Pharmaceutical study of Vasa (Adhatoda vasica Linn.) with special reference to its different dosage forms

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Abstract

Introduction: Adhatoda vasica Linn., a significant quinazoline alkaloid found in the neighboring plant Linn., is the source of the drug bromhexine. The Sanskrit phrase "namoolam anaushadham" comes to mind. However, it describes pharmacological activity rather differently from other modern disciplines. Sometimes the Ayurvedic indication for a plant corresponds to the current medical indication for that plant’s metabolite or derivatives of metabolites. But frequently, it indicates something that cannot be explained by an active principle. Investigating a medicinal plant’s many applications can serve as a foundation for a deeper knowledge of that plant.

Aim: This review is a sincere attempt to cover the many aspects of Vasa. The outcome of this study is intended to add a new stage to the process of creating preparations that contain vasa.

Material and Method: For the current review, Bhaishajya kalpana texts, E-books, research journals, and dissertations were searched, and the data was collected and merged. Vasa is used as a primary medication as well as a major component in a variety of formulations.

Result and Discussion: On search vasa is formulations are found in various dosage forms either as primary medication or compound preparation like swarasa, kalka, kwath, ghrita, taila, asava – arishta, granules, modak, guggulu, khanda are included in present review. All dosage forms all useful in various disease conditions according to vaya, kala, prakriti etc. It is a substance that has attracted notice due to its usage in many kalpanas, and virtually every kalpana of this medication is present in classics of ancient literature that draws attention to its utility in various kalpanas.

Keyword: Vasa; Dosage form; Vasavaleha; Panchavidha kashay kalpana; Modified dosage form; Vasa ghrita

1. Introduction

In Ayurveda, the bhaishaja is given the highest priority since, in order to properly cure a condition, a physician must have high-quality medicines and a thorough understanding of bheshaja. Bhaishajya kalpana covers all aspects of medicines, including their fundamental principles.

Acharaya Charak explain about Bhashaja in chikitsa chatuspad (four limbs of treatment) where he explained the properties attained by the sanyak prayog of aushadh. It should be – Bahuta (Available in large quantity), Yogytvam (More effective), Aanekvidha kalpana (Various pharmaceutical forms or multiple uses, Sampat (Richness in efficacy or potency) [1].
According to Acharya Charaka, the perfect medication should be accessible all year long, which is Bahuta, and it should be able to change into various dose forms, which is Anekavidha Kalpana,[2] without changing its pharmacological effects. It is not practical, nevertheless, as it is frequently observed that the plants are not always present while their active components are at their optimum, necessitating the collection of them at a specified season [3]. So that these plants may be transformed into a formulation without losing their effectiveness and made available to us all year long in their original potency, this is also crucial.

The modified versions of Panchavidha Kashaya Kalpana, including Extract (Ghana),[4] Avaleha,[5] Sneha,[6] Sandhana,[7] Varti and help the drug material have a long shelf-life help with a good taste, an elegant appearance, a pleasant smell, and produce quick action with low doses [8]. Despite this, Sneha, Sandhan, and Avaleha Kalpana each possess unique qualities. For example, Sneha balances Vata Dosha and has the ability to reach every Srota in order to simulate Dhatu, while Sandhana produces quick action, palatability, has the ability to reach every Srota in order to remove obstruction, and has the capacity to reach every Srota. This distinguishes their usefulness in treating various diseases or stages of disease.

Asava - arishta is a favourite among the Sandhana formulations, but Ghrita Kalpana is typically utilised for oral usage. As a result, it is necessary to describe how to employ this Kalpana in a sick state. Due to its dose form, which aids in simple administration, palatability, and long shelf-life, Avaleha is one of the most well-liked Kalpanas. With the exception of illnesses like Kasa, Shwasa, Shotha, and so forth, it has been extensively employed as a rejuvenator (Rasayana) by Acharya Charaka, Sushruta, and Vagbhatta. Avaleha is employed often [9]. Despite the fact that Ghana is a synonym for Avaleha, most of the time it lacks sugar, honey, and ghee. In contrast to Avaleha, Sneha, and Sandhana, this was not frequently used throughout the Samhita era. Since Acharya Charaka claims that not every Kalpana is effective for every patient suffering from the same sickness, it is imperative to clarify how these Kalpanas should be used in the diseased situation. Vasa is a medication that receives attention due to its usage in various Kalpanas and practically every Kalpana of this medication can be found in a classic recapitulation of ancient literature that attracts interest due to its utility in various formulations. The same is condensed into Bhisakamata[10] which serves as a synonym for Vasa.

Vasa (Adhatoda vasica) is widely available medication that is available throughout the year. The ease with which any medicine may be obtained is gaining favour among physicians and pharmaceutical companies, which is why nearly any kalpana of Vasa can be found in the literature. It is a substance that has attracted notice due to its usage in many kalpanas, and virtually every kalpana of this medication is present in classics of ancient literature that draws attention to its utility in various kalpanas.

The botanical description of the plant is as follows: [11]

- Kingdom: Plantae
- Division: Angiosperms
- Class: Eudicots
- Order: Lamiales
- Family: Acanthaceae
- Genus: Justicia
- Species: Adhatoda (Adhatoda vasica)

Table 1 Pharmacological Properties of Vasa [12]

<table>
<thead>
<tr>
<th>Latin name</th>
<th>Properties</th>
<th>Actions</th>
<th>Indications</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adhatoda Vasica</td>
<td>Kashaya, Tikta; Sheeta; Laghu; Vatakrit, Pitta kaphahara</td>
<td>Shwahasahara, kasahara, hridya, sheeta paha, artihara, trushna shamak, Chardighna, Mehahara, kushtaghna, kshayapaha</td>
<td>Trushna, shwasa, kasa, arti, jwara, chhardi, meha, kushta</td>
<td>Bhavaprakasha purva Khanda Guduchyadi Varga 249-250</td>
</tr>
</tbody>
</table>
1.1. Ethnomedicinal uses

Ayurvedic medicine uses the plant *Adhatoda vasica* to treat a variety of chest and respiratory infections [13]. In Sri Lanka, excessive phlegm (mucus containing bacteria, debris, and shed inflammatory cells) and menorrhagia (abnormal blood clotting, disruption of normal hormonal regulation of periods, or problems of the endometrial lining of the uterus) have both been treated with this medication. Additionally, impotence, bleeding piles, and sexual abnormalities are all treated with it [14]. Antispasmodic and anthelmintic drug [15]. Glycodin, a well-known remedy for the treatment of bronchitis, was made from *Adhatoda vasica* leaf extract. Additionally, it has been reported that in the Gora village of Lucknow (Uttar Pradesh, India), 70% of pregnant women use plant leaves to induce abortions [16]. Additionally, it has been discovered that the extracts are quite powerful against tuberculosis. In Indian traditional medicine, the plant’s many parts have been used to cure conditions like asthma, joint pain, lumber pain, sprains, colds, coughs, eczema, malaria, rheumatism, swelling, and sexual diseases [17-18].

2. Material & Method

For the current review, Bhaishajya kalpana texts, E-books, research journals, and dissertations were searched, and the data was collected and merged. *Vasa* is used as a primary medication as well as a major component in a variety of formulations.

3. Observation & Results

On search *vasa* formulations are found in various dosage forms either as primary medication or compound preparation as shown in Table no. 2 to 6.

3.1. Vasa swarasa

3.1.1. By Swaras method [19]

The juice, extracted from a fresh drug by pounding it and squeezing through cloth is known as *vasa swarasa*. So, it can be conducted that for the *swarasa* preparation a green drug is first made into paste from then with the help of cloth pouch is made and by applying pressure to this pouch *swarasa* can be obtained. *Vasa swarasa* taken with honey cures *raktapitta, jwara, amlapitta, kamala* and *kapha and pitta*.

<table>
<thead>
<tr>
<th>Formulation</th>
<th>Indications</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vasa rasa</td>
<td><em>Raktakapha jwara, amlapitta, kamala</em></td>
<td><em>Bhavaprakash madhyam khanda 1/ 436</em></td>
</tr>
<tr>
<td>Vasa swarasa (II)</td>
<td><em>Piitaj – kaphaj kasa, raktapitta</em></td>
<td><em>Bhaishajyaratnavali kasarogadhikara 15/21</em></td>
</tr>
</tbody>
</table>

3.1.2. By Hima method

*One kudava* (12 gm) powder of dug is soaked into two times of water and left for day and night. Then by filtering it *swarasa* can be obtained. (This method described by *Acharaya Charaka & Sharangdhar* is similar to the Hima kalpana.)

3.1.3. By Phanta method

In case of dry drug which cannot yield out any juice, the coarse powder of drug is boiled in eight times of water and reduced to a quarter which can be also used as *Swarasa*.

3.1.4. By Putapaka method [20]

Some drugs in wet and fresh form cannot produce *swarasa* by usual method then this method is applied. In this method leaves are taken and made into paste this paste is made into bolus form. Then it is wrapped by leaves of *Kashmari, vata* etc. and tied with thread and it is covered with paste of clay and the thickness should be two *angulis*. After drying it is subjected to fire till it becomes red then the bolus s taken out, after removing the paste of *godhuma* and leaves the paste of drug is collected and kept over cloth and Squeezed for obtaining *swarasa*.
3.2. Vasa Kalka
Chopping and Pounding Ingredients: Freshly collected *vasa patra*. Procedure: *Vasa kalka* prepared by chopping the freshly collected washed *vasa patra* into small pieces and then converted into *kalka* form by pounding it in Mortar & pestle.

3.3. Vasa kwath [21]
Ingredients: Freshly collected *Vasa patra* - 1 part and water - 16 parts. Procedure: It was prepared by reducing the liquid up to 1/8th of the initial quantity on mild heat following standard method of preparation and stained through a non-reacting double layered cotton cloth. Additive: honey. It is indicated in raktapitta, kshay, kasa, shleshma pitta jwara.

3.4. Vasavleha[22]
Ingredients: Freshly collected *vasa patra*.
Procedure: *Vasa swarasa* extraction; it is advised to extract *vasa swarasa* by putapaka method in classics, but obtaining enough quantity of *swarasa* by putapaka method, we can also use swedana method here.

In this method the cleaned vasa leaves are placed on the cloth tied over a wide mouthed vessel containing water. The vessel is placed over fire and heated. The water vapours act on the fibres on the leaves and loosen them. Later the leaves are taken khalva tantra and triturated to prepare kalka. This kalka is strained through a clean cloth to obtain *swarasa*.

This extracted *swarasa* in required quantity is taken in a clean stainless steel vessel. It is added with mentioned quantity of sugar and boiled over mild fire. The mixture may be filtered once through a clean cloth after sugar gets completely dissolved to get rid of dirt if present in it. Just before attaining paka lakshanas, the prescribed quantity of ghee is added and boiled further. Soon after all the paka lakshanas are attained the vessel is taken out from fire and fine powder of *pippali* is added and stirred well. After the mass turns totally cool, honey is added and homogenously stirred. The product is preserved in airtight wide mouthed containers with proper labelling for further therapeutic use. The product will be blackish confection with tikta-madhura rasa and paka gandha and indicated in Rajayakshma, kasa, severe swasa, parshvasula, hritsula, raktapitta and jwara.

**Table 3 Avleha** prepared by using Vasa as ingredient. *Vasavleha* prepared by different texts

<table>
<thead>
<tr>
<th>Formulation</th>
<th>Ingredients</th>
<th>Indications</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vasa khanda kushmanda Avleha</td>
<td>Vasa, Kusmanda, Ghrita,sugar,musta, bhargi, subha, dhatri, trisugandha, ela, shunti, dhanyaka, marich, pippali, honey</td>
<td>Kasa, shwasa, kshay, hikka, raktapitta, halimak, hridroga, amlapitta, pinasa</td>
<td>Bhaishajya ratnavali rakta pitachikisa 13/102-106.</td>
</tr>
<tr>
<td>Vasaharitakya Avleha</td>
<td>Vasa, haritaki churna, pippali churna, twak, ela, patra, naagkeshar,ghrita, madhu.</td>
<td>raktapitta, shat,kshay,kasa, shwasa,rajayakshma</td>
<td>Bharat Bhaishajya ratnakar part 4, p.625,(6787)</td>
</tr>
<tr>
<td>Vasa avleha</td>
<td>Vasa , manika, sharkara, ghrita, pippali churna,ghrita, madhu</td>
<td>Yakshma,kasa, Darun, shwasa, parsheashoola, hridshoola, raktapitta, jwara</td>
<td>Bhavprakash mandhyam khaanda 2 rajyakshmarogadhikara.</td>
</tr>
</tbody>
</table>

3.5. Vasa Granules[23]
Ingredients: Vasa swarasa,

Procedure: Vasa avleha’s granules are prepared using the general way of preparation that is stressed for khanda paka [24]. The formulation composition is similar to that of vasa avleha. Swarasa (expressed fresh juice) was extracted from leaves of vasa. Shankara of specified quantity was added to swarasa and subjected to heat maintaining temperature in between 90-100°C (mandagni) till more than two thread consistency of sugar syrup is formed. At this stage, the contents were removed from the heat source and specified amount of go-ghrita was added. When the contents were cooled down to 60-65°C, fine powder of pippali was added and continuous stirring was done. When the temperature of the contents
reached to 30-35°C. Honey was added and the contents were further stirred thoroughly to make a uniform mass. This mass was passed through 7# sieve to obtain granules, completely dried granules were stored in air tight container. Following the same procedure, total eight batches of granules were prepared by changing the proportions in the ingredients (Especially in Sugar, honey and ghee). It is indicated in kasa, shwas.

3.6. 6. Vasakasava [25]:
Ingredients: Vasa, guda, dhataki pushpa, twak, ela, tejpatra, naagkeshar, kankola, shunthi, marich, pippali.

Procedure: The specified amount of water is combined with the coarse vasa powder, and a quarter of it is then heated in a wide-mouthed kettle. Refine it. Jiggery is added to this decoction, boiled, and thoroughly blended. The other ingredients are mixed in a fine powder within a container that has been coated with ghee. The container is sealed and left for 15 days to ferment. It is filtered and kept in a clear, airtight container after the fermentation process has been verified to be complete. It is mentioned in every kind of shoth.

3.7. 7. Vasa Arishta [26]
Ingredients: Vasa, guda, dhataki pushpa, twak, ela, tejpatra, naagkeshar, kankola, shunthi, marich, pippali.

Procedure: Kwath dravya is cleaned, dried, chopped, and then crushed to create a coarse powder. Now, this powder is mixed with the specified amount of water, cooked until it is reduced to a quarter, and then filtered to create a dicoction. Decoction jiggery is then added and thoroughly blended into this. Stir in the prakshepa dravyas to get a homogeneous mixture. This decoction is then put to a clean, airtight jar, sealed, and taken to the fermentation room where it is continuously monitored until the process is finished. Following the completion of the fermentation process, the decoction is filtered and stored in dry bottles away from heat, light, and moisture. It is recommended for the treatment of a number of other respiratory illnesses, including the common cold, bronchitis, and sinusitis.

3.8. Vasa ghrit [27]
Ingredients: Plant vasa along with its roots, leaves, branches, flowers and ghee.

Procedure: Obtain 1.250 kg. Measure of plant vasa along with its roots, leaves, branches and flowers. Take water in eight times of this measurement. Decoct both of them till original quantity is reduced to a one-eighth. Put the preparation a large metallic pan and add to it 1 kg of murcchita cow ghee and 250 ml. of the kalka of plant vasa. Cook the preparation again. When the kalka is properly cooked remove out the preparation and strain it into a glass ware. It is indicated in adhomarga gata raktapitta, kasa, breathing troubles, fever, sula, gulma, enlargement of liver and spleen, heart troubles, anemia, timira, visarpa and swara bheda.

**Table 4 Ghrita prepared by Vasa as ingredient**

<table>
<thead>
<tr>
<th>Formulation</th>
<th>Ingredients</th>
<th>Indications</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vasa ghrita</td>
<td>Vasa panchang, ghrita</td>
<td>Kasa, shwasa, pratishyaya, tritiyak, chaturthik jwara, raktapitta, kshiyay, vishvikara</td>
<td>Charak chikitsa 6/5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>BR 13/124</td>
</tr>
<tr>
<td>Vasadi ghrita</td>
<td>Vasa panchang, go ghrita or ajaghrita</td>
<td>Raktavikara, urdhvaga raktapitta</td>
<td>Yog ratnakara raktapittachikitsa p.357</td>
</tr>
<tr>
<td>Vasadya ghrita</td>
<td>Vasa, guduchi, nimba twak, ashwagandha, naagbala arjun twak, pippalimula, chavya, chitrak, shunti, ajadugdha.</td>
<td>Sosha</td>
<td>Bharat Bhaisija Ratnakar part 4 p.639 (6742)</td>
</tr>
</tbody>
</table>

3.9. Vasa taila[28]
Ingredients: Vasa kalka, vasa kwath, Tiltaila.

Procedure: Take taila (4 Parts), vasa kwath (16 parts), vasa kalka (1 part) together and give it mandagni. When kwath get evaporates filter the taila.
### Table 5 Tails prepared by Vasa as ingredient

<table>
<thead>
<tr>
<th>Formulation</th>
<th>Ingredients</th>
<th>Indications</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vasarudra taila</td>
<td>Amalaki, haritaki, vibhitak, nimbatwak, kantakari, bruhati, punarnavamul, haridra, darurhidra, vasapanchang, nirgundipatra, patola, hartaal dhaturbeej, manshila, kushta, langali, dadim, apamarga, vatsanab, jayantipatra, karanj, katphala, tila taila, guduchi kwath, godughdha, vasa swarasa</td>
<td>external application (abhyanga) in Daha, kusha, dushtavarna, visarpa, vidradhi, nadivrana, vatarakta, darun shiroroga, galaganda, sleepada, arbuda, vataroga, darun antravriddhi etc.</td>
<td>Bhaishajya ratnavali kushtarogadikara 318-325.</td>
</tr>
</tbody>
</table>

3.10. Vasa guggulu: [29]

**Ingredients:** Vasa, nimba, patola, triphala, bijaka, yavasa.

Procedure: Take purified Guggulu and drava dravya in vessel. Give heat to it. After preparing the guggulu pak add other drugs to it. Make homogenous mixture of it and roll tablets of even size. It is indicated in amlapitta and predominance of kapha.

3.11. Vasa Khanda: [30]

**Ingredients:** Vasapanchang, sharkara, haritakiphala twak chuma, pippali churna, madhu, tejapatra, ela, twak, Naagkeshar, haritakichurna, madhu.

Procedure: Take vasapanchang bharad in vessel with eight times of water and reduced it upto one forth. Add sharkara to it. Make sharkara paka after attaining pakalakshana add haritaki churna and other prakshep dravya to it. Make a homogenous mixture of it. Allow it to cool down. After that madhu to it. And stored it in air tight container. It is indicated in raktapitta, urkshata, kshay, kasa, shwasa, rajayaksha.

3.12. Shivaphala pindi (Avleha kalpana): [31]

**Ingredients:** Vasa, Patha, patola, yava, candana, dhanya, dhatri, varanga, nagakeshara, kana, abhaya.

Procedure: All ingredients are taken in required quantity in a clean stainless steel vessel. It is added with mentioned quantity of sugar and boiled over mild fire. The mixture may be filtered once through a clean cloth after sugar gets completely dissolved to get rid of dirt if present in it. Just before attaining paka lakshanas, the prescribed quantity of ghee is added and boiled further. Soon after all the paka lakshanas are attained the vessel is taken out from fire and stirred well. It is equivalent to Avaleha kalpana. It is given in amlapitta, aruchi, jwara, daha, shosha.

3.13. Modaka: [32]

**Ingredients:** Vasa, shwet jeeraka, krushna jeeraka, sushavi, surabhi, vacha, saindhava, yaakshara, yavaniyaka.

Procedure: All ingredients powdered, fried with ghee, added with khandha (sugarcandy) and made into balls. This consumed according to the strength of digestive fire, relieves the woman from vaginal disease.
3.14. Vasadi vati : [33]

Ingredients: Vasapatraghana, arkamulatwak, Shuddha ahiphen, karpur, vasapatra swaras.

Procedure: Take vasapatra swaras 250 ml in stainless steel vessel, give mild fire to make Ghana. Take this Ghana in mortar and pestle, add arkamula tkw churna , Shuddha ahiphen churna, karpur churna to it. Add little water to the mixture and triturate well. After making homogenous mixture make tablet of 250 mg each. It is indicated in Urakshat, shwas, raktapitta, galaroga, raktatisaar, rajyakshma, raktapradar, 5 types of kasa, shoth, grhahani, kshay roga.

3.15. Vasadi lepa : [34]

Ingredients: Vasa patra, Shankh churna

Procedure: Take vasa patra swaras , add shanka churna in it and apply it externally to counter foul smell of body.

Table 6 Description of formulation of vasadi lepa

<table>
<thead>
<tr>
<th>Formulation</th>
<th>Ingredients</th>
<th>Indication</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vasadi lepa</td>
<td>Vasa patra, haridra churna, gomutra</td>
<td>Kacchu (kandu)</td>
<td>Bharat Bhaishajya ratnakar part 4 p.688</td>
</tr>
</tbody>
</table>

4. Discussion

One of the most important branches of Ayurveda is Bhaisajya Kalpana, which deals with drug awareness, including drug identification, procurement, processing, preparation, and application [35]. It makes the medication more palatable, durable, and potent by adding or generating special properties known as vishesh gunantardhana (sanskar), and it eliminates the toxic effects of the medication by shodhana karma [36]. It aids in the adjustment of dosha depending on the severity of the illness. It creates medications in accordance with patient and disease needs. Two factors dominate the development of various dosage forms. The first one belongs to the physician concerned and includes the immune response of the patient and severity of the disease (Atura and vyadhi bala) [37]. The second addresses issues related to medicine, such as bioavailability, palatability, dosing accuracy, long shelf life, and so forth. The Acharya in Ayurveda were adamant about the superior effects of vasa. There is no reason for patients with rakta pitta, phthisis, and kasa to be disappointed in the existence of vasa, which is the hope of life [38].

Vasa (Adhatoda vasica Linn) is a popular medicine that is readily available practically year-round. Nearly every dosage forms of vasa is discovered documented in the Ayurveda books, which is due to the fact that any drug’s ease of accessibility is becoming more and more popular among medical professionals and pharmaceutical companies. According to Acharya Charak, Vasa satisfies the requirements for Sampanna Aausadhi. On Vasa, previous study has been documented. The literature has shown that the principal components of A. vasica’s various portions, which have been primarily responsible for their diverse range of pharmacological potential, are quinazoline-based alkaloids [39]. The works of Koushika and Panini define vasa, and the other commentators refer to it as vrishaka and atarusha (Kou.Su.8/16 & P.Gr 8/2/9) [40]. Vasa is a well-known herb for treating febrile illnesses and respiratory conditions [41]. Nearly all ayurveda seers have acknowledged its significance in respiratory illnesses. It is categorically stated that it is a cure for rakta pitta, kshaya, and kasa by Sodhala and Yogaratna kara [42]. Vasa is a medicine that attracts attention due to its use in many kalpanas, and practically all of these kalpanas are available in a classic recapitulation of ancient literature that highlights the value of vasa in various formulations [43]. Vasa lozenges prepared for the pediatric group showed significant results in kasa [44].

A. vasica is a significant medicinal herb well known for its uses in numerous ancient medical systems, including Ayurveda, Siddha, and Unani, among others due to its wide range of pharmacological properties as shown in table no 1. It also demonstrates various pharmacological actions like Anti-asthmatic and bronchodilator activity [45], Anti-ulcer activity [46], Anti-allergy activity [47], Anti-tuberculcer activity [48], Abortifacient and uterotonie action [49], Insecticidal activity [50], and antibacterial activity [51]. Due to the vast spectrum of biological actions it exhibits, it may be a valuable source for the development of novel, effective therapeutic compounds. Adhatoda vasica extract has demonstrated potential as a radioprotector against medically induced mutations, which may prove to be helpful in the therapy of cancer in the future [52] with both low and high medication doses. A study was done to examine the effects of ovarian cancer on proliferative and metastatic processes [53]. Vasa is a medicine that can be used to treat covid 19 both as curative and preventive aspect [54].
5. Conclusion

Thus, the current review would be helpful in the advancement of today’s research in the development of new novel bioactive compounds derived from *Vasa* (*Adhatoda vasica linn.*) medicinal plant which would find a large number of applications in pharmaceutical and agricultural fields. Suitable dosage forms are needed for protection of the drug from destructive influences of the atmospheric oxygen or moisture, to mask bitter taste and foul odor, to provide extended drug action through controlled release mechanism. *Vasa* widely used in practice to treat various diseases. So to achieve above factors different dosage forms of *Vasa* are used. This article is an earnest attempt to find out the importance and diversified aspect of *Vasa* in various texts.

Compliance with ethical standards

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Disclosure of conflict of interest

No Conflict of interest.

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[38] Mishra siddhi nandan, Bhaishajyaratnavali, Varanasi: Chaukhambha publishers; p.745.


Authors short biography

Dr. Aditi Ravindra Shinde; PG Scholar Dept. of RS and BK, MGACHRC
- By combining academic excellence, a deep-rooted understanding Ayurveda, and a commitment to scientific inquiry, Dr. Aditi R. Shinde aspires to make significant contributions to the field of Research in Ayurveda [Evidence based Medicine].
- She has actively engaged with the scientific community, publishing research papers in peer-reviewed journals such as [JPRI] focusing on topics related to Ayurveda.
- Currently working on Thesis project Development of Nutraceutical in Ayurveda i.e. Polyherbal compound for muscle gain in Gym going healthy volunteers.
- Working on Preparation and standardization of herbal formulations as well as Cosmetic Preparations.
- Believes in the Ayurvedic route to great health which involves two steps: 1. Doing less 2. Being more.