

THERAPEUTIC APPROACH TO VYANGA THROUGH EXTERNAL APPLICATIONS: A CLASSICAL AYURVEDA REVIEW

Dr. Sunita Kanwar^{*1}, Dr. Krutika Chaudhary², Dr. Divya Nagar³ and Dr. Bhanu Priya⁴

^{1,3,4}PG Scholar, Deptt of Dravyaguna, National Institute of Ayurveda, DU, Jaipur.

²Senior Assistant Professor, Deptt of Dravyaguna, National Institute of Ayurveda, DU, Jaipur.

Article Received: 19 August 2025 | Article Revised: 9 September 2025 | Article Accepted: 29 September 2025

***Corresponding Author: Dr. Sunita Kanwar**

PG Scholar, Deptt of Dravyaguna, National Institute of Ayurveda, DU, Jaipur.

DOI: <https://doi.org/10.5281/zenodo.17255203>

How to cite this Article: Dr. Sunita Kanwar, Dr. Krutika Chaudhary, Dr. Divya Nagar and Dr. Bhanu Priya (2025) THERAPEUTIC APPROACH TO VYANGA THROUGH EXTERNAL APPLICATIONS: A CLASSICAL AYURVEDA REVIEW. World Journal of Pharmaceutical Science and Research, 4(5), 256-262. <https://doi.org/10.5281/zenodo.17255203>



Copyright © 2025 Dr. Sunita Kanwar | World Journal of Pharmaceutical Science and Research.

This work is licensed under creative Commons Attribution-NonCommercial 4.0 International license (CC BY-NC 4.0).

ABSTRACT

Introduction: *Vyanga* (Melasma) is described under *Kshudraroga*, has clinical feature of hyperpigmented patches over face and neck regions due to various causative factors. In the treatment of *vyanga*, *Acharya* particularly emphasized external applications along with internal medications. There is a need of hour to explore and analyze the treatment strategies for *Vyanga* as mentioned in the various *Ayurveda* texts—examining their components, logical reasoning, underlying principles, mode of action, and factual basis for the treatment protocols. **Methods:** The references from classical Ayurvedic texts—including *Bhaishajya Ratnavali*, *Chakradutta*, *Vangasena*, *Gadanigraha*, *Yogaratanakara*, *Sharnagadhara Samhita*, and *Bhavaprakasha Nighantu* to enlist and analyze external formulations recommended for *Vyanga* management. **Result:** The formulations mentioned in form of *Lepa*, *Taila*, and *Ghrita* from texts are identified and highlighted the drugs that appeared repeatedly across these categories. **Discussion:** *Manjishtha*, *Kushtha*, *Lodhra*, etc drugs are repeatedly used in the formulations which are characterized by predominant *Madhura*, *Tikta*, and *Kashaya Rasa*, along with *Guru*, *Ruksha*, *Snigdha*, or *Laghu guna*. Most feature *Sheeta* or *Ushna Veerya* and possess therapeutic actions like *Varnya*, *Kushtaghna*, *Rakta Shodhak* and *Twak Prasadana*. When applied externally, these drugs were active principles penetrate the skin via the *Tiryak gata Dhamani* after contacting the *Romakupa* undergo metabolic transformation by *Bhrajaka Pitta* in the skin, and assimilate more effectively to promote complexion. External therapies are generally perceived as safer, with minimal systemic side effects compared to internal medications. This is especially important when treating facial skin. **Conclusion:** *Vyanga* treatment mainly focused on external applications in *Vyanga* due to the localized nature of the disorder, the targeted and safe action of applications like *Lepa*, *Taila*, *Ghrita* and the historical precedence set by classical texts. This approach aligns with both the pathophysiology of *Vyanga* and patient-centric considerations, making external therapies the preferred initial line of management.

KEYWORDS: *Vyanga*, External Application, Hyperpigmentation, Melasma.

INTRODUCTION

Beauty of a person is assessed by the complexion and texture of the skin to a great extent. Due to change in life style, diets and atmosphere, dermatological problems are on high. It may cause changes in the complexion and skin texture and bring the social stigma. Now a days, peoples getting more focused on Ayurveda system by using the beauty products and concerns for the cosmetic purpose too.^[1] The normal color of skin in human is largely due to presence of melanin, a pigment responsible for the color of our skin, hair and eyes, produced by cells called melanocytes.

Some skin disorders which primarily affects the melanin synthesis and distribution. Melasma is the most common amongst that. Melasma is a chronic, acquired cutaneous, hypermelanosis characterized by hyperpigmented patches on sun-exposed areas of the face, neck, and forearms. Exposure to ultraviolet (UV) radiation is believed to be the leading factor in its development. Several contributory factors—including hormonal imbalances, genetic predisposition, thyroid dysfunction, autoimmune factors, photosensitizing medications or cosmetics, and inflammatory dermatoses or cosmetic interventions that compromise the skin barrier integrity—also play a significant role in the pathogenesis.^[2]

In *Ayurveda*, melasma commonly considered with *Vyanga*, which is described under *Kshudraroga* because of resemblance of its clinical features. *Vyanga*, characterized by painless, thin, bluish-black patches on the face. Its pathogenesis involves the vitiation of *Vata* and *Pitta Dosha*, particularly affecting the *Rakta Dhatu* and *Bhrajaka Pitta*. Psychological factors such as anger, grief, and exhaustion are also recognized as contributing factors.^[3] These aggravated *Dosha* disturb *Udana Vata*, which, along with *Ranjaka Pitta* and *Rakta Dhatu*, travels via *Dhamani* and localizes in the facial skin, disturbing *Bhrajakapitta*. In the treatment of *Vyanga*, *Acharya* particularly emphasized external applications over internal medications in various Ayurveda texts.

This raises some question that what is the rationale behind this approach, and why are local or topical treatments such as *Lepa* and *Sneha* considered so significant in *vyanga*. There is a pressing need to analyze the treatment strategies for *Vyanga* as mentioned in the various Ayurveda texts—examining their components, logical reasoning, underlying principles, mode of action, and factual basis for the treatment protocols. In this article, we have attempted to find the answer for the above statements.

MATERIAL AND METHODS

In the present article, classical Ayurvedic compendia including *Bhaishajya Ratnavali*, *Chakradutta*, *Vangasena*, *Gadanigraha*, *Yogaratanakara*, *Sharnagadhara Samhita* and *Bhavaprakash Nighantu* were reviewed to enlist the formulations specifically recommended for the management of *Vyanga*. External application remedies were compiled and the constituent herbs and drugs were tabulated to identify those repeatedly utilized across texts in the therapeutic context of *Vyanga Chikitsa*.

Additionally, online literature was consulted to assess the rationale behind external therapeutic interventions. The probable pharmacological actions (*Karma*) and physicochemical properties (*Guna*, *Rasa*, *Virya*, *Vipaka*) of the frequently mentioned herbs were analyzed to understand their relevance in treating *Vyanga*. This integrative approach supports the development of diversified treatment modalities and offers new perspectives for effective clinical management.

RESULTS

From the review of various *Ayurveda* texts, we have observed that total 28 formulations mentioned as *Lepa*, 12 formulations were *Tail / Ghrit* and 15 formulations not mentioned in particular form of usage. Most of the drugs were herbs including roots, fruits and whole plant, pulses, butter.

Tabl 1: showing various formulations mentioned as *Lepa* exclusively (Sa.U.- *Sharngadhara Samhita* , B.R.– *Bhaishajya Ratnavali*, C.D.- *Chakradutta*, V.S. – *Vangasena*, G.N.- *Gadanigraha*).

S.no	Formulations	Ingredients	Reference
1.	<i>Raktachandanadi Lepa</i>	<i>Raktachandan, Manjishtha, Lodhra, Kushtha etc.</i>	<i>Sa.U.11/9</i>
2.	<i>Matulungadi Lepa</i>	<i>Matulungajata, sarpi, Shila, Goshakrita rasa</i>	<i>Sa.U.11/10</i>
3.	<i>Siddharthakadi Lepa</i>	<i>Sarso, Vacha, Lodhra, Saindhav</i>	<i>Sa.U.11/12</i>
4.	<i>Ashwakhuramasi Lepa</i>	<i>Ashwakhuramasi, Navneeta, Arkasheera, Haridra etc.</i>	<i>Sa.U.11/13</i>
5.	<i>Vatapatradi Lepa</i>	<i>Vatatankurapatra, Malti, Raktachandan, Kushtha etc.</i>	<i>Sa.U.11/14-15</i>
6.	<i>Jatiphala Lepa</i>	<i>Jatiphalakalka</i>	<i>C.D.55/55-50</i>
7.	<i>Vyangahara Lepa</i>	<i>Arjuna twak, Manjishtha, shevatghodeke khor ki massi Shashrudhira lepa</i>	<i>B.R 40-41</i>
8.	<i>Mukhakantivardhak Lepa 1</i>	<i>Raktachandan Manjishtha, Kushtha, Lodhra etc.</i>	<i>B.R 42</i>
9.	<i>Mukhakantivardhak Lepa 2</i>	<i>Shalmali kantanak, Pay</i>	<i>B.R.43</i>
10.	<i>Mukhakantivardhak Lepa 3</i>	<i>Masura, Pay, Sarpi</i>	<i>B.R.44</i>
11.	<i>Mukhakantivardhak Lepa 4</i>	<i>Kaliyaka, Utpala, Dadhisara, Kushtha etc.</i>	<i>B.R.45</i>
12.	<i>Mukhakantivardhak Lepa 5</i>	<i>Yavachurna, Yashtimadhu, Lodhra etc.</i>	<i>B.R 46</i>
13.	<i>Mukhakantivardhak Lepa 6</i>	<i>Sarshap, Haridradwaya, Manjishtha, Gairika, etc.</i>	<i>B.R 47</i>
14.	<i>Mukhakantivardhak Lepa 7</i>	<i>Dadhi, Sharpunkha, Kushtha, Chandan, Ushira, etc</i>	<i>B.R.48</i>
15.	<i>Vyangahara Lepa</i>	<i>Navneeta, Guda, Shodra, Kolmajja etc.</i>	<i>B.R.50</i>
16.	<i>Neeli-vyanghara Lepa</i>	<i>Jatiphalakalka</i>	<i>B.R. 51</i>
17.	<i>Mukh-kashyarnhar Lepa</i>	<i>arkasheera, Haridra</i>	<i>B.R. 52</i>
18.	<i>Vyangahara Lepa</i>	<i>Arjuna twak, Manjishtha, Makshika</i>	<i>C.D.55/44</i>
19.	<i>Vyangahara Lepa</i>	<i>Ashwakhuramasi, Navneeta</i>	<i>C.D.55/44</i>
20.	<i>Mukhakantikara Lepa</i>	<i>RaktachandanManjishtha, Kushtha, Lodhra etc.</i>	<i>C.D.55/45</i>
21.	<i>Shalmali kantankadi Lepa</i>	<i>Shalmali kantanak, Payas</i>	<i>C.D.55/46</i>
22.	<i>Mukhasaundarya Lepa</i>	<i>Masura, Payas, Sarpi</i>	<i>C.D.55/47</i>
23.	<i>Mukhakantikara Lepa</i>	<i>Matulungajata, Manshila, Sarpi, Goshakritarasa etc.</i>	<i>C.D.55/48</i>
24.	<i>Vyanga hara Lepa</i>	<i>Navneeta, Guda, Shodra, Kolmajja etc.</i>	<i>C.D.55/49</i>
25.	<i>Mukhasaundarya Lepa</i>	<i>Kaliyaka, Utpala, Dadhisara, Kushtha etc.</i>	<i>C.D.55/51</i>
26.	<i>Mukhasaundarya Lepa</i>	<i>Yavachurna, Yashtimadhu, Lodhra etc.</i>	<i>C.D.55/52</i>
27.	<i>Mukhasaundarya Lepa</i>	<i>Sarshap, Haridradwaya, Manjishtha, Gairika etc.</i>	<i>C.D.55/53</i>
28.	<i>Mukhasaundarya Lepa</i>	<i>Dadhi, Sharpunkha, Kushtha, Chandan, Ushiraetc</i>	<i>C.D.55/55</i>

Table-2: Showing various formulations mentioned in form of Taila / Ghrita.

S.no	Tail / Ghrita	Ingredients	Reference
1.	Haridradya Taila	Haridradwaya, Yashti, Kaliyaka, Kuchandan etc.	C.D.55/57
2.	Kanak Taila	Madhuka, Priyangu, Manjishtha, Chandan etc.	C.D.55/58-59
3.	Manjishthadyam Taila	Manjishtha, Madhuka, Laksha, Matulunga etc.	C.D.55/60-62
4.	Pratham Kumkumadya Tail	Kumkum, Manjishtha, Chandan, Laksha etc,	
5.	Dvitiya Kumkumadya Tail	Kumkum, Manjishtha, Chandan, Laksha etc	C.D.55/69-71
6.	Tratiya Kumkumadya Tail	Kumkum, Kinshuka, Laksha, Manjishtha etc.	C.D.55/72-76
7.	Katu Tail	Sarshap	C.D.55/55-50
8.	Haridradyam Taila	Haridradwaya, Yashti, Kaliyaka, Kuchandan etc.	V.S. /63-65
9.	Manjishthadya Tail	Manjishtha, Keshara, Laksha, Sarshap etc.	V.S. /66-69
10.	Kanaka Tail	Madhuka, Priyangu, Manjishtha, Chandan etc.	V.S. /70-71
11.	Kaumkumadyam Tail	Kumkum, Chandan, Ushira, Utala etc.	V.S. /72-76
12.	Varnak Ghrita	Madhuka, Chandan, Kangu, Sarshap etc.	C.D.55/77-79

Table 3: Showing various formulations were mentioned (without its method of usage).

S.no	Contents	Reference
1.	Ashwakhuramasi, Navneeta	G.N.94
2.	Raktachandan, Manjishtha, Kushtha, Lodhra, Etc	G.N.95
3.	Shashrudhira Lepa	G.N.96
4.	Shalmali Kantak, Payas	G.N.96
5.	Masura, Pay, Sarpi	G.N.97
6.	Jatiphalakalka	G.N.98
7.	Ingudiphalsheetaljal	G.N.99
8.	Krishan Tila, Magr Ela Swet Jirak, Syahijirak, Sidharthak, Paya	G.N.100
9.	Navneeta, Guda, Shodra, Kolmajja Etc.	G.N.101
10.	Arani Tavkajadugdh	G.N.101
11.	Yavachurna, Yashtimadhu, Lodhra Etc.	G.N.102
12.	Vatapatr, Dhatura, Piriyaugu, Madhuk, Lodhr, Keshar, Laksha	G.N.103
13.	Priyangu, Chandan, Koalmaja, Hribar, Keshar	G.N. 104
14.	Patrag ,Mirnal Padamak, Kuth, Koalashti-Majaa, Tvak, Dalchini	G.N. 105
15.	Maliyaj, Kukum, Daruhaaridra, Kaliyak, Piriyaugu, Kasturi, Madhuk	G.N. 107

DISCUSSION

From the above results, it is analyzed that few notable drugs were repeated and recommended for Vyanga. Those drugs have been tabulated here.

Table 4: Showing list of drugs were repeated in the formulations of external application.

S.no	Dravya	Number of times repeated
1.	Manjishtha	19
2.	Kushtha	12
3.	Lodhra	11
4.	Raktachandan	7
5.	Yashtimadhu	6
6.	Kumkum	4

7.	<i>Navneet</i>	4
8.	<i>Arjuna twak</i>	4
9.	<i>Madhuk</i>	4
10.	<i>Lakhsha</i>	3
11.	<i>Shalmali</i>	3
12.	<i>Masoor</i>	3
13.	<i>Matulunga</i>	3
14.	<i>Haridra</i>	2

Table 5: showing the list of drugs repeated in treatment of vyanga as external application with it properties and effects.

S.no	Drugs	Rasa-panchak	Effects
1	<i>Manjishtha (Rubia cordifolia)</i> ^[4]	Tikta, Madhura,	Kushtaghna, Vyanga, Kushtaghna, Rakta shodhak, Varnya
2	<i>Kushtha (Saussurea lappa)</i> ^[5]	Tikta-Katu, madhura Rasa, Ushna Veerya, Laghu guna, Kushtaghna, Varnya, Rakta shodhak	Kushtaghna, Varnya, Rakta shodhak
3	<i>Lodhra (Symplocos racemos)</i> ^[6]	Kashaya Rasa, Sheeta Veerya	Ropana, Rakta and Pitta hara
4	<i>Raktachandan (Pterocarpus santalinus)</i> ^[7]	Madhura, Tikta, Sheeta Veerya	Varnya Chedana, Raktaprasadana
5	<i>Kumkum (Crocus sativus / Saffron)</i> ^[8]	Snigdha guna, Tikta and Katu rasa, Sheeta Veerya	Varnya, Rakta prasadana varnya vyanga dosha trayapaham
6	<i>Navneet (Butter)</i> ^[9]	Madhura Rasa, Snigdha, Sheetala	Sangrahi, Vata-Pitta hara, Varna bala agni krit.
7	<i>Arjuna twak (Terminalia arjuna bark)</i> ^[10]	Kashaya Rasa, Laghu and Ruksha guna, Sheeta Veerya	kapha and Pitta-shamaka, Rakta-dosha hara
8	<i>Yastimadhu (Glycyrrhiza glabra / Licorice)</i> ^[11]	Madhura Rasa, Snigdha guna, Sheeta Veerya	Varnya, Twak prasadana
9	<i>Madhuka (Madhuka indica)</i> ^[12]	Madhura rasa, Sheeta virya, Guru guna, Madhura vipaka	Varna bala agni krit
10	<i>Lakhsha (Lacciferlacca / shellac)</i> ^[13]	Tikta Rasa, Snigdha guna, Anushna guna,	Ropana, Varnya. Anushna, Visheshat Vyanga Nashana
11	<i>Shalmali (Bombax ceiba)</i> ^[14]	Madhura Rasa, Sheeta Veerya	Rakta pitta hara
12	<i>Masoor (Lens culinaris / lentil)</i> ^[15]	Madhura Rasa, sheeta virya, Madhura vipaka.	Grahi, Varnya
13	<i>Matulunga (Citrus medica / citron)</i> ^[16]	Amla Rasa, Laghu, Ruksha guna,	Varnya
14	<i>Haridra (Curcuma longa / Turmeric)</i> ^[17]	Tikta, Katu Rasa, Ushna Veerya, Varnya	Shothahara, Kushtaghna, tvak dosha hara

Probable mode of action

Majority of the drugs are mentioned in the management of Vyanga as the external applications are *Madhura*, *Tikta*, *Kashaya Rasa* in Nature, *Ruksha* and *Sheeta Guna* in Nature, *Sheeta virya* as well are *Madhuravipaka* or *Katuvipaka* and *Pitta*, *Rakta* hara in nature. Thus it can able to reduce the *Ragata* (colour) over the skin.

Snigdha Guna is responsible for *Mardava* and *Varna Prasadana* whereas *Laghu*, *Ruksha* are the properties of *Agneya Dravya*, which in turn are responsible for *Prabha*, *Prakasa* and *Varna*.

While explaining the direction for application of *Lepa*, it is said that the active principles of the drug enter through the *Tiryak gata dhamani*.^[18] Hence after the entry of the drug by virtue of *Virya*, it enters the circulation.

Even though these drugs are *Ruksha* in nature, while administering over skin, it is generally recommend along with any *Snehapadartha* like *Ghritha*, *Navaneeta*, because these are basically *Pitta shamaka* in nature. On topical application, *Lepa* comes into contact with *Roma* and *Romakupa*, which connect with *Tiryak Gata Dhamani*.^[19]

Following initial contact, the externally applied drug undergoes *Paka*—a metabolic transformation through *Bhrajaka Agni* and *Rasa Dhatwagni* within the skin (*Twacha*). This transformation is catalyzed by the *Ushna Guna* of *Bhrajaka Pitta*, allowing effective assimilation of the active ingredients. The associated *Ushma* in *Lasika*, *Rasa*, *Rakta* and *Twacha* maintains fluidity (*Dravatva*) in circulating elements and contributes significantly to *Varṇa Utkarsha*.^[20]

Rationale for Emphasis on External Applications

External applications allow for direct, localized action on the affected area, targeting the visible discoloration and restoring normal skin color and tone.^[21] The herbs used in external applications are selected for their *RaktaPrasadaka* (blood purifying), *Twachya* (skin nourishing), and *Varnya* (complexion-enhancing) properties. These qualities help pacify the aggravated doshas at the site of pathology and promote skin healing.^[22] External therapies are generally perceived as safer, with minimal systemic side effects compared to internal medications. It may be the reason that not even a single internal medicines were indicated from the above referred texts. This is especially important when treating facial skin, where adverse reactions are highly visible and can impact patient confidence.^[23] Ayurveda texts, prioritize external treatments such as *Lepa*, *Abhyanga* (massage) for *Vyanga*, reserving internal therapies for more severe or systemic involvement.^[24]

CONCLUSION

As per *Ayurveda*, *Vyanga* is the disease mentioned in *Kshudra Rogadhikara*. It is the most common disease being noticed now a days affecting one's quality of life. *Acharya* have mainly focused on external applications in *Vyanga* due to the localized nature of the disorder, the targeted and safe action of *Lepa* and the historical precedence set by classical texts. This approach aligns with both the pathophysiology of *Vyanga* and patient-centric considerations, making external therapies the preferred initial line of management.

The Ayurvedic management of *Vyanga* are primarily focused on *Lepa*, *Snehana* like topical applications are emphasized as the primary line of treatment. This approach is supported extensively in Ayurvedic classical texts including *Bhaishajya Ratnavali*, *Chakradutta*, *Vangasena*, *Gadanigraha*, *Yogaratanakara*, *Sharngadhara Samhita*, and *Bhavaprakash Nighantu*, where external therapies are predominant, with no reference to internal medications. The repetition of key herbs such as *Manjishta*, *Kushtha*, *Lodhra*, *Raktachandan* and *Madhuka* across multiple texts underscores their recognized efficacy in treating *Vyanga*. These herbs share common properties: *Varnya*, *Kushtaghna*, *Rakta-Prasadaka*, *Tikta/Kashaya Rasa*, *Sheeta Virya* and *Pitta-Vata Shamaka*. These attributes allow them to act directly at the site of manifestation, reducing hyperpigmentation and restoring natural skin colour and tone.

The pharmacodynamic rationale of *Lepa* lies in a three-phase mechanism: Dermal absorption through *Sira Mukhas* (openings such as hair follicles and sweat ducts), Metabolic transformation via *Bhrajaka Pitta* and *Dhatwagni* in the skin, Nutritional restoration through *Rasa Dhatu Tarpana*, assisted by like *Udana* and *Vyanavata*. These facts validates classical wisdom but also offers a scientifically coherent framework for the management of *Vyanga*, reinforcing the primacy of external applications in Ayurvedic dermatology.

REFERENCES

1. Education-Vocal Media. Why humans give importance to beauty. 2023. Available from: <https://www.indianchemistry.com/2025/06/understanding-skin-pigmentation.html>.
2. Lyford WH. Melasma: Background, Pathophysiology, Etiology [Internet]. Medscape; 2020 Apr 26 [cited 2025 Aug 1]. Available from: <https://emedicine.medscape.com/article/1068640-overview?form=fpf>
3. Charaka. Charaka Samhita, Sutrasthana. Chapter 18, Verse 25. Edited by Acharya YT. Varanasi: Chaukhambha Surbharati Prakashan; 2017.
4. Prof. Krishna Chandra chunekar, Bhavprakash Nighantu – haritakyadi varga, Page no. 107.
5. Prof. Krishna Chandra chunekar, Bhavprakash Nighantu – haritakyadi varga, Page no. 87.
6. Prof. Krishna Chandra chunekar, Bhavprakash Nighantu – haritakyadi varga, Page no. 124.
7. Prof. Krishna Chandra chunekar, Bhavprakash Nighantu – Karpuradi varga, Page no. 178.
8. Prof. Krishna Chandra chunekar, Bhavprakash Nighantu – Karpuradi varga, Page no. 222.
9. Prof. Krishna Chandra chunekar, Bhavprakash Nighantu – Ksheera varga, Page no. 757.
10. Prof. Krishna Chandra chunekar, Bhavprakash Nighantu – Vatadi varga, Page no. 511.
11. Prof. Krishna Chandra chunekar, Bhavprakash Nighantu – haritakyadi varga, Page no. 62.
12. Prof. Krishna Chandra chunekar, Bhavprakash Nighantu – Amradi varga, Page no. 567.
13. Prof. Krishna Chandra chunekar, Bhavprakash Nighantu – haritakyadi varga, Page no. 110.
14. Prof. Krishna Chandra chunekar, Bhavprakash Nighantu – Vatadi varga, Page no. 525.
15. Prof. Krishna Chandra chunekar, Bhavprakash Nighantu – Dhanya varga, Page no. 634.
16. Prof. Krishna Chandra chunekar, Bhavprakash Nighantu – Amradi phala varga, Page no. 581.
17. Prof. Krishna Chandra chunekar, Bhavprakash Nighantu – haritakyadi varga, Page no.111.
18. AYU (An International Quarterly Journal of Research in Ayurveda) 44(4): 128-132, Oct-Dec 2023. | DOI: 10.4103/ayu.ayu_71_2.
19. Acharya YT, editor. *Suśruta Samhitā*, Sharira Sthana; Ch.9, Verse 9. 8th ed. Varanasi: Chaukhamba Orientalia; 2005. p. 385.
20. Hirlekar PS, editor. *Shareera Tatva Darshana* of Purushottama Sharma. Amravati: Saraswati Mudranalaya; 1942. p. 243.
21. Management of Vyanga (facial melanosis) with Arjuna Twak Lepa. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC42139/>.
22. Review on Vyanga vis-à-vis Melasma [Internet]. Available from: <https://jaims.in/jaims/article/download/1260/1287>.
23. Herbal formulations as Lepa (external application) in Vyanga. Available, 2021. from: <https://ijapr.in/index.php/ijapr/article/view/>.
24. A comprehensive analysis of Vyanga (melasma): An Ayurvedic and modern review. Available from: <https://ijnrd.org/papers/IJNRD2408420.pdf>.