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ORIGINAL RESEARCH ARTICLE

A Study on *Paradiguna (Samskara)* W.S.R to "*Samaskarohi Gunantaradhanam Uchyate*" and ITS Applied Aspect in the Management of *Mukhadushika* with an Indiginous Drug

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ABSTRACT

Introduction: Acharya Charaka has clearly said that if one does not understand these Paradi Guna in proper way then he cannot perform Chikitsa in desire manner. Paradi Gunas are the one in which a physician needs to be expertise. *Paradigunas* are necessary in the field of pharmaceutical science, as well as by the physicians to treat the patients and researchers conducting research and creating new formulation. Samskara Guna is one of the important factors in the hands of Ayurvedic physician for improving other third padas of *Bhesaja* (i.e., *Bahuta, Yogyatwa, and Sampat)*. Thus in this study, an attempt was made to know the comparative effect of *Manjistha Lepa* and *Samskrita* Manjistha with *Madhu Lepa* in the management of *Mukhadushika.*

Aims and Objectives: The aim of the study was to study about the comparative clinical efficacy of *Manjistha Lepa* and triturated with Madhu Lepa in the management of *Mukhadushika*.

Materials and Methods: This is a single-blind comparative clinical study with a pre-test and post-test design. The patients were randomly categorized into two groups. Forty patients of Group A (20) and Group B (20) patients were registered from outpatient department of Government Ayurvedic College and Hospital, Balangir, and Saradeswari Government Hospital, Balangir, presented with subjective parameters and objective parameters. After diagnosis, they were under trial with *Ayurvedic* formulations of *Manjistha Lepa* for local application and *Manjistha triturated Madhu Lepa* given 05 g in morning time daily, after drying face wash with normal water for 15 days, respectively. The subjective and objective parameters were assessed in 7-day interval to interpret the result by statistical evaluation.

Observation and Results: It had been observed that the result of trial drug Group B patients was significant (<0.05) to reduce both subjective and objective parameters after 15 days of treatment as compared to Group A patients. In Group A, NO patients had marked improvement, while 15% of patients had moderate improvement, 65% mildly improved and 20% had shown unsatisfactory result. In Group B, no patients had marked improvement, 50% moderate, 40% mildly improved, and 10% of patients showed unsatisfactory results. In both groups, the result was statistically significant, but more improvement was noticed in Group B.

Conclusion: On comparison between two groups, *Manjistha triturated with Madhu Lepa in Group B* had shown more effect than *Manjistha Lepa in Group A*. No adverse effects were noticed during clinical trial in both groups.

1. INTRODUCTION

Acharya Charaka and *Vaiseshik Darshan* had described concepts of *Sadpadartha,* that is, *Samanya, Visesha, Guna, Dravya, Karma, and Samavaya. Guna* is one of the important and basic fundamental principles mentioned in Ayurveda Samhita. Out of 41 *Gunas* said by Acharya Charak*, Paradi Gunas* are 10 in numbers, *ParadiGunas* have specific importance in *Ayurveda, Acharya Charaka* mentioned *Paradiguna as* "*Siddhiupaya Chikitsha,*" that is, successful management of disease is not possible without the proper knowledge of *Paradiguna*.[1]

Samskara is one among the *Paradi Gunas* which means the *Dravya* that is changing from the original state to convert another state

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with increasing potency which is more potent than its original state (importing new properties). This transformation procedure is only possible in *Naimittika Guna* mentioned by Acharya Chakrapani. A *Bhesaja* which is having less availability is of no use in spite of having number of good qualities. In such conditions, the drugs available can be utilized multi-dimensionally only with the help of *Samskara*.[2] So that one can use it more effectively to form the number of different formulations from the single drug, as per requirement. This may occur due to some procedure mentioned in *Ayurveda* such as *Toya-Agni Sannikarsa (*conjugation with water or conjugation with fire), *Sauca(clensing), Manthana (*churning), *Sodhana(*cleaning), *Desha, Kala, Vasana* (fragrance), and *Bhavana (*trituration*)*.[3]

As in the present era, the changing lifestyle and eating patterns such as fast food and junk food (*Viruddha Ahara*) cause disturbance of the normal physiology of human body, which makes them prone to many diseases such as *Raktaprodosaja Vikara, Sthoulya, and Twak Vikara*. Among these *Twak Vikara, Mukhadushika (*Acne vulgaris*)* is one of them. *Maharshi Sushruta* 1st time described about *Mukhadushika* under *Kshudra Roga* and characterized as *Shalmali Kantaka Sadrusha Pidaka on* face. It may be correlated with acne vulgaris in modern science.

The skin is a highly complex organ which plays a vital part in the general health of human being. *Mukhadushika* mainly affects the *Twacha* and de-toriates the beauty of one's face. It occurs due to imbalance of *Kapha, Vata Dosa, and Rakta as Dushya.* In *Ayurvedic* texts, various internal medications and external application (Lepa) remedies are mentioned. Local application is more useful in *Twak Vikara as* it directly acts on lesions said by different *Acharyas*.[4] Therefore, to prove the *Siddhant* "*Samskarohi Gunantaradhanam Uchyate,*" this study was taken into consideration to illustrate the concept "Imparting new properties" w.s.r to local application of drugs *Manjistha* triturated with *Madhu* in the management of *Mukhadushika.*

1.1. Aim and Objectives

The objectives of the study are as follows:

a. To study the concept of *Paradi Guna* W.S.R. to *Samskara Guna*.
b. To correlate *Mukhadushika* with Acne vulgaris according to *Doshik* involvement.
c. To prove the *Siddhant* that "*Samskarohi Gunantaradhanam Uchyate"* by using the drug *Manjistha* and *Madhu Mishran Lepa* in the management of Mukhadushika.

2. MATERIALS AND METHODS

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2.1. Selection of Patients

This is a single-blind study. The patients were randomly collected and categorized into two groups. The total of 40 patients (Group-A 20 and Group-B 20 patients) had been selected by a special proforma covering demography data along with both subjective and objective parameters from outpatient department of Government Ayurvedic College and Hospital, Balangir, and Saradeswari Government Ayurvedic Hospital, Balangir. The consent of patient was also taken before clinical trial.

2.2. Diagnostic Criteria

The patients were diagnosed on the basis of subjective parameter and objective parameter for the diagnosis of *Mukhadushika*. The subjective parameters were *Sotha* (Inflammation, *Vedana* (Pain, *Srava* (Discharge), and *Varna* (Color) and objective parameters were number of *Pidaka*, size of the *Pidaka,* and *Paka* of the *Pidaka.*

2.3. Inclusion Criteria

The following criteria were included in the study:

- Patients having *Mukhadushika Roga* as per clinical sign and symptoms.
- *Shalmali Kantaka Sadrusa Pidaka, Saruja, Medagarbha*, *Ghana Sotha.*
- Patients without systemic or metabolic disorders.
- Age group between 12-30 yrs.
- Patients of both sexes.

2.4. Exclusion Criteria

The following criteria were excluded from the study:

- Other skin diseases such as vitiligo, psoriasis, and urticaria.
- Patients age below 12 and above 30 years.
- Lesions present other than cheek.
- Secondary bacterial infection.

2.5. Selection of Drugs

On the basis of sign and symptoms of *Mukhadushika* (Acne vulgaris) and its management through the drugs *Manjistha* triturated with *Madhu Lepa* described in Yogaratnakar Uttaradha *Kshudra roga Chikitsa,* sloka-4, page no-282 was taken for clinical trial. The drugs of both medicines were identified by the experts of Dept. of *Dravyaguna* and RSBK which were approved by DRC and IEC of Government Ayurvedic College and Hospital, Balangir, and Sambalpur University. Medicines were prepared as per GMP certified method in Mini Pharmacy of College under the supervision of expert of *Rashasashtra* and *Bhaisajya Kalpana*. The sample of research medicines was sent to Quality Control Laboratories of ALN Rao Memorial *Ayurvedic* Medical College and PG Centre Koppa, Dist. Chikmagalur, Karnataka for Analytical study. [Table 1] shows the pharmacodynamics of *Manjistha* and *Madhu*.

2.6. DOSE

- Group A: (5 g of *Manjistha churna* with q.s of water) – At morning, face wash with normal water then Prepared *Lepa* applied all over the face. After drying of *Lepa*, face wash with normal water.
- Group A: (5 g of *Manjistha churna* with q.s of *Madhu*) – At morning, face wash with normal water then *Manjistha* triturated with *Madhu Lepa* applied all over the face. After drying of *Lepa*, face wash with normal water.

2.7. Assessment Criteria

The subjective and objective parameters as per inclusion criteria were assessed by the grading score from 0 to 3 according to the severity of disease and favorable shift to back. Both parameters were followed up 7th and 15th day of medication. [Table 2] shows the assessment of subjective and objective parameters of *Mukhadushika*.

3. OBSERVATION AND RESULTS

The clinical study period of 40 patients was taken. [Table 3] mentions the demographic incidence of patients. [Table 4] shows % of

improvement in objective parameter by using both the drug. [Table 5] shows % of improvement in objective parameter by using both drugs [Table 6] shows comparison between Group A and Group B (AT-AT) in both subjective and objective parameters using both drugs. [Table 7] shows overall effect of the therapy.

4. DISCUSSION

Acharya Sushruta taken *Mukhadushika as a Kalabala Pravritta Vyadhi* as it occurs mainly in a specific age and specific season and described under *Kshudra roga*. The cause of this disease is due to vitiation of *Vata, Kapha and Rakta Doshas* and produces the symptoms like throne of *Shalmali Vrikshya. Pitta* has been excluded, as Rakta itself is a *Pitta Vargiya* substance. These vitiated Doshas circulated in the body and when, due to exercise, deranged digestive power, taking unwholesome diet regimen or Vata Vega Dharan, they are expelled to the peripheral parts, they get located under the skin surface, especially of the face. There the Vata makes the vitiated Kapha transforms into the production of small swelling on the mouth of these Shrotas and becomes hard and produces itching, sometimes this swelling is inflamed and becomes suppurated with the help of Rakta and Pitta. This swelling is known as Pidika and it may vary in size, shape, signs, and symptoms according to the dominance of the Doshas.

4.1. Discussion on Demographical Incidence

- AGE: Age-wise distribution shows that majority of the patients, that is, 52.5% were belonging to 21–25 years and 37.5% were belonging to 15–20 years of age groups. This disease is mainly occurring in adolescents, in this age androgen level increase. The hormone also has the effect of increasing sebum production at the base of hairs, which was one of the causative factors for the formation of acne.
- SEX: Majority of the patients, that is, 65% were females whereas 35% were males. This is may be due to hormonal changes and occurs more in female, and females are mainly over consciousness regarding their beauty, that is, maximum use of greasy cosmetics blocks the sebaceous gland, which was one of the causative factors for formation of acne.
- Marital status: Majority of the patients, that is, 87.5% were unmarried. The Indian constitution stipulates that women must be at least 18 years old before they cannot marry; however, currently, late marriage is a social trend.
- Educational status: 100% of the patients were educated, which may have made them more conscious about their beauty, aware about their health status and disease condition.
- Socioeconomic status: Majority of the patients, that is, 92.5% were middle class. Use of low standard or greasy cosmetics may block the sebaceous glands along with heavy workload tension where may be the cause of acne.
- Occupation: Maximum numbers, that is, 75% of patients were students, because they fall into a specific age range when hormonal changes occur.
- Diet: The dietary habit of this series of patients showed that 75% were taking mixed type of diet. Taking of excessively non-veg diet which was prepared by excess oil and spice, taking street food and junk food, increases the adipose tissue deposition in body, and continuous taken the food stuff gradually causes blockage of sebaceous gland which was a cause for producing acne or *Mukhadushika.*
- *KOSTHA:* Majority of the patients, that is, 67.50% were *Madhyama Kostha* and *Madhyama Kostha* was the seat for *Manda Kapha Dosa* (A.H.Su 1).[5] This condition worsen the symptoms, as Kapha Dosa itself a cause of producing *Mukhadushika.*
- *AGNI: Agni-wise* distribution shows that majority of patients 55% were *Mandagni.* In Ayurveda, it was mentioned that the vitiation of Kapha Dosa in the body leads to *Mandagni* and it also said that *Mandagni* was the cause for producing all types of disorder. *Agnimandyata* increases Ama formation in body, which was a hypothetical Hetu for producing the *Mukhadushika.*

4.2. Discussion on Subjective and Objective Parameter [Table 2]

4.2.1. Sotha (inflammation)

The mean percentage of improvement in Sotha after treatment seen in Group A was 37.5% and the Group B was 50%. *P*-value for Group A was 0.015730 and Group B was 0.000037, that is, ≤0.05. Hence, we can conclude that effect observed in both groups was significant. However, better result obtained in Group B after treatment. It was due to the K-P *Samaka property and Sothaghna karma of Manjistha* when get triturated (Mardana samskara) with *Srota Sodhana, Lekhana* and *Tridosa-Nasaka Guna of Madhu* were able to minimize the Sotha (inflammation).

4.2.2. Vedana (pain)

The mean percentage of improvement in Vedana after treatment seen in Group A was 40% and the Group B was 70.83% and the *P*-value for Group A and Group B was <0.05. Hence, we could conclude that effect observed in Group A and also in Group B was significant, while, better results were obtained in Group B after treatment. Vedana was mainly due to increasing *Vata Dosa. Vedana Sthapana* properties of Manjistha and Madhura Rasa, Guru Guna, and Ushna Virya along with Madhura rasa of Madhu decrease Vata Dosa. When both drugs were triturated, the properties of both drugs got enhanced which decreased Vata dosha. Hence, the symptoms of Vedana got reduced.

4.2.3. Srava (discharge)

The mean percentage of improvement in *Srava* after treatment seen in Group A was 70% and the Group B was 72.22% and the *P*-value for Group A and Group B was <0.05. Hence, we could conclude that, effect observed in Group A and also in Group B were significant, while better results were obtained in Group B after treatment. It was due to K-P *Samaka* property of *Manjistha* with *Tridosa-Nasaka* properties of *Madhu* decreased the *Srava of Mukhadushika.*

4.2.4. No of Pidaka

The mean percentage of improvement in number of *Pidaka* after treatment seen in Group A was 11.76% and the Group B was 16.67%. The *P*-value for Group A was 0.047721 and Group B was 0.025347, that is, ≤0.05. Hence, we can conclude that effect observed in Group A and in Group B was significant. *Sothaghna* and *Vrana Ropana Karma of Manjistha* with *Chedana, Lekhan, Vrana Sodhana and Ropana Karma,* and *Medanasana karma* of *Madhu* when get triturated it decrease the number of *Pidaka.*

4.2.5. Size of Pidaka

The mean percentage of improvement in size of *Pidaka* after treatment seen in Group A was 14.81% and the Group B was 23.08% and the *P*-value for Group A and Group B was <0.05. Hence, we can conclude that effect observed in Group A and also in Group B were significant, while, better results were obtained in Group B after treatment. *Sothaghna and Vrana Ropana Karma* of *Manjistha* with *Chedana, Lekhan, Vrana Sodhana and Ropana Karma* and *Medanasana karma* of *Madhu* decrease the size of *Pidaka.*

4.2.6. Paka in Pidaka

The mean percentage of improvement in *Paka in Pidaka* after treatment seen in Group A was 50% and the Group B was 56.25% and the *P*-value for Group A and Group B was <0.05. Hence, we can conclude that effect observed in Group A and also in Group B were significant, while better results were obtained in Group B after treatment.

Paka in Pidaka was mainly due to *Rakta and Pitta dosha. Madhura, Tikta, Kashaya Rasa of Manjistha* decreased *pitta Dosha*. While *Madhura, Kasaya Rasa, and Sita Virya of Madhu* decreased *Pitta dosha and Rakta dhatu,* when both drugs were triturated at a time, the properties got enhanced by importing new properties of *Samskara Guna* and reduced the symptoms of *Paka (suppuration) in Mukhadushika.*

4.2.7. Vivarnata in Pidaka

The mean percentage of improvement in *Paka in Pidaka* after treatment seen in Group A was 50% and the Group B was 56.25% and the *P*-value for Group A and Group B was less than 0.05. Hence, we can conclude that effect observed in Group A and also in Group B were significant, while better results were obtained in Group B after treatment. *Vivarnata* was mainly occurred due to *Vata Pradhan Tridosha. Madhura Rasa, Ushna virya, Varnya Karma of Manjistha and Madhura Rasa, Lekhana, Srotasodhana, Kaph- Pitta Samaka Karma of Madhu* decreased *Vata Pradhan Tridosha. Mardana Samsara* of both drugs increased by *Gunantardhanam* and decreased the sign *Vivarnata in Pidaka.*

4.3. Probable Mode of Action of Lepa Kalpana

Application of Lepa in opposite direction of *Lomakoopa.*

↓

*Upasoshana (*Penetration) through *Swedavahini* (sweat glands) and *Siramukha* (blood capillaries)

↓

Upasoshana (Absorption) through *Samana Vayu* supported by *Vyana Vayu.*

↓

Pachana (Metabolism) by Bhrajaka Pitta and Samana Vayu supported by Vyana Vayu.

↓

Manifestation of color and complexion of skin, which is one of the main functions of Bhrajaka pitta

4.4. Probable Mode of Action of Manjistha Triturated with Madhu Lepa

- K-P *Samaka property* and *Sothaghna karma of Manjistha* decreases Sotha.
- Vedana was mainly due to increasing *Vata Dosa. Vedana Sthapana* properties of Manjistha along with *Madhura Rasa, Guru Guna* and *Ushna Virya* decreases *Vata Dosa,* which leads to decreasing Vedana.
- Decreasing Vata property of Manjistha, decreases *Srava along* with *Srota Sodhana, Yogavahi* and *Tridosa-Nasaka* properties decreases *Sotha and Srava from Pidaka.*
- *Sothaghna* and *Vrana Ropana Karma of Manjistha with Chedana, Lekhana* and *Vrana sodhana Karma of Madhu*, *reduces number of Pidaka*
- *Medanasana* and *Vrana Ropana karma of Madhu* decreases size of *Pidaka.*
- *K-P Samaka* property along with *Madhura, Tikta* and *Kasaya Rasa of Manjistha* with pacifies Pitta dosa by virtue of its *Madhura Rasa and Sita Guna of Madhu*, which leads to decreasing Paka.
- *Rakta Sodhak* and *Varnya Karma* decreases *Vivarnata in Pidaka.*
- When Mardan Samskara of both drugs occurs, it increases the original properties of the drugs and decreases the sign and symptoms of *Mukhadushika.*

4.5. Probable Mode of Action of Phytochemicals Present in Manjistha and Madhu Lepa

4.5.1. Manjisth

- Saponin is the best cleansing agent, which cleans the obstructed sebaceous gland.
- Amino acids having the role of detoxification of blood.
- Phenolic compounds have good anti-oxidant property.
- Anthraquinone is responsible for antioxidant, anti-inflammatory, and immuno-modulation effect.
- Flavonoids having antibacterial property.

4.5.2. Honey

- It can reduce water content within the pore-lining as the carbohydrate present in honey dries out water, hence helps to reduction of pore-lining.
- Honey has other substances such as fatty acids, Vitamin B, peptides, and amino acids, these calming compounds reduce the redness of acne and fade the marks post-healing.
- Flavonoids have antioxidant properties.
- Anthraquinone and alkaloids have anti-bacterial properties.
- When Mardan Samskara of both drugs occurs, it enhances the original properties of the drugs and decreases the sign and symptoms of acne.

4.6. Probable Mode of Action of Phytochemicals Present in Manjistha and Madhu Lepa

4.6.1. Manjistha

- Saponin is the best cleansing agent, which cleans the obstructed sebaceous gland.
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- Anthraquinone is responsible for antioxidant, anti-inflammatory, and immuno-modulation effect.
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- Flavonoids have antioxidant properties.
- Anthraquinone and alkaloids have anti-bacterial properties.
- When Mardan Samskara of both drugs occurs, it enhances the original properties of the drugs and decreases the sign and symptoms of acne.

5. CONCLUSION

On comparison between two groups, Manjistha triturated with Madhu Lepa in Group B had shown more effect than Manjistha Lepa in Group A. No adverse effects were noticed during clinical trial in both groups.

6. ACKNOWLEDGMENTS

None.

7.AUTHORS' CONTRIBUTIONS

All the authors contributed equally in design and execution of the article.

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10. CONFLICTS OF INTEREST

Nil.

11. DATA AVAIBALITY

This is an original manuscript and all data are available for only research purposes from principal investigators.

12. PUBLISHERS NOTE

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Table 1: Pharmacodynamics of Manjistha and Madhu

Name	*Rasa*	*Guna*	*Virya*	*Vipaka*	*Karma*	*Dosha Karmukata*
Manjistha	*Madhura, Tikta, Kasaya*	*Guru*	*Usna*	*Katu*	*Raktasodhana, Sothanasaka, Vrana ropana.*	*K- P Samaka*
Madhu	*Madhura, Kashaya (Anurasa)*	*Laghu, Rukshya, Picchila*	*Sita*	*Katu*	*Chedana, Lekhana, Srotasodhana, Yogavahi*	*K-P nasaka, Tridosanasak*

Table 2: Assessment of subjective and objective parameter

Illness	Severity	Grade
Sotha(inflammation)	No Sotha	0
	Mild Sotha	1
	Moderate Sotha	2
	Severe Sotha	3
Vedana (*Pain*)	No pain	0
	Pain on deep pressure over the pidaka	1
	Pain on touch over the pidaka	2
	Pain without touch over the pidaka	3
Srava (*discharge*)	No Srava	0
	A little srava	1
	Moderate quantity of lasika Srava	2
	Excessive lasika and puya srava	3
Objective parameter		
Number of Pidaka	No Pidaka	0
	1-5 Pidaka	1
	5-10 Pidaka	2
	More than 10 Pidaka	3
Size of Pidaka	No	0
	0–2 mm	1
	In between 2 and 4 mm	2
	More than 4 mm	3
Paka in the Pidaka	No Paka	0
	Mild Paka	1
	Moderate Paka	2
	Severe Paka	3
Vivarnata in Pidaka	Normal skin colour	0
	Brownish white colour	1
	Brown colour	2
	Red colour	3

Table 3: Demographic incidence of patients (*n*-40)

Criteria	Maximum %	Category
Age	52.50	21–25 years
Sex	65	Female
Religion	97.50	Hindu
Marital status	87.50	Unmarried
Educational status	100	Literate
Socioeconomic status	92.50	Middle class
Occupation	75	Student
Diet	82.50	Mixed
Addiction	27.50	Tea and coffee
Sleep	72.50	Normal
Kostha	67.50	Madhyama
Agni	55	Mangagni

Table 4: % of improvement in subjective parameter using both drugs

Name	Mean	Median	SD	SE	Wilcoxon W	*P*-value	% of improvement	Result
Sotha								
Group A								
BT	1.60	2.00	0.50	0.11	−2.414	0.015730	37.50	Sig
AT	1.00	1.50	0.51	0.11				
Group B								
BT	1.70	2.00	0.47	0.11	−4.123	0.000037	50	Sig
AT	0.85	1.00	0.37	0.08				
Vedana								
Group A								
BT	1.25	1.00	0.44	0.10	−3.162	0.00156	40	Sig
AT	0.75	1.00	0.55	0.12				
Group B								
BT	1.20	1.00	0.70	0.16	−4.123	0.000037	70.83	Sig
AT	0.35	0.00	0.49	0.11				
Srava								
Group A								
BT	1.00	1.00	0.46	0.10	−3.742	0.000183	70	Sig
AT	0.30	0.00	0.47	0.11				
Group B								
BT	0.90	1.00	0.64	0.14	−3.606	0.000311	72.22	Sig
AT	0.25	0.00	0.44	0.10				

BT: Before treatment, AT: After treatment

Table 5: % of improvement in objective parameter using both drugs

Name	Mean	Median	SD	SE	Wilcoxon W	*P*-value	% of effect	Result
No. of Pidaka								
Group A								
BT	1.70	2.00	0.66	0.15	1.932	0.0477	11.76	Sig
AT	1.50	2.00	0.66	0.15				
Group B								
BT	1.50	1.00	0.61	0.14	−2.236	0.253	16.67	Sig
AT	1.25	1.00	0.44	0.10				
Size of Pidaka								
Group A								
BT	1.35	1.00	0.49	0.11	−2.000	0.0455	14.81	Sig
AT	1.15	1.00	0.49	0.11				
Group B								
BT	1.30	1.00	0.57	0.13	−2.449	0.0143	23.08	Sig
AT	1.00	1.00	0.32	0.07				
Paka in the pidaka								
Group A								
BT	1.00	1.00	0.56	0.13	−3.162	0.0015	50.00	Sig
AT	0.50	0.50	0.51	0.11				
Group B								
BT	0.80	1.00	0.52	0.12	−3.000	0.0027	56.25	Sig
AT	0.35	0.00	0.49	0.11				
Vivarnata in Pidaka								
Group A								
BT	1.45	1.00	0.60	0.14	−2.000	0.0455	13.79	Sig
AT	1.25	1.00	0.44	0.10				
Group B								
BT	1.45	1.00	0.60	0.14	−3.464	0.0005	21.38	Sig
AT	0.85	1.00	0.49	0.11				

BT: Before treatment, AT: After treatment

Table 6: Comparison between Group A and Group B (AT-AT) in both subjective and objective parameters using both drugs

Variable	Group	N (*n*=40)	Mean rank	Sum of rank	Mann-Witney U	*P*-value
Sotha	Group A	20	13	260	50	0.000
	Group B	20	28	560		
Vedana	Group A	20	17	340	130	0.020
	Group B	20	24	480		
Srava	Group A	20	21	420	190	0.739
	Group B	20	20	400		
No. of Pidaka	Group A	20	18	360	150	0.018
	Group B	20	23	460		
Size of the Pidaka	Group A	20	19.50	390	180	0.471
	Group B	20	21.50	430		
Paka in Pidaka	Group A	20	21	420	190	0.755
	Group B	20	20	400		
Vivarnata in Pidaka	Group A	20	16.50	330	120	0.011
	Group B	20	24.50	490		

AT: After treatment

Table 7: Overall effect of patients *n*-40

Overall effect	Group A		Group B	
	n	%	*n*	%
Marked Improvement	0	0.00	0	0.00
Moderate Improvement	3	15.00	10	50.00
Mild Improvement	13	65.00	8	40.00
Unsatisfactory	4	20.00	2	10.00
Total	20	100.00	20	100.00