RESEARCH PAPER

An Open Label Randomized Comparative Clinical Study To Know The Effect Of Chandanabala Lakshadi Taila And Nalpamaradi Taila In The Prevention Of Garbhini Kikkisa Vis-A-Vis Striae Gravidarum

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ABSTRACT

Introduction:

Garbhini Kikkisa is a one of the *Garbhini vyadhi* described in *Ayurveda*,.It occurs due to *Garbhotpeedana*(Pressure and stretching of the abdominal wall caused by the growing fetus) along with tridosha vitiation ,predominantly vata and *pitta*.It is characterized by symptoms such as *Kandu* (itching), *Vidaha* (burning sensation), *Vaivarnyata* (discoloration), and *Twak Sankocha* (skin stretching). It can be correlated with Striae Gravidarum in which there is the linear, depressed, atrophic, pinkish or purplish, scar like lesions with varying length and breadth, which appear at the end of mid 2nd trimester of pregnancy ,affects approximately 50–90% of pregnant women, making it one of the most common physiological skin changes during pregnancy .It may cause cosmetic concerns and psychological distress. *Ayurveda* emphasizes preventive care, and external application of medicated oils may help prevent the development and severity of *Kikkisa*.Hence the clinical study is planned to know the effect of *CHANDANABALA LAKSHADI TAILA* And *NALAPAMRADI TAILA* in the prevention of *GARBHINI KIKKISA* Vis-à-vis Striae Gravidarum .

Aims and Objective: 1.To compare the efficacy of *Chandanabala Lakshadi Taila* and *Nalpamaradi Taila* in preventing *Garbhini Kikkisa*.2. To evaluate the efficacy of *Chandanabala Lakshadi Taila* in preventing *Garbhini Kikkisa*.3.To evaluate the efficacy of *Nalpamaradi Taila* in preventing *Garbhini Kikkisa*.

Material and Method: Pregnant women fulfilling the criteria for diagnosis and inclusion visiting
OPD and IPD of *Prasuti Tantra* and *Streeroga* department, JSS *Ayurveda* Medical College & Hospital, Mysuru and PHC were selected for the study. *Chandanabala Lakshadi Taila* were procured from GMP certified pharmacy.*Nalapamaradi Taila* were prepared at GMP certified pharmacy. Subjects were assessed based on subjective and objective criteria.

Result: when the comparative effect of *Chandanabala lakshadi Taila* (Group-A)with that of *Nalpamaradi Taila* (Group-B) was done by applying the Friedman's Two-Way Analysis of Variance by Ranks done it showed both group were significant within the group and Mann Whitney U test were used to interpret the data between the group showed no significant difference between the groups indicating equally effective in preventing the *Garbhini kikkisa* .

Conclusion: 1.*Chandanabala Lakshadi Taila* is more effective than *Nalpamaradi Taila* in preventing *Garbhini Kikkisa*.2 .*Chandanabala Lakshadi Taila* & *Nalpamaradi Taila* both are effective in preventing the *Garbhini Kikkisa*.

Keywords: *kikkisa* , *chandanabala lakshadi Taila* ,*Nalpamaradi Taila* , Straie Gravidarum .

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INTRODUCTION

Skin is considered as the mirror of human body as it reflects the physical,mental and emotional status of every person .

Any derangement in external appearance of the skin becomes worrisome to a lady as it hampers her appearance and self confidence[1] .

Pregnancy is an important event in a women's life and is one of the most precious experiences. However, it is also associated with many molimina which influence her physical and psychological well being. *Kikkisa* being one among them. This condition, included in *Garbhini vyadhi* presents with symptoms like *kandu, vidaha, vaivarnyata* and *twak sankocha* etc.,on the skin. The *twak sankocha* developed remains for the rest of her life and symptoms like *kandu, vidaha* etc., may affect her daily routine activities based on their severity of manifestation during pregnancy.

It can be correlates to the condition to the linear, depressed, atrophic, pinkish or purplish, scar like lesions with varying length and breadth called Striae gravidarum, which appear at the end of mid trimester of pregnancy[2].

About 50% - 90% of women are affected with Striae gravidarum. Therefore, it has become important to manage this condition during pregnancy[3]. There are several methods available today for managing stretch marks which involves invasive procedures like laser surgeries,

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dermabrasions, tummy tuck etc[4]., As these treatments are expensive, the scope for conservative management is huge and need of the hour.

Even the slightest scar can cause psychological stress in her, hence any measure which helps in this condition will be a boon for the women.

As the Ayurveda says *'Swasthasya Swasthya Rakshana'*, prevention is better than cure hence the clinical study was planned to know the effect of *CHANDANABALA LAKSHADI TAILA*[5] And *NALAPAMRADI TAILA*[6] in the prevention of *GARBHINI KIKKISA* Vis-à-vis Striae Gravidarum . The drug taken for this study is *CHANDANABALA LAKSHADI TAILA*[5] and *NALPAMARADI TAILA*[6] which has been indicated in *Twak Vikara* and also contains the drugs which acts as *Kushtagna, Kandugna, Dahaprashamana*, *Varnya* which may prevents the symptoms of *Kikkisa*.

AIMS AND OBJECTIVES:

1.To compare the efficacy of *Chandanabala Lakshadi Taila* and *Nalpamaradi Taila* in preventing *Garbhini Kikkisa*

.2. To evaluate the efficacy of *Chandanabala Lakshadi Taila* in preventing *Garbhini Kikkisa.*

3.To evaluate the efficacy of *Nalpamaradi Taila* in preventing *Garbhini Kikkisa.*

MATERIAL AND METHODS:

Selection of subjects: Subjects fulfilling the criteria for diagnosis and inclusion visiting OPD and IPD of Dept of *Prasuti Tantra and Stree Roga,* JSS *Ayurveda* Medical Hospital, camps,PHC and other referrals will be consider for the study.

Drug source: *Chandanabala lakshadi Taila* were procured from GMP certified pharmacy.

Nalpamaradi taila taila was prepared at GMP Certified Pharmacy.

Selection criteria: The subjects fulfilling the criteria for diagnosis and inclusion with written informed consent were selected for the study.

Diagnostic criteria: Primi Gravida with Early pregnancy scan report

1.Inclusion criteria: 1.Primi Gravida (2^{nd} – 3^{rd}) Trimester with single gestation
2. Age group between 20-35yrs

2. Exclusion criteria: Multi Gravida
Previous Surgical Scar on Abdomen
Pre Existing Skin Disease like Eczema ,Dermatitis ,Psoriasis .
Obesity BMI>30 at first visit
Hydromnios and Twin pregnancy
K/c/o Fibroid or Ovarian Cyst

ASSESSMENT CRITERIA:

Subjective Parameters:

1.Itching

2.Burning sensation

TABLE 5: SUBJECTIVE PARAMETERS WITH GRADINGS

SI NO.	Parameter	Grade 0	Garde 1	Grade 2	Grade 3
1	Itching	Absent	Itching which subsides on mere rubbing	Itching which disturbs work	Itching which leads to abrasions
2	Burning sensation	Absent	Present		

Objective Parameters

Location of striae

Texture of skin

Discoloration over striae

Dryness over straie

Length and Width of the prominent striae (Measured in cm)

GRADING OF ASSESSMENT CRITERIA:-

1. Location of striae:-

As per Davey's Scoring pattern:-

Abdomen will be divided into 4 quadrants and using an ordinal scale to score each quadrant based on the number of striae present.

The numbers in each quadrant will be interpreted as follows:

0 = no striae in a quadrant

1 = striae do not affect a quadrant completely

2 = striae affect a quadrant completely

Scores for each quadrant will be combined and graded as follows

TABLE 6: LOCATION OF STRAIE WITH GRADINGS

SI NO.	Criteria	Score
1	No striae	0
2	Mild striae	1
3	Moderate striae	2
4	Severe striae	3

TABLE NO 7: DRYNESS OF SKIN WITH GRADINGS

SI No	Criteria	Score
1	Mild Discoloration	0
2	Pinkish Discoloration	1
3	Brownish Discoloration	2
4	Blackish Discoloration	3

TABLE NO.8 : TEXTURE OF SKIN WITH GRADINGS

Sr NO.	**Criteria**	**Score**
1	No change in texture.	0
2	Mild variation : Causing variation in uniformity of skin in lower 2 quadrants.	1
3	Causing variation in uniformity of skin inabdominal region alone	**2**
4	Causing variation in uniformity of skin inabdominal region alone	3

TABLE NO 8: DISCOLORATION OF SKIN WITH GRADING

Sr No	**Criteria**	**Score**
1	No dryness	0
2	Mild dryness	1
3	Dry and flaky	2

TREATMENT PROTOCOL

	Group A	Group B
Number Of Subjects	20	20
Medicine	*Chandanabala lakshadi taila*	*Nalpamaradi taila*
Time Of Administration	Morning and evening 30 mins before bath mild massage over abdomen for 10 minutes	Morning and evening 30 mins before bath mild massage over abdomen for 10 minutes
Mode Of Administration	External application	External application
Intervention period	6 months	6months

ASSESSMENT SCHEDULE:

Intervention	4^{th} month	5^{th} month	6^{th} month	7^{th} month	8^{th} month	9^{th} month
Assessment	13^{th} -16^{th} Week	17^{th} -20^{th} Week	21^{st} -24^{th} Week	25^{th} -28^{th} week	29^{th}- 32^{nd} week	33^{rd}–37^{th} week

Intervention- 4^{th} – 9^{th} month, application of *taila* on abdomen daily twice.
Follow up :- After 15 days of Delivery
Total study duration: 6 & ½ months

OBSERVATION AND RESULT:

1 .AGE GROUP :-

Table 1: Distribution of table based on Age Group

VARIABLE	GROUP		
AGE	GROUP A	GROUP B	TOTAL PERCENTAGE
20-24years	4	4	8
	20%	20%	20.00%
25-29years	13	10	23
	65%	50%	57.50%
30-34years	3	6	9
	15%	30%	22.50%
GRAND TOTAL	20	20	100

2.BMI GROUP

Table No 2: Distribution of table based on BMI Group

BMI in kg/m^2	Group A	Group B	Grand Total
18 -20.9	2(10%)	1(5%)	3(7.5%)
21-23.9	11(55%)	14(70%)	25(62.5%)
24-26.9	5(25%)	4(20%)	9(22.5%)
27-29.9	2(10%)	1(5%)	3(7.5%)
Grand Total	20	20	40

RESULTS

1.PARAMETER: ITCHING OVER STRAIE

Table 3: Within-Group Comparison - Friedman's Two-Way Analysis of Variance by Ranks

Group	Total N	Test Statistic (χ^2)	Degrees of Freedom	p-value	Remark
Group A	20	18.146	6	0.006	Significant
Group B	20	36.254	6	<0.001	Significant

Table 4: Between-Group Comparison - Mann-Whitney U Test

Time Point	Group A (n=20)		Group B (n=20)		Mann-Whitney U	Z	p-value	Remark
	Median (IQR)	Mean Rank	Median (IQR)	Mean Rank				
4th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
5th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
6th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
7th Month	0.00(0.00)	20.00	0.00(0.00)	21.00	190	-.374	.708	Not Significant
8th Month	0.00(0.00)	19.50	0.00(0.00)	21.50	180	-.655	.513	Not Significant
9th Month	0.00(0.00)	18.30	0.00(0.00)	22.70	156	-1.486	.137	Not Significant
Follow Up	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant

Itching appeared in both groups from the 7th month, peaked at the 8th month (30% in Group A and 40% in Group B), and declined thereafter to 10% at follow-up. Significant changes over time were observed within both groups (Group A: $\chi^2 = 18.146$, $p = 0.006$; Group B: $\chi^2 = 36.254$, $p < 0.001$), while no significant differences were found between groups at any time point (all $p > 0.05$) Indicating equally effective in preventing the itching over straie.However Group A showed slightly better preventive efficacy due to the higher proportion of participants (A=55%>B=45%) remaining symptom-free

2.PARAMETER: BURNING SENSATION OVER STRAIE

Table 5: Within-Group Comparison — Friedman's Two-Way Analysis of Variance by Ranks

Group	Total N	Test Statistic (χ^2)	Degrees of Freedom	p-value	Remark
Group A	20	16.545	6	0.011	Significant
Group B	20	27.136	6	<0.001	Significant

Table 6: Between-Group Comparison — Mann-Whitney U Test

Time Point	Group A (n=20)		Group B (n=20)		Mann-Whitney U	Z	p-value	Remark
	Median (IQR)	Mean Rank	Median (IQR)	Mean Rank				
4th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
5th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
6th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
7th Month	0.00(0.00)	20.00	0.00(0.00)	21.00	190	-.374	.708	Not Significant
8th Month	0.00(0.00)	18.50	0.00(0.00)	22.50	160	-1.442	.149	Not Significant
9th Month	0.00(0.00)	20.00	0.00(0.00)	21.00	190	-.350	.727	Not Significant
Follow Up	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant

Interpretation

Burning sensation was absent during the 4th–6th months in both groups and first appeared at the 7th month. In Group A, it peaked at 25% at the 8th month, while in Group B it peaked at 35%, and it declining to 10% at follow-up in both groups. Significant results over time were observed in Group A ($\chi^2 = 16.545$, $p = 0.011$) and Group B ($\chi^2 = 27.136$, $p < 0.001$), with no significant differences between both groups (all $p > 0.05$). Indicating both drugs were equally effective in reducing the occurrence of burning sensation.

3.PARAMETER: LOCATION OF STRIAE

Table 7: Within-Group Comparison — Friedman's Two-Way Analysis of Variance by Ranks

Group	Total N	Test Statistic (χ^2)	Degrees of Freedom	p-value	Remark
Group A	20	60.993	6	<0.001	Significant
Group B	20	72.853	6	<0.001	Significant

Table 8: Between-Group Comparison — Mann-Whitney U Test

Time Point	Group A (n=20)		Group B (n=20)		Mann-Whitney U	Z	p-value	Remark
	Median (IQR)	Mean Rank	Median (IQR)	Mean Rank				
4th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
5th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
6th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
7th Month	0.00(1.00)	20.00	0.00(1.00)	21.00	190	-.333	.739	Not Significant
8th Month	1.00(1.00)	18.10	1.00(0.75)	22.90	152	-1.500	.134	Not Significant
9th Month	1.00(1.00)	18.30	1.00(1.75)	22.70	156	-1.263	.207	Not Significant
Follow Up	1.00(1.00)	18.90	1.00(1.00)	22.10	168	-.958	.338	Not Significant

Interpretation

The occurrence of striae was delayed in both groups, with no participants developing striae up to the 6th month of pregnancy.Within-group analysis revealed highly significant results in both Group A (χ^2=60.993, p<0.001) and Group B (χ^2=72.853, p<0.001). Although no statistically significant difference was observed between the groups (p>0.05),But Group A showed comparatively better preventive efficacy, with a higher percentage of participants (A=35% >B=25%) remaining free from striae

4.PARAMETER: TEXTURE OF THE SKIN

Table 9: Within-Group Comparison — Friedman's Two-Way Analysis of Variance by Ranks

Group	Total N	Test Statistic (χ^2)	Degrees of Freedom	p-value	Remark
Group A	20	52.544	6	<0.001	Significant
Group B	20	68.986	6	<0.001	Significant

Table 10: Between-Group Comparison — Mann-Whitney U Tes

Time Point	Group A (n=20)		Group B (n=20)		Mann-Whitney U	Z	p-value	Remark
	Median (IQR)	Mean Rank	Median (IQR)	Mean Rank				
4th Month	0.00(0.00)	20.00	0.00(0.00)	21.00	190	-1.000	.317	Not Significant
5th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
6th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
7th Month	0.00(0.75)	19.50	0.00(1.00)	21.50	180	-.681	.496	Not Significant
8th Month	1.00(1.00)	17.40	1.00(0.75)	23.60	138	-1.887	.059	Not Significant
9th Month	1.00(1.00)	16.85	1.00(1.75)	24.15	127	-2.075	.038	Significant
Follow Up	0.00(1.00)	17.70	1.00(1.00)	23.30	144	-1.740	.082	Not Significant

Interpretation

The occurrence of skin texture changes was delayed in both groups up to the 6th month. Within-group analysis demonstrated highly significant results in both Group A (χ^2=52.544, p<0.001) and Group B (χ^2=68.986, p<0.001), confirming significant efficacy within each group over the study period. Between-group analysis showed a significant difference only at the 9th month (p=0.038), favoring Group A. Therefore, both interventions were effective; however, Group A exhibited comparatively better preventive efficacy (A=35% > B=25%) and maintenance of normal skin texture than Group B.

5.PARAMETER: DRYNESS OVER STRIAE

Table 11: Within-Group Comparison — Friedman's Two-Way Analysis of Variance by Ranks

Group	Total N	Test Statistic (χ^2)	Degrees of Freedom	p-value	Remark
Group A	20	24.555	6	<0.001	Significant
Group B	20	23.522	6	0.001	Significant

Table 12: Between-Group Comparison — Mann-Whitney U Test

Time Point	Group A (n=20)		Group B (n=20)		Mann-Whitney U	Z	p-value	Remark
	Median (IQR)	Mean Rank	Median (IQR)	Mean Rank				
4th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
5th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
6th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
7th Month	0.00(0.75)	21.00	0.00(0.00)	20.00	190	-.374	.708	Not Significant
8th Month	0.00(1.00)	20.80	0.00(1.00)	20.20	194	-.192	.848	Not Significant
9th Month	0.00(0.00)	20.13	0.00(0.75)	20.88	192.5	-.280	.780	Not Significant
Follow Up	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant

Interpretation

The occurrence of striae-associated dryness was successfully delayed in both groups, with no participants showing symptoms up to the 6th month of pregnancy. Within-group analysis demonstrated statistically significant results in both Group A (χ^2=24.555, p<0.001) and Group B (χ^2=23.522, p=0.001). However, between-group comparison revealed no statistically significant difference at any assessment point (all p>0.05), indicating that both interventions were similarly effective in preventing dryness. Clinically, Group A showed slightly better preventive efficacy due to the higher proportion of participants (A=60% >B=45%) remaining symptom-free.

6.PARAMETER: DISCOLORATION OVER STRAIE

Table 13: Within-Group Comparison — Friedman's Two-Way Analysis of Variance by Ranks

Group	Total N	Test Statistic (χ^2)	Degrees of Freedom	p-value	Remark
Group A	20	16.545	6	0.011	Significant
Group B	20	27.136	6	<0.001	Significant

Table 14: Between-Group Comparison — Mann-Whitney U Test

Time Point	Group A (n=20)		Group B (n=20)		Mann-Whitney U	Z	p-value	Remark
	Median (IQR)	Mean Rank	Median (IQR)	Mean Rank				
4th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
5th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
6th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
7th Month	0.00(3.00)	20.75	0.00(2.25)	20.25	195	-.172	.863	Not Significant
8th Month	3.00(4.50)	20.08	3.00(4.00)	20.93	191.5	-.233	.816	Not Significant
9th Month	4.00(6.00)	19.73	4.00(5.88)	21.28	184.5	-.425	.671	Not Significant
Follow Up	3.00(4.07)	19.98	2.75(4.60)	21.03	189.5	-.288	.774	Not Significant

Intrepretation

The occurrence of discoloration was delayed in both groups up to the 6th month. By the 9th month 35% of participants in Group A and 25% in Group B remained free from discoloration, indicating better preventive efficacy in Group A. Within-group analyis showed highly significant results in both Group A (X^2=58.894, p<0.001) and Group B(x^2=69.665, p<0.001), demonstrating significant efficacy within each group. However, no significant difference was observed between the groups (p>0.05). Prevention was observed in 35% of participants in Group A and 25% in Group B, indicating comparatively better preventive efficacy in Group A Clinically.

7.PARAMETER: LENGTH OF PROMINENT STRIAE

Table 15: Within-Group Comparison — Friedman's Two-Way Analysis of Variance by Ranks

Group	Total N	Test Statistic (χ^2)	Degrees of Freedom	p-value	Remark
Group A	20	80.092	6	**<0.001**	**Significant**
Group B	20	84.100	6	**<0.001**	**Significant**

Table 16: Between-Group Comparison — Mann-Whitney U Test

Time Point	Group A (n=20)		Group B (n=20)		Mann-Whitney U	Z	p-value	Remark
	Median (IQR)	Mean Rank	Median (IQR)	Mean Rank				
4th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
5th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
6th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
7th Month	0.00(3.00)	20.75	0.00(2.25)	20.25	195	-.172	.863	Not Significant
8th Month	3.00(4.50)	20.08	3.00(4.00)	20.93	191.5	-.233	.816	Not Significant
9th Month	4.00(6.00)	19.73	4.00(5.88)	21.28	184.5	-.425	.671	Not Significant
Follow Up	3.00(4.07)	19.98	2.75(4.60)	21.03	189.5	-.288	.774	Not Significant

Interpretation

The development of length of prominent striae was delayed until the 6th month in both groups. By the 9th month, 35% of participants in Group A and 25% in Group B remained free from prominent striae. Significant results over time were observed within both groups (Group A: χ^2=80.092, p<0.001; Group B: χ^2=84.100, p<0.001), with no significant difference between groups (p>0.05). However, Group A showed better clinical efficacy, with more participants remaining striae-free and a lower mean striae length than Group B.

8.Parameter: Width Of Prominent Striae

Table 17: Within-Group Comparison — Friedman's Two-Way Analysis of Variance by Ranks

Group	Total N	Test Statistic (χ^2)	Degrees of Freedom	p-value	Remark
Group A	20	76.063	6	<0.001	Significant
Group B	20	82.538	6	<0.001	Significant

Table 18: Between-Group Comparison — Mann-Whitney U Test

Time Point	Group A (n=20)		Group B (n=20)		Mann-Whitney U	Z	p-value	Remark
	Median (IQR)	Mean Rank	Median (IQR)	Mean Rank				
4th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
5th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
6th Month	0.00(0.00)	20.50	0.00(0.00)	20.50	200	.000	1.000	Not Significant
7th Month	0.00(0.18)	21.00	0.00(0.15)	20.00	190	-.345	.730	Not Significant
8th Month	0.20(0.30)	21.58	0.20(0.27)	19.43	178.5	-.597	.550	Not Significant
9th Month	0.30(0.38)	20.68	0.25(0.35)	20.33	196.5	-.097	.922	Not Significant
Follow Up	0.10(0.10)	19.40	0.10(0.18)	21.60	178	-.643	.520	Not Significant

Interpretation

Prominent width of striae were delayed until the 6th month in both groups. Significant changes over time were observed within both groups (Group A: χ^2=76.063, p<0.001; Group B: χ^2=82.538, p<0.001), with no significant difference between groups (p>0.05). However, Group A showed better clinical efficacy, with more participants remaining striae-free than Group B.

DISCUSSION

Kikkisa is one of the *Garbhiṇī Vyādhis* described in *Ayurveda* and is considered analogous to striae gravidarum. According to *Āchārya Vāgbhaṭa*, it occurs due to *Garbhotpīḍana* (stretching of the abdominal wall by the enlarging uterus) associated with vitiation of *Tridoṣa*, predominantly *Vāta* and *Pitta*. *Vāta* contributes to skin stretching and loss of elasticity, whereas *Pitta* is responsible for *Dāha* (burning sensation) and *Vaivarṇya* (discoloration) *Aṣṭāṅga Hṛdaya* advocates external application (*Bāhya Snehana*) of medicated oils (*Taila*) as the principal management for *Kikkisa* to pacify the vitiated *Doṣas*, nourish the *Twak*, improve skin hydration and elasticity, and reduce the occurrence of striae. In modern medicine, striae gravidarum affects approximately 50–90% of pregnant women and results from mechanical stretching, hormonal influences, and disruption of **dermal collagen and elastin fibers**. Although it is a physiological condition, it may lead to cosmetic concerns and psychological distress. Therefore, preventive interventions that maintain skin

hydration and elasticity are important to minimize the occurrence and severity of Straie. In the present study, *Chandana Bala Lakṣādi Taila* and *Nalpāmarādi Taila* were selected for external application owing to their *Vāta-Pitta śāmaka*, *Snigdha*, *Varnya*, and *Tvacya* properties, which help maintain skin integrity and prevent the development of *Kikkisa.*

DRUG ABSORPTION THROUGH SKIN

Absorption of oil through the skin (Stratum Corneum + Hair Follicles + Sebaceous Glands)
↓
Penetration of Lipophilic Fatty Acids into Intercellular Lipid Matrix of Epidermis
↓
Migration to Deeper Skin Layers
↓
Enhanced Skin Hydration
↓
Reduction in Transepidermal Water Loss
↓
Improves Skin Elasticity
↓
Maintenance of Collagen and Elastin Fibers Increased
↓
Resistance to Mechanical Stretching During Pregnancy
↓
Delay in Occurrence and Reduced Severity of Striae Gravidarum[7-9]

In Group A , *Chandanabala Lakshadi Taila* showed comparatively better results in improving clinical parameters such as itching (*Kandu*), burning sensation (*Daha*), dryness (*Rukshata*), texture of the skin and discoloration (*Vaivarnya*), particularly during the later months of pregnancy. This superior effect may be due to the presence of *Bala*, *Chandana*, *Yashtimadhu, Sariva* and *Laksha*, which possess predominant *Madhura Rasa*, *Snigdha Guna*, *Sheeta Veerya*, *Vata-Pittahara*, *Brimhana*, *Rasayana* and *Twachya* properties. These drugs help maintain *Twak Snigdhata*, *Twak Mriduta* and elasticity of the skin while ensuring proper nourishment of *Rasa*, *Rakta* and *Mamsa Dhatu*.

Bala[10] contributes through its *Balya* and *Brimhana* actions, *Yashtimadhu* through its *Rasayana* and *Varnya* properties, *Chandana* through its *Pittahara* and *Dahashamaka* effects, *Sariva* through its *Raktaprasadana* and *Twachya* actions, and *Laksha* through its *Ropana* and *Sandhanakara* properties. The *Tila Taila* base[15], owing to its *Snigdha*, *Sukshma* and *Vyavayi* qualities, enhances skin hydration and elasticity, there by minimizing stretching-induced damage.

The preventive effect of *Chandanabala Lakshadi Taila* in *Kikkisa* (striae gravidarum) can be explained based on its phytochemical constituents which exert anti-inflammatory, antioxidant, and skin-repairing actions. These actions help maintain skin integrity during progressive abdominal stretching in pregnancy.

Chandana (Santalum album) contains sesquiterpenes such as santalols, which possess anti-inflammatory and soothing effects on the skin[11]. This helps in reducing local irritation and maintaining skin comfort.

Bala (Sida cordifolia) contains alkaloids, flavonoids and sterols which exhibit tissue strengthening and regenerative properties[12]. These constituents support skin resilience and reduce susceptibility to structural damage.

Yashtimadhu (Glycyrrhiza glabra) contains glycyrrhizin and flavonoids which show antioxidant, **collagen-protective** and skin-conditioning effects[13]. These help in maintaining skin elasticity and hydration.

Laksha (Laccifer lacca) contains resinous compounds such as laccaic acids which have wound healing and tissue repair activity[14]. This supports maintenance of skin continuity and reduces micro-tearing.

Additionally, *Tila Taila*[15] acts as a rich source of essential fatty acids and vitamin E, providing emollient, moisturizing and antioxidant effects, which further improve skin flexibility and reduce dryness.

Thus, the combined action of these chemical constituents improves skin hydration, elasticity, and repair mechanisms, thereby preventing excessive dermal stretching and the development of straie during pregnancy.

Nalpamaradi Taila also exhibited beneficial effects due to the presence of *Haridra*, *Amalaki*, *Ushira* and *Ksheeri Vriksha* drugs such as *Vata*, *Udumbara, Ashwatha* and *Plaksha*, which possess *Varnya*, *Raktaprasadana*, *Twachya* and *Pittahara* properties. These drugs help maintain skin complexion and integrity through their antioxidant and tissue-protective actions. However, the predominance of *Kashaya Rasa* and in *Nalpamaradi Taila* may make it comparatively less effective in providing the deep *Snigdhata* and *Brimhana* required to counteract *Vataja* changes responsible for the development of *Kikkisa*.

The bark of *Nalpamara* is rich in flavonoids, phenolic compounds, tannins, and terpenoids. These constituents exhibit antioxidant, anti-inflammatory, and wound-healing activities, which help preserve the integrity of *Twak* and support *Dhatu Poshana*.[16-17] From an *Ayurvedic* perspective, these actions promote *Twak Dridhata* and prevent *Dhatu Shaithilya*, thereby reducing the likelihood of *Kikkisa* formation.

Haridra (*Curcuma longa*) contains curcuminoids with potent antioxidant and *Vranaropana* properties. These constituents help maintain normal skin texture, reduce *Pitta*-induced discoloration, and support regeneration of *Twak*.*Manjishta* possesses bioactive compounds with anti-inflammatory and complexion-enhancing effects, facilitating *Rakta Prasadana* and healthy skin metabolism.[18]

Although both groups showed comparable results in all objective and subjective parameters *Chandanabala Lakshadi Taila* consistently demonstrated lower mean values, high percentage of prevention of straie than *Nalpamaradi taila* suggesting a better protective effect against the progression of striae and in prevention of straie

CONCLUSION

1.Chandanabala Lakshadi Taila and *Nalpamaradi Taila* are statistically equally effective but clinically

chandanabala lakshadi taila is more effective than Nalpamaradi Taila in preventing *Garbhini Kikkisa.*
2 .Chandanabala Lakshadi Taila is effective in preventing the *Garbhini Kikkisa.*
3. Nalpamaradi Taila is effective in preventing the *Garbhini Kikkisa*.

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