

To Evaluate the Efficacy of Trayodashanga Guggulu in Sandhigatavata

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ABSTRACT

Disorders of the musculoskeletal system are prevalent throughout the world affecting all age group. Among this, important one is Sandhigata vata, which produces disastrous consequences like physical disability in community. Sandhigata vata can be compared to Osteoarthritis, which is one of the degenerative joint disorders and it represents failure of the diarthrodial part. Ayurvedic remedies have always been successful in the treatment of this ailment and its effects, especially the preparations of Guggulu. One such formulation consisting of thirteen in valuable drugs called 'Thrayodashanga guggulu' has been mentioned in Cakradatta, as directly indicated in Sandhisthita vata¹.

Keyword- Sandhigat vaat roopa, samprapti, chikitsa, trayodashanga guggulu case study.

INTRODUCTION

As one of the famous proverbial sayings goes- Health is wealth, it seems that the concept of health has never been dealt in any medical science as realistic as in Ayurveda. Among the Tridoshas, Vata is given a prime importance with respect to either physiological or pathological conditions. The other two doshas being inert, their equilibrium depends on vata.²The vayu vitiated by the etiological factors flowing in adverse routes produces diseases related to the site of localization and their disturbed functions. Once such disease caused due to the predominance of vayu is Sandhigata vata. This is a pathological condition which manifests when the Sandhis which are the important seat of Kapha, are affected by Vayu. This disease is often compared to the degenerative disorder afflicting the joints and having worldwide incidence and prevalence in plenty i.e. Osteoarthritis. The prevalence is 30% in the age group of 45-65 years and 68% for those older than 65 years. Men are more likely to suffer below the age of 45 years and women above 55 years.

Sandhigat Vaat Nidana :-

In Ayurvedic classics, the term Nidana has been defined in two different senses. One of these definitions explains Nidana as that which points or indicates a disease or that which gives a complete knowledge of a disease or that which helps in diagnosing a disease.³

Sandhigat Vaat Rupa

In the disease process, the same unclear signs and symptoms of poorva rupa when gets clearly manifested so as to indicate an existing disease will be called as rupa.⁴

Table No 1-Sandhigatva Rupa

Laxanas	Ch ⁵	Su ⁶	A.S ⁷	A.H ⁸	B.P ⁹	Y.R ¹⁰	M.N ¹¹	Ba raj ¹²
Sandhi Soola	-	+	-	-	+	+	+	+
Sotha or sophia	-	+	-	-	+	+	-	-
Vatapura druti sparsa	+	-	+	+	-	-	+	-
Hanti sandhin	-	+	-	-	+	+	-	-
Prasarana akuncanayoho pravrttisavedana	+	-	+	+	-	-	-	-
Atopa	-	-	-	-	-	-	+	-
Shareera gandhaliptata	-	-	-	-	-	-	-	+
Anga peeda	-	-	-	-	-	-	-	+
Romaharsha	-	-	-	-	-	-	-	+
Vilapana	-	-	-	-	-	-	-	+

Samprapti

For the better understanding of the disease, the knowledge of Samprapti I.e the etio pathogenesis of the disease is essential. Samprapti can be defined as the process of disease from its inceptive phase to fully manifestation. This process starts from the Nidana sevana or consumption of the etiological factor causing dosha prakopa, circulates throughout the body, localization then manifestation and differentiation.¹³ To the pathological point of view, dosha, dhatu, srotas is essential in relation of Sandhigata vata. Srotas is also called as Dhatuavakasha,¹⁴ which is formed from the Akasha mahabhuta. Akasha and Vayu mahabhuta are interrelated¹⁵ and Vayu is situated in the emptiness [Riktata] created by the Akasha mahabhutha.

Samprapti Ghatakas:

Dosha	-	Vatavrudhi, [Vyanavata], Kapha kshaya [sleshaka kapha].
Dushya	-	Asthi, Snayu [sandhi avayava].
Srotas	-	Important srotas are asthi vaha, majja vaha other less important are medovaha and mamsavaha srotas.
Agni	-	Dhatwagni.
Rogamarga	-	Madhyama.
Udbhavasthana	-	Pakwashaya.
Sanchara stana	-	Sarva deha.
Vyaktasthana	-	Sandhi.

Chikitsa

The main scopes of the Chikitsa are of two. They are promotion and preservation of health in healthy individual, and elimination of the disease ailing and afflicted i.e. curative treatment. According to the Amarakosha chikitsa is Ruk prathikriya

Table No 2- Showing Chikitsa Sutra of Sandigata Vata

Chikitsasutra	Ch.	Su. ¹⁶	A.S ¹⁷	A.H ¹⁸	B.P ¹⁹	Y.R ²⁰	B.R ²¹	C.D ²²
Sneha	-	+	-	+	-	+	+	+
Abhyanga	-	-	+	-	-	-	-	-
Upanaha	-	+	+	+	-	+	+	+
Agni karma	-	+	+	+	-	-	+	+
Bandhana	-	+	+	-	-	-	+	+
Unmardana	-	+	+	-	-	+	+	+
Sweda	-	-	-	-	-	+	-	-
Raktavasecan	-	-	+	-	-	-	-	-
Pradeha	-	-	+	-	-	-	-	-
Samana	-	-	-	+	+	+	+	+

Table No 3-Pathyaapathya:

Ahara	Yogarathnaka ²³	Bhaishajya rathnavali ²⁴
Sneha	----	Thaila
Shaka varga	Patola, Kushmanda, Shigru, Varthaka	
Shuka dhanya varga	Godhuma, Rakta shali	Godhuma, purana dhanya.
Shimbi dhanya	Masha, Kulatha	Masha, Kulatha
Mamsa	Kukkuta, Tittiri, Barhi, Chataka, Jangala mamsa.	---
Mathsya varga	Shilendra, Nakra, Khudisha, Parvathe, Gargara, Jhasha	---
Phala varga	Dadima, Parooshaka, Badara, Draksha	---
Gavya varga	Ghrutha, Dugdha, Kilaata, Dadhi koorchika	---
Oushadha dravya	Lashuna, Tambula, Masthsyandika,	Brihati, Vastuka, Kasamarda, Dunduka, Mishi, Kataka
Lavana	Saindhava	---

Drug Review:

Thrayodashanga Guggulu:

Reference - Chakradatta
Chapter - Vatavyadhi [chapter no.22]

Ingredients

- Abha, Ashwagandha, Hapusha
 - Guduchi, Shatavari, Gokshura,
 - Vrudhadaru, Rasna, Shathahwa,
 - Shati, Yavani, Nagara,
 - Shudda Guggulu
 - Ghrita
- 250 Grams each [1 part each]
- 3 kilo grams [12 parts]
- 1.5 kilo grams [6 parts]

MATERIALS AND METHODS

It is a single blind comparative clinical study with pretest and post-test design where in 40 patients suffering from Sandhigatavata of either sex of age group in between 25-65 were selected and randomly allocated into test group and control group. Duration of study is 60 days. Study was done at OPD and IPD of kayachikista department, at Smt Shalinitai Meghe Ayurved College Bhilewada Bhandara, maharashtra

Criteria of selection:

Patient who presented the complaints of joint pain, were examined in detail regarding the present and past history, food and activity, treatment status etc. and was recorded in a specially prepared Performa. The patients were investigated with serum RA, ASO titer and X-ray of joint (AP and Lat).

Inclusion Criteria:

1. Patients diagnosed as Sandhigatavata on the basis of signs and symptoms according to classical Ayurvedic texts.
2. Patients of either sex between the age of 25-65 years.
3. Early onset of Sandhigatavata is included.

Exclusion Criteria:

1. Sandhigatavata due to congenital development disorders, post traumatic, neurological and endocrine origin
2. Patients having secondary complications.
3. During pregnancy and lactation period.

Investigations:

Blood - Serum RA factor, ASO titre.

X-ray of effected joints- both AP and Lat.

Trial group:

- | | | |
|--------------------------|-----|-----------------------------------|
| • Sample size | | • 20 patients. |
| • Medicine | - | • Trayodashanga Guggulu |
| • Dose | - | • 3 grams twice daily after food. |
| • Duration | - | • 60 days. |
| • Anupana | - | • Ushna jala. |
| • Standard group: | | |
| • Sample size | | • 20 patients. |
| • Medicine | - | • Simhanada Guggulu |
| • Dose | • - | • 3 grams twice daily after food. |
| • Duration | • - | • 60 days. |
| • Anupana | • - | • Ushna jala. |

Observation period:

Follow period was done for 60 days.

Clinical assessment:

Sandhi Shula

	Points
No pain [no pain at rest / no pain while walking]	- 0
Mild pain [no pain at rest or mild tolerable pain while walking]	- 1
Moderate pain [mild pain at rest, tolerable and moderate pain while working]	- 2
Severe pain [disturbance of sleep due to pain or pain at rest or un tolerable pain during working]	- 3

Atopa of sandhi

No crepitus	-	0
Palpable crepitus	-	1
Audible crepitus	-	2

Tenderness:

No pain on pressure	-	0
Pain on pressure and winces	-	1
Patient withdraws affected part while giving pressure	-	2
Patient does not allow to touch	-	3

Sandhi Shotha:

No swelling	-	0
Swelling is present slightly in joints	-	1
Swelling covering the bony prominence of affected joints	-	2
Swelling much elevated so that the joints seem grossly deformed	-	3

Criteria for assessment of total effects of the therapy:

The sum points of all the parameters of assessment before and after treatment were taken into consideration to assess the total effect of the therapy. It was graded in terms of percentage of relief in the signs and symptoms.

Total cure	-	100% relief
Marked improvement	-	relief of above 60%
Moderate improvement	-	40 to 60% of relief
Improved	-	relief of more than 40%
Unchanged	-	0% of relief
Deterioration	-	worsening of the signs and symptoms

OBSERVATIONS

Distribution of 40 patients according to Lakshanas:

Sandhishula was the common symptom which is present in all the patients i.e.100%, then Prasarana akunchana pravrthi savedana was present in 95% patients, stambha was present in 85% patients, in 77.5% patients suffered from Shotha, Atopa in 70% patients.

Table No.4 Showing Symptoms

Sl.No.	Symptomatology	No. of Patients	Percentage
1.	Sandhi Sula	40	100
2.	Sandhi Shotha	31	77.5
3.	Sandhi Stambha	34	85
4.	Prasarana akunchana pravrthi savedana	38	95
5.	Atopa	28	70

Graph No.1 Showing Symptoms of Sandhi gata vata vedana herapeutic effect of Trial drug Thrayodashanga Guggulu in the management of Sandhigata vata after 60 days treatment:

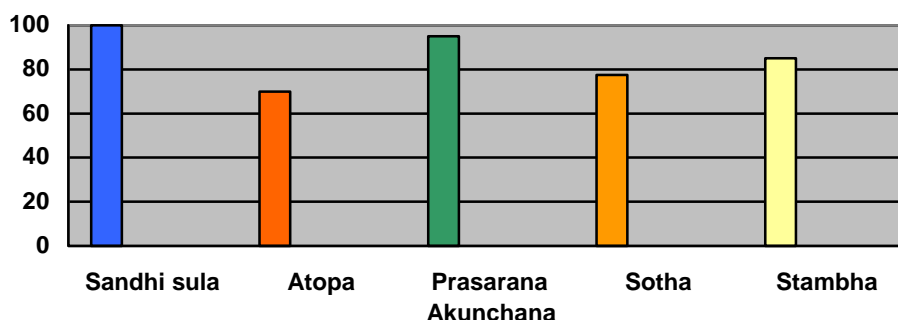


Table No 6

Sl. No.	Main symptoms	Mean			%	S.D	S.E	t	P
		BT	AT	BT-AT					
1.	Sandhi shula	1.75	1.35	0.40	35	0.598	0.133	2.990	<0.010
2.	Tenderness	1.90	1.40	0.50	40	0.688	0.153	3.248	<0.010
3.	Atopa	1.90	1.30	0.60	55	0.598	0.133	4.485	<0.001
4.	Sandhi sotha	1.90	1.55	0.35	30	0.587	0.131	2.665	<0.020

The trial drug Thrayodashanga Guggulu gives highly significant (< 0.001) result in the Atopa (crepitus) i.e. 55%. It provided 40% relief in Tenderness which is moderately significant (<0.010). Also it is moderately significant (<0.010) in Sandhi Shula (35%).

Table No. 7: Therapeutic effects of Trial drug Thrayodashanga Guggulu in the management of Sandhigata vata after 60 days of follow up:

Sl. No.	Main symptoms	Mean			%	S.D	S.E	t	P
		BT	AFU	BT-AFU					
1.	Sandhi shula	1.75	1.05	0.70	60	0.656	0.146	4.765	<0.001
2.	Tenderness	1.90	1.15	0.75	65	0.638	0.142	5.251	<0.001
3.	Atopa	1.90	1.25	0.65	60	0.587	0.131	4.950	<0.001
4.	Sandhi sotha	1.90	1.45	0.45	40	0.600	0.135	3.327	<0.010

The trial drug Thrayodashanga Guggulu showed highly significant (< 0.001) result in Tenderness (65%). It showed highly significant result (< 0.001) in Sandhi shula and Atopa (60%).

Table No: 8 Effect of standard drug (Simhanada Guggulu) in the management of Sandhigata vata after 60 days of treatment:

Sl. No.	Main symptoms	Mean			%	S.D	S.E	t	P
		BT	AT	BT-AT					
1.	Sandhi shula	1.85	1.55	0.30	30	0.470	0.105	2.853	<0.020
2.	Tenderness	2.00	1.65	0.35	30	0.587	0.131	2.665	<0.020
3.	Atopa	1.80	1.40	0.40	35	0.598	0.133	2.990	<0.010
4.	Sandhi sotha	2.15	1.55	0.60	50	0.680	0.152	3.942	<0.001

The standard drug simhanada guggulu showed highly significant result (<0.001) in the Sandhi shotha (50%). It provided moderate significant (<0.010) result in the Atopa (35%). And in the sandhi shula and tenderness showed moderate significant (<0.020) and the relief is 30%.

Table No: 9 Effect of standard drug (Simhanada Guggulu) in the management of Sandhigata vata after 60 days of follow up:

Sl. No.	Main symptoms	Mean			%	S.D	S.E	t	P
		BT	AF U	BT-AFU					
1.	Sandhi shula	1.85	1.40	0.45	40	0.604	0.135	3.327	<0.010
2.	Tenderness	2.00	1.50	0.50	40	0.688	0.153	3.298	<0.010
3.	Atopa	1.80	1.25	0.55	45	0.686	0.153	3.583	<0.010
4.	Sandhi sotha	2.15	1.40	0.75	60	0.716	0.160	4.682	<0.001

The standard drug Simhanada Guggulu provided highly significant (<0.001) result in the Sandhi shotha (60%). It showed moderate significant (<0.010) result in the Atopa (45%) and in the sandhi shula and tenderness it provides moderate significant (<0.010) result and relieved the symptoms 40%.

Table No: 10 Comparative effect of therapies in the management of Main symptoms of 40 patients of Sandhigata vata after treatment:

Group	Sandhishoola	Tenderness	Atopa	Sandhi shotha
Trial group	35	40	55	30
Std group	30	30	35	50

While comparing the effect of therapies on main symptoms, it was found that Trial group showed 35%, 40%, 55% and 30% relief in managing the symptoms like Sandhi shula, Tenderness, Atopa and Sandhi shotha respectively were as Standard group showed 30%, 30%, 35% and 50% relief in the symptoms like Sandhi shula, Tenderness, Atopa and Sandhi shotha respectively.

Graph No. 2: Comparative effect of therapies in the management of Main symptoms of 40 patients of Sandhigata vata after treatment:

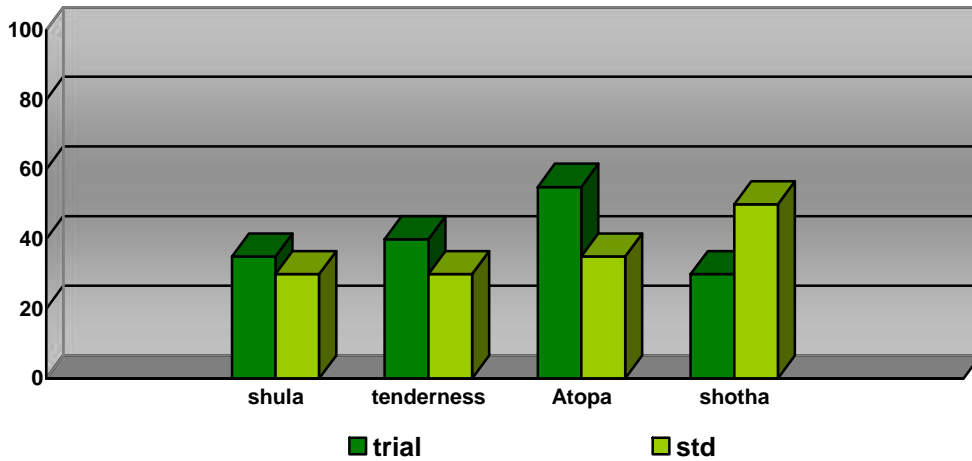


Table No. 12: Comparative effects of therapies in the management of Main symptoms of 40 patients of Sandhigata vata after follow up:

Group	Sandhishoola	Tenderness	Atopa	Sandhi shotha
Trial group	60	65	60	40
Std group	40	40	45	60

While comparing the effect of therapies on main symptoms, it was found that Trial group showed 60%, 65%, 60% and 40% relief in managing the symptoms like Sandhi shula, Tenderness, Atopa and Sandhi shotha respectively where as Standard group showed 40%, 40%, 45% and 60% relief in the symptoms like Sandhi shula, Tenderness, Atopa and Sandhi shotha respectively.

Here trial group showed better results in the management of Sandhi shula, Tenderness, Atopa where as standard group (Simhanada Guggulu) given better result in the Sandhi Shotha.

Graph no 3: Comparative effect of therapies in the management of Main symptoms of 40 patients of Sandhigata vata after follow up:

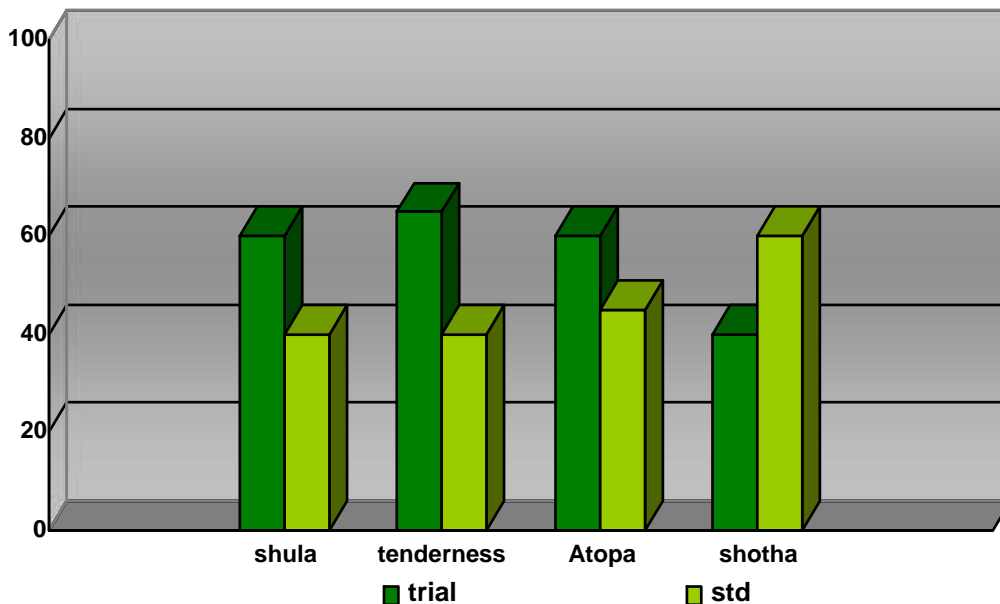


Table No: 13 Overall effect of therapy by trial drug Trayodashanga guggulu on patients of Sandhigata vata after 60 days of treatment:

Result	No. of patients	%
Complete relief	00	00
Marked improvement	04	20
Moderate improvement	04	20
Improved	09	45
Unchanged	03	15

In this group, 45% of the patients were assessed under improved category. 20% of patients showed moderate and marked improvement. 15% showed no response to the treatment. No body showed complete relief.

Table No: 14 Overall effect of therapy by trial drug Trayodashanga guggulu on patients of Sandhigata vata after 60 days of follow up

Result	No. of patients	%
Complete relief	00	00
Marked improvement	03	15
Moderate improvement	07	35
Improved	07	35
Unchanged	03	15

After 60 days of follow up period 35% of patients showed Moderate improvement where as 35% patients came under improved category. 15% of patients showed marked relief in the symptoms. 15% of patients came under unchanged category.

Table No: 15 Overall effect of therapy by Standard drug Simhanada guggulu on patients of Sandhigatha vata after 60 days of treatment:

Result	No. of patients	%
Complete relief	00	00
Marked improvement	02	10
Moderate improvement	08	40
Improved	07	35
Unchanged	03	15

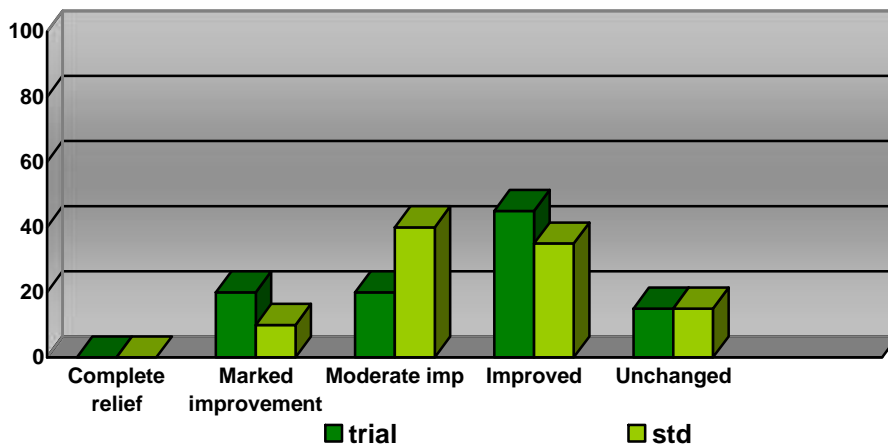
In this group after 60 days of treatment the standard group showed 40% Moderate relief in the symptoms. 35% of the patients showed improved relief. 10% of the patients showed Marked improvement and 15% remained unchanged.

Table No: 16 Overall effect of therapy by control drug Simhanada guggulu on patients of Sandhigata vata after 60 days of follow up.

Result	No. of patients	%
Complete relief	00	00
Marked improvement	03	15
Moderate improvement	02	10
Improved	11	55
Unchanged	04	20

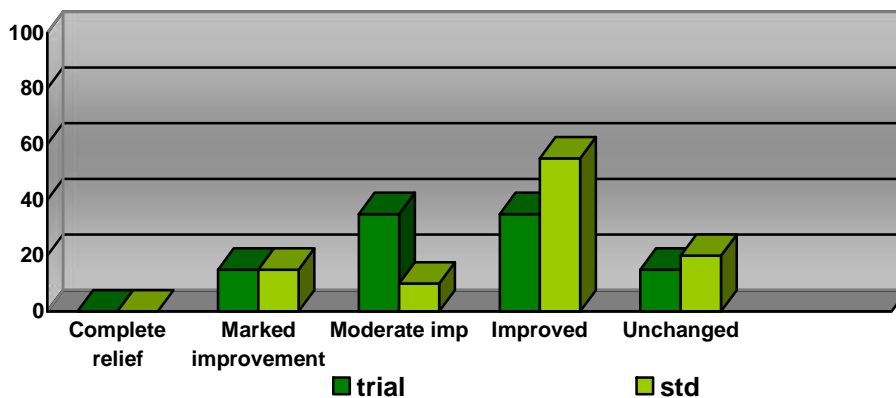
55% of patients showed improvement in the symptoms, 15% belonged marked improvement. 10% Showed moderate improvement whereas remaining 20% belonged to unchanged category. No body showed complete relief.

Graph no 5- Comparative effect of overall therapy of 40 patients of Sandhigata vata after 60 days of treatment:



Complete relief was not noted in both the groups. 20% of patients of Trial group showed marked improvement while it was 10% in Standard group. 20% showed moderate improvement in Trial group and 40% in Standard group. Improvement was noted in 45% in Trial group and 35% of patients in Standard group. 15% of patients in Trial group showed no change after the treatment while in Standard group also it is 15%.

Graph No: 6 Comparative effect of overall therapy of 40 patients of Sandhigata vata after 60 days of follow up:



After follow up, complete relief was not noted in both the groups. 15% of patients of Trial group showed marked improvement and also it was 15% in Standard group. 35% showed moderate improvement in Trial group and 10% in Standard group. Improvement was noted in 35% in Trial group and 55% of patients in Standard group. 15% of patients in Trial group showed no change after the treatment while in Standard group also it is 20%.

DISCUSSION

Discussion on effect of treatment:

Effect of treatment was assessed clinically.

After treatment

The trial drug Thrayodashanga Guggulu gives highly significant (< 0.001) result in the Atopa (crepitus) i.e. 55%. It provided 40% relief in Tenderness which is moderately significant (< 0.010). Also, it is moderately significant (< 0.010) in Sandhi shula (35%). The standard drug simhanada guggulu showed highly significant result (< 0.001) in the Sandhi shotha (50%). It provided moderate significant (< 0.010) result in the Atopa (35%). And in the sandhi shula and tenderness showed moderate significant (< 0.020) and the relief is 30%.

After follow up

The trial drug Thrayodashanga Guggulu showed highly significant (< 0.001) result in Tenderness (65%). It showed highly significant result (< 0.001) in Sandhi shula and Atopa (60%). The standard drug Simhanada Guggulu provided highly significant (< 0.001) result in the Sandhi shotha (60%). It showed moderate significant (< 0.010) result in the Atopa (45%) and in the sandhi shula and tenderness it provides moderate significant (< 0.010) result and relieved the symptoms 40%. So the trial drug showed very significant result in the shula, atopa and tenderness. Whereas standard drug showed efficiency in Sandhi shotha.

COMPARISON OF GROUPS

Inter group comparison after treatment

NO	GROUPS	SYMPTOMS	t- VALUE	P- VALUE	REMARKS
1	Trial & Std drugs	Sandhi shula	0.587	> 0.200	Trial = Std
2	Trial & Std drugs	Tenderness	0.7417	> 0.200	Trial = Std
3	Trial & Std drugs	Atopa	1.057	> 0.200	Trial = Std
4	Trial & Std drugs	Sandhi shotha	0.083	> 0.200	Trial = Std

On the statistical analysis to compare the result obtained after 45 days of treatment for Sandhi shula between the two groups, an insignificant result was obtained which indicates that both the groups were equally effective in the management of Sandhi shula. Even on the other main complaints, Atopa, Tenderness and Sandhi shotha an insignificant result was obtained on the inter group statistical evaluation which indicates that both the drugs were equally effective in the management of chief complaints.

Inter group comparison after follow up

NO	GROUPS	SYMPTOMS	t- VALUE	P- VALUE	REMARKS
1	Trial & Std drugs	Sandhi shula	1.253	> 0.200	Trial = Std
2	Trial & Std drugs	Tenderness	1.191	> 0.200	Trial = Std
3	Trial & Std drugs	Atopa	0.995	> 0.200	Trial = Std
4	Trial & Std drugs	Sandhi sotha	1.436	< 0.200	Trial = Std

Statistical evaluation for the inter group comparison after follow up period showed an insignificant result on all the chief complaints. A highly significant result was obtained for the Trial drug on Sandhishula, Atopa and Tenderness after the follow up period compared to a moderate significant relief for the standard drug. But the inter group comparison between the two groups showed only a statistical insignificance. Thus, it may be concluded that both the standard and trial drug were equally effective in management of chief complaints after the treatment as well as after the follow up.

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