

The Effect of *Rasona Vati (Allium sativum)* and *Shuddha Guggulu Vati (Commiphora mukul)* in the management of Gridhrasi

Research Article

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Abstract

Background: *Gridhrasi* (Sciatica) is increasingly prevalent today, largely attributed to modern contemporary lifestyles, which have led to a marked rise in cases of low back pain and sciatica. Given these factors, there is a growing recognition of the limitations of conventional treatments, which typically focus on analgesics, physiotherapy, and surgical interventions. While these methods can offer temporary relief, they often fail to address the underlying imbalances within the body. This article aims to evaluate a reliable approach to managing *Gridhrasi*, addressing both symptoms and root causes to improve patient's outcomes and overall quality of life. **Objectives:** To evaluate the efficacy of *Rasona Vati (Allium sativum)* and *Shuddha Guggulu Vati (Commiphora mukul)* in *Gridhrasi*. **Materials and Methods:** A randomized clinical study was conducted on 60 patients of *Gridhrasi* (Sciatica) and were evaluated on subjective parameters (*Ruka, Toda, Stambha, Spandana, Gaurava, Tandra* and *Aruchi*), and objective parameters of VAS Score, SLR and Low-Back Outcome Score by Greenough and Fraser). **Results:** The study assessed that both treatments yielded significant improvements across subjective and objective parameters. *Shuddha Guggulu Vati* outperformed *Rasona Vati* and showed promising improvement in reducing the symptoms of *Gridhrasi*.

Keywords: *Gridhrasi*, Sciatica, *Rasona*, *Shuddha Guggulu*.

Introduction

Gridhrasi, recognized as one of the eighty *Nanatmaja Vatavyadhis* in *Ayurvedic* scriptures, primarily arising from vitiated *Vata Dosha* and manifests through symptoms such as stiffness, pain and twitching, particularly affecting the lower back and legs (1). Its prevalence has surged largely due to sedentary lifestyles, leading to a significant rise in cases of low back pain and sciatica. Contributing factors include poor posture, prolonged sitting, and physical strain from activities such as heavy lifting or abrupt movements, all of which exacerbate pressure on the spine and surrounding nerves. The symptoms of *Gridhrasi* align closely with those of sciatica, presenting as pain that radiates from the buttocks down through the legs, accompanied by a range of discomforts, including stiffness and a waddling gait (2). Lifestyle elements, such as unhealthy eating habits, insufficient physical

activity, and excessive use of fast-moving transportation, further exacerbate *Vata* derangement, which disrupts the body's natural balance and causes *Gridhrasi* (3).

As a relevant disease today, *Gridhrasi* has an annual incidence of 1.6% in the general population out of which 43% is the working population alone (4). Current treatment options primarily revolve around analgesics, physiotherapy and surgery, which may provide temporary relief but sometime often fail to address the underlying causes. This limitation emphasizes the need for effective *Ayurvedic* remedies, which focus on restoring balance to the body's *doshas*, including *Vata-Shamaka* treatments, dietary modifications, and lifestyle changes.

Objective

To evaluate the efficacy of *Rasona Vati (Allium sativum)* and *Shuddha Guggulu Vati (Commiphora mukul)* in *Gridhrasi* (Sciatica).

Materials and methods

Research Design: A Randomized clinical study.

Ethical Aspect: An approval for the clinical trial (DYPARC/IEC/537/20220) was obtained from the Institutional Ethics Committee of Dr. D.Y. Patil College

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of Ayurved and Research Centre, Pimpri, Pune-18 and thereafter registered with the India’s clinical trial registry (CTRI/2022/12/048360) before commencing the study. A comprehensive case record form was kept up to date, along with signed consent forms of all the study participants.

Source of Data: Patients attending OPD/IPD of Dr. D. Y. Patil College of Ayurved Hospital & Research Centre, Pimpri, Pune-18 were recruited in the study according to the inclusive criteria.

Source of the Drug: *Rasona Vati* (5) and *Shuddha Guggulu Vati* (6) were manufactured in the FDA-approved *Sudhatatva* pharmacy of the Institute.

Sample Size: Based on the prevalence rate of Sciatica the sample size was calculated (4). The number of patients in each group was taken as 30. Overall 75 patients were enrolled for the clinical trial, with about 15 dropouts taken into consideration, a total of 60 patients were finally studied. The CONSORT chart of activities and patient’s profile is provided in Figure 3.

Inclusion Criteria: Patients aged between 19-70 years, of either gender with classical symptoms of *Gridhrasi* (including *Ruka*, *Toda*, *Stambha*, *Graha*, *Spandana*, *Gaurava*, *Tandra* & *Aruchi*) and a positive straight leg

Criteria for Assessment:
Subjective Parameter (7)

Table 2: Gradation of Subjective Parameters

Symptoms	Gradation			
	0	1	2	3
<i>Ruka</i> (Pain)	No Pain	Mild	Moderate	Severe
<i>Stambha</i> (Stiffness)	<5min	5 min-1 hour	2-4 hour	>4hour
<i>Toda</i> (Pricking Pain)	Absent	Occasional	Continuous after movement	Continuous
<i>Spandana</i> (Twitching)	Absent	Occasionally	Continuous post movement	Spontaneous
<i>Graha</i> (Restricted Movement)	Bend till Toes	Bend till Mid-leg	Bend till Knee	Bend till Mid-thigh
<i>Tandra</i> (Torpor)	Attentive	Mild	Moderate	Severe
<i>Gaurav</i> (Heaviness)	Absent	No interference in tasks	Hampers tasks	Hampers Movements
<i>Aruchi</i> (Anorexia)	Absent	Eating timely with less desire	Willing to eat but late than usual time	No willingness to eat/ Willing to eat but after a long-time interval

Objective parameters

- **Straight Leg Raise Test:** The patient was assessed on his/her ability to elevate their legs straight while lying in supine position painlessly (actively). The degree of elevation was noted and was measured using a Goniometer to avoid any biasness in the degree calculation.
- **Visual Analogue Scale (8):** The pain was assessed by asking the patient to rate their pain on a scale of 1-10.

Figure 1: The Visual Analogue Scale



raise (SLR) test between 30° and 90° were included in the clinical trial.

Exclusion Criteria: Individuals with severe co-morbidities, indicated for surgical intervention, pregnant women or lactating mothers or any condition that impedes the treatment course were excluded from the study.

Intervention: Both drugs were administered for a period of 14 days.

Table 1: Intervention of Drugs

Group	Drugs	Dose	Time of Administration	Anupana	Route
A	<i>Rasona Vati</i>	500 mg (250mg × 2)	Daily in the morning and night. Before food.	<i>Ushnodaka</i>	Oral
B	<i>Shuddha Guggulu Vati</i>	500 mg (250mg × 2)	Daily in the morning and night. Before food.	<i>Ushnodaka</i>	Oral

- **The Lower-Back Outcome Scale by Greenough and Fraser (9):** Used to assess the functional result of the patient with low back pain. Min. score: 0; Max. score: 75. Improved patient status is indicated by a higher score.

Sequence Generation: Statistical analysis was conducted using Version 26 of the SPSS-IBM.

Statistical Methods: To evaluate the in-group trends of parameters over the 14-day study period, paired t-tests and Friedman’s test were employed, allowing for the assessment of changes from baseline (day 0) to day 14. For inter-group comparisons of observations, unpaired t-tests and Mann-Whitney tests were utilized, providing

robust statistical methods to analyze differences between the two treatment groups. This approach ensured a comprehensive evaluation of the data, enhancing the reliability of the findings.

Observations and Results

Outcomes: Variables were collected for the study at baseline, followed by a single follow-up and on the 14th day of whole intervention. In the cohort of 60 patients, most affected were aged 31-40 years (23.3%) and females (66.7%), primarily homemakers (36.6%) and desk job holders (16.66%). Urban residents constituted 86.6% and 83.3% were married, from a medium socio-economic group (56.66%) and preferred a mixed diet (73.33%). Additionally, 58.33% exhibited *Madhyam Aakruti* and had *Madhyam Samhana*. Notably, 35% reported to have lower back trauma in the past. The predominant body constituent was *Vata-Pittaja* (35%) with the *Vataj* variant of *Gridhrasi* was the most prevalent (51.66%).

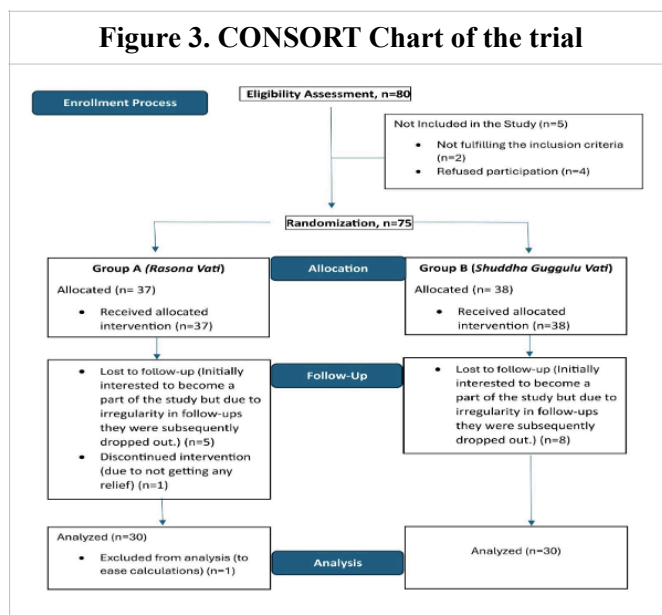


Table 4: Comparison of intervention effect within the groups on Day 0, 7 and 14th expressed in statistical mean, percentage effect and p value

Parameter	Within Groups									
	Day 0 Mean±SD		Day 7 Mean±SD		Day 14 Mean±SD		% Effect		p value	
	Left Leg	Right Leg	Left Leg	Right Leg	Left Leg	Right Leg	Left Leg	Right Leg	Left Leg	Right Leg
Ruka										
RV	1.63±0.89	1.70±0.83	1.03 ± 0.61	1.13±0.86	0.56±0.68	0.60±0.67	65.31%	64.71%	<0.05	<0.05
SGV	1.70±0.74	1.76±0.85	1.03±0.71	1.20±0.80	0.40±0.49	0.46±0.50	76.47%	73.58%	<0.05	<0.05
Toda										
RV	0.56±0.50	0.66±0.47	0.36±0.55	0.46±0.57	0.16±0.37	0.16±0.37	70.58%	75%	<0.05	<0.05
SGV	0.83±0.64	0.96±0.61	0.43±0.56	0.53±0.50	0.20±0.40	0.40±0.49	76%	56.62%	<0.05	<0.05
Stambha										
RV	0.66±0.88	0.86±0.81	0.40±0.72	0.56±0.56	0.26±0.52	0.43±0.56	60%	50%	<0.05	<0.05
SGV	0.73±0.73	0.86±0.73	0.36±0.55	0.50±0.57	0.26±0.44	0.33±0.54	63.63%	61.53%	<0.05	<0.05
Graha										
RV	0.80±0.66	0.83±0.59	0.50±0.50	0.60±0.62	0.36±0.49	0.40±0.56	54.16%	52%	<0.05	<0.05
SGV	0.70±0.59	0.80±0.66	0.36±0.49	0.50±0.57	0.30±0.46	0.33±0.47	57.14%	58.33%	<0.05	<0.05
Spandana										
RV	1.53±0.81	1.56±0.81	0.86±0.68	0.63±0.66	0.23±0.50	0.13±0.34	84.78%	91.48%	<0.05	<0.05
SGV	1.52±0.73	1.46±0.77	0.53±0.57	0.63±0.55	0.10±0.30	0.06±0.25	93.47%	95.45%	<0.05	<0.05
Gaurava										
RV	0.60±0.67	0.73±0.73	0.40±0.49	0.50±0.57	0.23±0.43	0.30±0.46	61.11%	59.09%	<0.05	<0.05
SGV	0.56±0.62	0.90±0.54	0.30±0.46	0.56±0.50	0.23±0.43	0.30±0.46	5,882%	66.66%	<0.05	<0.05
Tandra										
RV	0.70±0.74		0.46±0.50		0.40±0.49		42.85%		<0.05	<0.05
SGV	0.83±0.79		0.56±0.50		0.46±0.50		44%		<0.05	<0.05
Aruchi										
RV	0.40±0.62		0.30±0.53		0.26±0.44		33.33%		<0.05	<0.05
SGV	0.36±0.55		0.30±0.53		0.26±0.52		27%		>0.05	<0.05
SLR										
RV	73.66±14.19	66.33±18.28	77.50±11.79	74.33±12.78	84.83±6.62	81.66±10.77	15.15%	23.11%	<0.05	<0.05
SGV	72.50±15.01	70±16.66	81.83±10.94	80.50±11.32	87.66±6.26	88.16±3.82	20.91%	25.95%	<0.05	<0.05
VAS										
RV	6.51±1.45		5.03±1.40		3.19±1.57		50.77%		<0.05	<0.05
SGV	6.80±1.18		4.80±1.24		2.80±1.37		58.82%		<0.05	<0.05
LBOSG&F										
RV	35.95±8.71				56.40±8.50		56.81%		<0.05	<0.05
SGV	33±7.20				56.16±7.94		70.2%		<0.05	<0.05

(Abbreviations: SD- Standard Deviation, RV- *Rasona Vati*, SGV- *Shuddha Guggulu Vati*, SLR- Straight Leg Raise Test, VAS- Visual Analogue Scale, LBSOSG&F- Lower- Back Outcome Score by Greenough and Fraser)

Table 5: Comparison of intervention effect between groups expressed in statistical mean, percentage effect and p value

Parameter	Between Groups				
	Mean		% Relief	p value	
	Left Leg	Right Leg		Left Leg	Right Leg
Ruka					
RV	28.37	27.70	28%	>0.05	>0.05
SGV	32.63	33.30	33%		
Toda					
RV	27.90	29.75	29%	>0.05	>0.05
SGV	33.10	31.25	33%		
Stambha					
RV	30.10	28.63	29%	>0.05	>0.05
SGV	20.90	32.37	32%		
Graha					
RV	30.10	30.28	30%	>0.05	>0.05
SGV	30.90	30.72	31%		
Spandana					
RV	29.13	30.57	30%	>0.05	>0.05
SGV	31.87	30.43	31%		
Gaurava					
RV	31.12	28.08	31%	>0.05	>0.05
SGV	29.88	32.92	30%		
Tandra					
RV	29.85		30%	>0.05	
SGV	31.15		31%		
Aruchi					
RV	31		31%	>0.05	
SGV	30		30%		
SLR					
RV	11.16±9.43	15.33±15.86	13%	>0.05	>0.05
SGV	15.16±12.49	18.16±14.47	17%		
VAS					
RV	25.50		26%	<0.05	
SGV	35.50		36%		
LBOSG&F					
RV	20.43±6.09		20%	>0.05	>0.05
SGV	23.16±6.53		23%		

Interpretation of Rasona Vati group

The *Rasona Vati* group demonstrated significant improvements in various parameters following a 14-day intervention. Notably, *Toda* (Pricking Pain) exhibited a mean reduction from 0.83 to 0.2, indicating a substantial alleviation of this symptom. Similarly, *Aruchi* (Anorexia) showed a decrease from 0.40 to 0.26, reflecting an improvement in appetite. The symptoms of *Stambha* (Stiffness) also improved, with a mean decline from 0.76 to 0.34, paralleling the findings from *Graha* (Restricted Movement), which saw a 53% reduction in symptoms. Furthermore, *Spandana* (Tingling Sensation) showed a remarkable decline from 1.54 to 0.18. The Visual Analogue Scale (VAS) score revealed an overall improvement, decreasing from 6.51 to 3.19 with a pronounced effect observed in the first week of treatment.(Table 4).

Interpretation of Shuddha Guggulu Vati group

The *Shuddha Guggulu Vati* group demonstrated noteworthy improvements across several parameters

throughout the treatment duration. Specifically, the mean reduction in *Ruka* (Pain) was substantial, decreasing from 1.73 to 0.43. Similar improvements were noted for *Stambha* (Stiffness), with a mean reduction from 0.79 to 0.29, and *Spandana* (Tingling Sensation), which decreased from 1.49 to 0.08, resulting in 95% relief. Objective measures such as VAS scale also improved significantly, with the mean angle of elevation increasing from 71.25 at baseline to 84.66 by Day 14. The second week of treatment was particularly effective, exhibiting a 59% relief in VAS scores. In the context of Lower-Back Outcome Scale, Group B improved notably, with mean scores rising from 33 to 56.6 across both treatment halves. (Table 4). All the data is statistically significant except for *Aruchi* parameter (p>0.05).

Between Groups

Statistical analysis revealed insignificant results (p>0.05) between both the treatment groups, indicating their equal individual efficacies in managing *Gridhrasi*,

except that in VAS score where $p < 0.05$ suggesting Group B performed better in terms of statistics. However, a comparative evaluation of percentage relief suggests that Group B outperformed Group A throughout the treatment period, particularly in symptoms such as *Ruka*, *Spandana* and *Stambha*. Objective parameters further support this, with *Shuddha Guggulu Vati* achieving a 23% improvement in SLR compared to 19% in *Rasona Vati*. The Lower Back Outcome Scale also indicated a 70% improvement for *Shuddha Guggulu Vati* by the end of the second week. (Table 5)

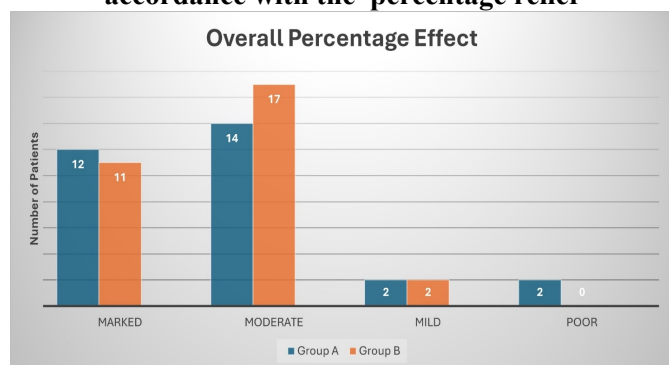
While *Rasona Vati* exhibited superior outcomes in certain symptoms like *Toda & Aruchi*, it is essential to note that both groups displayed beneficial effects in symptoms such as *Tandra*, *Graha* and *Gaurava* although these differences were not statistically significant.

Comparison of overall improvement in both the groups

Table 6: Patients with corresponding percentage effect

S. No.	Criteria of Grade	Grade of Improvement	Number of Patients	
			Group A	Group B
1	75-100 %	Marked	12	11
2	50-74 %	Moderate	14	17
3	25-49 %	Mild	2	2
4	0-24 %	Poor	2	0

Figure 4: Overall effect of both the drugs in accordance with the percentage relief



The data indicates that marked improvement was observed in 23 patients throughout the treatment, with 12 from Group A and 11 from Group B, showing similar effectiveness in reducing *Gridhrasi* symptoms. Most patients experienced moderate relief (50-74%), with Group B having a higher count of 17 patients compared to 14 in Group A. Additionally, 2 patients from each group experienced mild improvement, while only 2 patients in Group A reported poor improvement.

Discussion

Rasona Vati and *Shuddha Guggulu Vati* represent two potent *Ayurvedic* interventions for managing *Gridhrasi*, a condition characterized by *Vata* and/or *Vata-Kapha* predominance. Here, the data collected

suggests the prevalence of both types of *Gridhrasi*, with *Vata* predominant (31 patients) and *Vata-Kaphaja* (29 patients). The medicines used were chosen due to their properties to counter the *dosha* predominance in the disease, as discussed further. *Rasona Vati* exhibits properties such as *Tikshna* (sharp) and *Ushna Virya* (hot potency), which facilitate digestion and balance *Vata* and *Kapha doshas* (10). By enhancing *Agni* and promoting *Amapachana*, *Rasona* mitigates the accumulation of *Ama dosha*, alleviating pain and heaviness associated with *Gridhrasi* (11). Its *Rasayana* properties further improve *dhatu* quality and combat oxidative stress, bolstering the body's resilience, regulating metabolism due to presence of compounds like Allicin (diallyl thiosulphinate) & diallyl sulphide (12). More alkaloids like Allin ((+)-S-allyl-L-cysteine sulphoxide) & diallyl sulphide have been proven to ameliorate the impairments associated with fatigue therefore providing physical endurance to the muscles (13). Conversely, *Shuddha Guggulu Vati*, recognized for its *Laghu* (light) and *Balya* (strengthening) attributes, effectively pacifies *Vata* and *Kapha* imbalances while promoting the healing of tissues (14). The antioxidant compounds like Z-guggulsterone, Z-guggulsterol, Guggilsterol 1-V within *Guggulu* enhance metabolic function and reduce inflammation, addressing the chronic nature of *Gridhrasi*. They exhibit properties to inhibit generation of free radicals. Its hypolipidemic activity also eases one of the multiple reasons of *Gridhrasi* (15).

The study evaluates the effectiveness of *Shuddha Guggulu Vati* and *Rasona Vati* in treating *Gridhrasi*, a condition increasingly common due to modern lifestyles. Both treatments led to significant improvements in various symptoms associated with *Gridhrasi*, including pain, stiffness, and other symptoms. *Shuddha Guggulu Vati* generally exhibited a superior impact, particularly in key parameters such as *Ruka* (pain relief), *Stambha* (stiffness), *Spandana* (sensation), and visual analogue scale scores. *Rasona Vati* also showed improvement, particularly in managing symptoms like *Toda* and *Aruchi* indicating its beneficial properties.

Conclusion

Both *Rasona Vati* and *Shuddha Guggulu Vati* facilitated amelioration of symptoms, with *Shuddha Guggulu Vati* demonstrating superior alleviation in key parameters like *Ruka* and *Spandana* while *Rasona Vati* excels in specific symptoms like *Toda* and *Aruchi*. However, both medicines are effective in treating *Gridhrasi*.

Future scope of the study

The research showed a notable outcome by both the medicines, however since it was an exploratory study with a small sample size and with a short duration, a significant representativeness of the result was not obtained. Subsequent study with a larger sample size and time duration can provide a concrete inference.

Author's view

To treat with single-drug interventions in a prevalent disease today is a challenge but the present study suggests that the drugs gave promising results in treating the symptoms of *Gridhrasi*.

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Conflict of interest: None.

References

1. Gupta Atri Deva, Charak Samhita of Acharya Agnivesh. Second Edition. Varanasi. Bhargava Pustkalaya. 1986. C. S. Su.20/11, 240
2. Kushwaha H C S; Editor & Translator, Acharya Siddhi Nandan Mishra, Charak Samhita, Ayuredadipika, Ayushi, Hindi commentary, 2nd part; First Edition, Varanasi, Chaukhambha Orientalia, 2009; C.S. Ch.28/56-57, 741
3. Chunekar K C, forwarded commentary of Dr. Bulusu Sitaram on Acharya Bhavamishra; Bhavprakash Samhita; Vol 2; Madhyamkhanda; Chaukhambha Orientalia; Varanasi; Reprint 1st edition; 2010; Bh.P. Ma. 24/129-132, 278
4. Arora, Manish & Gogawale, Sagar & Patwardhan, R. (2019). Efficacy of yogasana in the management of gridhrasi (sciatica). World Journal of Pharmaceutical Research. volume 8. 1414-1421. 10.20959/wjpr20192-14229.
5. Kushwaha K S, Charak Samhita of Acharya Agnivesh, Second Part, Reprint Edition, Varanasi, Chaukhambha Orientalia publishers; 2012, C.S. Ch 5/94-95, 172
6. Gupta Atri Deva, Charak Samhita of Acharya Agnivesh. Second Edition. Varanasi. Bhargava Pustkalaya. 1986. C. S. Su.27.
7. Joshi S P, A comparative study of Vajjigandhadya and Shefalikalabasti in the management of Gridhrasi (sciatica), Thesis, IPGT&RA, Gujarat Ayurved University, Jamnagar (2008).
8. Jensen, Mark P. et al., Interpretation of visual analog scale ratings and change scores: a reanalysis of two clinical trials of postoperative pain, The Journal of Pain, Volume 4, Issue 7, 407-14
9. Azimi P, Benzel EC. The Low-Back Outcome Scale and the Oswestry disability index: are they reflective of patient satisfaction after discectomy? A cross-sectional study. J Spine Surg. 2017 Dec;3(4):554-560. doi: 10.21037/jss.2017.09.07. PMID: 29354731; PMCID: PMC5760432.
10. Gupta Atri Deva, Charak Samhita of Acharya Agnivesh. Second Edition. Varanasi. Bhargava Pustkalaya. 1986. C. S. Su.27/174, 346
11. Garde G K; Marathi translator, Sartha Vagbhata; Ashtanga Hridaya; Varanasi, Chaukhambha Surbharti Publication; Reprint, 2009; A.H.Su 22/70.
12. Morihara, N.; Hino, A.; Miki, S.; Takashima, M.; Suzuki, J. Aged garlic extract suppresses inflammation in apolipoprotein E-knockout mice. Mol. Nutr. Food Res. 2017, 61, 1700308. [CrossRef] [PubMed]
13. Liu, J.; Guo, W.; Yang, M.L.; Liu, L.X.; Huang, S.X.; Tao, L.; Zhang, F.; Liu, Y.S. Investigation of the dynamic changes in the chemical constituents of Chinese "laba" garlic during traditional processing. Rsc Adv. 2018, 8, 41872-41883. [CrossRef]
14. <http://www.easyayurveda.com>, dated 14-08-2024, time 18:07 IST
15. Jasuja N D, Choudhary J, Sharama P, Sharma N, Joshi S C, A Review on Bioactive Compounds and Medicinal Uses of *Commiphora mukul*, Journal of Plant Sciences 7(4):113-137, 2012. DOI: 10.3923/jps.2012.113.137.
