



Research Article

PHARMACEUTICAL PREPARATION OF *AMRITA GUGGULU* AND ITS CLINICAL EFFICACY ON *VATARAKTA*

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ABSTRACT

This study scrabbles about into the pharmaceutical preparation of *Amrita Guggulu*, a traditional Ayurvedic formulation known for its therapeutic properties. The focus of the research is on assessing the clinical efficacy of *Amrita Guggulu* in managing *Vatarakta*, a condition characterized by vitiated *Vata* as well as *Pitta* and associated with inflammatory joint disorders. The pharmaceutical preparation involves meticulous formulation techniques, ensuring the quality and potency of the final product. Standardization parameters include the selection of authentic raw materials, adherence to traditional preparation methods and quality control measures. **Clinical Trial Design:** The clinical trial was designed as a randomized, double-blind study to assess the efficacy of *Amrita Guggulu* in patients diagnosed with *Vatarakta*. Participants were randomly assigned to either the treatment group receiving *Amrita Guggulu* group A or group B. A comprehensive clinical trial was conducted to evaluate the efficacy of *Amrita Guggulu* in patients diagnosed with *Vatarakta*. Key parameters such as joint pain, inflammation in joint, tenderness, burning sensation in affected area, skin rashes and tingling sensation were selected for the study. Overall improvement was assessed using standardized tools and patient-reported outcomes. **Result:** Preliminary findings indicate promising results, suggesting that *Amrita Guggulu* may play a significant role in alleviating symptoms associated with *Vatarakta*. The observed effects include a reduction in joint pain, improved joint function, and decreased inflammatory markers. **Conclusion:** This research contributes valuable insights into the pharmaceutical preparation of *Amrita Guggulu* and highlights its potential as an effective intervention for *Vatarakta*. On the basis of this clinical trial, we can say that S. Uric acid is not the confirmatory parameter for the decision of *Vatarakta* (gout). Further studies and long-term observations are recommended to solidify these findings and establish *Amrita Guggulu* as a viable therapeutic option in managing inflammatory joint disorders.

INTRODUCTION

The main classical Ayurveda texts begin with the transmission of medical knowledge from the Gods to sages and then to human physician. It is also called *Upveda* of *Atharva-veda*. *Dosha* balance is emphasized and suppressing natural urges is considered unhealthy, claimed to lead to illness.

It emphasizes on the maintenance, promotion and cures of the diseases. Ayurveda names seven basic *Dhatus* and Ayurveda has historically divided bodily substances into five *Panchmahabhutas* i.e., *Akash*, *Vayu*, *Agni*, *Jala* and *Prithvi*. It also names three elemental bodily humors, the *Doshas* called *Vata*, *Pitta* and *Kapha*. Ayurvedic view is that the balance of *Doshas* results in health, while imbalances result in diseases. Ayurveda plays very vital role in our life. The fast life of the running modern era impairs the life quality and health. Today there is lack of awareness towards our *Aahara* and *Vihara*, leading to arising of various diseases; *Vata-rakta* is one of them in that long list of

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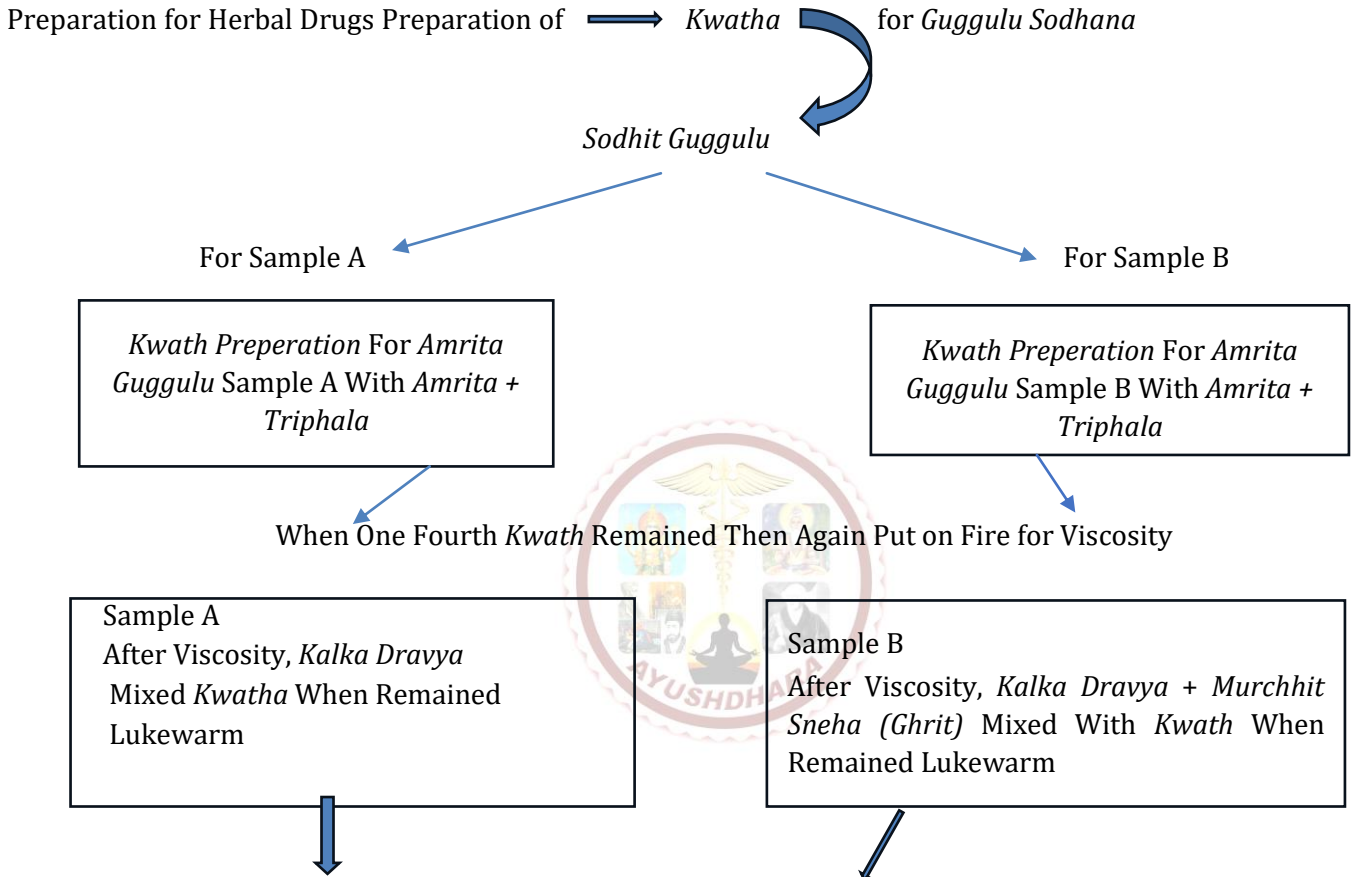
diseases. So, we decided to do some research work on this problem.

AIMS AND OBJECTIVES

1. Preparation of *Amrita Guggulu* Sample A and Sample B.
2. To evaluate their efficacy in bringing about remission of the symptoms/illness in the patients suffering in the context of *Vata-rakta*.

Preparation

Flow Diagram of Pharmaceutical Preparation



MATERIALS AND METHODS

Those patients who fulfilled the criteria of inclusion were included in the study. There were 60 patients, categorized in two groups A and B (each of 30 in size) attending the G.A.C.H. Kadamkuan, Patna, irrespective of race, caste and religion.

Ingredients of Amrita Guggulu^[1]

Group A			Group B		
S.no.	Ingredients	Amount	S.no.	Ingredients	Amount
1.	<i>Triphala Churna</i>	300 gms	1.	<i>Triphala Churna</i>	300 gms
2.	<i>Trikatu Churna</i>	300 gms	2.	<i>Trikatu Churna</i>	300 gms
3.	<i>Dantimool Churna</i>	300 gms	3.	<i>Dantimool Churna</i>	300 gms
4.	<i>Twak Churna</i>	300 gms	4.	<i>Twak Churna</i>	300 gms
5.	<i>Vayavidang Churna</i>	300 gms	5.	<i>Vayavidang Churna</i>	300 gms
6.	<i>Amrita Churna</i>	300 gms	6.	<i>Amrita Churna</i>	300 gms
7.	<i>Nishotha Churna</i>	120 gms	7.	<i>Nishotha Churna</i>	120 gms
8.	<i>Shodhit guggulu</i>	06 kgs	8.	<i>Shodhit guggulu</i>	06 kgs
			9.	<i>Ghrit</i>	1.250 kgs

Inclusion Criteria

- Age group between 16 -70 years
- Selected signs and symptoms based on both ayurvedic and modern contest.
- Patients willing for the trial.

Exclusion Criteria

- Age group below 16 and above 70 years.
- Patients having complications like joint damage, kidney stones and small lumps forming under the skin (tophi).
- Patients having any other systemic illness.

Laboratory Investigations

Biochemical investigations which were necessary to exclude other systemic or other pathologies and to know the untoward effects of trial drug on the parameters like- serum uric acid, serum creatinine, blood urea, RA Factor.

Method of Study

- IEC: Approval from the Institutional Ethics Committee (IEC) for the MD/MS (Ayu.) Research

Score of subjective parameters of symptoms/Grade

Subjective Parameters	Grade	Score
A. Pain in joint	No pain	0
	Mild pain	1
	Moderate pain	2
	Constant pain	3
	Severe pain	4
B. Swelling of joint	No swelling	0
	Mild swelling	1
	Moderate swelling	2
	Severe swelling without loss of movement	3
	Severe swelling with loss of movement	4
C. Joint tenderness	No tenderness	0
	Patient says it is tender	1
	Patient says it is tender and winces	2
	Patient says it is tender and withdraws the limb	3
	Patient does not allow touching the affected area	4
D. Burning sensation in affected joint	No burning sensation	0
	Mild burning sensation	1
	Moderate burning sensation	2
	Severe burning sensation	3
E. Skin rashes	No skin rashes	0
	Mild skin rashes	1
	Moderate skin rashes	2
	Severe skin rashes	3

work was taken prior to begin this study vide no. - 121 PG dated 12/05/2019.

- Consent:** Written and informed consent of the patients were taken before their registration for the study.

- CRF (Appendix):** A clinical research proforma was prepared to note down all the details of the patients and their disease.

- Formulation:** The trial formulation i.e., *Amrita Guggulu* was prepared from raw ingredients procured from the college pharmacy. This was processed as per the classical texts to prepare the formulation.

Administration of Formulation: Orally

Dose: 1000mg thrice in a day

Duration of study: 90 days

Score System

To assess the effects on subjective parameters score/ grades was designed as below.

F. Tingling sensation	No tingling sensation	0
	Mild tingling sensation	1
	Moderate tingling sensation	2
	Severe tingling sensation	3
G. Edema	No edema	0
	Mild edema	1
	Moderate edema	2
	Severe edema	3
H. Clubbing	No clubbing	0
	Mild clubbing	1
	Moderate clubbing	2
	Severe clubbing	3

Objective Parameters Criteria

To assess the effect of treatments on objective parameters i.e., serum uric acid, serum creatinine, blood urea, R.A. factor.

RESULT

The score of different variables i.e., signs and symptoms and different objective parameters recorded before and after the trial were statistically analyzed using student's test and compared with t table to obtain its significance.

Statistical Analysis

All the observations made on various parameters were subjected to statistical analysis in terms of Mean, Standard deviation, Standard error, Paired t test, were carried out at $p < 0.05$, $p < 0.01$ and $p < 0.001$. The obtained results were interpreted as:

Insignificant	$P > 0.05$
Significant	$0.001 \leq P \leq 0.05$
Highly Significant	$P < 0.001$

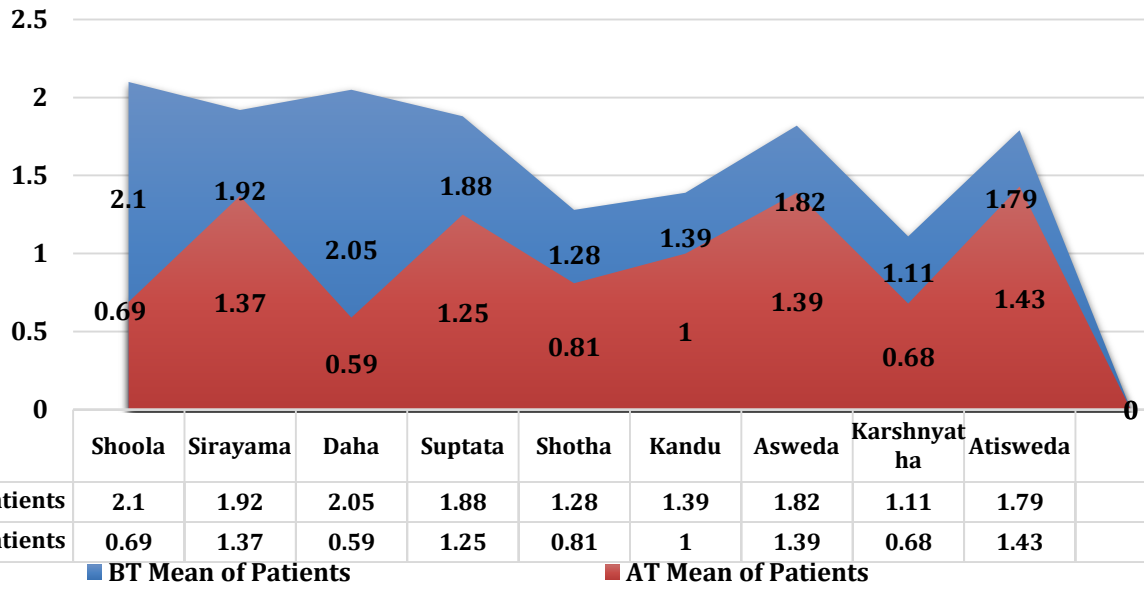
Effect of the Therapy

Effect of *Amrita Guggulu* on chief complaint in *Vatarakta*

Table 1: Group A- 27 patients

Symptom	Mean		% Relief	\pm SD	\pm SE	T Value	P Value
	BT	AT					
<i>Shoola</i>	2.10	0.69	67.14	0.62	0.12	11.29	<0.001
<i>Sirayama</i>	1.92	1.37	28.64	1.14	0.22	2.69	<0.05
<i>Daha</i>	2.05	0.59	71.21	0.83	0.16	8.67	<0.001
<i>Suptata</i>	1.88	1.25	33.51	0.98	0.19	3.31	<0.01
<i>Shoatha</i>	1.28	0.81	36.71	0.93	0.18	2.51	<0.05
<i>Kandu</i>	1.39	1.00	28.05	0.67	0.13	2.81	<0.01
<i>Asweda</i>	1.82	1.39	23.62	0.77	0.15	2.79	<0.01
<i>Karshnyatha</i>	1.11	0.68	38.73	0.72	0.14	2.91	<0.05
<i>Atisweda</i>	1.79	1.43	20.11	0.51	0.10	3.42	<0.01

Effects of Amrita Guggulu on chief complaint in Vatarakta in Sample A

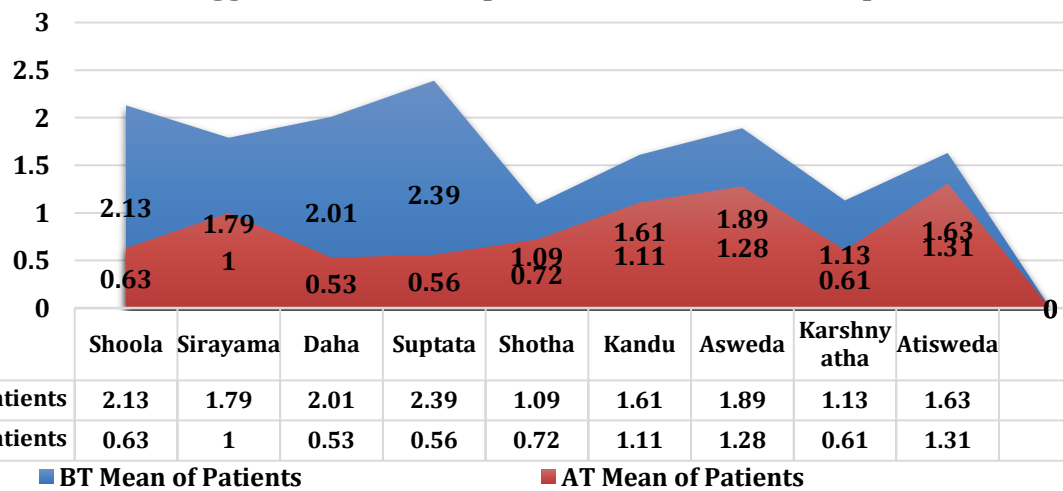


Effect of Amrita Guggulu on chief complaint in Vatarakta

Table 2: Group B- 27 patients

Symptom	Mean		% Relief	±SD	±SE	T Value	P Value
	BT	AT					
<i>Shoola</i>	2.13	0.63	70.42	0.62	0.12	11.62	<0.001
<i>Sirayama</i>	1.79	1.00	44.13	0.77	0.14	3.48	<0.01
<i>Daha</i>	2.01	0.53	73.63	0.67	0.13	11.01	<0.001
<i>Suptata</i>	2.39	0.56	76.56	0.57	0.11	16.52	<0.001
<i>Shotha</i>	1.09	0.72	33.94	0.72	0.14	2.63	<0.05
<i>Kandu</i>	1.61	1.11	31.05	0.72	0.14	3.48	<0.01
<i>Asweda</i>	1.89	1.28	32.27	0.98	0.19	3.17	<0.05
<i>Karshnyatha</i>	1.13	0.61	46.01	0.88	0.17	2.99	<0.01
<i>Atisweda</i>	1.63	1.31	19.63	0.36	0.07	4.13	<0.001

Effects of Amrita Guggulu on chief complaint in Vatarakta in Sample B



Effect of Amrita Guggulu on subjective observations in Vata Rakta

Table 3: Group A- 27 patients

Subjective observation	Mean		% Relief	±SD	±SE	T Value	P Value	
	BT	AT						
Joint tenderness	1.53	0.33	78.43	1.14	0.22	5.29	<0.001	
Pain in	Metacarpal	1.27	0.80	37.00	0.93	0.18	2.53	<0.05
	Metatarsal	2.01	0.55	72.63	0.88	0.17	8.33	<0.001
	Ankle	1.91	0.89	53.40	1.71	0.33	3.01	<0.01
	Elbow	1.33	0.98	26.31	0.62	0.12	2.79	<0.05
	Wrist	2.03	0.62	69.45	2.17	0.42	3.33	<0.01
Skin rashes	1.02	0.19	81.37	1.55	0.30	2.71	<0.001	
Tingling	1.69	0.35	79.28	0.57	0.11	12.08	<0.001	
Oedema	2.03	0.43	78.81	0.67	0.13	11.98	<0.001	
Clubbing	1.53	0.98	35.94	0.36	0.07	7.51	<0.01	

Effects of Amrita Guggulu on subjective observations in Vatarakta in Sample A

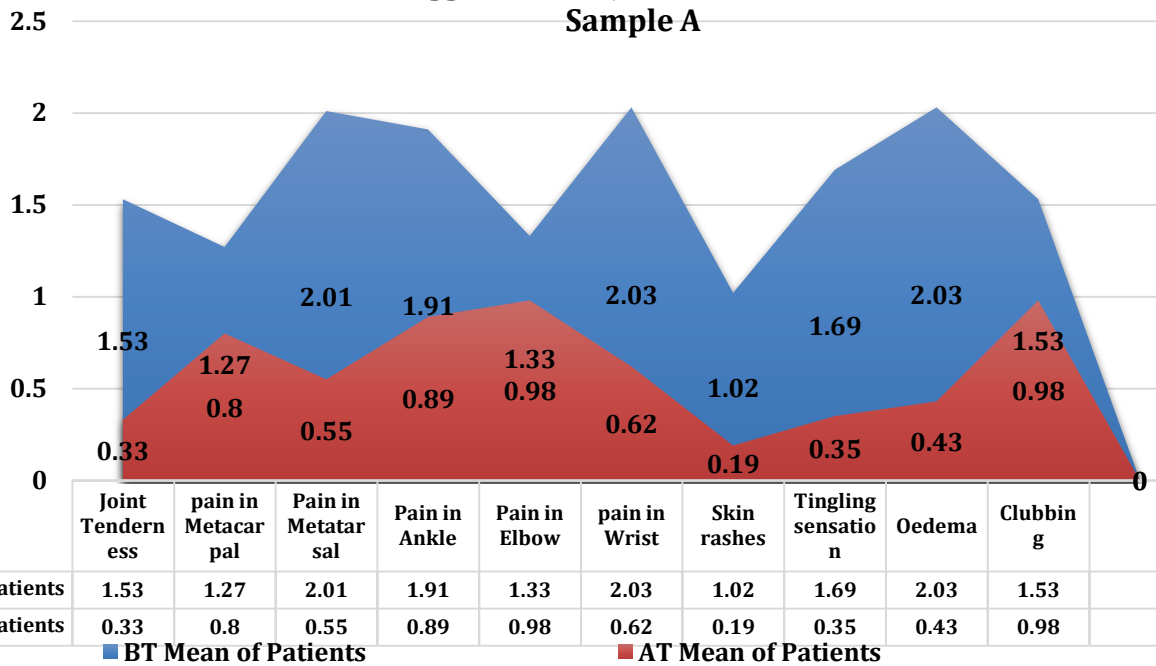
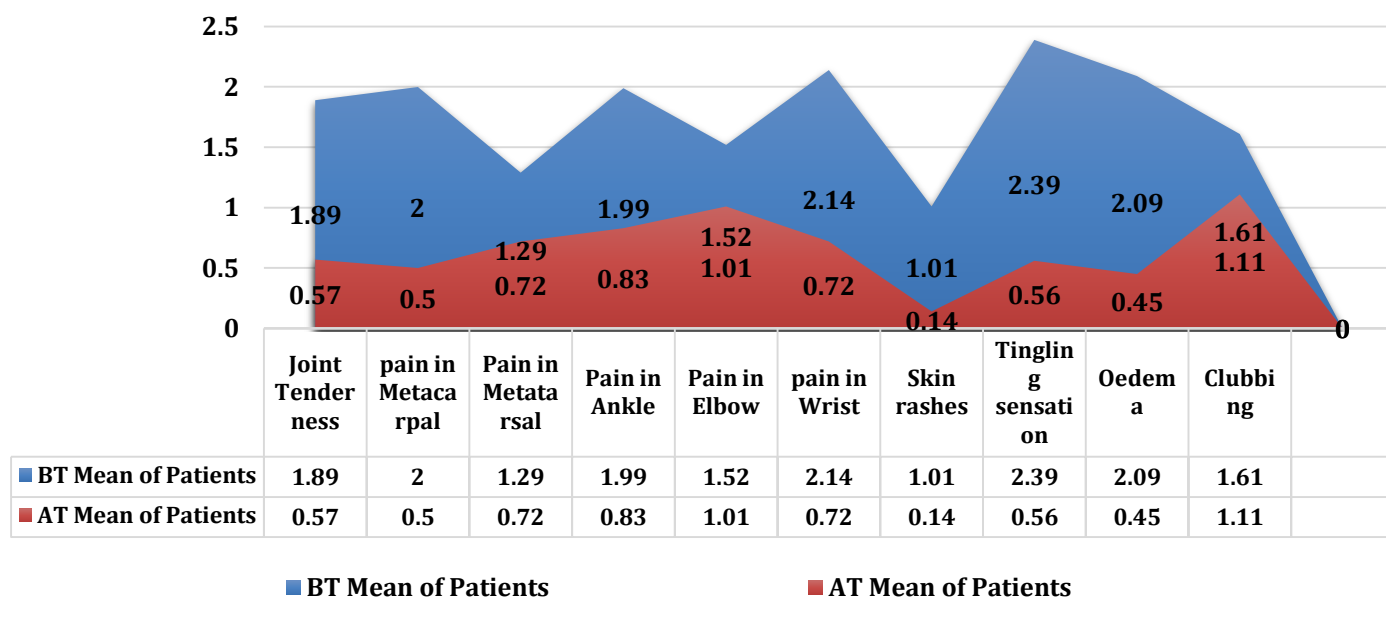


Table 4: Group B- 27 patients

Subjective observation	Mean		% Relief	±SD	±SE	T Value	P Value	
	BT	AT						
Joint tenderness	1.89	0.57	69.84	1.24	0.24	5.39	<0.001	
Pain in	Metacarpal	2.00	0.50	75.00	2.95	0.57	2.63	<0.05
	Metatarsal	1.29	0.72	44.18	0.88	0.17	3.33	<0.01
	Ankle	1.99	0.83	58.29	2.02	0.39	2.95	<0.01
	Elbow	1.52	1.01	33.55	0.72	0.14	3.43	<0.01
	Wrist	2.14	0.72	66.35	1.40	0.27	5.11	<0.001
Skin rashes	1.01	0.14	86.13	1.29	0.25	3.39	<0.001	
Tingling	2.39	0.56	76.56	0.57	0.11	16.52	<0.001	
Oedema	2.09	0.45	78.46	0.67	0.13	12.01	<0.001	
Clubbing	1.61	1.11	31.05	0.36	0.07	7.01	<0.01	

Effects of Amrita Guggulu on subjective observations in Vatarakta in Sample "B"

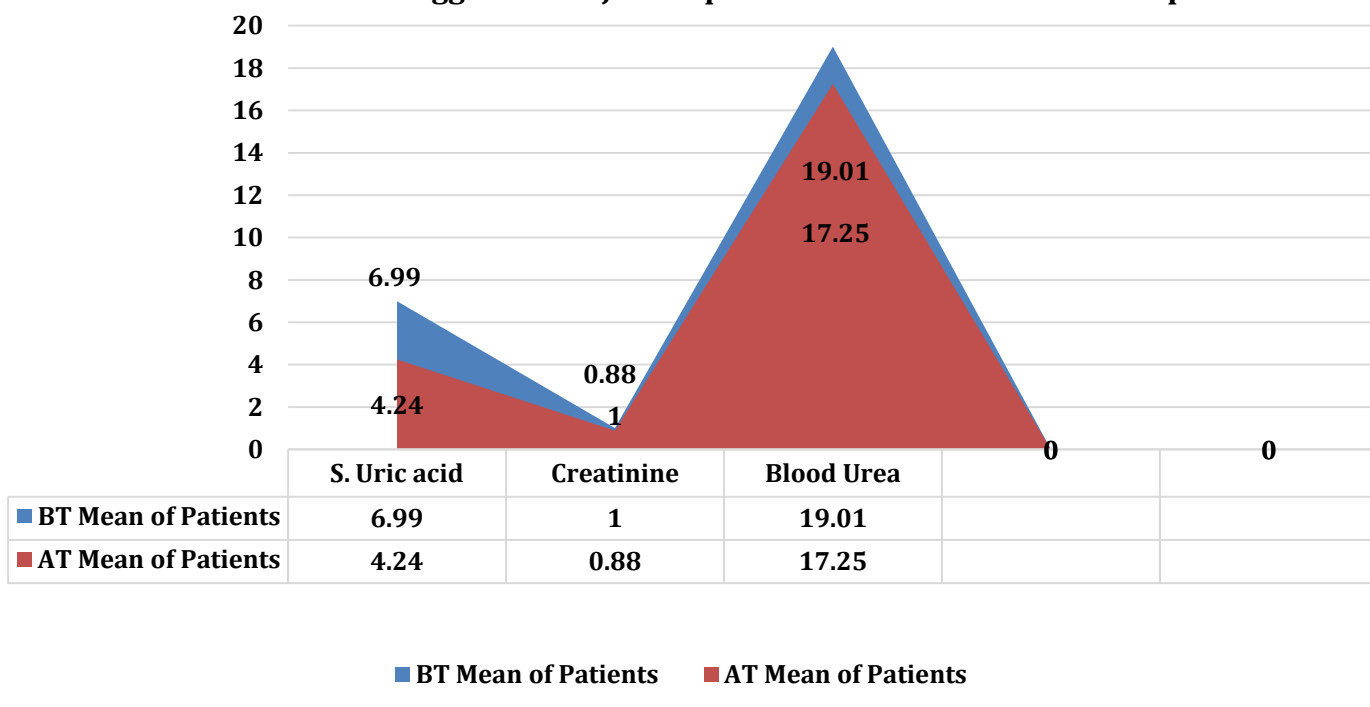


Effect of Amrita Guggulu on objective parameters in Vatarakta

Table 5: Group A- 27 patients

Objective parameters	Mean		% Relief	±SD	±SE	T Value	P Value
	BT	AT					
S. Uric acid	6.99	4.24	39.34	1.50	0.29	9.30	<0.001
S. Creatinine	1.00	0.88	12.00	0.15	0.03	3.94	<0.001
Blood Urea	19.01	17.25	09.25	3.01	0.58	3.03	<0.01
RA factor	Non-Reactive						

Effect of Amrita Guggulu on objective parameters in Vatarakta in Sample "A"

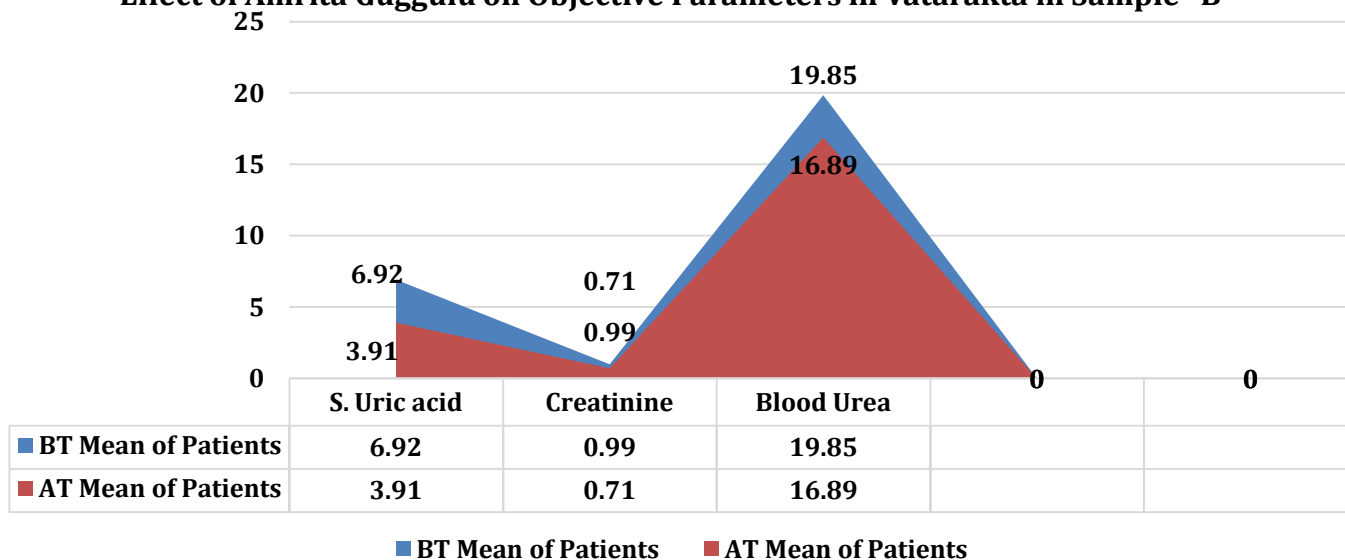


Effect of Amrita Guggulu on subjective parameters in Vatarakta

Table 6: Group B- 27 patients

Subjective Parameters	Mean		% Relief	±SD	±SE	T Value	P Value
	BT	AT					
S. Uric acid	6.92	3.91	43.49	2.69	0.52	5.69	<0.001
S.Creatinine	0.99	0.71	28.28	0.36	0.07	3.89	<0.001
Blood Urea	19.85	16.89	14.91	4.93	0.95	3.11	<0.01
RA factor	Non-Reactive						

Effect of Amrita Guggulu on Objective Parameters in Vatarakta in Sample "B"



Group A

Characteristics	N (%)
<i>Prakriti</i> (Constitution of body)	46.66% <i>Vataj-Pittaja</i> , 30% <i>Kapha-Pittaja</i> and 23.33% <i>Vata-Kaphaj</i>
<i>Satwa</i> (Examination of mental constitution)	03.33% <i>Heena</i> , 93.33% <i>Madhyam</i> and 03.33% <i>Uttama</i>
<i>Rogabala</i>	13.33% <i>Heena</i> , 83.33% <i>Madhyam</i> and 03.33% <i>Uttama</i>
<i>Samhanana</i> (Examination of compactness of body)	50% Moderate, 20% Undernourished and 30% Obese
<i>Satmya</i> (Suitability)	13.33% <i>Heena</i> , 80% <i>Madhyam</i> and 06.66% <i>Uttama</i>
Habit and addiction	10% Smoking, 00% Alcohol, 70% Tea/Coffee, 03.33% Opium, 16.66% Others
<i>Ahara Shakti</i> (Examination of digestive power)	30% <i>Heena</i> , 66.66% <i>Madhyam</i> and 03.33% <i>Uttama</i>
Bowel	16.66% Regular, 83.33% Irregular
<i>Vayah</i> (Age)	03.33% 20-30, 16.66% 30-40, 50% 40-50, 20% 50-60, 10% 60-70
<i>Desha</i> (Habitat)	66.66% <i>Jangal</i> , 13.33% <i>Anupa</i> and 20% <i>Sadharana</i>

Group B

Characteristics	N (%)
<i>Prakriti</i> (Constitution of body)	30% <i>Vataj-Pittaja</i> , 33.33% <i>Kapha-Pittaja</i> and 36.66% <i>Vata-Kaphaj</i>
<i>Satwa</i> (Examination of mental constitution)	36.66% <i>Heena</i> , 56.66% <i>Madhyam</i> and 06.66% <i>Uttama</i>
<i>Rogabala</i>	20% <i>Heena</i> , 70% <i>Madhyam</i> and 10% <i>Uttama</i>

Samhanana (Examination of compactness of body)	60% Moderate, 33.33% Undernourished and 06.66% Obese
Satmya (Suitability)	36.66% <i>Heena</i> , 56.66% <i>Madhyam</i> and 06.66% <i>Uttama</i>
Habit and Addiction	16.66% Smoking, 03.33% Alcohol, 66.66% Tea/Coffee, 00% Opium, 13.33% Others
Ahara Shakti (Examination of Digestive Power)	33.33% <i>Heena</i> , 60.00% <i>Madhyam</i> and 06.66% <i>Uttama</i>
Bowel	13.33%- Regular, 86.66%- Irregular
Vayah (Age)	06.66% 20-30, 16.66% 30-40, 43.33% 40-50, 23.33% 50-60, 10% 60-70
Desha (Habitat)	73.33% <i>Jangal</i> , 10% <i>Anupa</i> and 16.66% <i>Sadharana</i>

DISCUSSION

General line of Treatment

In the beginning *Snehan* should be done. Then after *Virechana* with *Sneha dravyas* (if patient is unctuous) or with *Ruksha virechana* (if patient is not unctuous). Then patient should be administered *Niruha* and *Anuvasana Basti* frequently. Then the patient should be given *Seka*, *Abhyanga*, *Pradeha* and unctuous substance which do not cause burning sensation. According to Sushruta, the patient should be administered with *Upnaha*, *Parisekha*, *Lepa* and *Abhyanga*.

Specific line of Treatment

For *Uttana vatarakta*, according to Charaka, it is treated with *Alepa*, *Abhyanga*, *Pariseka* and *Upnaha*. For *Gambheera vatarakta*, it should be treated with purgation, *Asthapana* and *Snehapana*.

The *Pathya* and *Apathya* to be followed in a usual case of *Vatarakta* whereas in case of *Margavarana* due to *Kapha* and *Medas*, the *Pathya* and *Apathya* of *Sthoulya* has to be followed.

Dietary Advice

The first attack may be separated by many months or years and are managed asymptotically. Individuals should be advised to reduce their alcohol intake, especially beer, which is high in purines. A diet which reduces total calorie and cholesterol intake and avoids such foods as coffee, some fish, shellfish and spinach, all of which are rich sources of purines. This can reduce serum urate by 15% and delay the need for drugs that reduce serum urate.

Vatarakta is one of the erratic disorders among the *Vatavyadhi*. Compared with other *Vatavyadhi*, *Vatarakta* possesses a special place in the society, due to its high prevalence in the society, and increased incidence as age advances and so on.

Clinical study has its importance in assessing the efficacy of a test drug in treating the disease. So, clinical study was planned to compare the efficacy of *Amrita Guggulu* Sample A and Sample B on different clinical parameters of *Vatarakta*.

Effect of the Trial Drug

Effect of *Amrita Guggulu* on chief complaint in *Vatarakta*

Effect of therapy on symptom like *Shoola*

Mean score of *Shoola* in patients, before treatment was 2.10 and after treatment it changed to 0.69 giving difference of 67.14% in mean score which is highly significant statistically ($p < 0.001$) in Group A while in Group B mean score of *Shoola* in patients, before treatment was 2.13 and after treatment it changed to 0.63 giving difference of 70.42% in mean score which is highly significant statistically ($p < 0.001$).

Effect of therapy on symptom like *Sirayama*

Mean score of *Sirayama* in patients, before treatment was 1.92 and after treatment it changed to 1.37 giving difference of 28.64% in mean score which is significant statistically ($p < 0.05$) while in Group B Mean score of *Sirayama* in patients, before treatment was 1.79 and after treatment it changed to 1.00 giving difference of 44.13% in mean score which is significant statistically ($p < 0.01$).

Effect of therapy on symptom like *Daha*

Mean score of *Daha* in patients, before treatment was 2.05 and after treatment it changed to 0.59 giving difference of 71.21% in mean score which is highly significant statistically ($p < 0.001$) in Group A while in Group B Mean score of *Daha* in patients, before treatment was 2.01 and after treatment it changed to 0.53 giving difference of 73.63% in mean score which is highly significant statistically ($p < 0.001$).

Effect of therapy on symptom like *Suptata*

Mean score of *Suptata* in patients, before treatment was 1.88 and after treatment it changed to 1.25 giving difference of 33.51% in mean score which is significant statistically ($p < 0.01$) in Group A and Mean score of *Suptata* in patients, before treatment was 2.39 and after treatment it changed to 0.56 giving difference of 76.56% in mean score which is highly significant statistically ($p < 0.001$) in Group B.

Effect of therapy on symptom like *Shotha*

Mean score of *shotha* in patients, before treatment was 1.28 and after treatment it changed to 0.81 giving difference of 36.71% in mean score which is significant statistically ($p < 0.05$) in Group A and Mean score of *Shotha* in patients, before treatment was 1.09 and after treatment it changed to 0.72 giving difference of 33.94% in mean score which is significant statistically ($p < 0.05$) in Group B.

Effect of therapy on symptom like *Kandu*

Mean score of *kandu* in patients, before treatment was 1.39 and after treatment it changed to 1.00 giving difference of 28.05% in mean score which is significant statistically ($p < 0.01$) in Group A and Mean score of *Kandu* in patients, before treatment was 1.61 and after treatment it changed to 1.11 giving difference of 31.05% in mean score which is significant statistically ($p < 0.01$) in Group B.

Effect of therapy on symptom like *Asweda*

Mean score of *Asweda* in patients, before treatment was 1.82 and after treatment it changed to 1.39 giving difference of 23.62% in mean score which is significant statistically ($p < 0.01$) in Group A and Mean score of *Asweda* in patients, before treatment was 1.89 and after treatment it changed to 1.28 giving difference of 32.27% in mean score which is significant statistically ($p < 0.05$) in Group B.

Effect of therapy on symptom like *Karshnyatha*

Mean score of *Karshnyatha* in patients, before treatment was 1.11 and after treatment it changed to 0.68 giving difference of 38.73% in mean score which is significant statistically ($p < 0.05$) in Group A and Mean score of *Karshnyatha* in patients, before treatment was 1.13 and after treatment it changed to 0.61 giving difference of 46.01% in mean score which is significant statistically ($p < 0.01$) in Group B.

Effect of therapy on symptom like *Atisweda*

Mean score of *Atisweda* in patients, before treatment was 1.79 and after treatment it changed to 1.43 giving difference of 20.11% in mean score which is significant statistically ($p < 0.01$) in Group A and Mean score of *Atisweda* in patients, before treatment was 1.63 and after treatment it changed to 1.31 giving difference of 19.63% in mean score which is highly significant statistically ($p < 0.001$) in Group B.

Effect of *Amrita Guggulu* on subjective observations in *Vatarakta***Effect of therapy on subjective observation i.e. joint tenderness**

Mean score of Joint tenderness in patients, before treatment was 1.53 and after treatment it changed to 0.33 giving difference of 78.43% in mean score which is highly significant statistically ($p < 0.001$)

in Group A and Mean score of Joint tenderness in patients, before treatment was 1.89 and after treatment it changed to 0.57 giving difference of 69.84% in mean score which is highly significant statistically ($p < 0.001$) in Group B.

Effect of therapy on subjective observation i.e. in pain

Mean score of pain in patients, before treatment was 1.27 and after treatment it changed to 0.80 giving difference of 37.00 % in mean score which is significant statistically ($p < 0.05$) in Group A and Mean score of pain in patients, before treatment was 2.00 and after treatment it changed to 0.50 giving difference of 75.00% in mean score which is significant statistically ($p < 0.05$) in Group B.

Effect of therapy on subjective observation i.e. skin rashes

Mean score of skin rashes in patients, before treatment was 1.02 and after treatment it changed to 0.19 giving difference of 81.37% in mean score which is highly significant statistically ($p < 0.001$) in Group A and Mean score of skin rashes in patients, before treatment was 1.01 and after treatment it changed to 0.14 giving difference of 86.13 % in mean score which is highly significant statistically ($p < 0.001$) in Group B.

Effect of therapy on subjective observation i.e., tingling sensation

Mean score of tingling in patients, before treatment was 1.69 and after treatment it changed to 0.35 giving difference of 79.28% in mean score which is highly significant statistically ($p < 0.001$) in Group A and Mean score of tingling in patients, before treatment was 2.39 and after treatment it changed to 0.56 giving difference of 76.56% in mean score which is highly significant statistically ($p < 0.001$) in Group B.

Effect of therapy on subjective observation i.e., edema

Mean score of edema in patients, before treatment was 2.03 and after treatment it changed to 0.43 giving difference of 78.81% in mean score which is highly significant statistically ($p < 0.001$) in Group A and Mean score of oedema in patients, before treatment was 2.09 and after treatment it changed to 0.45 giving difference of 78.46% in mean score which is highly significant statistically ($p < 0.001$) in Group B.

Effect of therapy on subjective observation i.e., clubbing

Mean score of clubbing in patients, before treatment was 1.53 and after treatment it changed to 0.98 giving difference of 35.94% in mean score which is significant statistically ($p < 0.01$) in Group A and Mean score of clubbing in patients, before treatment was 1.61 and after treatment it changed to 1.11 giving difference of 31.05% in mean score which is significant statistically ($p < 0.01$) in Group B.

Effect of Amrita Guggulu on objective parameters in Vatarakta**Effect of therapy on objective parameters i.e., S. Uric acid**

Mean score of S. Uric acid in patients, before treatment was 6.99 and after treatment it changed to 4.24 giving difference of 39.34% in mean score which is highly significant statistically ($p < 0.001$) in Group A and Mean score of S. Uric acid in patients, before treatment was 6.92 and after treatment it changed to 3.91 giving difference of 43.49% in mean score which is highly significant statistically ($p < 0.001$) in Group B.

Effect of therapy on objective parameters i.e. S. Creatinine

Mean score of S. Creatinine in patients, before treatment was 1.00 and after treatment it changed to 0.88 giving difference of 12.00% in mean score which is highly significant statistically ($p < 0.001$) in Group A

and Mean score of S. Creatinine in patients, before treatment was 0.99 and after treatment it changed to 0.71 giving difference of 28.28% in mean score which is highly significant statistically ($p < 0.001$) in Group B.

Effect of therapy on objective parameters i.e., Blood Urea

Mean score of blood urea in patients, before treatment was 19.01 and after treatment it changed to 17.25 giving difference of 09.25% in mean score which is significant statistically ($p < 0.01$) in Group A and Mean score of blood urea in patients, before treatment was 19.85 and after treatment it changed to 16.89 giving difference of 14.91% in mean score which is significant statistically ($p < 0.01$) in Group B.

Effect of therapy on subjective observation i.e., RA factor

RA factor in patients is non-reactive.

Total Effect of Therapy

Effect of Therapy	No. of Patients		Total	%
	Group A	Group B		
Fully Relief (Cured)	00	00	00	00.00
Markedly Improved	08	10	18	33.33
Moderately Improved	11	12	23	42.59
Partially Improved	08	05	13	24.07
Unchanged	00	00	00	00.00

Probable Mode of Action

Amrita Guggulu consists of 12 dravyas viz., *Amrita*^[2], *Guggulu*^[3], *Amalaki*^[4], *Vibhitaki*^[5], *Haritaki*^[6], *Pippali*^[7], *Maricha*^[8], *Shunthi*^[9], *Danti*^[10], *Twak*^[11], *Trivrit*^[12] and *Vidang*^[13]. Out of these *Trivrit*, *Haritaki*, *Vibhitaki*, *Amalaki*, *Danti* and *Amrita* are well known for reducing the vitiation of *Pitta Dosha* and *Rakta Dhatu*, thus providing relief in *Daha* and *Atisweda*. Drugs like *Twak*, *Haritaki*, *Vibhitaki*, *Amalaki*, *Vidang*, *Shunthi*, *Maricha*, *Pippali*, *Amrita* and *Guggulu* are well known for reducing the vitiation of *Vatadosha*, thus providing relief in *Shoola*, *Sirayama*, *Suptata*, *Karshnyatha*. Drugs like *Trivrit*, *Twak*, *Vibhitaki*, *Amalaki*, *Vidang*, *Shunthi*, *Pippali* and *Amrita* are well known for reducing the vitiation of *Kaphadosha*, thus providing relief in *Shotha* and *Kandu*. Main component *Guggulu* is a great *Srotoshodhak* also, thus helping in early breakdown of *Dosha-Dushya Sammurchchhana*. *Amrita* is a great immunomodulator which provides immunity. *Triphala* and *Amrita* also help by their *Rasayan* property. Uricosuric effect may be attributed to *Dravyas* like *Danti*, *Vidang*, *Amalaki*, *Haritaki* and *Twak*.

CONCLUSION

The study shows that as described in ancient Ayurveda literature *Vata-rakta* is a disease characterized by pain, burning, swelling and itching at particular site of the joints, especially in meta-tarso-phalangeal joint, and knee joints which is also described in case of gout by contemporary literature. *Vata-rakta* is purely *Shakha-gata* disease which is caused by vitiation of *Vata* with disordered property of *Rakta* hence it is called *Vata* and *Rakta-vikara*. *Amrita Guggulu* has significant effect on the symptoms of *Vatarakta* described in our texts and this study has proved the same. *Amrita Guggulu* also has very significant effect on the level of serum uric acid, which is a prominent marker of diagnosis and prognosis of *Vata-rakta* with reference to gouty arthritis. After observing above data, it is clear that *Amrita Guggulu* shows very good effect in controlling *Vata-rakta* and its complications. Thus, on the basis of clinical trial, it can be concluded that *Amrita Guggulu* Sample B is much more effective than Sample A on *Vata-rakta*. Very encouraging results were obtained in relation to different parameters and it was found that quality of life has also improved among the patients.

During my trial I found that some Patients having borderline S.Uric Acid Levels showed comparatively more *Shoola* with respect to patients having higher S. Uric Acid Levels while some Patients showed no *Shoola* at comparatively higher S. Uric Acid Levels. It indicates that level of S. Uric Acid has a limited role in diagnosing *Vatarakta*.

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