolic effect which help in maintenance of proper health of mother and fetus. Gokshura also have antiinflammatory, diuretic, hematenic and anabolic effect. Duo to easy availability of drugs and their excellent medicinal quality these drugs are chosen.

Madhuyasti was administered from first trimester and gokshura was added from second trimester (as advised in samhita) in the form of ghsatva till the date of delivery and its effect on minor ailment and maternal health was assessed using different parameters.

Material and Methods

The research study was conducted at S.S. Hospital, B.H.U and total 60 patients were selected from the antenatal clinic of department of Prasuti-tantra, faculty of Ayurveda. The women having pregnancy of 6-10 weeks, parity between 0 to 4 and age range between 18 to 35 years

Correspondence

Dr. Tripti Agrawal
Assistant Professor, Prasuti &
Stri Roga, Ch. Brahm Prakash
Ay. Charak Sansthan, New
Delhi, India

were included in this study after detail examination.30 cases in each group were registered randomly. The study was started after obtaining permission from institutional ethical committee.

Drug and posology

- Patients of group A were administered cap madhuyasti 500mg BD, tab folic acid 5mg throughout their pregnancy and cap gokshuru 500mg BD, tab iron 150mg, tab calcium 1000mg were added from 2nd trimester onwards.

- In group B only folic acid 5mg in 1st trimester and tab iron 150mg and tab calcium1000mg added from 2nd trimester.

The drugs were prepared and procured from pharmacy, Dept of Rasa shastra and bhaisajya kalpana, B.H.U.

Criteria for assessment

Relief in the minor ailments was assessed by following a score depending on their severity.

Table 1: The symptoms of pregnancy and minor ailments were assessed by following score system.

s.no.	Clinical feature	Absent(0)	Mild(1)	Moderate(2)	Severe(3)
1.	Anorexia		Distaste of mouth only	Reduced appetite	Loss of appetite
2.	Vomiting		Nauseating feel	After taking each meal	Without taking meal also
3.	Heart burn		Only empty stomach	After taking meal	Every time
4.	Constipation		Incomplete evacuation but daily	Once in 2 days	Once in 3≥days
5.	Low backache		Visual analogue scale0.5-4.4cm	4.5-7.4cm	7.5-10cm
6.	Leg cramps		Not disturb sleep	Disturb sleep	Awaked from sleep
7.	Pedal oedema		Disappear after rest/sleep	Reduced after rest/sleep	Remain same even after rest/sleep

All these findings were recorded from the first day of treatment and at each follow up. Gradation of the symptoms and ailments was done depending on the severity and score

prior to treatment and after completion of treatment, and their difference was assessed.

Observation and Result

Table 2: Showing intergroup and intragroup comparison of anorexia in each group

Anorexia	Groups				Intergroup comparison Chi-square test
	I (n=30)		II (n=30)		
	Present	%	Present	%	
F ₀	9	30.00	4	13.33	$\chi^2=2.45$ p>0.05(NS)
F ₁	1	3.33	5	16.67	$\chi^2=2.96$ p>0.05(NS)
F ₂	0	0.00	4	13.33	$\chi^2=4.28$ p<0.05(S)
F ₃	0	0.00	2	6.67	$\chi^2=2.6$ p>0.05(NS)
F ₄	0	0.00	3	10.00	$\chi^2=3.15$ p>0.05(NS)
Intra-group comparison F ₀ vs F ₄	$\chi^2=8.36$ p<0.01(HS)		$\chi^2=0.00$ p>0.05(NS)		

The above table suggests that 30% cases in trial group and 13% in control group having the complaint of anorexia at first visit. On statistical analysis between the initial and last follow up each group it was observed that highly significant results

in group 1 and no significant results in group 2.Improvement in symptoms is seen in trial group from 2nd follow-up and no significant improvement in control group was observed.

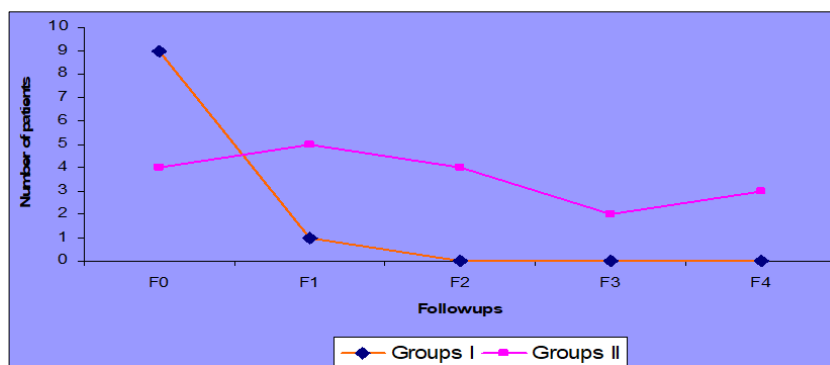


Fig 1

Table 3: Showing intergroup and intragroup comparison of vomiting in each group

Nausea and Vomiting	Groups				Intergroup comparison Chi-square test
	I (n=30)		II (n=30)		
	Present	%	Present	%	
F ₀	13	43.00	15	50.00	$\chi^2=0.26$ p>0.05(NS)
F ₁	3	10.00	9	30.00	$\chi^2=3.75$ p>0.05(NS)
F ₂	0	0.00	0	0.00	$\chi^2=0.00$ p>0.05(NS)
F ₃	0	0.00	0	0.00	$\chi^2=0.00$ p>0.05(NS)

F ₄	0	0.00	0	0.00	$\chi^2=0.00$ p>0.05(NS)
Intra-group comparison F ₀ vs F ₄	$\chi^2=14.141$ p >0.01 (HS)		$\chi^2=17.42$ p >0.01 (HS)		

While analysing the complaint of vomiting in 1st visit, about 43% cases in group I and 50% cases in group II having the complaint. At 1st follow up only 10% of patients in group I and 30% of patients in group II are with the complaint of nausea and vomiting.. From second follow up all cases relieved from nausea and vomiting in both group till last follow up. While on comparing initial to last follow up in both groups highly significant result observed. On statistical comparison between both the groups at each follow up, no significant change observed.

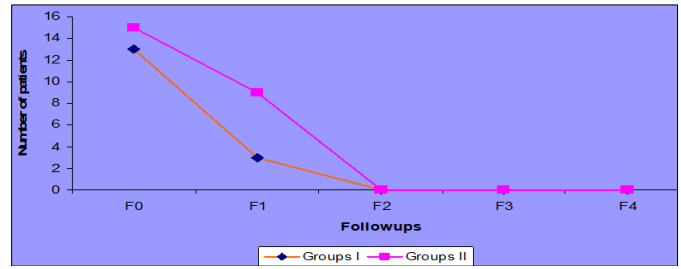


Fig 2

Table 4: Showing intergroup and intragroup comparison of heartburn in each group

Heart burn	Groups				Intergroup comparison Chi-square test
	I (n=30)		II (n=30)		
	Present	%	Present	%	
F ₀	7	23.00	6	20.00	$\chi^2=0.098$ p>0.05(NS)
F ₁	0	0.00	7	23.00	$\chi^2=7.92$ p<0.05(S)
F ₂	0	0.00	4	13.33	$\chi^2=4.28$ p<0.05(S)
F ₃	0	0.00	5	16.67	$\chi^2=5.45$ p<0.05 (S)
F ₄	0	0.00	7	23.00	$\chi^2=7.92$ p<0.05 (S)
Intra-group comparison F ₀ vs F ₄	$\chi^2=5.82$ p<.05(S)		$\chi^2=.00$ p>.05(NS)		

Initially 23% and 20% cases in trial group and control group are having the symptom of heart burn. At first follow up all patient were relieved from symptom in group 1 and remain same till the last follow up. On intragroup comparison

between initial and last follow up significant result observed in group 1 and non significant result observed in group 2. In intergroup comparison at each follow up result was significant statistically.

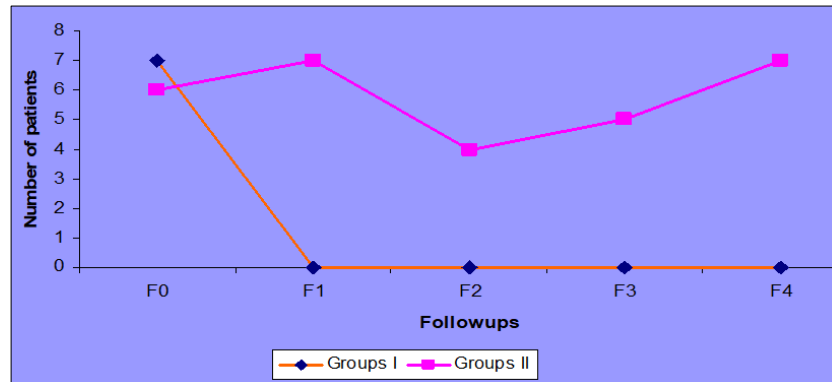


Fig 3

Table 5: Showing intergroup and intragroup comparison of constipation in each group

Constipation	Groups				Intergroup comparison Chi-square test
	I (n=30)		II (n=30)		
	Present	%	Present	%	
F ₀	0	0.00	0	0.00	$\chi^2=0.00$ p>0.05 (NS)
F ₁	5	16.67	15	50.00	$\chi^2=6.2$ p<0.05 (S)
F ₂	0	0.00	8	26.67	$\chi^2=1.78$ p<0.05 (S)
F ₃	0	0.00	8	26.67	$\chi^2=1.78$ p<0.05 (S)
F ₄	0	0.00	6	20.00	$\chi^2=4.63$ p<0.05 (S)
Intra-group comparison F ₀ vs F ₄	$\chi^2=0.00$ p>0.05 (NS)		$\chi^2=4.63$ P<0.05(S)		

At the time of registration no patient in each group having complaint of constipation. At 1st follow up 16% cases in group I and 50% cases in group II had the constipation. From second follow up no patient in trial group having the complaint of constipation while in control group more than 20% patients have the complaint till last follow up. While on

intragroup comparison significant result (increased symptom of constipation) observed in group II while in group I it was insignificant.

In intragroup comparison at each follow up statistically significant results were observed.

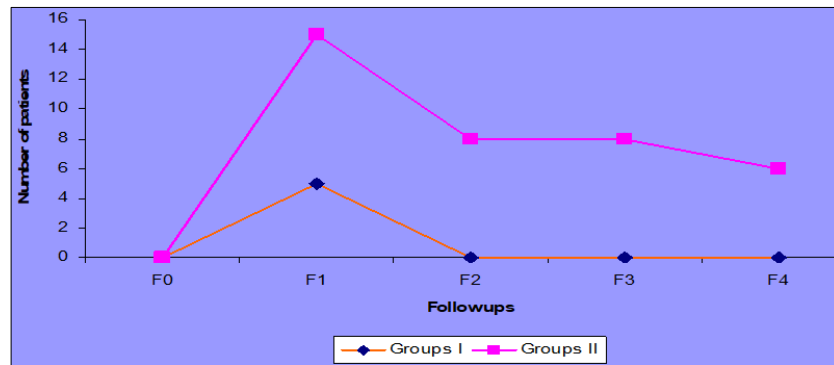


Fig 4

Table 6: Showing intergroup and intragroup comparison of backache in each group

Backache	Groups				Intergroup comparison Chi-square test
	I (n=30)		II (n=30)		
	Present	%	Present	%	
F ₀	0	0.00	0	0.00	$\chi^2=0.00$ p>0.05(NS)
F ₁	0	0.00	3	10.00	$\chi^2=3.15$ p>0.05(NS)
F ₂	0	0.00	3	10.00	$\chi^2=3.15$ p>0.05(NS)
F ₃	6	20.00	10	33.33	$\chi^2=1.36$ p>0.05(NS)
F ₄	7	23.00	10	33.33	$\chi^2=7.38$ p>0.05(NS)
Intra-group comparison F ₀ vs F ₄	$\chi^2=5.82$ p<0.02(S)		$\chi^2=9.720$ p<0.01(HS)		

Initially backache was not present in any patient in each group. Backache was present in both groups in subsequent follow up which shows statistically significant changes

(increased complaint of backache) on intra group comparison between initial and last follow up in both group. In intergroup comparison at each follow-up no significant result observed.

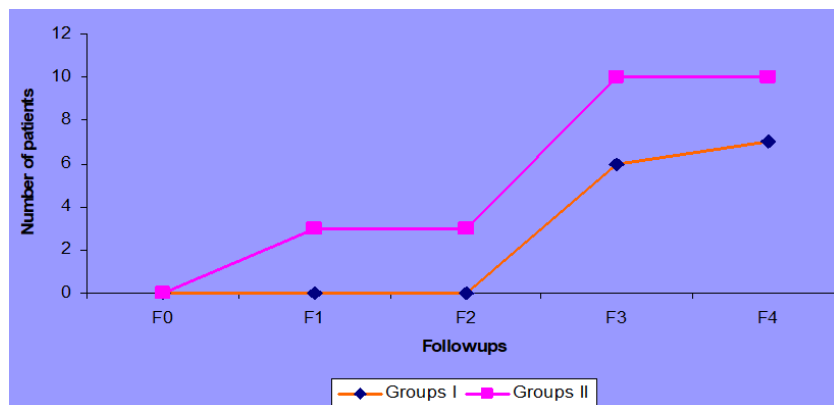


Fig 5

Leg cramps

Table 7: Showing intergroup and intragroup comparison of leg cramps in each group

Leg cramps	Groups				Intergroup comparison Chi-square test
	I (n=30)		II (n=30)		
	Present	%	Present	%	
F ₀	0	0.00	0	0.00	$\chi^2=0.00$ p>0.05(NS)
F ₁	1	3.33	3	10.00	$\chi^2=1.07$ p>0.05 (NS)
F ₂	0	0.00	3	10.00	$\chi^2=3.15$ p>0.05 (NS)
F ₃	0	0.00	3	10.00	$\chi^2=3.15$ p>0.05 (NS)
F ₄	0	0.00	3	10.00	$\chi^2=3.15$ p>0.05 (NS)
Intra-group comparison F ₀ vs F ₄	$\chi^2=0.00$ p>0.05 (NS)		$\chi^2=1.404$ p>0.05 (NS)		

Table show there was not much difference in complaint of leg cramp in both the group initially and on subsequent follow ups. When comparison was done between initial and last

follow up within the group non-significant difference was observed. Comparison was done between I and II group at each follow-up and results were non-significant.

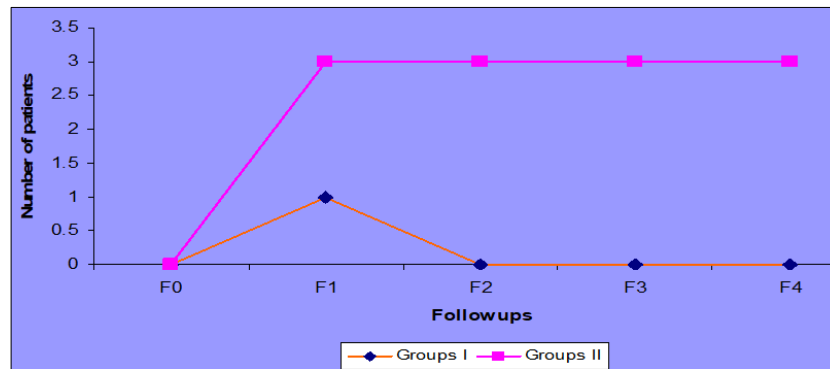


Fig 6

Pedal Oedema

Table 8: Showing intergroup and intragroup comparison of pedal oedema in each group

Pedal Oedema	Groups				Intergroup comparison Chi-square test
	I (n=30)		II (n=30)		
	Present	%	Present	%	
F ₀	0	0.00	0	0.00	$\chi^2=0.00$ p>0.05 (NS)
F ₁	0	0.00	0	0.00	$\chi^2=0.00$ p>0.05 (NS)
F ₂	2	6.67	5	16.67	$\chi^2=1.45$ p>0.05(NS)
F ₃	1	3.33	5	16.67	$\chi^2=2.96$ p>0.05(NS)
F ₄	1	3.33	7	23.33	$\chi^2=5.19$ p<0.05(S)
Intra-group comparison F ₀ vs F ₄	$\chi^2=0.00$ P>0.05(NS)		$\chi^2=5.82$ p<0.02(S)		

On statistical analysis, between initial and last follow-up in group I, non-significant result was observed, while in group II there was statistically significant result. Initially, no patient in both group had the pedal oedema, at last follow up 2% patients in trial group and 23% patients in control group had the complaint of pedal oedema.

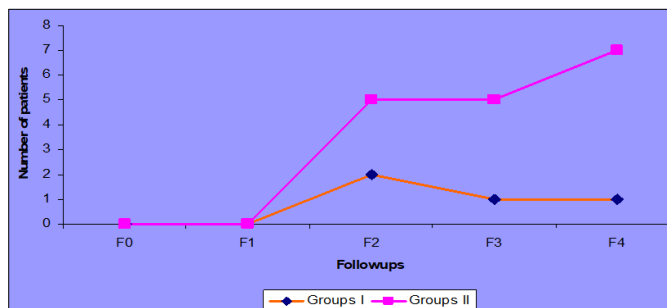


Fig 7

Discussion

In present study, our main focus was to see the effect of trial drugs on physical health of pregnant women for the restoration of normalcy and combat the common ailments to the possible extent. We have noted the discomfort, ailments as stated by pregnant women time to time.

The earliest complain recorded was the anorexia which may be due to amagarbha having kaphaja prakriti which causes agni mandya. It was expected that by the regular use of trial drugs for 1 month, we can make women's appetite normal. The effect noticed is mentioned in table no.2. It was observed that 9 cases have complaint of anorexia at the time of registration and by the end of first follow up eight was relieved and one persisted with the problem. By the end of last followup all patient relieved from complain of anorexia and no new patient in between the follow ups had developed the anorexia, while in group II anorexia was persisted after fourth follow up. Probably the effect may be due to rochana,

deepana, and pachan qualities of Madhuyasti and Gokshura. [table no.2]

Vomiting is commonest complain in about 50% cases of both the group and relieved after three months in both the groups. Though Madhuyasti is mentioned in vamanopaga gana (effect is dose dependant) the complaint of nausea, vomiting not aggravated in both the groups. Disappearance of nausea, vomiting was having same results in both groups as in Table No. 3. But at first follow up only 10% patient have the complaint in group I while in group II 30% patient have. It may be due to its chardinigrahana property and gastric anti-secretory property and from second follow up deepana, pachana properties of Gokshura. [Table no. 3]

Incidence of heart burn was same in both the groups at the time of registration; it may be due to stasis of food, delayed gastric emptying, and acid reflux. All patient got relief in symptom in group I while it persisted in group II till the last follow up. In group I, the effect may be due to Yastimadhu which improve motility of gastro-intestinal tract and prevent stasis of food and acid reflux and Gokshura having deepanaand pachana property. Due to its vatapittahara property and madhur rasa and madhura vipaka also it may be beneficial in heart burn. [Table no. 4]

Constipation is not present at the time of registration in both the groups. At first follow up 50% cases in group II while 16% cases in group I had constipation. From second follow up all patient of group I got relief while it was persisted in about 20% patient of group II. It may be due to mild laxative and increased gastro-intestinal motility effect of Madhuyasti and depana, pachana and vasti vata visodhana property of Gokshura. As vasti is the site of apana vata and its normal functioning is required for passing of sukra, artava, mutra and purisha. The drug may regularize the apana vata and may be beneficial. In control group there was no drug which regularizes gastric emptying and increase colonic activity, so incidence of constipation was more. [Table no. 5]

Backache was significantly increased in both the groups and may be due to skeletal muscle stretching and lumbar lordosis, though the trial drugs having vatahara, anti-inflammatory and katisoolagna property but in present study no beneficial effect was observed. [Table no. 6]

At the time of registration the complaint of leg cramps was not observed in any group. At first follow up only 3% patient in group I and 10% patient in group II developed the leg cramps which not seen further on subsequent follow up in group I while it was persisted in group II till last. It may be due to vatahara property and presence of minerals in both the trial drugs. [Table no. 7]

Initially, pedal oedema was not observed in any patient of both the groups but from second follow up 6.67% patient in group I and 16.67% patient in group II developed it. At last follow up only 3.3% patient in group I have it while in group II 23% patient have the complaint. This may be due to vatahara, sothahara and diuretic property of Gokshura. [Table no. 8]

During study period among the registered cases all the patients underwent good antenatal care. There was not a single case observed with intrauterine growth retardation or any congenital anomaly. The labour also uneventful, the fetal outcome (in the form of APGAR score and baby weight) was within normal limit.

The drugs Madhuyasti and Gokshura are having madhura rasa, madhura vipaka and sheet virya which is the ideal for bramhana. The madhura aushadha drugs specially advocated in pregnancy. Madhuyasti is advocated in pregnancy from first month while gokshura is in second trimester onwards. The drugs are much beneficial in treating minor gastrointestinal tract ailments in pregnancy such as nausea, vomiting, constipation, anorexia and heart burn by their deepana, pachana and chardinigrahana property. The drugs are having shoolhara and vatahara property and also analgesic and anti-inflammatory action so may be beneficial in pain in abdomen and low backache. The Gokshura an agraushadha for vatahara and mutrakricch will be beneficial in oedema. The drugs as having good medhya property and also good rasayana property. Both Madhuyasti and Gokshura are indicated in garbhasrava chikitsta. Maduyasti is having prostaglandin synthetase inhibitory activity (Reference No. 17, Drug Review) and antioxytotic activity. The drugs will be beneficial in prevention of abortion and maintainance of pregnancy.

By virtue of the qualities of the drugs the women will be benefited in minor ailments of pregnancy and it also improved her psychological and physical health and helpful in pregnancy and progeny.

Conclusion

Though the pregnancy is physiological phenomenon, yet pregnant women face a varying degree of discomfort due to common ailment which are often observed due to change in physiology.

Madhuyasti was found beneficial during antenatal period in common ailments like anorexia, nausea, vomiting due to its rochana, vatahara, gastric anti secretory quality and helpful in maintenance of pregnancy due to its prostaglandin synthetase inhibition and antioxytotic activity. It also beneficial in improving her psychological condition due to its medhya property.

Gokshuru is effective in antenatal period in regularizing the water content of body by virtue of its diuretic property and also having deepana, pachana, analgesic property and relieved

weakness due to its balya and rasayana property. It also helpful in maintenance of pregnancy.

The number of patient for this study is less so further study in big patient sample is required.

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