AYUSHDHARA
ISSN: 2393-9583 (P)/ 2393-9591 (O)
An International Journal of Research in AYUSH and Allied Systems

Research Article

ASSESSMENT OF THE THERAPEUTIC POTENTIAL OF *NIMBADI CHURNA* AND *KOKILAKSHADI KWATH* IN *MANAGING VATARAKTA* (GOUT): A RANDOMIZED COMPARATIVE CLINICAL STUDY

Paradkar Hemant[1]*, Bhoye Nikita[2], Yamgar Mrunmayee[3], Patrhikar Anaya[4], Attar Sajida[5]

*[1]Associate Professor, Dept. of Kayachikitsa, APM's Ayurved Mahavidyalaya, Sion, Mumbai.
[2]RBSK MO, Patangshah Cottage Sub District Hospital, Jawhar, Palghar.
[3]PG Scholar, [4]Professor & HOD, [5]Assistant Professor, Dept. of Kayachikitsa, APM's Ayurved Mahavidyalaya, Sion, Mumbai, Maharashtra, India.

Article info

Article History:
Received: 21-11-2023
Accepted: 06-12-2023
Published: 05-01-2024

KEYWORDS:
Gout, *Nimbadi churna, Kokilakashadi Kwath, Vatarakta,* Hyperuricemia.

ABSTRACT

The rise in hyperuricemia, often linked to changing dietary habits, has increased the global prevalence of gout, affecting 2.1 million people with a prevalence of 0.2-0.6%. Gout is indicative of underlying comorbidities such as obesity, diabetes, hypertension, and renal diseases. In contemporary medicine, *Vatarakta* is likened to gout due to shared causes and symptoms, involving the vitiation of *Vata* and *Rakta* by distinct etiological factors, and the restricted movement of vitiated *Vata* by vitiated *Rakta* leads to *Vatarakta*. While asymptomatic hyperuricemia may not necessitate intervention, clinically manifest gout requires long-term treatment to lower uric acid levels and acute pain relief. Current medications like allopurinol, uricosuric agents, NSAIDs, colchicine, and glucocorticosteroids carry mild to severe side effects. Recognising the need for an effective, affordable, and well-accepted treatment. The study assessed the efficacy of *Nimbadi Churna* and *Kokilakshadi Kashay* in managing *Vatarakta* through an open, randomized clinical trial with 60 patients. Both treatments were administered for 28 days. Dosages were 3gm B.I.D for *Nimbadi Churna* and 40ml B.I.D for *Kokilakshadi Kashay*. Four follow-ups were performed every 7th day, assessing subjective parameters via grade scores and serum uric acid levels. Results indicated both treatments were significantly effective ($p<0.001$), with no statistical difference between them ($p>0.05$). *Nimbadi Churna and Kokilakshadi Kashay* demonstrated notable efficacy in Vatarakta management, presenting promising alternatives with minimal complications. While further research is necessary for validation, these findings highlight the promise of Ayurvedic approaches in the comprehensive management of gout.

INTRODUCTION

Ayurveda has been a holistic science since the era. The whole philosophy of Ayurveda is based on achieving, maintaining, and promoting positive health. The equilibrium of various structural and functional units of the body namely *Dosha*, *Dhatu*, *Mala*, *Agni*, and *Mana* results in a healthy body.[1]

The lifestyle of modern society is proving to be a curse in promoting non-communicable diseases/ chronic diseases. These disorders are the result of a mismatched relationship between people with their environment and their lifestyle. *Vatarakta* also known as *Adhyavaat* emerges from an inappropriate relationship between people with their diet, occupation, and environment. The name of the disease itself represents that it is likely more prevalent among rich people.[2] *Vatarakta* is the major example of *Vatavyadhi*, caused by the vitiation of *Vata* and *Rakta*. *Rakta* is an important constituent of our body. It represents blood and associated metabolic products. *Sushruta* has considered *Rakta* as a fourth *Dosha*.[3] Aggravated *Vata* blocked by vitiated *Rakta*, in turn, leads to further aggravation of *Vata*. Thus, aggravated *Vata* vitiates the *Rakta* leading to the condition known as *Vatarakta*.[4] It has two stages i.e., *Uttana* and

Access this article online
Quick Response Code
https://doi.org/10.47070/ayushdhara.v10i6.1427

Gambhira.[5] *Gambhira Vatrakta* mainly affects *Asthi dhatu* and causes pain which spreads as *Aakhorvisha* (rat poison).[6] Gout is a metabolic disorder and inflammatory response to the deposition of monosodium-urate crystals in joints secondary to hyperuricemia. In the 21st century, gout is the most common inflammatory arthritis in men above 40 years of age and post-menopausal women.[7] The incidence of gout has been on the rise globally, potentially attributable to changes in dietary habits, lifestyle, and greater use of medications causing hyperuricemia. The annual incidence of gout is 2.68 per 1000 persons, with an overall prevalence of 2-6 per 1000.[8] Due to the remittent and relapsing nature of gout, there is no permanent cure for the disease, which is a challenge in the present era. Moreover, it is a potential signal for unrecognized co-morbidities like Metabolic Syndrome, diabetes mellitus, coronary artery disease, and hypertension.[9] Although several drug regimens have been advised for its management in modern science like NSAID, colchicine, corticosteroids, and hypouricaemic drugs, their use is associated with adverse effects and certain limitations.[10] Therefore, it is essential to find out some alternative therapeutics based on herbs with minimum health hazards. There are several medicines described for the treatment of *Vatarakta. Nimbadi churna* explained in *Bhaishajya Ratnavali*,[11] was taken to evaluate its therapeutic effect in *Vatarakta* in comparison to *Kokilakshadi Kashaya* which was mentioned in *Yogratnakar*.[12]

AIMS AND OBJECTIVES

To compare the efficacy of *Nimbadi churna* and *Kokilakshadi kwath* in the clinical management of *Vatarakta* (gout).

MATERIAL AND METHODS

This was a Prospective Open randomised comparative clinical study conducted between November 2021 to October 2022. The study protocol was approved by the Institutional Ethics Committee (IEC) at APM's Ayurved Mahavidyalaya, Sion, Mumbai. The study was conducted according to the principles of the Declaration of Helsinki. The patients who attended the OPD of Sheth R.V. Ayurvedic Hospital, Sion, Mumbai, Maharashtra with signs & symptoms of *Vatarakta* were selected. A total of 92 patients were screened out of which 78 were assessed for eligibility as per inclusion and exclusion criteria. 60 patients were selected and randomly assigned between 2 groups of 30 each. [Fig 1] Patients with high Uric acid levels were kept on a uric acid diet plan for 15 days. Those patients having high uric acid levels and symptoms of *Vatarakta* even after following the uric acid diet for 15 days were selected for the study. Each study participant provided written informed consent before participating in the study. Group A was administered *Nimbadi churna* in the dose of 3gm. twice a day after meal with lukewarm water. Group B was administered *Kokilakshadi kwath* in the dose of 40ml twice a day after food. The course of treatment was 28 days. A total of 4 Follow-ups were taken on every 7th day.

Inclusion Criteria

Patients of both genders within the age group of 30-60 years, presenting with classical symptoms of *Vatarakta*, having Serum Uric Acid levels between 6.8mg/dl to 12mg/dl.

Exclusion Criteria

Patients suffering from secondary gout, renal failure, HIV, Leprosy, Koch's, tuberculous arthritis, arthropathies, *Aamvata*, Pregnant, lactating mothers, and patients having serum uric acid levels more than 12mg/dl were excluded from the study.

Withdrawal Criteria

Patients showing any adverse drug reaction, or unwanted symptoms, those not giving timely follow-up and those who were not willing to continue the trial were withdrawn from the study.

Drug Profile

Drug ingredients are shown in [Tables 1 and 2].

Table 1: Ingredients of *Nimbadi Churna*[11]

Sr.No.	Ingredients	Latin Name	*Praman*
1	*Nimba*	*Azadirachta indica*	48 gm
2	*Guduchi*	*Tinospora cordifolia*	48 gm
3	*Haritaki*	*Terminalia chebula*	48 gm
4	*Aamalaki*	*Emblica officinalis*	48 gm
5	*Bakuchi*	*Psoralea corylifolia*	48 gm
6	*Shunthi*	*Zingiber officinale*	12 gm
7	*Vidanga*	*Embelia Ribes*	12 gm
8	*Chakramarda*	*Cassia tora*	12 gm

9	*Pippali*	*Piper longum*	12 gm
10	*Yavani*	*Trachyspermum ammi*	12 gm
11	*Vacha*	*Acorus calamus*	12 gm
12	*Jirak*	*Cuminum cyminum*	12 gm
13	*Kutaki*	*Picrorrhiza Kurroa*	12 gm
14	*Khadir*	*Acacia catechu*	12 gm
15	*Haridra*	*Curcuma longa*	12 gm
16	*Daruharidra*	*Berberis aristata*	12 gm
17	*Devdaru*	*Cedrus deodara*	12 gm
18	*Musta*	*Cyperus rotundus*	12 gm
19	*Kushta*	*Saussurea lappa*	12 gm
20	*Saindhav*	Rock salt	12 gm
21	*Yavakshar*	*Hordeum vulgare alkali*	12 gm

Table 2: Ingredients of *Kokilakshadi Kwath*[12]

Sr.No.	Ingredients	Latin Name	*Praman*
1	*Kokilaksha*	*Astercantha longifolia*	10 gm
2	*Guduchi*	*Tinospora cordifolia*	10 gm

Investigations

Before trial- Complete Blood count, Sr. Uric Acid, RA factor, X-Ray - affected joint
After trial - Sr. uric acid

Study Design

The study was an open randomized comparative clinical study with a pre-test and post-test design.

Assessment Criteria

The criteria of assessment to evaluate the efficacy of *Nimbadi churna* and *Kokilakshadi Kwath* in *Vatarakta* (gout) were divided into two parameters.

1. Clinical Parameter- Classical symptoms were given gradation as shown in Table 1.
2. Investigational Parameter- Serum Uric Acid level.

Table 1: Classical Symptoms gradation (Subjective Criteria)

Sr.No	Symptoms	Grade 0	Grade 1	Grade 2	Grade 3
1	*Daha* (Burning)	No *Daha*	Occasionally localised *Daha* for more than half an hour daily	*Daha* throughout the day but well tolerated	Severe degree of *Daha* that is intolerable
2	*Sandhi shoola* (Joint pain)	No pain	Pain is felt only at the time of movement	Persistent pain not affecting daily routine	Pain is persistent and affects daily routine
3	*Sandhi stabdhata* (Stiffness)	No stiffness	Mild stiffness	Restricted movements	Total loss of movements
4	*Sandhi tamravarnata* (Erythema)	Nil	Mild	Moderate	Severe
5	*Sandhi shyavata* (Discoloration)	Nil	Mild	Moderate	Severe
6	*Sandhi sparshasahatva* (Tenderness)	No Tenderness	Tender but bearable	Tender and not bearable	Tender and not bearable and withdraw
7	*Sandhi*	Nil	Mild	Moderate	Severe

	kriyakashtata (Restriction)				
8	*Sandhi shotha* (Swelling)	No swelling	Mild swelling	Non-pitting oedema.	Pitting oedema

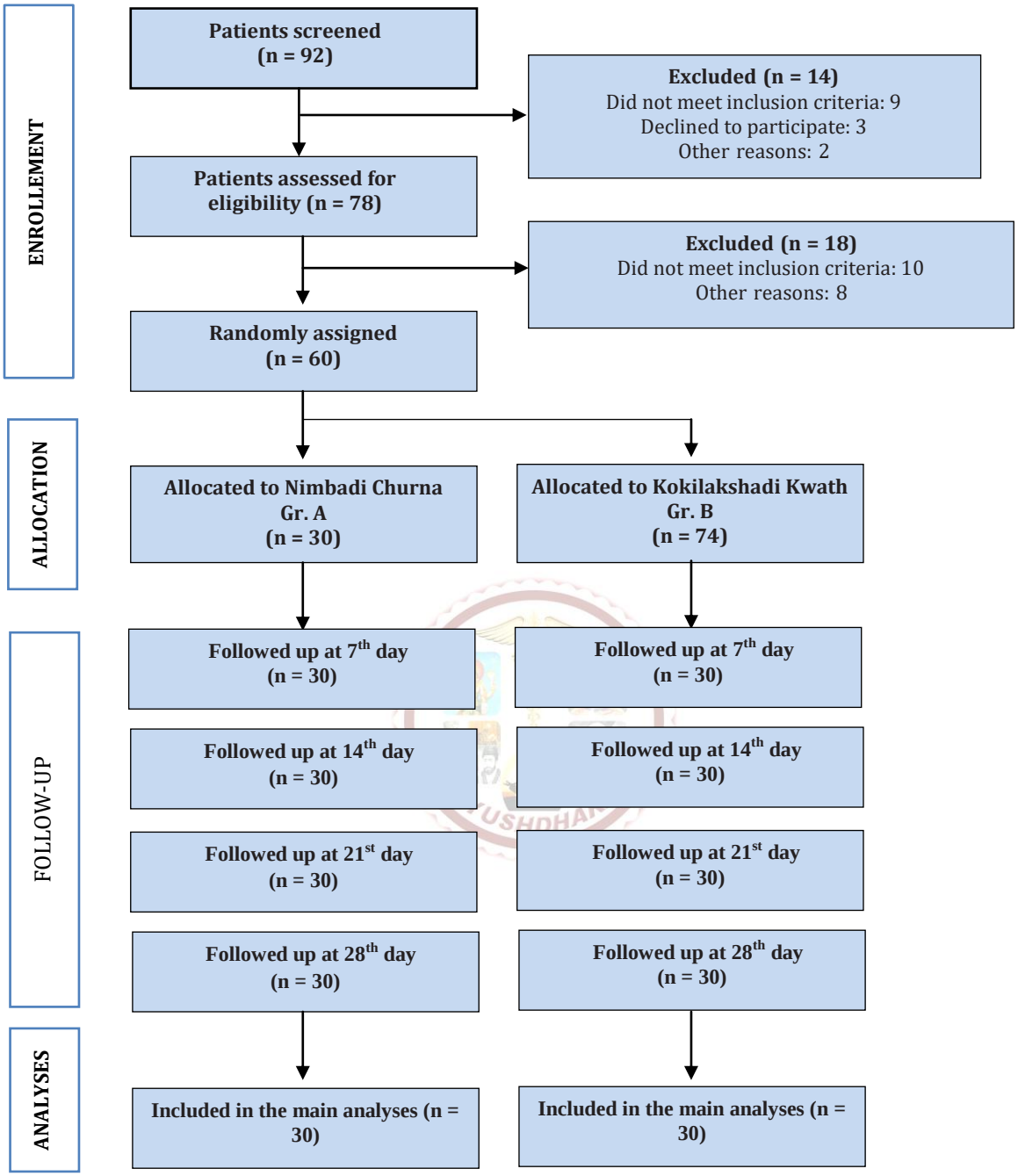


Fig. 1: CONSORT flow diagram for randomized comparative clinical study

The percentage of relief in symptoms concerning each of the patients was classified as Excellent, Good, Moderate, and No result.

Excellent Result: If more than 75% of signs and symptoms are relieved, then it will be considered excellent.

Good Result: If signs and symptoms are relieved between 50 % to 75% then it will be considered a good result.
Moderate Result: If signs and symptoms are relieved between 25% to 50% then it will be considered a moderate result.

No result: No change or less than 25% improvement in signs and symptoms will be considered as no result.

Investigational parameters of Biochemical changes were assessed as shown in Table 2.

Table 2: Assessment of Biochemical changes

Sr.No.	Decrease in Uric Acid level	Result
1	No change	No result
2	0.1 - 1 mg/dl	Moderate result
3	1.1 – 2 mg/dl	Good result
4	> 2 mg/dl	Excellent result

OBSERVATION AND RESULTS

Of the 60 patients of *Vatarakta* studied in this research, the maximum number of patients about 40% from Group A and 50% from Group B belonged to the age group of 51-60 years, following this, nearly 30% of both groups were in the age group of 41-50 years.

Fifty-six per cent of patients (56%) in both groups were female. Maximum patients from Group A (46.7%) as well as Group B (53.3%) were housewives. The study revealed that most of the patients in both groups belonged to middle-class families i.e., 50% and 53.3% from Group A and Group B respectively. The study had about 53.3% of people from Group A with a moderate activity lifestyle and the maximum number of patients from Group B had a sedentary lifestyle (46.7%). Maximum patients from both groups were educated with 66.7% of group A and 60% of group B and did not have any addictions. The study also revealed that most of the patients in both groups had *Vishamagni* with 40% and 46.7% from Group A and Group B respectively. Also, the *Koshta parikshan* of patients suggested that the maximum patients who had *Mrudu koshta* with 56.7% from Group A and 40% from Group B. During the *Prakruti parikshan* of patients, it was found that 56.7% and 50% of patients from Group A and Group B respectively had *Vata-Kaphaj prakruti*. Maximum patients from Group A (80%) and Group B (73.3%) were of mixed diet i.e., having both vegetarian and non-vegetarian food. The majority of patients from Group A (90%) and Group B (73.3%) were suffering from *Uttan avastha* of *Vatarakta*.

Assessment of subjective parameters is shown in [Table 3] and the objective parameter is shown in [Table 4]

Table 3: Percentage of relief and assessment of Classical symptoms

	Group			
	Group-A		Group-B	
	N	PI	N	PI
Excellent	18	60.0%	18	60.0%
Good	10	33.3%	12	40.0%
Moderate	2	6.7%	0	0%

N- Number of patients, PI- Percentage improvement

Table 4: Assessment of Objective Parameter (Sr. Uric acid)

	Group			
	Group-A		Group-B	
	N	PI	N	PI
Excellent	7	23.3%	16	53.3%
Good	5	16.7%	9	30.0%
Moderate	18	60.0%	5	16.7%

N- Number of patients, PI- Percentage improvement

Results by Statistical Analysis

The data is not distributed normally in the case of subjective parameters. Therefore, the Wilcoxon signed-rank test was used to compare pre and post-results and the Mann-Whitney U test was used to compare the significance of difference between the two groups and

In the case of objective parameters data is normally distributed and therefore paired and unpaired t-tests were used.

Subjective Parameters: [Table 5, 6, 8] [Graph 1, 2]

1. ***Daha*:** In the case of *Daha* (burning) there was a 60% and 82.76% improvement in Groups A & B respectively. The significance test shows that both groups are highly significant with p <0.001.

   p-value > 0.05 indicates no significant difference between Group A and Group B. The average score for Group A is less than Group B but with the *p*-value >0.05 we can conclude that the difference is not statistically significant in the case of *Daha* after treatment.
2. ***Sandhishool*:** In the case of *Sandhishool* (joint pain) there was a 60.61% and 74.67% improvement in Group A & B respectively. The significance test shows that both groups are highly significant with p <0.0001.

   Since the *p*-value is >0.05 indicates no significant difference between Group A and Group B. The average score for Group A is less than Group B, but with the *p*-value >0.05 we can conclude that the difference is not statistically significant in the case of *Sandhishool* after treatment.
3. ***Sandhistabdhata*:** In the case of *Sandhistabdhata* (stiffness) there was a 58.06% and 80% improvement in Group A & B respectively. The significance test shows that both groups are highly significant with p <0.0001.

   Since the *p*-value is > 0.05 indicates no significant difference between Group A and Group B. The average score for Group A is less than Group B, but with the *p*-value > 0.05 we can conclude that the difference is not statistically significant in the case of *Sandhistabdhata* after treatment.
4. ***Sandhitamrata*:** In the case of *Sandhitamrata* (erythema) there was a 73.33% and 71.43% improvement in Group A & B respectively. The significance test shows that both groups are highly significant with p <0.001.

   Since the *p*-value is > 0.05 indicates no significant difference between Group A and Group B. The average score for Group A is more than Group B, but with the *p*-value > 0.05 we can conclude that the difference is not statistically significant in the case of *Sandhitamrata* after treatment.
5. ***Sandhishyavata*:** In the case of *Sandhishyavata* (discoloration) there was a 62.50% and 82.61% improvement in Group A & B respectively. However, the significance test shows that Group A is not significant (p > 0.05) and Group B is highly significant with p <0.001.

   Since the *p*-value is > 0.05 indicates no significant difference between Group A and Group B. The average score for Group A is less than Group B, but with the *p*-value > 0.05 we can conclude that the difference is not statistically significant in the case of *Sandhishyavata* after treatment.
6. ***Sparshasahatva*:** In the case of *Sparshasahatva* (tenderness) there was a 62.50% and 82.61% improvement in Group A & B respectively. The significance test shows that both groups are highly significant with p <0.0001.

   Since the *p*-value is > 0.05 indicates no significant difference between Group A and Group B. The average score for Group A is less than Group B, but with the *p*-value > 0.05 we can conclude that the difference is not statistically significant in the case of *Sparshasahatva* after treatment.
7. ***Kriyakashtata*:** In the case of *Kriyakashtata* (restriction) there is a 64.15% and 69.01% improvement in Group A & B respectively. The significance test shows that both groups are highly significant with p <0.0001.

   Since the *p*-value is > 0.05 indicates no significant difference between Group A and Group B. The average score for Group A is less than Group B, but with the *p*-value > 0.05 we can conclude that the difference is not statistically significant in the case of *Kriyakashtata* after treatment.
8. ***Shotha*:** In the case of *Shotha* (swelling) there is a 68.42% and 86.67% improvement in Group A & B respectively. The significance test shows that both groups are highly significant with p <0.001.

   Since the *p*-value is > 0.05 indicates no significant difference between Group A and Group B. The average score for Group A is less than Group B, but with the *p*-value >0.05 we can conclude that the difference is not statistically significant in the case of *Shotha* after treatment.

Objective Parameter: [Table 7, 9]

Uric acid: In the case of uric acid the significance test shows that both Group A and Group B are highly significant with a p-value <0.0001.

The *p*-value >0.05 indicates no significant difference between Group A and Group B. We can conclude that the difference is not statistically significant in the case of uric acid in both groups after treatment.

Table 5: Subjective Parameter

	Group-A			Group-B		
	BT	AT	% Relief	BT	AT	% Relief
Daha (Burning)	20	8	60.00	29	5	82.76
Sandhi shoola (Joint pain)	66	26	60.61	75	19	74.67
Sandhi stabdhata (Stiffness)	31	13	58.06	35	7	80.00
Sandhi tamravarnata (Erythema)	15	4	73.33	28	8	71.43
Sandhi shyavata (Discoloration)	8	3	62.50	23	4	82.61
Sandhi sparshasahatva (Tenderness)	29	10	65.52	42	11	73.81
Sandhi kriyakashtata (Restriction)	53	19	64.15	71	22	69.01
Sandhi shotha (Swelling)	19	6	68.42	30	4	86.67

Table 6: Effect of Therapy on Classical Parameters in Group A

S.No.	Symptoms	N	Mean Score		Diff	W	P value	Sig.
			BT	AT				
1	*Daha* (Burning)	15	1.333	0.533	0.8	78	<0.001	***
2	*Sandhi shoola* (Joint Pain)	30	2.200	0.866	1.333	435	<0.0001	****
3	*Sandhi stabdhata* (Stiffness)	20	1.55	0.65	0.9	207	<0.0001	****
4	*Sandhi tamravarnata* (Erythema)	12	1.25	0.333	0.917	77	<0.001	***
5	*Sandhi shyavata* (Discoloration)	7	1.143	0.428	0.714	25	0.0625	#
6	*Sandhi sparshasahatva* (Tenderness)	20	1.45	0.5	0.95	204	<0.0001	****
7	*Sandhi kriyakashtata* (Restriction)	29	1.827	0.655	1.172	435	<0.0001	****
8	*Sandhi shotha* (Swelling)	13	1.461	0.461	1	90	0.0005	***

*# Insignificant at 5% level (> 0.05), * Significant at 5% level (<0.05), ** Significant at 1% level (<0.01), *** Significant at 0.1% level (<0.001), **** Significant at 0.01% level (<0.0001)*

Table 7: Effect of Therapy on Uric acid in Group A

S.No.	Symptoms	N	Mean Score		SD	T value	SE	P value	Sig.
			BT	AT					
1	Sr. Uric acid	30	7.209	5.863	1.126	6.547	0.2056	<0.0001	****

******* Significant at 0.01% level (<0.0001)***

Table 8: Effect of Therapy on Classical Parameters in Group B

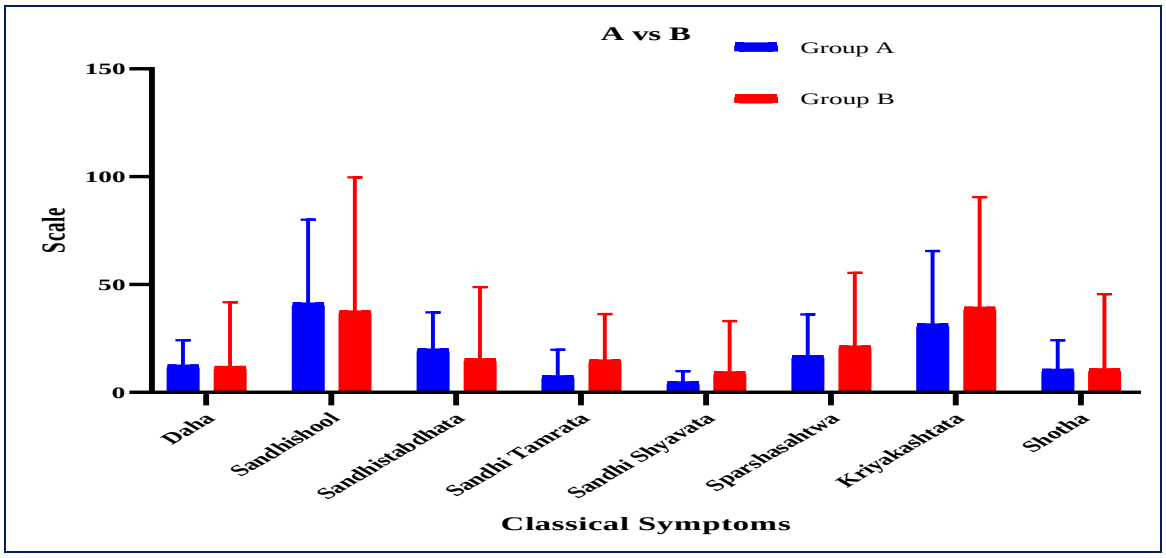
S.No.	Symptoms	N	Mean Score		Diff	W	P value	Sig.
			BT	AT				
1	*Daha* (Burning)	16	1.812	0.312	1.5	136	<0.0001	****
2	*Sandhi shoola* (Joint Pain)	30	2.500	0.633	1.866	465	<0.0001	****
3	*Sandhi stabdhata* (Stiffness)	21	1.666	0.333	1.333	228	<0.0001	****
4	*Sandhi tamravarnata* (Erythema)	15	1.866	0.533	1.333	120	<0.0001	****
5	*Sandhi shyavata* (Discoloration)	13	1.769	0.307	1.461	91	<0.001	***
6	*Sandhi sparshasahatva* (Tenderness)	24	1.75	0.458	1.291	299	<0.0001	****
7	*Sandhi kriyakashtata* (Restriction)	30	2.366	0.733	1.633	465	<0.0001	****
8	*Sandhi shotha* (Swelling)	17	1.764	0.235	1.529	153	<0.0001	****

**** Significant at 0.1% level (<0.001), **** Significant at 0.01% level (<0.0001)*

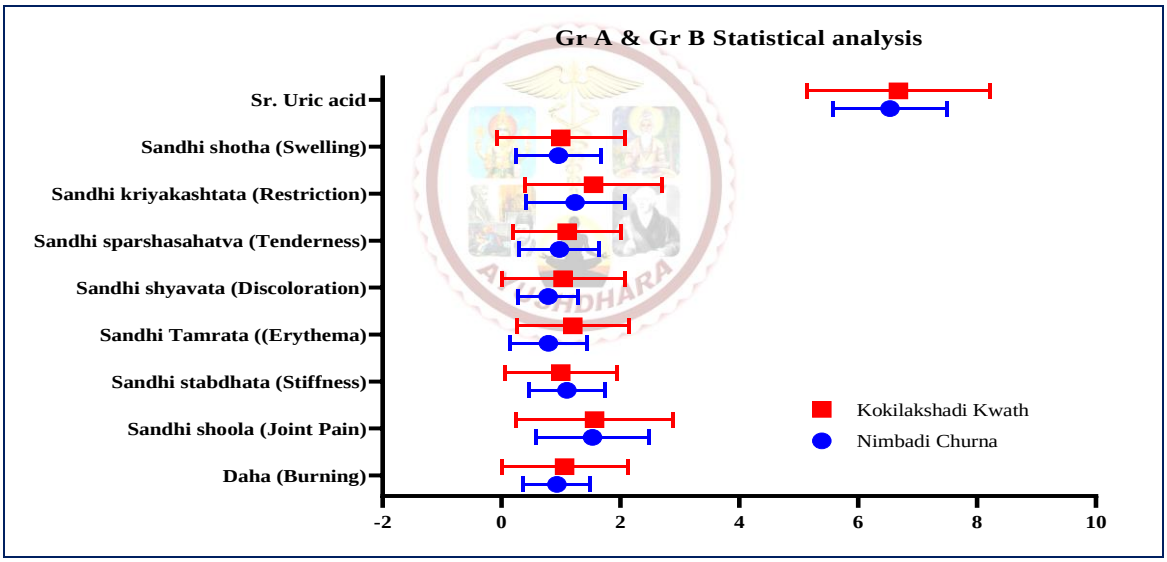
Table 9: Effect of Therapy on Uric acid in Group B

S.No.	Symptoms	N	Mean Score		SD	T value	SE	P value	Sig.
			BT	AT					
1	Sr. Uric acid		7.767	5.591	1.381	8.632	0.252	<0.0001	****

***** Significant at 0.01% level (<0.0001)*



Graph 1: % Relief in classical symptoms in Group A & B



Graph 2: Statistical analysis of Subjective and objective parameters of Group A & B

DISCUSSION

Charaka, *Vagbhata,* and *Sushruta* have considered *Vatarakta* as an important disease. Acharya *Sushruta* included it under *Vata Vyadhi* while explaining its *Nidana*.[13] He also explained the treatment of *Vatarakta* before explaining *Vata vyadhis* like *Aptantrak*, *Pakshaghata*, *Ardita,* etc.[14] Acharya Charaka has explained *Vatarakta* in a separate chapter because it has its own *Nidana*, *Samprapti,* and *Chikitsa.*[15] Dietary habits and lifestyle modalities play a major role in the manifestation of *Vatrakta*. Improper way of consuming food is always harmful to the body. Therefore, they should be avoided. *Nidana* is one of the main aspects of treatment, mainly *Ahara hetu*, and *Vihara hetu. Mithyahara Vihara* is known to be responsible for the manifestation of *Vatarakta*. Excessive intake of *Kulattha* (Horse gram), *Mash* (Black gram), and *Nispava* (Flat bean) are explained to be the causes of *Vatarakta*.[16] These cereals contain more protein (purine) that may lead to increased production of uric acid. Likewise, *Mamsa Varga* (meat), *Madya Varga* (alcohol), *Dadhi* (curd) etc also contain protein that may lead to *Vatrakta* (gout). According to *Acharyas* other than these *Nidana* '*Haya Ustradi Yana* (horse/camel riding), *Adhva* (excessive walking in sun), *Jala Kreeda* (swimming, water sports), etc. are the specific *Nidana* of *Vatarakta*.[17] Likewise,

nowadays, one who travels more over the vehicles may be more susceptible to *Vatarakta*, because continuous travelling may lead to venous pooling in the distal parts of the lower limbs. The venous pooling i.e. the blood stays more in these parts because of gravitational force, this stagnated blood with raised levels of serum uric acid may lead to the deposition of uric acid crystals in the joints.[18]

The movement of *Vatadosha* is inhibited by the unique pathology of *Raktamargavarana* in *Vatarakta*. This in turn initially manifests with certain clinical signs and symptoms in the form of *Purvarupa*. Alteration in the colour and texture of the skin in the affected part, alteration in sweating, alteration in the sensation, different forms of pain, and similar other manifestations are listed as *Purvarupa*.

Depending upon the superficial or deeper *Dhatu* involved, the *Vatarakta* is of two types. When the pathogenesis of *Vatarakta* is limited to *Twak* and *Mamsa dhatu* it is regarded as *Uttana* (*Anavagadha*) *Vatarakta*. Involvement of deeper *Dhatu* like *Asthi*, *Majja,* and *Sandhi* signifies the *Gambhira* (*Avaghada*) *Vatarakta*.[19] A third variety of *Ubhayashrita Vatarakta* is also mentioned in literature where both the superficial as well as deeper *Dhatus* are affected.[20] *Vatrakta* is a progressive disorder and hence initially the illness may be limited to either superficial *Dhatu* or deeper *Dhatu* alone, but in the later stages, the *Uttana Vatarakta* progresses to deeper *Dhatu*. Similarly, the *Gambhira Vatarakta* may involve the superficial *Dhatu* in the later stages. Hence in the later stages, the *Vatarakta* develops as *Ubhayashrita Vatarakta*. The symptoms like *Kandu*, *Daha*, *Ruka*, *Ayama*, *Toda*, *Sphurana*, *Shyava/Rakta twak,* and other symptoms are probably limited to the *Twak* indicating the *Uttana Vatarakta*.[21] Persistent swelling of the affected part, suppurations, involvement of *Sandhi, Asthi,* and *Majja*, and deformities like *Vakrata*, *Khanja,* and *Pangu* all point towards the *Gambhira Vatarakta*.[20] The presence of all these symptoms indicative of both *Uttana* as well *Gambhira Vatarakta* signifies the *Ubhayashrita Vatarakta*. Clinical varieties of *Vatarakta* are also elaborated to the association of vitiated *Dosha* in the primary pathology of *Vata* and *Rakta* and are named *Vatadhika Vatarakta*, *Pittadhik Vatarakta*, *Kaphadhik Vatarakta* and *Raktadhika Vatarakta*.

Bhaishajya ratnavali and *Yogratnakar* have described "*Nimbadi churna*" and "*Kokilakshadi kwath*" in the management of *Vatarakta* respectively.[11,12] It is explained in the text that its oral administration gives relief from pain, stiffness, inflammation, swelling, and other symptoms of *Vatarakta.*

The action of a drug is based on 5 mechanisms or attributes; namely *Rasa*, *Guna*, *Virya* and *Vipaka* along with certain specific properties called *Prabhava*. The drugs jointly act as an antagonist to the morbid *Dosha* and *Dushya* and cause '*Samprapti Vighatana'*.

Nimbadi churna is *Tikta, Katu rasa pradhan*, *Katu madhur vipak* and *Ushna virya* and has *Laghu, Snigdha, Ttikshna guna, Tridoshaghna*. Due to the predominance of *Tikta,* and *Kashaya rasa,* it pacifies *Pitta dosha*. *Tikta rasa* is said to have *Deepana karma* which corrects *Mandagni* and *Pachana karma* which helps in *Amapachana*. Both *Kashaya* as well as *Tikta rasa* also reduce the *Kled* in *Rakta, Kapha* and *Ama*. It also has *Lekhana* and *Shoshana gunas* that clear the *Strotas* and *Sira marga* which are *Avritta* with *Sam Rakta*. *Ushna virya* has *Vatakaphahara* property and is said to be *Deepana* and *Pachana*. It also helps in the *Vilayan* of *Doshas* which is a necessary step in bringing *Shakhagata dosha* towards *Koshtha*. *Laghu guna* of most of the constituents has *Strotoshodhaka and Agnideepak* properties. Other than this, *Ruksha guna*, helps in the absorption of *Mala* and *Ama*. *Madhura vipaka* is predominant in the drug which has *Snigdha* and *Vatapittashamaka* properties and helps in the easy passage of urine and stool. Based on *Dosha karma* in general, the formulation has *Tridosha shamak* as well as *Raktashodhaka* properties. The content of *Nimbadi churna* includes *Aampachan, Srotovishodhan, Anuloman, Raktaprashadgan, Vatashamak* in properties.

Kokilakshadi Kwath mainly consists of *Kokilaksha*, *Amruta* and *Pippali*. All these three drugs possess anti-inflammatory, antioxidant and diuretic properties. *Kokilaksha* is *Vatapittashamaka*, *Shothhara* and *Mutrala*. *Amrita* is *Tridoshashamaka*, *Mutrajanana*, *Rakta shodhaka*, *Dahaprashamana* and *Pippali* is *Kaphavatashamaka*, *Shulaprashamana*, *Shothahara*, *Mutral* and *Raktashodhaka*.

The decrease in serum uric acid concentration may also be attributed to *Mutral* (diuretic), hepatoprotective effect of *Kokilaksha* and *Mutrajanana* (diuretic), *Raktashodhaka* (blood purifying), hepatoprotective action of *Amrita*.[22]

CONCLUSION

The study compared the effectiveness of *Nimbadi churna* and *Kokilakshadi kwath* in managing *Vatarakta* (gout). In classical symptoms, Group A showed 64% and Group B showed 77.66% improvement while 18.67% and 28.02% improvement was seen in Sr. uric acid levels respectively. Both groups showed significant improvement in symptoms and serum uric acid levels ($P < 0.001$), with no statistically significant difference between them [Table 3-9]. *Kokilakshadi kwath* was slightly more effective, but the distinction wasn't significant. No adverse effects were observed. Limitations included study

design and small sample size, suggesting the need for larger, more robust studies for confirmation.

REFERENCES

1. Kaviraja Ambikadutta Shastri, Susruta samhita, Varanasi, Chaukhamba Sanskrit Sansthan; 2018, Sutrasthan 15/41, p.82
2. Dr. Brahmanand Tripathi, Astanga Hrdayam, New Delhi, Chaukhamba Sanskrit Pratishthan; 2022, Nidansthan Vatashonitnidan Adhyaya 16/3, p.545
3. Kaviraja Ambikadutta Shastri, Susruta samhita, Varanasi, Chaukhamba Sanskrit Sansthan; 2018, Sutrasthan, Vranprashna Adhyaya 21/3, p.112
4. Acharya Vidyadhar Shukla, Caraksamhita, New Delhi, Chaukhamba Sanskrit Pratishsthan; 2022, Chikitsasthan, Vatashonitchikita adhyay 29/10-11, p.731
5. Acharya Vidyadhar Shukla, Caraksamhita, New Delhi, Chaukhamba Sanskrit Pratishsthan; 2022, Chikitsasthan, Vatashonitchikita adhyay, 29/19, p.734
6. Kaviraja Ambikadutta Shastri, Susrutasamhita, Varanasi, Chaukhamba Sanskrit Sansthan; 2018, nidansthan, Vatavyadhinidan adhyay, 1/48, p.300
7. Gout: Symptoms, diagnosis, and treatment Arthritis Foundation [Internet]. Available from: https://www.arthritis.org/diseases/gout
8. Ragab G, Elshahaly M, Bardin T. Gout: An old disease in new perspective - A review. J Adv Res. 2017 Sep; 8(5): 495-511. doi: 10.1016/j.jare.2017.04.008. Epub 2017 May 10. PMID: 28748116; PMCID: PMC5512152
9. Rock KL, Kataoka H, Lai JJ. Uric acid as a danger signal in gout and its comorbidities. Nat Rev Rheumatol. 2013 Jan; 9(1): 13-23. doi: 10.1038/nrrheum.2012.143. Epub 2012 Sep 4. PMID: 22945591; PMCID: PMC3648987.
10. Rao UR. Gout and Other Crystal Arthritis. In: Shah N, Anand M P, Billimoria, Munjal, Kamath, Nadkar, et al. editors. API Textbook of Medicine. 8th ed. Mumbai: The Association of Physicians of India; 2008. p. 284.
11. Kaviraj Ambikadatta Shastri, Bhaisajya ratnavali, Varanasi, Chaukhambha Prakashan; 2008, Vatarakta chikitsa Adhyaya, 27/28-35, p.591-592
12. Vaidya Laksmipati Sastri, Yogaratanakara with Vidyotini Hindi commentary, Varanasi, Chaukhambha Prakashan; 2008, Purvardha Vataraktanidan, p.554
13. Kaviraja Ambikadutta Shastri, Susruta samhita, Varanasi, Chaukhamba Sanskrit Sansthan; 2018, nidansthan, Vatavyadhinidana 1/40-41, p.299
14. Kaviraja Ambikadutta Shastri, Susruta samhita, Varanasi, Chaukhamba Sanskrit Sansthan; 2018, Chikitsasthan mahavatavyadhichikitsa 5/7-16, p.38-41
15. Acharya Vidyadhar Shukla, Caraksamhita, New Delhi, Chaukhamba Sanskrit Pratishsthan; 2022, Chikitsa sthana, Vatashonitchikitsa 29, p.731-750
16. Acharya Vidyadhar Shukla, Caraksamhita, New Delhi, Chaukhamba Sanskrit Pratishsthan; 2022, Chikitsa sthana, Vatashonitchikitsa Adhyaya 29/6, p.730
17. Acharya Vidyadhar Shukla, Caraksamhita, New Delhi, Chaukhamba Sanskrit Pratishsthan; 2022, Chikitsa sthana, Vatashonitchikitsa Adhyaya 29/9, p.731
18. Kubota Y, McAdams-DeMarco M, Folsom AR. Serum uric acid, gout, and venous thromboembolism: The atherosclerosis risk in communities study. Thrombosis Research [Internet]. 2016 Aug 1; 144: 144–8. Available from: https://doi.org/10.1016/j.thromres.2016.06.020
19. Acharya Vidyadhar Shukla, Caraksamhita, New Delhi, Chaukhamba Sanskrit Pratishsthan; 2022, Chikitsa sthana, Vatashonitchikitsa Adhyaya 29/19, p.734
20. Acharya Vidyadhar Shukla, Caraksamhita, New Delhi, Chaukhamba Sanskrit Pratishsthan; 2022, Chikitsa sthana, Vatashonitchikitsa Adhyaya 29/23, p.734
21. Acharya Vidyadhar Shukla, Caraksamhita, New Delhi, Chaukhamba Sanskrit Pratishsthan; 2022, Chikitsa sthana, Vatashonitchikitsa Adhyaya 29/20, p.734
22. Mehta C, Bhardwaj A, Bhatia Y. A Comparative Study of Siravyadha and Kokilakshadi Kshayama in Vaatarakta W.S.R to GOUT. Research and Reviews. A Journal of Ayurvedic Science, Yoga and Naturopathy. 2017; 4(3): 6–10.

Cite this article as:
Paradkar Hemant, Bhoye Nikita, Yamgar Mrunmayee, Patrhikar Anaya, Attar Sajida. Assessment of the Therapeutic Potential of Nimbadi Churna and Kokilakshadi Kwath in Managing Vatarakta (Gout): A Randomized Comparative Clinical Study). AYUSHDHARA, 2023;10(6):42-51.
https://doi.org/10.47070/ayushdhara.v10i6.1427
Source of support: Nil, Conflict of interest: None Declared

***Address for correspondence**
Dr. Paradkar Hemant
Associate Professor,
Dept. of Kayachikitsa,
APM's Ayurved Mahavidyalaya,
Sion, Mumbai.
Email:
hemant.paradkar@gmail.com