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Synoptic Review on *Aṣṭāṅgavaleha*- A Polyherbal Ayurvedic Formulation for Bronchial Asthma

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ABSTRACT

Introduction: *Avaleha* (Linctus) is a unique dosage form of Ayurveda that is frequently used in various disorders and as *Rasāyana* (Immunomodulators). *Aṣṭāṅgavaleha* is one such formulation being used for *Śvāsa* (Asthma), *Jvara* (Fever), *Hikkā* (Hiccup) and *Kāsa* (Cough). *Aṣṭāṅgavaleha* has not been mentioned in *Brūhatrayī*. It had been extensively reviewed from *Vṛndamādhava*, *Cakradatta*, *Vangasena*, *Ġadanigraha*, *Śārangadhara saṁhitā*, *Bhāvaprakāśa* and *Yogarātnākara*. Screening through various texts revealed that *Aṣṭāṅgavaleha* has been mentioned in these treatises with few modifications like changes in *Anupāna* (vehicle) or few ingredients. **Methods:** An attempt has been made to compile scattered information about *Aṣṭāṅgavaleha* from the texts of 9th to 20th AD explaining its pharmacological potential in *Śvāsa* along with the pharmacological activities of its ingredients from *Brūhatrayī* and *Nighaṅṭus*. **Results:** Among these texts, *Aṣṭāṅgavaleha* had been mentioned by different name in four texts, with different *Anupāna* (adjuvant) in one text, its use for different disease in two texts, mentioned with different ingredients in two texts and with different preparation method and *Anupāna* in Ayurvedic Pharmacopoeia of India. **Conclusion:** This work may prove a torch bearer for future research works on *Aṣṭāṅgavaleha*.

KEYWORDS *Avaleha*, *Anupāna*, *Aṣṭāṅgavaleha*, Powder, *Śvāsa*

PICTORIAL ABSTRACT



Ashtangavaleha classical powder licked with honey and *Ārdraka* juice



can be modified to



Ashtangavaleha modified method prepared with jaggery

Not mentioned in *Brūhat trayee*

Firstly mentioned in *Vṛndamādhava*

Afterwards mentioned in texts – Chakradutta, Vangasena, Ġadanigraha, Śārangadhara Saṁhitā, Bhāvaprakāśa Nighaṅtu, Yogarātnākara, Bhaishajya Ratnavali, AFI, API

Mentioned by name like *Mahakatphaladi Yoga*, *Ashtanga lehya*, *Ashtangavalehika* in different texts

Mentioned by different name-4
Mentioned with different *Anupāna*-1
Mentioned for different disease-2
Mentioned with different ingredients-2
Mentioned with different preparation method and *Anupāna* in API

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1. INTRODUCTION

In Ayurveda many multiple component preparations like *Avaleha* (linctus) are used in the treatment of various disorders and as *Rasāyana* (immunomodulators). Some known *Avalehas* are *Bhārangyādi avaleha*, *Vāsāvaleha*, *Cyavanprāśa avaleha* and *Kansahāritakī*^[1-5]. *Aṣṭāṅgavaleha* is one of the important *Avaleha* formulation used for *Śvāsa* (respiratory disorders)^[6]. As the name suggests, *Aṣṭāṅgavaleha* comprises of eight powdered ingredients in equal proportion that is to be licked with *Ārdraka svarasa* (expressed juice of ginger rhizome) and *Madhu* (honey)^[7]. It is known to pacify symptoms of diseases like *Hikkā* (Hiccup), *Śvāsa* (Asthma), *Kāsa* (Cough), *kaṅṅhavarodha* (Obstruction in throat) and *Sannipātaja jvara* (Fever)^[8]. According to *Cakradatta*, it also works on *Ūrdhvaḡalaślesmā* (excessive *Kapha* humourin upper respiratory tract). Present review explains the pharmacological potential of *Aṣṭāṅgavaleha* in *Śvāsa* along with the pharmacological activities of the parts used of each ingredient in the formulation. In this review, information from various texts belonging from 9th AD to 20th AD has been compiled. *Aṣṭāṅgavaleha* had been described in these texts

under different names and with some modifications (Table 1). This article may help the researcher and practitioner to explore more about *Aṣṭāṅgavaleha*.

2. MATERIALS AND METHODS

A review has been made through texts in which *Aṣṭāṅgavaleha* is mentioned. It is not mentioned in *Brūhatrayī*. So information about *Aṣṭāṅgavaleha* had been compiled from the texts of 9th to 20th AD. For this, *Vṛndamādhava*, *Cakradatta*, *Vangasena*, *Ġadanigraha*, *Śārangadhara saṁhitā*, *Bhāvaprakāśa* and *Yogarātnākara* were screened. Classification of the ingredients of *Aṣṭāṅgavaleha* have been taken from *Caraka saṁhitā*, *Suśruta saṁhitā*, *Aṣṭāṅga hrdaya*, *Aṣṭāṅga sangraha*, *Bhāvaprakāśa Nighaṅṭu*, *Madanapāla Nighaṅṭu*, *Dhanvantrī Nighaṅṭu*, *Śoḡhala Nighaṅṭu*, *Kāiyadeva Nighaṅṭu* and *Nighaṅṭu Ādarśa*. Along with the review of *Aṣṭāṅgavaleha* and its ingredients; description of pharmacological properties of the ingredients from various reputed journals were also collected.

3. RESULT AND DISCUSSION

3.1 History of formulation

This formulation was not described in *Brūhatrayā*. *Vrṇdamādhava* (9th century) had described this formulation for the first time.^[9] Later on this formulation appears in *Cakradatta* (11th century), *Vangasena* (12th century), *Ġadanigraha* (12th century), *Śārangadhara saṁhitā* (13th century), *Bhāvaprakāśa* (16th century) and in *Yogarātnākara* (20th century). This formulation has been named as *Aṣṭāṅgavaleha*, *Aṣṭāṅgavalehikā* and *Aṣṭāṅga lihya* by these texts. *Bhāvamiśra* has mentioned it as *Mahākāṣṭhaladi yoga*.^[10] Its different names, changes appeared in different texts had been mentioned in the Table 2.

3.2 Composition of Aṣṭāṅgavaleha

Aṣṭāṅgavaleha comprises of *Kāṣṭhala*, *Puṣkaramūla*, *Śrūṅgī*, *Vyoṣa* (*Śuṁṭhī*, *Marica*, *Pippalī*), *Yāsa*, *Kārvī* in powder form and are to be licked with *Madhu* and *Ārdraka svarasa*.

3.3 Categorization of ingredients of Aṣṭāṅgavaleha

Categorization of the ingredients of *Aṣṭāṅgavaleha* according to various classical texts i.e. from *Caraka saṁhitā*, *Suśruta saṁhitā*, *Aṣṭāṅga hrdaya*, *Aṣṭāṅga sangraha*, *Bhāvaprakāśa Nighaṇṭu*, *Madanapāla Nighaṇṭu*, *Dhanvantrī Nighaṇṭu*, *Śoḍhala Nighaṇṭu*, *Kāiyadeva Nighaṇṭu* and *Nighaṇṭu Ādarśa* have been placed at Table 3. Only classifications of the ingredients of *Aṣṭāṅgavaleha* have been available in these texts; though formulation has not been mentioned in these treatises.

3.4 Synonyms of ingredients of Aṣṭāṅgavaleha

Ingredients with their different names are depicted in Table 4 and the source of the synonyms is *Bhāvaprakāśa nighaṇṭu*. The synonyms are mentioned to avoid confusion between various similar names of the drugs and for identification by different names.

3.5 Rasapanchaka and Pharmacological properties of ingredients of Aṣṭāṅgavaleha

Ingredients of *Aṣṭāṅgavaleha* and their pharmacological and therapeutic properties^[11-61] are depicted in Table 5 and 6.

3.6 Conversion of classical to modified dosage form

The same formulation can be modified to *Avaleha* prepared by *Pāka* method with sweetening agent like jaggery or sugar. This modification in composition makes it more palatable, masks the bitter taste of powder and is easy to consume and dispense. Table 7 shows *Rasa panchaka* of *Ārdraka svarasa*,^[62] *Madhu* as *Anupāna*(vehicle)^[63] and Sweetening agent Jaggery^[64] if used as modification.

Considering the same ingredients of the formulation, *Aṣṭāṅgavaleha* had been named differently as *Mahākāṣṭhaladi yoga* in *Bhāvaprakāśa*. *Bhāvamiśra* had mentioned to take it with *Ajākṣīra* as *Anupāna* in *Śvāsa cikitsā*. *Ajākṣīra* possess *Dīpana*, *lāghu*, *sangrahī* properties. It has qualities like *Snigdha*, *guru* and *rasāyana*. It is *Alpa abhiśyandī* and has *Madhura rasa*, *Madhura vipāka* and mainly combat *Rājyaṣmā*, *śvāsa*, *kāsa* and *raktapitta*^[65]. On the contrary, *Ārdraka* does *Āmapācana*, *dīpana*, *rocana*, *vātānulomna* and *pācana*, helping to relieve *Agnimāndya* and thus *Jvara*^[66]. In in *Jvara cikitsā*, it is mentioned to be taken with *Madhu* and *Ārdraka* by Acharya Bhavamishra. With the same ingredients and *Anupāna*, again *Bhāvamiśra* has mentioned it in and *kāsayukta murchā*. *Srotasa avarodha* in these conditions get relieved by its ingredients when used with *Ārdraka*^[67]. As per *Cakradatta* and *Yogarātnākara*, ingredients and *Anupāna* remain the same and formulation is mentioned as *Aṣṭāṅgavalehikā*. The powder of the formulation has to be licked with honey and it pacifies *Sannīpāta jvara*, *hikkā*, *śvāsa*, *kāsa* and *kaṇṭharodha*. In case of *Kapha ādhikya*, mixed powder of the eight ingredients of this formulation is to be taken with *Ārdraka rasa*^[68].

In *Ġadanigraha* and *Vangasena*, *Śrūṅgī* has been replaced with *Bhāraṅgī* (*Clerodendrum serratum* Spreng.) in *Aṣṭāṅgavalehikā* and *Aṣṭāṅga lihya* respectively mentioned in *Jvara adhikāra* with *Madhu* and *Ārdraka* as *Anupāna*. *Bhāraṅgī* has *Kaṣu*, *tikta rasa*, *lāghu*, *rūkṣa guṇa*, *uṣṇa vīrya*, *kaṣu vipāka* and *kapha vātaghna* properties^[69]. *Śrūṅgī* has *Kaṣāya*, *tikta rasa* and rest other properties are exactly the same as that of *Bhāraṅgī*. Parts used for *Bhāraṅgī* is either root or leaves whereas gall is used of *Śrūṅgī*. So part used of *Bhāraṅgī* i.e. leaves and root are more easily approachable for therapeutic needs. May be due to easy availability later on Acharya Śoḍhala and *Vangasena* had used *Bhāraṅgī* in place of *Śrūṅgī* in base formulation of *Aṣṭāṅgavaleha*.

In Ayurvedic Formulary of India (AFI), *Aṣṭāṅgavaleha* has been prepared with the same eight ingredients along with *Anupāna* of the formulation i.e. *Madhu* and *Ārdraka svarasa* taking all in equal proportion. The therapeutic dose of *Aṣṭāṅgavaleha* is mentioned as 500 mg to 1 g and has been indicated for *Vāta kapha jvara* (Fever due to *Vata Dosha* and *Kapha Dosha*), *Kāsa* (Cough), *Śvāsa* (Dyspnoea/Asthma), *Aruci* (Tastelessness) and *Chardi* (Emesis).

In Ayurvedic Pharmacopoeia of India (API), *Aṣṭāṅgavaleha* is described as a blackish brown coloured semisolid sticky paste with pleasant odour, bitter, astringent and spicy taste. This preparation is made with eight ingredients i.e. *Kāṣṭhala*, *Puṣkaramūla*, *Śrūṅgī*, *Yavānī*, *Kārvī*, *Śuṁṭhī*, *Marica*, *Pippalī* all in equal parts and *Madhu* is taken in 12 parts with quantity sufficient (QS) *Ārdraka svarasa* for *bhāvanā*. Here method of preparation of *Aṣṭāṅgavaleha* has been mentioned, where all eight ingredients are first washed, dried and powdered separately and passed through sieve no 85; *Ārdraka* rhizomes are washed, peeled and grinded to squeeze the juice and filtered it through a muslin cloth to collect *Svarasa*. Powdered ingredients are mixed thoroughly, levigated with *Ārdraka svarasa* and the mixture is dried. Honey is added and stirred thoroughly to form an *Avaleha*. After that it is packed in tightly closed containers to protect from light and moisture. The therapeutic dose of *Aṣṭāṅgavaleha* has been indicated to be 3 to 5 g daily in divided doses and water is taken as *Anupāna*. In addition to this, physico-chemical parameters, ingredients' identification microscopically and Thin layer Chromatography of the formulation has been described in API.

Because of their relative significant efficacy in *Śvāsa*, comparative longer shelf life and palatability, the role of *Avalehas* in the field of *Shwasa* (Asthma) is distinctly evident. Screening through the classics reveal that, seers used *Sahapāna* with drugs like powder, making the dosage form convenient for licking. But *Avaleha* as dosage form is widely used and better acceptable form in current days than intake of drug in the form of powder. Also patient may find it difficult to consume it with *Ārdraka rasa* as *Anupāna* everytime. Considering this, in API, rather than taking the powder form of this formulation with fresh squeezed juice of *Ārdraka rasa* as *Anupāna*; *Bhāvanā* of the same has been subjected to the mixture of powder of the eight ingredients of the formulation and *Madhu* is taken as *Anupāna* for the same.

With the changing time, rather than taking the powder form of this formulation with fresh squeezed juice of *Ārdraka rasa* as *Anupāna*; *Bhāvanā* of the same has been subjected to the mixture of powder. This formulation can be modified to *Avaleha* prepared by *Pāka* method with sweetening agent like jaggery or sugar making it more palatable, masking the bitter taste of powder, making it easy to consume and dispense.

All the ingredients of *Aṣṭāṅgavaleha* possess anti-inflammatory property in common. *Kāṣṭhala*, *Puṣkaramūla*, *Śrūṅgī* and *Pippalī* are well reported for their mast-cell stabilizing and anti-asthmatic activity. *Marica* and *Pippalī* are bio-availability enhancers. However,

Marica, *Śuṅṭhī* and *Yavānī* possess antimicrobial activity whereas *Yavānī* has been reported for its bronchodilatory, anti-tussive and expectorant activities. All these properties of ingredients of *Aṣṭāṅgavaleha* made it a good remedy for combating the symptoms of asthma and other inflammatory condition. Drugs with *Vāta kapha hara* and *Vātanulomana*^[70] properties are beneficial in case of

Tamaka śvāsa. *Śuṅṭhī* and *Pippalī* possess these qualities and rest of all the drugs are *Vāta kapha hara* and may be beneficial in this condition. These ingredients also possess *Vātanulomana*, *Dīpana*, *Pācana*, *Kāśahara*, *Śvāsahara*, *Vednāsthāpana* and *Śothahara* properties. Overall properties of *Aṣṭāṅgavaleha* make it perfect blend to pacify the symptoms of *Śvāsa* and *Kāsa*.

Table 1. Description of *Aṣṭāṅgavaleha* in various texts

Name of Yoga	No of ingredients	Ingredients	Anupāna	Roga	Reference
Mahākāṭṭhaladi yoga	8	Kaṭphala, Puṣkaramūla, Śrūṅgī, Vyoṣa, Yavānī, Kārvī	Ajākṣīra	śvāsa, kāsa	Bhāvaprakāśa Śvāsa cikitsā. 14/48, p.166
Aṣṭāṅgavaleha	8	Kaṭphala, Puṣkaramūla, Śrūṅgī, Vyoṣa, Yavānī, Kārvī	Madhu-Sannipata, Hikka, Shwasa, Kasa, Kantharoga Ārdraka Rasa- Kaphodreka	śvāsa, kāsa	Bhāvaprakāśa Jvara cikitsā. 1/559, p.116
Aṣṭāṅgavaleha	8	Kaṭphala, Puṣkaramūla, Śrūṅgī, Vyoṣa, Yavānī, Kārvī	Madhu or Ārdraka Rasa	Tandrā, kāsayukta mūrchā.	Bhāvaprakāśa 1/560, p.116
Aṣṭāṅgavalehikā	8	Kaṭphala, Puṣkaramūla, Śrūṅgī, Vyoṣa, Yavānī, Kārvī	Madhu, Ārdraka Svarasa	Sannīpāta jvara, hikkā, śvāsa, kāsa, kaṭṭharodha, kapha upadrava	Yogarātnākara (3), p.210
Ashtangavalehika	8	Kaṭphala, Puṣkaramūla, Śrūṅgī, Vyoṣa, Yavānī, Kārvī	Madhu, Ārdraka Svarasa	hikkā, śvāsa, kāsakaṭṭharodha, ūrdhvagalaśleśmaroga	Cakradatta 1/162-164, p.72
Aṣṭāṅgavalehikā	8	Kaṭphala, Puṣkaramūla, Bhāraṅgī, Vyoṣa, Yavānī, Kārvī	Madhu, Ārdraka Svarasa Sannipata, Hikka, Shwasa Kasa, Kantharoga Kaphaulbala	Sannīpāta jvara	Ġadanigraha Jvara adhikāra 2/395, p.102
Aṣṭāṅga līhya	8	Kaṭphala, Puṣkaramūla, Bhāraṅgī Vyoṣa Yavānī, Kārvī	Ārdraka Rasa, Madhu	Tandrā, kāsa, Sannīpāta, hikkā, śvāsa, kaṭṭharoga, kaphoūdreka	Vangasena Jvara adhikāra 2/213-216, p.40
Aṣṭāṅgavalehikā	8	Kaṭphala, Puṣkaramūla, Śrūṅgī, Vyoṣa, Yāsa, Kārvī	Madhu, Ārdraka Svarasa	Sannīpāta, hikkā, śvāsa, kāsa, kaṭṭharodha, kapha upadrava	Vaūdamādhava Jvara adhikāra 1/246-247, p.35
Aṣṭāṅgavaleha	8	Kaṭphala, Puṣkaramūla, Śrūṅgī, Yavānī, Kārvī, Śuṅṭhī, Marica, Pippalī	Madhu, Ārdraka Svarasa	Vāta kapha jvara (Fever due to Vata Dosha and Kapha Dosha), Kāsa (Cough), Śvāsa, (Dyspnoea/Asthma), Aruci (Tastelessness) and Chardi (Emesis)	AFI Part II, 3:1, p.22 (Ayurveda Sangraha, Kaphajvaracikitsa, p.361)
Aṣṭāṅgavaleha	8	Kaṭphala, Puṣkaramūla, Śrūṅgī, Yavānī, Kārvī, Śuṅṭhī, Marica, Pippalī	Madhu, *Ārdraka Svarasa is subjected for bhāvanā. *Water is used as Anupāna	Vāta kapha jvara (Fever due to Vata Dosha and Kapha Dosha), Kāsa (Cough), Śvāsa (Dyspnoea/Asthma), Aruci (Tastelessness) and Chardi (Emesis)	API Part II Vol I; 1, p.44 (AFI Part II, 3:1)

Table 2. Dissimilarities from the basic composition of *Aṣṭāṅgavaleha*

Name of formulation	Changes in the formulation
Mahākāṭṭhaladi yoga (Bhāvaprakāśa Śvāsa cikitsā 14/48, p.166)	Bhavamīśra has mentioned this formulation <i>Aṣṭāṅgavaleha</i> by the name of <i>Mahākāṭṭhaladi yoga</i> , with different <i>Anupāna</i> , i.e. <i>Ajākṣīra</i> for <i>śvāsa, kāsa</i>
<i>Aṣṭāṅgavaleha</i> (Bhāvaprakāśa Jvara cikitsā. 1/559, p.116)	Again with the name of <i>Aṣṭāṅgavaleha</i> , this formulation has been mentioned with the same ingredients but with honey and <i>Ārdraka Rasa</i> as <i>Anupāna</i> .
<i>Aṣṭāṅgavaleha</i> (Bhāvaprakāśa 1/560, p.116).	The same composition mentioned for <i>Tandrā</i> , and <i>kāsayukta mūrchā</i> .
<i>Aṣṭāṅgavalehikā</i> (Yogarātnākara, 3, p.210; Cakradatta 1/162-164, p.72).	<i>Yogarātnākara</i> has mentioned it under <i>Jvara adhikāra</i> (3), p.210, with slight change in its name. Similarly with this name, it is mentioned in <i>Cakradatta</i> 1/162-164, p.72.

<i>Aṣṭāṅgāvalehikā (Gadanigraha Jvara adhiḥkāra 2/395, p.102).</i>	Acharya Śoḍhala has mentioned the same formulation by replacing <i>Śrūṅgī</i> with <i>Bhāraṅgī</i>
<i>Aṣṭāṅga līhya (Vangasena Jvara adhiḥkāra 2/213-216, p.40).</i>	Vangasena also replaced <i>Śrūṅgī</i> with <i>Bhāraṅgī</i> and in mentioned its use for <i>Tandrā</i> , with other diseases like <i>Kāsa</i> , <i>Sannīpāta jvara</i> , <i>hikkā</i> , <i>śvāsa</i> , <i>kaṇṭha roga</i> , <i>kaphoūdreka</i>
<i>Aṣṭāṅgāvalehikā (Jvara adhiḥkāra 1/246-247, p.35).</i>	Vrndaādihava has mentioned the composition with the name <i>Aṣṭāṅgāvalehikā</i>
<i>Aṣṭāṅgavaleha (AFI Part II, 3:1, p.22)</i>	In AFI, The composition has been mentioned with the same ingredients and <i>Anupana</i> in diseases like <i>Aruci</i> (Tastelessness) and <i>Chardi</i> (Emesis) along with <i>Vāta kapha jvara</i> (Fever due to <i>VataDosh</i> a and <i>KaphaDosh</i> a), <i>Kāsa</i> (Cough), <i>Śvāsa</i> (Dyspnoea/Asthma) AFI Part II, 3:1, p.22 (<i>Ayurveda Sangraha, Kaphajvaracikitsa</i> , p.361)
<i>Aṣṭāṅgavaleha (API Part II Vol I; 1, p.44).</i>	In API, The same ingredients are subjected to <i>bhāvanā</i> of <i>Ārdraka Svarasa</i> , mixture is dried and honey is added to form <i>Avaleha</i> . Water is used as <i>Anupāna</i> . It is indicated for the same diseases like as mentioned in AFI. API Part II Vol I; 1, p 44 (AFI Part II, 3:1).

Table 3. Classification of ingredients of *Aṣṭāṅgavaleha*

Ingredients	Texts/ Nighaṅṭu	Gaṇa /Varga	Source
Kaṭhala	<i>Caraka saṁhitā</i>	<i>Śukraśodhana, Sandhānīya, Vednāsthapana</i>	Caraka sūtra 4/20 (p.63), 4/5 (p.60), 4/47 (p.68)
	<i>Suśruta saṁhitā</i>	<i>Lodhrādi gaṇa, Surasādi gaṇa, Lākṣādi gaṇa, Parūśakādi gaṇa</i>	Suśruta sūtra 38/14 (p.165), 38/18 (p.165), 38/64-65 (p.169), 38/43 (p.167)
	<i>Aṣṭāṅga hrdaya</i>	<i>Parūśakādi gaṇa, Lodhrādi gaṇa, Surasādi gaṇa</i>	Aṣṭāṅga hrdaya sūtra 15/13 (p.141), 15/26-27 (p.142), 15/30-31 (p.143)
	<i>Aṣṭāṅga sangraha</i>	<i>Parūśakādi gaṇa, Lodhrādi gaṇa, Surasādi gaṇa, Vednāsthapana gaṇa, Bhedanīya gaṇa, Śukraśodhana gaṇa, Truṣṇā nigrahaṇa gaṇa</i>	Aṣṭāṅga sangraha sūtra 16/5 (p.132), 16/14 (p.133), 16/16 (p.133); 15/8 (p.132), 15/6 (p.130), 15/7 (p.130), 15/7 (p.131)
	<i>Bhāvaprakāśa Nighaṅṭu</i>	<i>Haritakyādi Varga</i>	p.100, verse 181, drug 60
	<i>Madanapāla Nighaṅṭu</i>	<i>Abhyādi - Prathmavarga</i>	p.42, verse 202-203
	<i>Dhanvantrī Nighaṅṭu</i>	<i>Guḍucyādi - Prathma Varga</i>	p.33, verse 73-74, drug 21
	<i>Śoḍhala Nighaṅṭu</i>	<i>Guḍucyādi Varga</i>	p.14, verse 147-148
	<i>Kāiyadeva Nighaṅṭu</i>	<i>Auśadhī Varga</i>	p.210, verse 1137-1138, drug 341
	<i>Nighaṅṭu Ādarśa Vol II</i>	<i>Bhallātakādi Varga (103)</i>	p.523, drug 486
Puṣkaramūla	<i>Caraka saṁhitā</i>	<i>Śvāsahara, Hikkānigrahaṇa</i>	Caraka sūtra 4/37 (p.67), 4/30 (p.65)
	<i>Aṣṭāṅga sangraha</i>	<i>Śvāsaghna gaṇa, Hikkānigrahaṇa gaṇa</i>	Aṣṭāṅga sangraha sūtra 15/7 (p.131), 15/7 (p.131)
	<i>Bhāvaprakāśa Nighaṅṭu</i>	<i>Haritakyādi Varga</i>	p.95, verse 174-175, drug 57
	<i>Madanapāla Nighaṅṭu</i>	<i>Abhyādi - Prathmavarga</i>	p.41, verse 196-197
	<i>Dhanvantrī Nighaṅṭu</i>	<i>Guḍucyādi - Prathma Varga</i>	p.31, verse 65-66, drug 18
	<i>Rāja Nighaṅṭu</i>	<i>Pippalyādi Varga</i>	p.165-166, verse 152-154
	<i>Śoḍhala Nighaṅṭu</i>	<i>Guḍucyādi Varga</i>	p.13, verse 139-140
	<i>Kāiyadeva Nighaṅṭu</i>	<i>Auśadhī Varga</i>	p 244, verse 1320-1321, drug 404
<i>Nighaṅṭu Ādarśa Vol II</i>	<i>Sehdevyādi Varga (62)</i>	p 787, drug 299	
Śrūṅgī	<i>Caraka saṁhitā</i>	<i>Kāsahara, Hikkānigrahaṇa gaṇa</i>	Caraka sūtra 4/36 (p 66), 4/30 (p 65)
	<i>Suśruta saṁhitā</i>	<i>Kākolyadi gaṇa</i>	Suśruta sūtra 38/36 (p 167)
	<i>Aṣṭāṅga sangraha</i>	<i>Hikkānigrahaṇa, Kāsaghna</i>	Aṣṭāṅga sangraha sūtra 15/7 (p 131), 15/7 (p 131)
	<i>Bhāvaprakāśa Nighaṅṭu</i>	<i>Haritakyādi Varga</i>	p.98, verse 178-179 drug 59
	<i>Madanapāla Nighaṅṭu</i>	<i>Abhyādi - Prathmavarga</i>	p.41, verse 200-201
	<i>Dhanvantrī Nighaṅṭu</i>	<i>Guḍucyādi - Prathma Varga</i>	p.36, verse 83-84, drug 24
	<i>Rāja Nighaṅṭu</i>	<i>Pippalyādi Varga</i>	p.166, verse 155-157
	<i>Śoḍhala Nighaṅṭu</i>	<i>Guḍucyādi Varga</i>	p.15, verse 154
	<i>Kāiyadeva Nighaṅṭu</i>	<i>Auśadhī Varga</i>	p.213, verse 1150-1152, drug 345 <i>Ārdraka</i> p. 213, drug 346
	<i>Nighaṅṭu Ādarśa Vol II</i>	<i>Bhallātakādi Varga (38)</i>	p.325, drug 123
Yavānī	<i>Caraka saṁhitā</i>	<i>Śītaprasāmana</i>	Caraka sūtra 4/42 (p.67)
	<i>Aṣṭāṅga sangraha</i>	<i>Śūlāśophaghna, Dīpanīya gaṇa</i>	Aṣṭāṅga sangraha sūtra 15/7 (p.130), 15/7 (p.130)
	<i>Bhāvaprakāśa Nighaṅṭu</i>	<i>Caturbīja Varga, (Haritakyādi varga)</i>	p.25, verse 75-77, drug 14
	<i>Madanapāla Nighaṅṭu</i>	<i>Śunṭhyādi- Dvitya Varga</i>	p.82, verse 32-33
	<i>Dhanvantrī Nighaṅṭu</i>	<i>Śatapuṣpādi - Dvitya Varga</i>	p.116, verse 88-89, drug 44
	<i>Rajanighantu</i>	<i>Pippalyādi Varga</i>	p.141, verse 38-40
	<i>Śoḍhala Nighaṅṭu</i>	<i>Śatapuṣpādi Varga</i>	p.35, verse 342
	<i>Kāiyadeva Nighaṅṭu</i>	<i>Auśadhī Varga</i>	p.22, verse 1203-1205, drug 360
	<i>Nighaṅṭu Ādarśa Vol I</i>	<i>Jīrakādi Varga (57)</i>	p.679, drug 249
Kārvī	<i>Caraka saṁhitā</i>	<i>Śūlaprasāmana (Ajājī)</i>	Caraka sūtra 4/45 (p.68)

	<i>Suśruta saṁhitā</i>	<i>Pippalyādi gaṇa (Jīraka)</i>	Suśruta sūtra 38/22 (p 166)
	<i>Aṣṭāṅga hrdaya</i>	<i>Vatsakādi gaṇa (Jīraka)</i>	Aṣṭāṅga hrdaya sūtra 15/33 (p.143)
	<i>Bhāvaprakāśa Nighaṇṭu</i>	<i>Haritakyādi Varga</i>	p.26, verse 81-85, drug 20
	<i>Madanapāla Nighaṇṭu</i>	<i>Śuṅṭhyādi- Dvitya Varga</i>	p.81, verse 29-31
	<i>Dhanvantrī Nighaṇṭu</i>	<i>Śatapuṣpādi - Dvitya Varga</i>	p.111, verse 70-71, drug 33
	<i>Rāja Nighaṇṭu</i>	<i>Pippalyādi Varga</i>	p.146-147, verse 60-62
	<i>Śoḍhala Nighaṇṭu</i>	<i>Śatapuṣpādi Varga</i>	p.34, verse 328
	<i>Kāiyadeva Nighaṇṭu</i>	<i>Auśadhī Varga</i>	p.219, verse 1185, drug 355
	<i>Nighaṇṭu Ādarśa Vol I</i>	<i>Jīrakādi Varga (57)</i>	p.669, drug 247
Śuṅṭhī	<i>Caraka saṁhitā</i>	<i>Triptiḡhna, Arśoghna, Dīpanīya</i>	Caraka sūtra 4/11 (p.62), 4/12 (p.62), 4/6 (p.60)
	<i>Suśruta saṁhitā</i>	<i>Pippalyādi gaṇa, Trayuṣṇa gaṇa</i>	Suśruta sūtra 38/22 (p.166), 38/58 (p.168)
	<i>Aṣṭāṅga hrdaya</i>	<i>Vacādi, Vatsakādi (Pancakola), Śirovirecanopaga dravya</i>	Aṣṭāṅga hrdaya sūtra 15/35 (p.156), 15/34 (p.156), 14/6 (p.127)
	<i>Aṣṭāṅga sangraha</i>	<i>Vacāharidrādi gaṇa, Pippalyādi gaṇa, Śītapraśmana gaṇa, Hrdaya gaṇa, Arśoghna gaṇa, Stanyaśuddhikara gaṇa</i>	16/19 (p.134), 16/25 (p.134), 15/7 (p.131), 15/7 (p.131), 15/7 (p.130), 15/7 (p.131)
Marica	<i>Bhāvaprakāśa Nighaṇṭu</i>	<i>Haritakyādi Varga</i>	p.12, verse 44-48, drug 4
	<i>Madanapāla Nighaṇṭu</i>	<i>Śuṅṭhyādi Varga- Dvitya Varga</i>	p.76, verse 1-3
	<i>Dhanvantrī Nighaṇṭu</i>	<i>Śatapuṣpādi - Dvitya Varga</i>	p.115, verse 82-83, drug 40
	<i>Rāja Nighaṇṭu</i>	<i>Pippalyādi Varga</i>	p.138-139, verse 24-26
	<i>Śoḍhala Nighaṇṭu</i>	<i>Śatapuṣpādi Varga</i>	p.35, verse 340
	<i>Kāiyadeva Nighaṇṭu</i>	<i>Auśadhī Varga</i>	p.213, 1150-1153, drug 345
	<i>Nighaṇṭu Ādarśa Vol II</i>	<i>Ardrakādi Varga (110)</i>	p.568, drug 505
Marica	<i>Caraka saṁhitā</i>	<i>Sūlaprasamana, Dīpanīya, Krimighna, Śirovirecanopaga</i>	Caraka sūtra 4/45 (p.68), 4/6 (p.60), 4/15 (p.62), 4/27 (p.66)
	<i>Suśruta saṁhitā</i>	<i>Pippalyādi gaṇa, Tryuṣṇa gaṇa</i>	Suśruta sūtra 38/22 (p.166), 38/58 (p.168)
	<i>Aṣṭāṅga hrdaya</i>	<i>Vacādi, Vatsakādi, Kaṭu gaṇa</i>	Aṣṭāṅga hrdaya sūtra 15/35 (p.156), 15/33 (p.156), 10/30 (p.112)
	<i>Aṣṭāṅga sangraha</i>	<i>Pippalyādi gaṇa, Krimihara gaṇa</i>	Aṣṭāṅga sangraha sūtra 16/25 (p.134), 15/7 (p.130)
	<i>Bhāvaprakāśa Nighaṇṭu</i>	<i>Haritakyādi Varga</i>	p.17, verse 59-61, drug 7
	<i>Madanapāla Nighaṇṭu</i>	<i>Śuṅṭhyādi - Dvitya Varga</i>	p.77, verse 9-10
	<i>Dhanvantrī Nighaṇṭu</i>	<i>Śatapuṣpādi - Dvitya Varga</i>	p.115, verse 85-86, drug 42
	<i>Rāja Nighaṇṭu</i>	<i>Pippalyādi Varga</i>	p.140, verse 30-32
Pippalī	<i>Śoḍhala Nighaṇṭu</i>	<i>Śatapuṣpādi Varga</i>	p.35, verse 341
	<i>Kāiyadeva Nighaṇṭu</i>	<i>Auśadhī Varga</i>	p.214-215, verse 1161-1164, drug 447
	<i>Nighaṇṭu Ādarśa Vol II</i>	<i>Pippalyādi Varga (92)</i>	p.357, drug 437
	<i>Caraka saṁhitā</i>	<i>Kāśahara, Hikkānīgrahaṇa gaṇa, Dīpanīya śirovirecanopaga</i>	Caraka sūtra 4/36 (p.67), 4/30 (p.65), 4/6 (p.60), 4/27 (p.66)
	<i>Suśruta saṁhitā</i>	<i>Pippalyādi, Tryuṣṇa gaṇa, Āmlakyādi gaṇa, Urdhabhāgahara, Śirovirecaka</i>	Suśruta sūtra 38/22 (p 166), 38/58 (p.168), 38/60 (p.168), 39/3 (p.147), 39/6 (p.148)
	<i>Aṣṭāṅga hrdaya</i>	<i>Vamana gaṇa, Vatsakādi gaṇa (Pancakola)</i>	Aṣṭāṅga hrdaya sūtra 15/1 (p.140), 15/34 (p.143)
	<i>Aṣṭāṅga sangraha</i>	<i>Vatsakādi gaṇa (Pancakola), Pippalyādi gaṇa, Śītapraśmana gaṇa, Śirovirecanopaga dravya, Kāśaghna, Hikkānīgrahaṇa, Kaṅṭhya gaṇa</i>	Aṣṭāṅga sangraha sūtra 15/34 (p.156), 16/25 (p.134), 16/25 (p.134); 14/6 (p.127), 15/7 (p.131), 15/7 (p.131), 15/7 (p.130),
	<i>Bhāvaprakāśa Nighaṇṭu</i>	<i>Haritakyādi Varga</i>	Bhāvaprakāśa Nighaṇṭu, p.15 <i>Haritakyadi</i> /53-58, drug 6
	<i>Madanapāla Nighaṇṭu</i>	<i>Śuṅṭhyādi Varga- Dvitya Varga</i>	p.77, verse 11-13
<i>Dhanvantrī Nighaṇṭu</i>	<i>Śatapuṣpādi - Dvitya Varga</i>	p.112, verse 73-74, drug 35	
<i>Rāja Nighaṇṭu</i>	<i>Pippalyādi Varga</i>	p.136, verse 11-13	
<i>Śoḍhala Nighaṇṭu</i>	<i>Śatapuṣpādi Varga</i>	p.35, verse 333-334	
<i>Kāiyadeva Nighaṇṭu</i>	<i>Auśadhī Varga</i>	p.215, 1165-1169, drug 348	
<i>Nighaṇṭu Ādarśa Vol II</i>	<i>Pippalyādi Varga (92)</i>	p.345, drug 435	

Table 4. Synonyms of ingredients of *Aṣṭāṅgavaleha*

Ingredients	Synonyms
<i>Kaiphala</i>	<i>Laghukāśmarya, Somavalkala, Kāyaphala, Śrīparṇikā, Tvakaphala, Mahāvalkala, Uragandha, Tīkṣṇa, Pūṭīgandhā</i>
<i>Puṣkaramūla</i>	<i>Pauṣkaram, Padmapatra, Kuṣṭhabheda, Kāśmīram, Śvāsarira</i>
<i>Śrūṅgī</i>	<i>Karkatśrūṅgī, Kulīrvjśanikā, Ajaśringī</i>
<i>Yavānī</i>	<i>Yamānī, Ajmodīkā, Dipyaka</i>
<i>Kārvī</i>	<i>Kriśna jīraka, Kāśmīra jīraka</i>
<i>Śuṅṭhī</i>	<i>Śuṅṭhī, Viśvā, Viśvam, Nāgaram, Viśvabheṣajam, Uṣṇā, Kaṭubhadram, Śringaveram, Mahauśadham</i>
<i>Marica</i>	<i>Marica, Vellaja, Kriśnā, Uṣṇā, Dharmapattanam</i>
<i>Pippalī</i>	<i>Pippalī, Māgadhī, Kriśṇā, Vaidehī, Capala, Kaṇā, Upakulyā, Uṣṇā, Saundī, Kola, Tīkṣṇatandula</i>

Table 5. Rasa panchaka of the ingredients of Aṣṅāgavaleha

Drug	Rasa	Guṇa	Vīrya	Vipāka	Doṣa Karma
Kaiphala	Ks, T, Kt	Tikṣaṇa, Laghu	Uṣṇa	Kt	VK Shamana
Puṣkaramūla	T, Kt	Laghu, Tikṣaṇa	Uṣṇa	Kt	VK Shamana
Śrūngī	Ks, T	Laghu, Rukṣa	Uṣṇa	Kt	KV Shamana
Yavānī	Kt, T	Laghu, Rukṣa, Tikṣaṇa	Uṣṇa	Kt	Kapha vāta śamana, Pitta vardhaka
Kārvī	Kt	Laghu, Rukṣa	Uṣṇa	Kt	Kapha vāta śamana
Śuṅghī	Kt	Laghu, Snigdha	Uṣṇa	M	Vāta śamana
Marica	Kt	Laghu, Tikṣaṇa	Uṣṇa	Kt	Kapha vāta śamana
Pippalī	Kt	Laghu, Snigdha, Tikṣaṇa	Anuṣṇa Śīta	M	Kapha vāta śamana

M- Madhura, T- Tikta, Kt- Kaṭu, Ks- Kaṣāya, KV- Kapha Vāta, VK- Vāta Kapha

Table 6. Ingredients of Aṣṅāgavaleha and their pharmacological and therapeutic properties

Sanskrit Name	Botanical name and Family	Part used	Therapeutic Properties as per Ayurveda	Pharmacological Properties
Kaiphala	<i>Myrica esculenta</i> Buch-Ham., <i>M. nagi</i> Buch-Ham (Myricaceae)	Stem bark	Rogaghnatā - Gulma, Prameha, Aruci, Jvara, Śvāsa, Kāsa, Arśa, Grahaṇī, Pāṇḍu, Mukharoga, Pīnasa, Agnimāndya Karma - Dāhahara, Rucikara, Mehaghna, Ranjan, Kṣayakāraka, Koṭhaprasāman, Sūlaprasāman, Sandhānīya, Kaṇṭhaya, Śukraśodhana, Śvāsahara, Kasahara	Anti-allergic activity, ^[11] Antihelminthic activity, ^[12] Antiasthmatic and Mast Cell Stabilizing activity, ^[13] Antibacterial activity, ^[14] Antioxidant activity, ^[15] Anti-inflammatory activity ^[16]
Puṣkaramūla	<i>Inula racemosa</i> Hook. f. (Compositae)	Root	Rogaghnatā - Aruci, Śvāsa, Kāsa, Parśvasūla, Pāṇḍu, Śopha, Ardīt Karma - Dīpana, Pittasāraka, Vedanā sthāpana, Kāsahara, Hikkāhara, Jvarahara	Antihistaminic, Mast cell stabilizing activity, ^[17] Anti allergic activity ^[18]
Śrūngī,	<i>Pistacia integerrima</i> Stew. Ex Brandis (Anacardiaceae)	Gall	Rogaghnatā - Kāsahara, Śothahara, Hikkā, Atisāra, Kāsa, Raktapitta Karma - Dīpana, Vātānulomana, Raktarodhaka	Anti asthmatic activity and Mast cell stabilizing activity, ^[19,20] Antioxidant activity, ^[21] Hepatoprotective, ^[22] Antimicrobial activity, ^[23] Analgesic and anti-inflammatory, ^[24] smooth muscle activity and airway inflammation ^[25]
Yavānī	<i>Trachyspermum ammi</i> Linn. (Umbelliferae)	Fruit	Rogaghnatā - Aruci, Agnimāndya, Ānāha, Kāsa, Śvāsa, Garbhāśaya śodhana, Tvaka vikāra, Jvara Karma - Śvāsahara, Jvaraghna, Dīpana, Pācana, Vedanā sthāpana, Śothahara, Viśāghna and Vātānulomana	antimicrobial, ^[26] hypolipidemic, ^[27] digestive stimulant, ^[28] antihypertensive, hepatoprotective, antispasmodic and broncho-dilating, ^[29] antilithiasis and diuretic, ^[30] abortifacient, ^[31] galactogogic, ^[32] antiinflammatory, ^[33] antitussive, ^[34] antifilarial, ^[35] gastroprotective, ^[36] nematocidal, ^[37] anthelmintic, ^[38] ameliorative effects, ^[39] carminative and expectorant, ^[40] antiseptic ^[41]
Kārvī	<i>Carum carvi</i> Linn. (Umbelliferae)	Fruit	Rogaghnatā - Ajīrṇa, Ādhmāna, Prasūti roga, Jīrṇa Jvara, Karma - Garbhāśaya śodhana, Stnya janana, Dīpana, Pācana, Vātānulomana	Antioxidant activity, ^[42] Analgesic and anti-inflammatory activity ^[43]
Śuṅghī	<i>Zingiber officinale</i> Roscoe. (Zingiberaceae)	Rhizome	Rogaghnatā Agnimāndya, Śvāsa, Ādhmāna, Āmavāta, Pāṇḍu, Udararoga Karma - Śītaprasāmana, Śothahara, Vedanāsthāpana, Uttejaka, Vātasāmaka, Triptighna, Rocana, Dīpana, Pācana, Śūla prasāmana, Vātānulomana, Arśāghna, Raktaśodhaka, Śvāsahara, Vriṣya, Jvaraghna, Āmapācana	Anti-inflammatory activity, ^[44] antimicrobial activity ^[45,46] antioxidant property, ^[47] Anticancerous, ^[48] Antiosteoarthritis, ^[49] Hepatoprotective ^[50]
Marica	<i>Piper nigrum</i> Linn. (Piperaceae)	Fruit	Rogaghnatā - Agnimāndya, Ajīrṇa, Ādhmāna, Śūla, Grahaṇī, Daurbalya, Bālaśoṣa, Śvāsa, Śūla, Krimīroga, Tvak roga, Karma - Dīpana, Pācana, Kaphaghna, Svedajanana, Srotośodhana, Vātānulomana, Lekhana, Jvaraghna, Pramāthī	Bioavailability enhancer, ^[51] Anticonvulsant activity, ^[52] Antidiarrhoeal activity ^[53] Insecticide effect, ^[54] Antioxidant, sedative, muscle relaxant, antipyretic, anti-inflammatory, hepatoprotective, antimicrobial, antiulcer, antibacterial, lipolytic ^[55,56]
Pippalī	<i>Piper longum</i> Linn. (Piperaceae)	Fruit	Rogaghnatā - Ānāha, Agnimāndya, Udaraśūla, Kāsa, Śvāsa, Jīrṇajvara, Prasūti jvara, Āmavāta, Grīdharsī, Kaṇṭhīśūla, Vātārakta, Aṅga ghāta Karma - Rasāyana, Dīpana, Pācana, Vātahara, Kaphaghna	Antiasthmatic, ^[57] Anti-inflammatory, ^[58] Immunomodulatory activity, ^[59] Bio-availability enhancer, ^[60] Antitubercular activity ^[61]

Table 7. Rasa panchaka of Ārdraka, Madhu as Anupāna (vehicle) and Sweetening agent Jaggery if used as modification

Rasa panchaka	Ārdraka Svarasa (expressed juice of ginger rhizome)	Honey (Madhu)	Jaggery (Guda)
Rasa	Kaṭu	Madhura, Kaśāya	Madhura
Guṇa	Guru, Rukṣa, Tikṣaṇa	Guru, Rukṣa, Sūkṣma	Laghu, Snigdha
Vīrya	Uṣṇa	Śīta	Śīta
Vipāka	Madhura	Kaṭu	Madhura
Doṣaghna	Vāta kapha śamana	Kaphavāta śāmaka	Vāta śāmaka
Indication	Kuṣṭha, Pāṇḍu roga, Raktapitta, Mūtrakrīccha, Vraṇa, Jvara, Dāha	Śvāsa, Kuṣṭha, Arśa, Kāsa, Pittaraktavikāra, Prameha, Krimi, Atisāra, Dāha	Śvāsa, Kuṣṭha, Arśa, Kāsa
Karma	Agnidīpana, Rucikara, Jivhā kaṇṭha viśodhanakara	Yogavāhī, Ropaka, Balya, Vraṇaśodhana, Lekhaniya	Balya

4. CONCLUSION

Vrnamādhava firstly contribute *Aṣṅāngavaleha* to the Ayurvedic pharmaceuticals and this was repeated thereafter in various texts by Ācāryas. Ācāryas had mentioned the basic formulation composition with different *Anupāna* and ingredients in different disease conditions accordingly. With the changing time, rather than taking the powder form of this formulation with fresh squeezed juice of *Ārdraka rasa* as *Anupāna*; *Bhāvanā* of the same can be subjected to the mixture of powder or can be modified to *Avaleha* making it easy to consume and dispense. The pharmacological activities of the ingredients of *Aṣṅāngavaleha* have shown their use as anti-inflammatory, anti-asthmatic, anti-allergic, mast cell stabilizing, antihistaminic and antioxidant drugs. So this review helps the researcher to explore this formulation for more pharmacological activities of *Aṣṅāngavaleha*.

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References

- Sharma PV, editor, 1st ed. Cakradatta of Cakrapanidatta with the commentary Ratnaprabha by Mahamahopadhyaya Sri Nischala Kara; HikkaShwasachikitsa: Chapter 12, Verse 24-29. Jaipur: Swami Jayaramdas Ramprakash Trust, 1993; 291.
- Mishra S, editor, 1st ed. Bhaishajya Ratnavali of Kaviraj Govind Das Sen edited with Siddhiprada Hindi Commentary, Chapter 14, Verse 37-39. Varanasi: Chaukhamba Surbharti Prakashan, 2012; 408.
- Acharya JT, editor, 5th ed. Charaka Samhita of Agnivesha, Chikitsa Sthana; Chapter1-1, Verse 63-69. Varanasi: Chaukhamba Sanskrit Sansthan, 2001; 16.
- Acharya JT, editor, 5th ed. Charaka Samhita of Agnivesha, Chikitsa Sthana; Chapter12, Verse 50-52. Varanasi: Chaukhamba Sanskrit Sansthan, 2008; 366.
- Gupta KA, editor, Ashtangahridayam of Vagabhata edited with the Vidyotini Hindi Commentary edited by Vaidya Yadunanda Upadhyaya, Chikitsa Sthana; Chapter 17, Verse 14-16, Varanasi: Chowkhamba Sanskrit Series, 2006; 545.
- Dubey AK, Rajgopala S, Patel K, Comparative clinical efficacy of Asthangavaleha and VyagriharitakiAvaleha on Tamaka Shwasa (Bronchial Asthma) in children. AYU 2014; 35(4)384-390.
- Anonymous. In: Govt. of India, Ministry of Health and Family Welfare, Dept. of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy, editor, 1st ed. The Ayurvedic Formulary of India Part II, Vol. I, 3:1. New Delhi: The Controller of Publications Civil lines; 2001. p. 22.
- Sharma PV, editor, 1st ed. Cakradatta of Cakrapanidatta with the commentary Ratnaprabha by Mahamahopadhyaya Sri Nischala Kara; HikkaShwasachikitsa: Chapter 1, Verse 162-164. Jaipur: Swami Jayaramdas Ramprakash Trust, 1993; 72.
- Tewari P, editor, 1st ed. Vrnamadhava of Siddha Yoga, Chapter 1, Verse 246-247. Varanasi: Chaukhamba Visvabharati, 2007; 35.
- Mishra BS, editor, 1st ed. Bhavaprakasha of Sri Bhavamishra (Uttrardha) edited with Vidyotini Hindi Commentary, Chapter 1, Verse 559. Varanasi: Chaukhamba Sanskrit Sansthan, 2005; 116.
- Patel KG, Rao NJ, Gajera VG, Bhatt PA, Patel KV, Gandhi TR. Anti-allergic Activity of Stem Bark of Myrica esculenta Buch.-Ham. (Myricaceae). J Young Pharm 2010;2(1):74-78.
- Jain VK, Jain B. Antihelminthic activity of ethanolic extract of bark of Myrica esculenta. IJPSR 2010;11:129-131.
- Patel T, Rajshekhar C, Parmar R. Mast cell stabilizing activity of Myrica nagi bark. Journal of Pharmacognosy and Phytotherapy 2011;3(8):114-117.
- Shan B, Cai Yi-Zhong, Brooks JD, Corke H. The in vitro antibacterial activity of dietary spice and medicinal herb extracts. International Journal of Food Microbiology 2007;117:112-119.
- Choudhury S, Riyazuddin A, Kanjilal PB. Antioxidant Activity of some wild edible fruits of Meghalaya State in India. Advances in Biological Research 2011;1(11):129-131.
- Patel T, Dudhpejiya A, Sheath N. Anti-inflammatory activity of Myrica nagi Linn. Bark. Ancient Science of Life 2011;30(4):100-104.
- Choudhary GP. Mast cell stabilizing activity of Inula racemosa linn. IJRRPAS, 2(4).630-636
- Srivastava S, Gupta PP, Prasad R, Dixit KS, Palit G, et al. Evaluation of anti-allergic activity (Type I Hypersensitivity) of Inula racemosa in rats. Indian J Physiol Pharmacol 1999;43(2): 235-241.
- Adusumalli S, Madan RP, Sankaranarayan HM. Antiasthmatic activity of aqueous extract of Pistacia integerrima galls. Int J Pharm Pharm Sci 2013;5(2):116-121.
- Shirole RL, Shirole NL, Kshatriya AA, Kulkarni R and Saraf MN. Investigation into the mechanism of action of essential oil of Pistacia integerrima for its antiasthmatic activity. Journal of Ethnopharmacology 2014;153(3):541-551.
- Oshi U P and Mishra SH. In vitro antioxidant activity of galls of Pistacia integerrima. Pharmacologyonline 2009;2:763-768.
- Joshi UP and Mishra SH. In vitro antioxidant and hepatoprotective activity of isolated compounds from Pistacia integerrima. Australian Journal of Medical Herbalism 2010;22(3):94-99.
- Uddin G and Rauf A. In vitro antimicrobial profile of Pistacia integerrima galls Stewart. Middle-East Journal of Medicinal Plants Research 2012;1:36-40.
- Ahmad NS, Waheed A, Farman M, Qayyum A. Analgesic and anti-inflammatory effects of Pistacia integerrima extracts in mice. J Ethnopharmacol 2010;129(2):250-3.
- Franciosi LG, Diamant Z, Banner KH et al. Efficacy and safety of RPL554, a dual PDE3 and PDE4 inhibitor, in healthy volunteers and in patients with asthma or chronic obstructive pulmonary disease: findings from four clinical trials. The Lancet Respiratory Medicine 2013;1(9):714-727.
- Bonjar GH. Anti yeast activity of some plants used in traditional herbal-medicine of Iran. J Biol Sci 2004;4:212-5.
- Kumari KS, Prameela M. Effect of incorporating Carum copticum seeds in a high fat diet for albino rats. Med Sci Res 1992;20:219-20.

28. Vasudevan K, Vembar S, Veeraraghavan K, Haranath PS. Influence of intragastric perfusion of aqueous spice extracts on acid secretion in anesthetized albino rats. *Indian J Gastroenterol* 2000;19:53-6.
29. Gilani AH, Jabeen Q, Ghayur MN, Janbaz KH, Akhtar MS. Studies on the antihypertensive, antispasmodic, bronchodilator and hepatoprotective activities of the *Carum copticum* seed extract. *Journal of Ethnopharmacol* 2005;98:127-35.
30. Ahsan SK, Shah AH, Tanira MO, Ahmad MS, Tariq M, Ageel AM. Studies on some herbal drugs used against kidney stones in Saudi folk medicine. *Fitoterapia*. 1990;61:435-8.
31. Nath D, Sethi N, Srivastav S, Jain AK, Srivastava R. Survey on indigenous medicinal plants used for abortion in some districts of Uttar Pradesh. *Fitoterapia* 1997;68:223-5.
32. Kaur H. Estrogenic activity of some herbal galactogogue constituents. *Indian J Anim Nutr* 1998;15:232-4.
33. Thangam C, Dhananjayan R. Antiinflammatory Potential of the Seeds Of *Carum Copticum* Linn. *Indian J Pharmacol* 2003;35:388-91.
34. Boskabady MH, Jandaghi P, Kiani S, Hasanzadeh L. Antitussive effect of *Carum copticum* in guinea pigs. *J Ethnopharmacol* 2005;97:79-82.
35. Mathew N, Bhattacharya SM, Perumal V, Muthuswamy K. Antifilarial Lead Molecules Isolated from *Trachyspermum ammi*. *Molecules* 2008;13:2156-68.
36. Ramaswamy S, Sengottuvelu S, Sherief SH, Jaikumar S, Saravanan R, Prasadkumar C, et al. Gastroprotective Activity Of Ethanolic Extract Of *Trachyspermum Ammi* Fruit. *Int J Pharm Biosci* 2010;1:1-15.
37. Pelczar MJ, Chan ECS, Krieg NR. Control of microorganism by physical agents. In: *Microbiology*, 5th ed. New York: Mcgraw Hill International; 1988; p 469-509.
38. Priestley CM, Williamson EM, Wafford KA, Sattelle DB. Thymol, a constituent of thyme essential oil, is a positive allosteric modulator of human GABAA receptors and a homooligomeric GABA receptor from *Drosophila melanogaster*. *Br J Pharmacol* 2003;40:1363-72.
39. Anilakumar KR, Saritha V, Khanum F, Bawa AS. Ameliorative effect of ajwain extract on hexachlorocyclohexane-induced lipid peroxidation in rat liver. *Food Chem Toxicol* 2009;47:279-82.
40. Chialva F, Monguzzi F, Manitto P, Akgül A. Essential oil constituents of *Trachyspermum copticum* (L.) Link fruits. *J Essent Oil Res* 1993;5:105-6.
41. Leclercq PA. Composition of the seed oil of *Trachyspermum ammi* (L.) Sprague from Northeast India. *J Essent Oil Res* 1998;10:588-90.
42. Najda A, Dyduch J, Brzozowski N. Flavonoid content and antioxidant activity of caraway roots (*Carum carvi* L.). *Veg Crops Res Bull* 2008;68:127-133. doi: 10.2478/v10032-008-0011-6.
43. Hajhashemi V, Ghannadi A, Jafarabadi H. Black cumin seed essential oil as a potential analgesic and anti inflammatory. *Phytother Res* 2004;18(3):195-199.
44. Thomson M, Al-Qattan KK, Al-Sawan M, Al-Naqeeb MA, Khan I et al. The use of ginger (*Zingiber officinale* Rosc.) as a potential anti inflammatory and antithrombotic agent. *Prostaglandins Leukot Essent Fatty Acid* 2002, 67(6):475-478.
45. Onyeagba RA, Ugbogu OC, Okeke CU and Iroakasi O. Studies on the antimicrobial effects of garlic (*Allium sativum* Linn), ginger (*Zingiber officinale* Roscoe) and lime (*Citrus aurantifolia* Linn) *African Journal of Biotechnology* 2004;3(10):552-554.
46. Igwo-Ezikpe MN, Imaga NOA, Ogbunugafor HA, Osuntoki AA et al. Antimicrobial effects of *Zingiber officinale* Rhizomes extracts on selected pathogenic clinical isolates. *The Bioscientist* 2013;1(1):73-79.
47. Ghasemzadeh A, Jaafar Hawa ZE and Rahmat A. Antioxidant Activities, Total Phenolics and Flavonoids Content in Two Varieties of Malaysia Young Ginger (*Zingiber officinale* Roscoe). *Molecules* 2010;15:4324-4333.
48. Choudhury D, Das A, Bhattacharya A, Chakrabarti G. Aqueous extract of ginger shows antiproliferative activity through disruption of microtubule network of cancer cells. *Food and chemical toxicology* 2010;48(10):2872-2880.
49. Altman RD, Marcussen KC. Effects of a ginger extract on knee pain in patients with osteoarthritis. *Arthritis Rehum* 2001;44(11):2531-2538.
50. El-Sharaky AS. Protective effect of ginger extract against bromobenzene-induced hepatotoxicity in male rats. *Food Chem Toxicol* 2009;47(7):1584-1590.
51. Umesh, Singh A. Role of Piperine As A Bioavailability Enhancer; *International Journal of Recent Advances in Pharmaceutical Research* 2011;4:16-23.
52. Belemkar S, Kumar A, Pata MK. Pharmacological screening of herbal extract of *Piper nigrum* (Maricha) and *Cinnamomum zeylanicum* for Anticonvulsant activity. *Ethnopharmacology* 2013;2:1-5.
53. Maurya SK, Mishra A, Seth A. Therapeutic significance and pharmacological activities of Antidiarrhoeal medicinal plants mention in Ayurveda: A review. *Journal of Intercultural Ethnopharmacology* 2016;5(3):299-307.
54. Joerg G. PDR for Herbal Medicines, In: *Herbal Monographs*, Black Pepper, 1st Ed. New Jersey: Medical Economics Company, Inc. at Montvale; 1998; p. 103.
55. Sharma P.C. et al., 2002: *Medicinal Plants Used in Ayurveda*. Central Council of Ayurveda and Siddha, New Delhi, India.
56. Rai N, Yadav S, Verma AK, Tiwari L and Sharma RK. Quality Specifications on *Piper nigrum* L. - A Spice and Herbal Drug of Indian Commerce. *International Journal of Advanced Food Science and Technology* 2012;1(1):1-11.
57. Kulshresta VK, Singh N, Shrivastava RK, Kohli RP. A study of central stimulant effect of *Piper longum*. *Indian J Pharmacol* 1969;1(2):8-10.
58. Sharma AK, Singh RH. Screening of antiinflammatory of certain indigenous drugs on carrageen induced hind paw edema in rats, *Bull Med Ethnobot Res* 1980;2:262-264.
59. Sunila ES, Kuttan G. Immunomodulatory and antitumor activity of fruits of *Piper longum* L. and piperine, *J Ethnopharmacol* 2004;90(2-3):339-346.
60. Khajuria A, Zutshi U, Bedi KL. Intestinal Permeability characteristic of Piperine, an active alkaloid from peppers and bioavailability enhancer. *Indian J Exp Biol* 1998;36(1):46-49.
61. Gupta UP, Nath A, Gupta SC, Shrivastava TN. Preparation of semi synthetic analogues of piper amides and their anti-tubercular activity. *Bull Med Ethnobot Res* 1980;1(1): 99-101.
62. Pandey GS, editor, reprinted. Commentary by Chunekar KC on Bhavaprakasha Nighantu of Bhavamishra, Haritkyadi Varga: Chapter 1, Verse 49-52. Varanasi: Chaukhambha Bharati Academy; 2010.
63. Pandey GS, editor, reprinted. Commentary by Chunekar KC on Bhavaprakasha Nighantu of Bhavamishra, Madhu Varga: Chapter 21, Verse 1-5. Varanasi: Chaukhambha Bharati Academy, 2015; p.772.
64. Pandey GS, editor, reprinted. Commentary by Chunekar KC on Bhavaprakasha Nighantu of Bhavamishra, Ikshu Varga: Chapter 22, Verse 22-26. Varanasi: Chaukhambha Bharati Academy, 2015; p.779.
65. Shastri KA, editor, reprint. *Susruta Samhita of Maharshi Susruta* edited with Ayurveda Tattva Sandipika, Chapter 45, Verse 50-52, Varanasi: Chaukhamba Sanskrit Sansthan, 2008; 173.
66. Sastri R, editor, reprint. *Charaka Samhita of Agnivesha, Chikitsa Sthana; Chapter 3, Verse 273*. Varanasi: Chaukhamba Bharti Academy, 2007; 162.
67. Acharya JT, editor, 5th ed. *Charaka Samhita of Agnivesha, Sootra Sthana; Chapter 24, Verse 26*. Varanasi: Chaukhamba Sanskrit Sansthan, 2008; 449.
68. Sastri B, editor, reprinted. *Yogaratanakara with Vidyotni Hindi Commentary, Sannipata Jwara Chikitsa, Avaleha: Verse 2-3*. Varanasi: Chaukhamba Prakashan. 2013; 210.
69. Pandey GS, editor, reprinted. Commentary by Chunekar KC on Bhavaprakasha Nighantu of Bhavamishra, Haritkyadi Varga: Chapter 1, Verse 182. Varanasi: Chaukhambha Bharati Academy, 2015; p. 98
70. Sastri R, editor, reprint. *Charaka Samhita of Agnivesha, Chikitsa Sthana; Chapter 17, Verse 147*. Varanasi: Chaukhamba Bharti Academy, 2007; 539