



Ayurvedic perspective of Dushtavrana (~Non-Healing Ulcer) and its Management: A Case Report

K. Gnaneshwari,^{1*} V. Kumar,² Ch. Ramadevi³

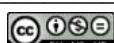
¹Assistant Professor, ²PG Scholar, ³Professor & HOD, Dept. of Ayurveda Samhita & Siddhanta), Dr. B.R.K.R Govt. Ayurvedic College, Erragadda, Hyderabad, India.

ABSTRACT:

The word *Vrana* refers to that “*vraṇa gātravicūrṇanē, vrāṇyatīti vrāṇah*” destruction or damage of the tissue of body part is termed as *Vrana*. It is produced commonly as a complication of *Abhigata* (Injury) and *Vikriti* of *Dosha*, *Dushyas*, and it causes long term suffering to the patient. *Dushtavrana* is a chronic wound (~Non-Healing Ulcer) and it is a frequently facing problem in general clinical practice. In *Ayurveda* many number of *Vrana Shodhana*(Wound cleansing) and *Ropana*(Healing) drugs are mentioned by our ancient Seers. Keeping the above challenge in view *Aragwadha+Karanja+Babool twak Kashaya*(Decoction) has been selected from the list of drugs for Externally cleansing the wound and Internal administration 20ml OD, these drugs possessing *Vrana Shodhana* and *Ropana* properties in *Jathyadi taila*. *Panchatikta Ghrita Guggulu* and *Gandhaka Rasayana* was given as Internal medication. The study was conducted in the OPD of Dr. B.R.K.R. Government Ayurvedic Hospital, Hyderabad and it has given promising results. As the drugs are easily available around and cost effective, this study will be definitely helpful for treating *Dushtavrana*(~Non-Healing Ulcer) successfully. The present study with photographic evidences will give a ray of hope for the young research workers to conduct clinical trials in large number of cases so as to give authenticity for the present study.

KEY WORDS: *Dushtavrana*, Non-Healing Ulcer, *Vrana Ropana*, *Vrana Shodhana*.

Received: 24.01.2025 Revised: 11.02.2025 Accepted: 25.02.2025 Published: 10.03.2025



[Creative Commons Attribution-Non-Commercial-No Derivatives 4.0 International License](#)

© 2025 International Journal of AYUSH Case Reports | Published by Tanaya Publication, Jamnagar.

Quick Response Code



*Corresponding Author:

Dr. K. Gnaneshwari

Email: bkgnaneshwari.k@gmail.com

DOI: <https://doi.org/10.70805/ija-care.v9i1.691>

Link: <https://ijacare.in/index.php/ijacare/article/view/691>

INTRODUCTION:

The word *Vrana* refers to that “*vraṇa gātravicūrṇanē, vrāṇyatīti vrāṇah*” destruction or damage of the tissue of body part is termed as *Vrana*^[1]. It is produced

commonly as a complication of *Abhigata* and *Vikriti* of *Dosha*, *Dushyas*, [pathological condition] and it causes long term suffering to the patient. *Susrutha* in *Vranasravaravijnaneeyaa Adhyaya* gives

explanation about *Dushtavrana* as - “*dusṭasōniṭāśrāvī dīrghakālānubandhī cēti duṣṭavr aṇaliṅgāṇī*”^[2]. *Dushtavrana* is a Chronic Wound [Non-Healing Ulcer] and it is a frequently facing problem in general clinical practice. Las Heras in 2020 reported the prevalence of Acute and Chronic Wounds as 10.55 and 4.48 respectively per 1000 of the population^[3]. The most encountered chronic wounds are the lower extremities ulcer: these are mostly 98% of all generally are Vascular or Diabetic in nature^[4]. Patients, medical staff, and the healthcare system as a whole bear a heavy weight from Chronic Wounds. These wounds are difficult to treat and hard to heal the required time span of chronicity is upto 3 months^[5]. Non-Healing Ulcer management is a challenge for any medical system. In *Ayurveda* many a number of *Vrana Shodhana* and *Ropana* drugs are mentioned by our ancient seer. Keeping the above challenge in view *Aragwadha+Karanja+Babool twak Kashaya* has been selected from the list of drugs for external cleansing the wound and internal administration 20ml OD these drugs possessing *Vrana Shodhana* and *Ropana* properties of *Jathyadi taila*. *Panchatikta Ghrita Guggulu* and *Gandhaka Rasayan* was also given as internal medication.

CASE HISTORY:

A 20year old female unmarried patient came with one of known relative to our OPD, Room no. 4 of Dr. B.R.K.R. Government Ayurvedic college & Hospital, Hyderabad with the Chief Complaints of wound at left lower foot that is below the big toe of foot from the last 8 months.

Past history -

Hit by sharp stone, while working in the fields. No other ailments except nutritional deficiency patient looking dull and tired. Patient has taken allopathic medication such

as Antibiotic (Amoxycillin + Clavulanic Acid), Analgesic (Aceflofenac + Serratiopeptidase) and PPI(Pantaprazole) was continued for 15days but seems no progress in wound further stopped all medication.

On examination; wound is 2-2 cm length - Breath and 1cm width deep it is located at under the left foot(big toe) area. Irregular and elevated edges with pale margin, moderate mucopurulent discharge and slight foul smell.

No any known case of diabetes mellitus, hypertension, thyroid dysfunction and bronchial asthma / other systemic disorder.

Family History - Everyone in the family is reportedly in good health.

Personal History -

- **Diet** - *Madhura, Seetha-Ahaara, ruksh- Aahaar*. **Appetite** – Good. **Sleep** – 5-6 hours at night, sound sleep. **Micturition** - four to five times a day and once at night. **Bowel** - once daily, Regular. **Habits** - Nil. **Built** – Moderate. **L.M.P.** - 9th May 2024.

Local Examination - On Inspection

- **Size:** ~2cm in length, ~2cm in breadth, 1cm in depth. **Shape:** Irregular. **Number:** 1. **Position:** Plantar surface of big toe left foot. **Discharge:** mild present intermittently. **Surrounding area:** Redness absent. **Colour:** Pale Granulation. **Distribution:** Localized. **Morphology:** Monomorphic. **Tenderness:** Present. **Sensation:** Intact. **Reducibility:** Irreducible. **Compressibility:** Non compressible. **Bleed on touch:** Absent. **Consistency:** Soft to Hard. **Surface:** Rough. **Temperature:** Not raised.

Samprathi Vichar:

Ahara - *Madhura, Seetha & Ruksha Ahara*

Vihar - Cold bath, Travelling, *Aghat*

Dosha - *Pitta & Kaphaj Dushti at Twachadi*

Dushya - *Rasa, Rakhta, Mamsa dbatu vaishamya*

Vyadhi - *Vrana utpathi(Dushtavrana)*

TIMELINE:

The table no.1: Represents the timeline of the occurrence of events in the present case study. It represents all the events along with the previous treatment taken by the patient.

Table no. 2: Gives details about medicines *Panchatikta Gritha Guggulu*^[9], *Gandhaka Rasayan*^[10] and *Jathyadi Tailam*^[11].

Table no. 3: Describes treatment procedure followed with Timeline(Procedure, Drug, Dose and Duration).

Table no. 4: Describes *Shamana Aushadhi* given to patient with Timeline(*Dravya, Matra, Kala, Anupana, Duration*)

Table no. 5: Assessment Criteria of Wound Healing useful during treatment for Grading.

Table no. 6: Wound healing Gradation(weekly) according to assessment criteria

THERAPEUTIC INTERVENTION:

For this study Treatment plan was done in the form of External and Internal medication.

Externally: For *Vrana Shodhana* (Wound Cleansing) *Prakshalana* with (*Aragwadha*^[6], *Baboola*^[7], *Karanja twak*^[8] *Kashaya*), and followed by the *Jathyadi Taila Lepana*(External Application) - which is prepared by self - according to *Sharangdhara Samhitha*.

Internally:

1. *Panchatikta Gritha Guggulu* 2-0-2
2. *Gandhaka Rasayan* 1-0-1
3. *Kashaya of Aragwadha + Babool + Karanja twak kashaya (Kashaya prepared daily)20ml-0-20ml.* Method of Preparation – Each Ingredient taken 10gms *Kwath Choorna* form added 8times i.e (240ml) water and heat the water to evaporate and till remain 60 ml as *Kashaya*.

Therapeutic focus and assessments:

Dushtavrana(Non-Healing Wound) care plan includes A. *Shodhana Karma* and B. *Shamana Aushadhi*.

Shodhana Karma – Externally:

- *Lekhana Karma* & Wound Wash(*Prakshalana*) –
- *Aragwadha, Baboola, Karanja twak Kashaya*,

Table-1: Timeline: Represents the occurrence of events:

14 Oct 2023	Patient had injury while walking pressured to sharp stone. Difficulty in stepping and walking.
16 Oct 2023	Increased Pain & Swelling in Rt. Toe, Injection Tetanus toxiod and Antibiotic (Amoxycillin + Clavulanic Acid) medicines was taken for 5days
22 Oct 2023	Discolouration of wound was seen increasing. Mild serous discharge oozing intermittently
02 Nov 2023	treatment by Allopathic medication Antibiotic (Amoxycillin + Clavulanic Acid) , Analgesic (Aceflofenac + Serratiopeptidase) and PPI(Pantaprazole) was continued for 15days but seems no progress in wound further stopped all medication
17 May 2024	Consulted in Ayurvedic OPD attained at Dr. B. R. K. R. Government Ayurvedic College & Hospital, Hyderabad. c/o Swelling, Pain and Wound

	with Mild Mucopurulent Discharge. Investigations advice CBP, BSL F & PP, CRP, LFT & RFT.
2023 - 2024	Detailed history was taken, explained about line of treatment of <i>Shodhana</i> & <i>Shamana Chikitsa</i> . Consent was taken and started treatment as prescribed.
24 May 2024	Patient came for f/u after 1 week some changes seen in Wound Discharge decreased and Pain reduced while walking. Image taken.
31 May 2024	Patient came for f/u again after 1 week some changes seen in Wound Discharge decreased, Pain reduced completely and Colour of Wound turned to Pink Granulation. Image taken.
07 June 2024	Patient came for f/u again after 1 week no Discharge and Pain reduced completely and wound covered with good granulation tissue, <i>Vrana Prakshanam</i> (Wound Wash) stopped and dressing continued. Image taken.
Till 15 June 2024	Pt. was on continue Ayurvedic Treatment for Wound got substantial betterment and healed completely. Image taken. Advice patient to stop all medicines as till stock last.

Table-2: Giving Details of *Kalpa* Reference, Ingredients and Indication.

<i>Kalpa</i> & Reference	Ingredients	Indication
<i>Panchatikta Gritam</i> <i>Guggulu</i> <i>(Ashtanga Hridayam chikitsa sthana 21/60)</i>	<i>Nimba (Azadirachta indica)</i> , <i>Patola (Trichosanthes dioica)</i> , <i>Vyagbri (Solanum xanthocarpum)</i> , <i>Guduchi (Tinospora cordifolia)</i> , <i>Vasa (Adhatoda vasica)</i> , decoction boiled and reduced, <i>Gbrita</i> (Ghee) <i>Patha (Cyclea peltata)</i> , <i>Vidanga (Embelia ribes)</i> , <i>Suradaru (Cedrus deodara)</i> , <i>Gajopakulya (Piper chaba)</i> , <i>Yavakshara (Hordeum vulgare)</i> , <i>Sarjikshara Nagara (Zingiber officinalis)</i> , <i>Nisha (Turmeric)</i> , <i>Mishreya (Anethum sowa)</i> , <i>Charya (Piper chaba)</i> , <i>Kushta (Saussurea lappa)</i> , <i>Tejovati (Zanthoxylum alatum)</i> , <i>Maricha (Black pepper)</i> , <i>Vatsaka (Holarrhena antidyserterica)</i> , <i>Deepyaka (Trachyspermum ammi)</i> , <i>Agni (Plumbago zeylanica)</i> , <i>Rohini (Picrorrhiza kurroa)</i> , <i>Arushkara (Semecarpus anacardium)</i> – Purified, <i>Vacha (Acorus calamus)</i> , <i>Kanamoola (Piper longum)</i> – root, <i>Yukta (Pluchea lanceolata)</i> , <i>Manjishta (Rubia cordifolia)</i> , <i>Ativisha (Aconitum heterophyllum)</i> , <i>Vishani (Aconitum species)</i> , <i>Yavani (Trachyspermum ammi)</i> , <i>Shuddha Guggulu (Commiphora mukul)</i> – Purified.	<i>Nādīvrāṇi</i> , <i>Arbuda</i> , <i>Bhagandara</i> , <i>Gandamālā</i> , <i>Jatrūrdhvāsārav Agada</i> , <i>Gulma</i> , <i>Gudotthamehan</i> , <i>Yakṣmā</i> , <i>Aruci</i> , <i>Srasana</i> , <i>Pīnasa</i> , <i>Kāsa</i> , <i>Sōpha</i> , <i>bṛt</i> , <i>Pāṇḍuroga</i> , <i>Mada</i> , <i>Vidradhi</i> , <i>Vātaraktam</i> .

Gandhaka Rasayana (Yogaratnakara Rasayana Adhikara 1 – 4, Rasatarangini 8th chapter)	<i>Gandhaka</i> – Purified Sulphur, <i>Godugdha</i> (Cow milk), <i>Cinnamon</i> (<i>Cinnamomum zeylanicum</i>), <i>Ela</i> (<i>Cardamom</i>) (<i>Elettaria cardamomum</i>), <i>Patra</i> (<i>Cinnamomum tamala</i>), <i>Nagakesvara</i> (<i>Mesua ferrea</i>), <i>Guduchi</i> (<i>Tinospora cordifolia</i>) – Stem, <i>Haritaki</i> (<i>Terminalia chebula</i>) – Fruit rind, <i>Amalaki</i> (<i>Emblica officinalis</i> / <i>Phyllanthus emblica</i>), <i>Vibhitaki</i> (<i>Terminalia bellerica</i>), <i>Shunti</i> (<i>Ginger</i>) (<i>Zingiber officinalis</i>) – Rhizome, Water decoction / juice extract - <i>Bhringaraja</i> (<i>Eclipta alba</i>), <i>Sita</i> (Sugar Syrup)	<i>Kandu</i> , <i>Kushta</i> , <i>Visha dosha</i> , <i>Atisar</i> , <i>Grahani</i> , <i>Brudshula</i> , <i>Jirnajwar</i> , <i>Mehagna</i> , <i>Kesha Krushnakar</i> , <i>Prajakar</i> .
Jathyadi Taila (Sarngadbara Sambita Madhyam Khand – 9 / 171)	<i>Jati</i> (<i>Myristica fragrans</i>), <i>Nimba</i> (<i>Azadirachta indica</i>), <i>Patola</i> (<i>Stereospermum suaveolens</i>), <i>Nakatmala</i> (leaves of <i>Pongamia pinnata</i>), <i>Sikta</i> (honey bee wax), <i>Madhuk</i> (<i>Glycyrrhiza glabra</i>), <i>Kustha</i> (<i>Sausseria leppa</i>), <i>Haridra</i> (<i>Curcuma longa</i>), <i>Daru haridra</i> (<i>Berberis aristata</i>), <i>Manjistha</i> (<i>Rubia cordifolia</i>), <i>Katuorhini</i> (<i>Picrorhiza kurroa</i>), <i>Padmak</i> (<i>Prunus puddum</i>), <i>Lodhara</i> (<i>Symplocos racemosa</i>), <i>Abhya</i> (<i>Terminalia chebula</i>), <i>Nilotpala</i> (<i>Nymphaea stellata</i>), <i>Tutha</i> (Copper sulphate), <i>Sariva</i> (<i>Hemidesmus indicus</i>)	<i>Nadi Vrana</i> (Sinus), <i>Saphotala</i> (Papules), <i>Kachu</i> (Itching), <i>Dagdha</i> (Burns), <i>Shashtarprahar</i> (Trauma), <i>Dushtavrana</i> (Wounds), <i>Nakh</i> , <i>Dant Kshat</i> (Nail, Teeth Trauma).

A. Shodhana Karma – (17 May 2024 to 07 June 2024)

Table-3: Describes treatment procedure followed with Timeline

Procedure	Drug	Dose	Duration
<i>Lekhana karma & Vrana Prakshan</i> (Wound wash)	<i>Aragwadha churna Baboola twak churna Karanja twak churna</i>	10 gm each + 300ml water heat to reduce to half i.e. 150ml.	once a day f/b dressing for 2 weeks
<i>Bandhna</i> (Dressing)	<i>Jathyadi tailam</i>	As Required Local application	3 weeks

B. Shamana Aushadhi - (17 May 2024 to 15 June 2024)Table-4: Describes *Shamana Aushadhi* given to patient with Timeline

Dravya	Matra	Kala	Anupana	Duration
<i>Kashaya of Aragwadha + Babool + Karanja twak kashaya</i>	20 ml	night bed time	Water	4 weeks
<i>Panchatikta Gritha Guggulu</i>	250 mg tab.	Twice a day (A.F)	Water	4 weeks
<i>Gandhaka Rasayana</i>	500 mg tab.	Twice a day (A.F)	Warm Water	4 weeks

Table-5: Assessment criteria and grading.

A. Vrana Srava	B. Vrana Varna
NO Discharge = 0	Skin colour = 0
Serous Discharge = 1	Pale pink granulation = 1
Mucous Discharge = 2	Red granulation = 2
Serosanguinous Discharge = 3	White(Pale granulation) = 3
Mucopurulent Discharge = 4	Black / Grey = 4

Table-6: Wound Healing Gradation (weekly) according to assessment criteria.

	After 1 week	After 2 weeks	After 3 weeks	After 4 weeks
Vrana Srava	2	1	0	0
Vrana Varna	3	2	1	0



Figure-1: Wound before treatment



Figure-2: Wound Healing changes during treatment-Phase 1



Figure-3:Wound Healing changes during treatment-Phase II



Figure-4: Complete Wound healing after treatment

RESULT:

- Patient was in regular follow-up since 14 May 2024 to till complete wound healing.
- Patient came for follow up after 1 week some changes seen in Wound Discharge Decreased and Pain reduced while walking.
- Patient came for follow up again after 1 week some changes seen in Wound Discharge decreased, Pain reduced completely and colour of wound turned to Tissue Granulation. **Figure-2.**
- Patient came for follow up again after 1 week no Discharge and Pain reduced completely and wound covered with Good Granulation Tissue, *Vrana Prakshan*(Wound Wash) stopped and dressing continued. **Figure-3.**
- Pt. was on continue ayurvedic treatment for Wound got substantial betterment and healed completely. **Figure-4.**
- Advised patient to stop all medicines as stock last in further 2days.
- On the basis of Wound Healing assessment criteria weekly observation was done. After every 1 week of External and Internal medications gradation given in table no. 6.
- According to table no. 5 Before treatment Assessment criteria of *Dushtavrana* (Non-Healing Wound) was observed as *Vrana Srava* is 4 i.e mucopurulent discharge present and *Vrana Varna* was 3 i.e White(Pale granulation). **Figure-1.**

After treatment protocol completed patient was happy and able to walk comfortably and do daily work without disturbance.

Probable mode of action of Internal and External medicine:**Aragwadha (*Cassia fistula*)^[12]:**

The bark of the *Aragwadha* contains Anti-Inflammatory property. It is providing

extensive medicinal value in the treatment of skin disorders. It has Antibacterial and Antibiotic property helpful in the management of Dermal Wounds without using synthetic antibiotics. It has Dianthraquinone glucoside derivatives which are essential in skin diseases. Steam bark contains Lupeol, Beta-sitosterol and Hexacosanol besides Tannin. It has seven biflavanoids and two triflavanoids.

Karanja (*Pongamia pinnata*)^[13]:

It has Antiseptic, Antimicrobial, Anti-Inflammatory activity beneficial in skin ulcers and chronic wounds. Active chemical constituents such as Karanjin, pongapin and dipeptide aurantiamide shows activity against both gram-positive and gram-negative organisms and useful in healing of wounds and sores. In *Susruta samhita* (Su.Ch.38) it is mentioned in *Aragvadhadhi gana*, *Varunadi gana* and *Sleshma-samsamana gana*.

Babool (*Acacia arabica*)^[14]:

It has properties like Antibacterial, Anti-Histaminic, Astringent and Hemostatic properties. The Bark yields several polyphenolic compounds such as catechin, quercetin, gallic acid, sucrose and tannin.

RESULT AND DISCUSSION:**Impact on *Vrana Vedana*:**

At the conclusion of treatment, there was no more pain or soreness. By the end of the second week, the discomfort that started totally subsided. All contents of this *Kashaya* have *Shodhana*, *Lekhana*, *Ropana* properties thus help to healing of wound.

Impact on *Vrana Varna*:

By the end of the second week, the floor was covered in red, healthy granulation tissue and the amount of slough had entirely decreased. Anti-microbial, Anti-Bacterial, Anthraquinone derivatives are present in this *Kashaya* due to this property, which

slough was reduced as well as the wound floor was also cleaned.

Effect on Vrana Gandha:

Unpleasant smell present at the beginning of treatment was completely reduced by the end of 1st week. The *Krimighna*, *Vishaghna*, *Kushthghna* properties of the contents of promoting healing and the rate of contraction.

Impact on Vrana Srava:

At the conclusion of treatment, the amount of purulent, mild intermittent discharge had entirely decreased. By the conclusion of the second week, the purulent discharge that had started had totally disappeared. This may be due to *Lekhana*, *Kushthgbna Puya upashoshana* properties present in this medicine.

CONCLUSION:

By this case study, it can be concluded that, wound cleansing with the *Kashayas* and Internal medication was found to be extremely successful in managing *Dushtavrana*. This case showed wound with noticeable improvement through disappearance of skin patch with medications used for 4 weeks. Hence the management of Chronic Non-healing Wound need to be study in large number of population with variation of subjects.

Acknowledgement:

1. I am very thankful to Dr. K. Venkat Shivudu HOD Department of Ayurveda Samhita Siddhanta, Sri Venkateshwara Ayurvedic College, Tirupati, Andra Pradesh for guiding in diagnosis and treatment protocol.
2. I am very thankful to Hospital Superintendent and RMO for giving permission and supporting to take case for Department of Ayurveda Samhita Siddhanta.

Kashaya helped to remove the infection and foul smell.

Impact on Vrana Aakriti:

Vrana recovered fully and had few scars at the conclusion of the treatment. *Krimigna*, *Vishagna*, *Kustagna Guna* of these Drugs, helped to reduce the wound size by Overall, we can say that *Kashayas* have *Tikta*(Bitter), *Katu*(Pungent) and *Kashaya*(Astringent) property due to *Prakshan Vidhi* washout of death tissue Debris and Slough along with Mucopurulent Discharge are get removed sponging with gauze piece i.e *Lekhana Karma* happens and improves the local circulation simultaneously growth of new healthy tissue in structural form cause reduction in *Vedana*(Pain) and starts Wound Healing.

Consent of patient:

The consent of the patient has been taken for publication and procedure without disclosing the identity of the patient.

Conflict of interest: The author declares that there is no conflict of interest.

Guarantor: The corresponding author is the guarantor of this article and its contents.

Source of support: None

How to cite this article:

K. Gnaneshwari, V. Kumar, Ch. Ramadevi. Ayurvedic perspective of Dushtavrana (~Non-Healing Ulcer) and its Management: A Case Report. Int. J. AYUSH CaRe. 2024;9(1):109-117.

<https://doi.org/10.70805/ija-care.v9i1.691>

REFERENCES:

1. G. D. Singhal, R. H. Singh, Susruta Samhita, Vol. 2, Chikitsasthan, Dvivraniyacikitsitam1/6, Chaukhambha Sanskrit Pratishthan, Delhi, reprint 2018, P-140.
2. G. D. Singhal, R. H. Singh, Susruta Samhita Vol. 1, Sutrasthana, Vranasrava vijnaniyadhyaya 22/7, Chaukhambha Sanskrit pratishthan, Delhi, reprint ed-20188 p-203.
3. Las Heras k, Igartua M, Santos-Vizcaino E et al, chronic wounds: current status, available strategies and emerging therapeutic solutions. Journal of controlled release(2020), 328:532-550.
4. Frykberg RG, Banks J, Challenges in the treatment of chronic wounds. Adv wound care (New Rochelle)(2015), 4(9):560-82.
5. Falanga V, Isseroff RR, Soulka Am et al, chronic wounds. Nat Rev Dis Primers. 2022; 8(1); 50-56.
6. R. Vidyanath, Illustrated Caraka Samhita(English translation & Cakrapani commentary), Vol. 1,Chikitsasthana, Aragvadhiyoadhyayah 3/2, Chaukhambha Prakashak, Varanasi, Reprint 2023, p-125.
7. G. Pandey, R. Dwivedi, M. S. baghel, Shodal nighantu, Chapter 5 Amradhi varga, Chowkhamba Krishnadas Academy, edition 2019, P-.524.
8. R. Vidyanath, Illustrated Caraka Samhita(English translation & Cakrapani commentary), Vol. 1, Chikitsasthana, Aragvadhiyoadhyayah 3/3, Chaukhambha Prakashak, Varanasi, Reprint 2023, p-125.
9. The Ayurvedic formulary of Indian Part 1 second edition, Government of India, Ministry of Health and Family Welfare, Department of Indian System of Medicine and Homoeopathy – 2003, 6:27; P-270.
10. V. Shrilaksha mipatti shashtri, Yogaratnakar, Rasayanadhikara 1 – 4, Chaukhamba Bharati Academy, reprint 2015, P-.501
11. S. Srivastava, Sarngadhara Samhita, Choukhamba Orientalia, Varanasi, Madhyam Khand – 9 / 169-171, edition 2013. P-56.
12. S. D. Kamat, Studies on medicinal plants & drugs in Bhavaprakash nighantu(English commentary), Haritakyadivargha, Chaukhamba Sanskrit pratisthan, Delhi, 1st edition 2018, P-.98.
13. S. D. Kamat, Studies on medicinal plants & drugs in Bhavaprakash nighantu (English commentary), Guducyadivargha, Chaukhamba Sanskrit pratisthan, Delhi, 1st edition 2018, P-.476-477.
14. S. D. Kamat, Studies on medicinal plants & drugs in Bhavaprakash nighantu (English commentary), Vatadivarga, Chaukhamba Sanskrit pratisthan, Delhi, 1st edition 2018, P-746-747.