

Research Article**Ethnomedicinal plants used by the tribes of Srikakulam district to cure skin abscess and carbuncles in seven mandals of Andhra Pradesh, India****T. M. A. Niveditha**

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Corresponding Author: T. M. A. Niveditha**Abstract**

Preservation of ethnic knowledge on ethnomedicinal plants will be the source for drug discovery to treat various ailments. The present study reported the utilisation of 15 ethno medicinal plants belonging to 9 families by the tribes to cure abscess (6 plant species) and carbuncle (9 plant species) in 7 tribal mandals of Parvathipuram Manyam and Srikakulam districts (Erstwhile Srikakulam District) of Andhra Pradesh State, India along with drug preparation and mode of administration. The dominant tribal groups are Savara, Jatapu, and Kapu Savara. Family Euphorbiaceae records highest in number of genera (6), followed by Fabaceae (2) and one each from Asclepiadaceae, Zingiberaceae, Lamiaceae, Apocynaceae, Lauraceae, Boraginaceae and Rubiaceae. Information on the utilization of ethnomedicinal plants by the different tribes to cure skin abscess, carbuncle and other skin problems is collected for future phytochemical and pharmacological studies in the field of drug discovery. Then it would be an effective and useful work to AYUSH for further investigations.

Keywords: Ethnomedicinal plants, tribes, drug preparation, administration.**1. Introduction:**

The skin represents the largest organ of the integumentary system with a surface of 2 m². Its main function is to protect the underlying tissues such as muscles, bones, and internal organs. The skin is made up of a series of tissues of ectodermal and mesodermal origin and as a sequel of the orifices it continues with the respective mucous membranes forming a layer without interruptions. It is also characterized by an important distensibility and resistance (Anastasi et al., 2012). Skin abscess is similar to a pimple, but larger and deeper under the skin. It forms when the body tries to protect itself from an infection by creating a wall around it. The pus contains bacteria, white blood cells, and dead skin. The most common bacteria are *Staphylococcus aureus* (known as "staph") and methicillin-resistant *Staphylococcus aureus* (known as MRSA). Most people carry these bacteria on their skin yet never develop an infection. However, when the bacteria penetrate the skin (through a cut, along a hair follicle, or under the edges of a wound), they may lead to an abscess (Baiu, I & Melendez, E 2018). A carbuncle is an infection of the hair follicle(s) that extends into the surrounding skin and deep underlying subcutaneous tissue (Roberts & Chambers, 2005). Goc et al., 2021 reviewed ethnobotanical researches made in Turkey and recorded 171 taxa used in the traditional treatment of boils. Patra and Nayak 2024 reported 40 species belonging to 39 genera and 31 families used as traditional medicines by the local inhabitants for the treatment of skin diseases from Keonjhar

district of Odisha. Policepatel,S.S & Manikrao,2013 reported a total of 60 plant species belonging to 57 genera and 34 families were found useful in the treatment of skin disease in Hyderabad karnataka region, India Prasantkumar and Vidya sagar, 2008 reported 26 plant species belonging to 16 families commonly used as a remedy for skin diseases in Bidar district, Karnataka. Singhal & Dobhal 2025 reported 73 ethnomedicinal plants of 39 families being utilised in skin cure in Sirmour District of Himachal Pradesh India;Thomas et.al., reported 34 plant species belonging to 32 genera and 25 families used by Kuruma tribe of Wayanad district of Kerala for the treatment of cuts and wounds. Tsioutsiou et.al reviewed and analysed that 967 taxa belonging to 418 different genera belonging to 111 families used in the treatment of skin related problems such as wounds, burns, hemorrhoids, boils, abscess and furuncles in Albania, Cyprus, Greece, and Turkey. Usage external or internal.

2. Methodology

Study site:

The study is conducted in seven tribal Revenue Mandals (viz. Seethampeta, Kothuru, Bamini, Hiramandalam, Pathapatnam, Meliaputti and Mandasa) in Srikakulam and Parvathipuram Manyam Districts (Erstwhile Srikakulam District) which is located in the extreme North-Eastern districts of Andhra Pradesh state situated within the geographical coordinates of 18o 5'-19o 12' of northern latitude and 83o32'-84o47' of eastern longitude as shown in figure 1. The study area possesses a considerable percentage of tribal population and the dominant tribal groups are Savara, Jatapu, and Kapu Savara.

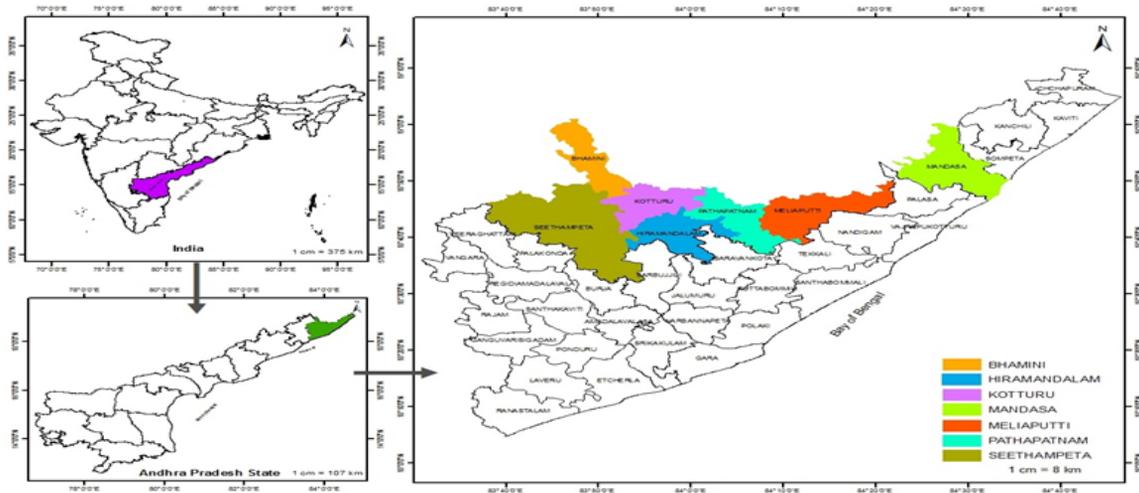


Fig.1. Study site

3. Collection of data:

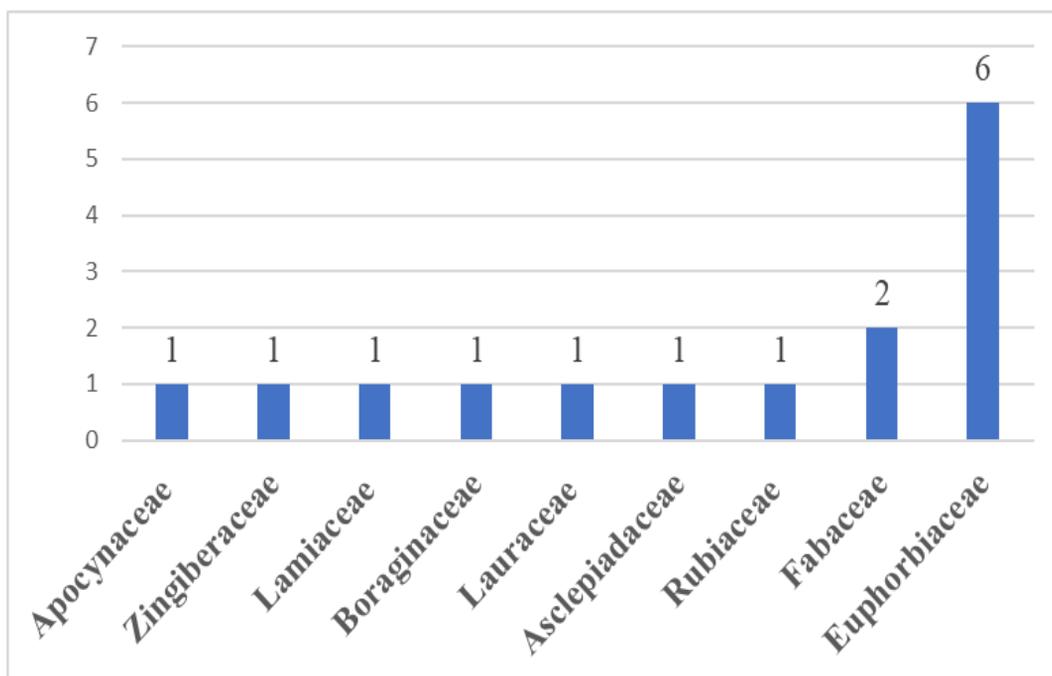
The present study is undertaken which is mainly based on field visits, observations, interactions and interviews. Interviews with different tribal groups of people are held during the study period regarding the ethnomedicinal plant species, parts, mode of preparation drug mode of administration. Village elders and womenfolk are also involved in the discussion to obtain firsthand information.

4. Results and discussions:

The present study reported the utilisation of 15 ethno medicinal plants belonging to 9 families by the tribes to cure abscess six plant species and abscess nine plant species (Fig.2) in 7 tribal mandals viz., Seethampeta, Bhamini, Kothuru, Pathapatnam, Meliaputti, Mandasa and

Hiramandalam of Parvathipuram Manyam and Srikakulam districts of Andhra Pradesh State, India.

Family wise taxonomic analysis of ethnomedicinal plants observed that, family Euphorbiaceae records highest in number of genera (6) ,followed by Fabaceae (2) and one each from Asclepiadaceae, Zingiberaceae, Lamiaceae, Apocynaceae,Lauraceae ,Boraginaceae and Rubiaceae



(Fig.2)

Fig. 2. Family wise taxonomic analysis of plants used to cure skin abscess and carbuncle

Disease wise analysis of ethnomedicinal plants showed that six ethnomedicinal plant species (Fig.3) viz., *Cissus quadrangularis*, *Costus speciosus* , *Eclipta prostrata* , *Erythrina suberosa* , *Litsea glutinosa* , *Rauvolfia serpentina* are used and to treat abscess and nine ethnomedicinal plant species (Fig.3) viz., *Bridelia retusa*, *Butea monosperma*, *Calotropis gigantea*, *Cordia dichotoma*, *Euphorbia tirucalli*, *Gardenia latifolia*, *Leonotis nepetaefolia*, *Phyllanthus reticulatus* and *Ricinus communis* are used to treat carbuncle by the tribes of seven tribal mandals of Parvathipuram Manyam and Srikakulam districts of Andhra Pradesh State, India.

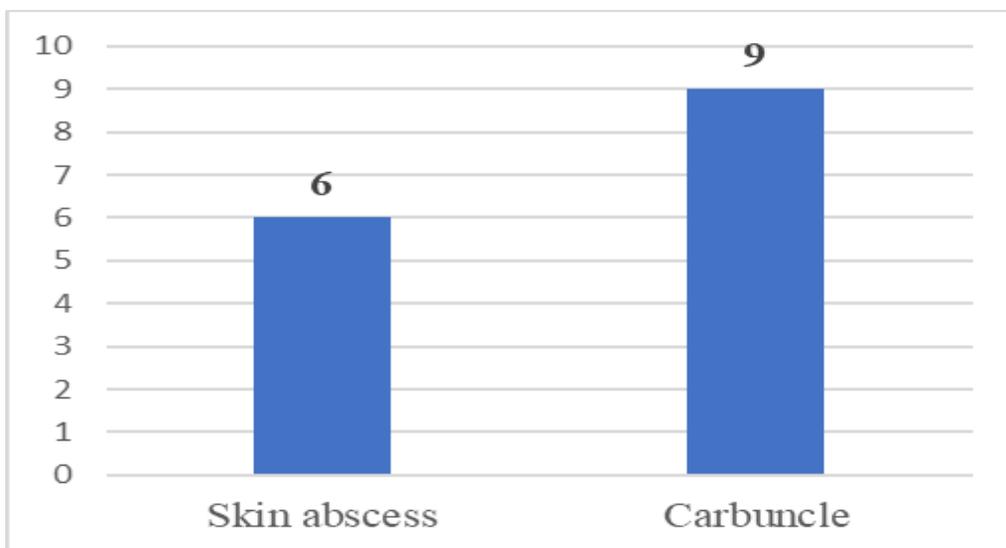


Fig. 3 Disease wise analysis of Ethnomedicinal Plants

The plant part and product-wise analysis (Fig.4), it is observed that six plant parts viz., leaf, stem bark, stem, plant, fruit, ash of plant and one product gum are used to treat abscess and carbuncle. In abscess *Cissus quadrangularis* (stem), *Costus speciosus* (leaf), *Eclipta prostrata* (leaf) L, *Erythrina suberosa*(stem) , *Litsea glutinosa* (stem bark), *Rauvolfia serpentina* (leaf) are used and to treat carbuncle nine ethnomedicinal plant species viz., *Bridelia retusa* (stem bark), *Butea monosperma* (gum), *Calotropis gigantea* (leaf), *Cordia dichotoma* (stem bark), *Euphorbia tirucalli* (plant), *Gardenia latifolia* (leaf), *Leonotis nepetaefolia* (ash of plant), *Phyllanthus reticulatus* (fruit) and *Ricinus communis*(leaf)

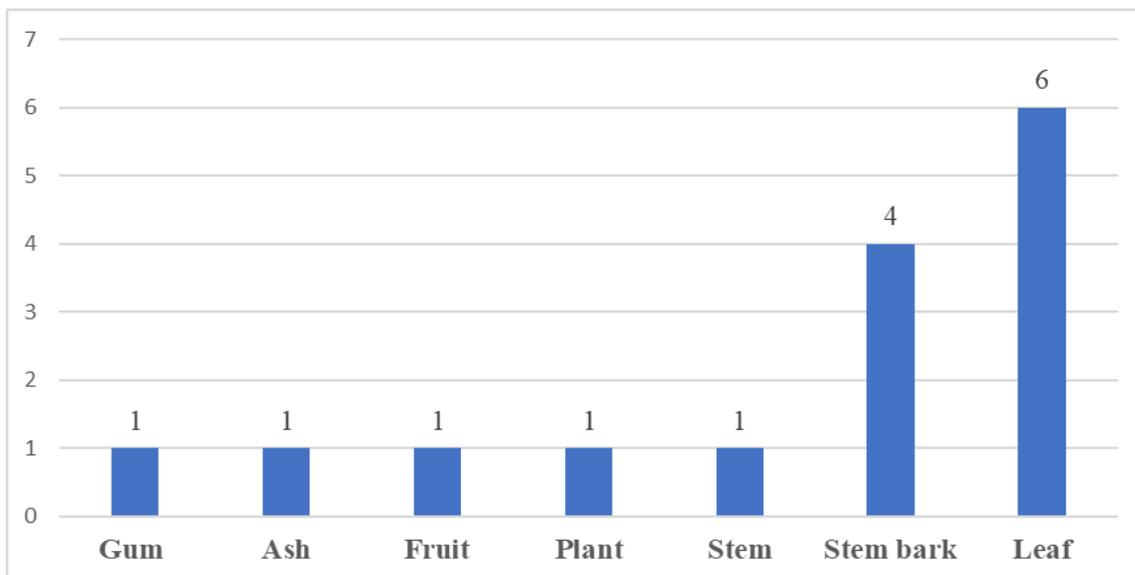


Fig.4 Plant part (s) used to cure skin abscess and carbuncle

Ethnomedicinal Plants for skin abscess and carbuncle are described in alphabetical order of their scientific names along with information of botanical name, family, vernacular, Hindi,

Sanskrit and English names , flowering and fruiting time, habit , parts used, mode of administration.

5. Ethnomedicinal plants to cure skin abscess:

1. *Cissus quadrangularis* L. Vitaceae VN: Nalleru H: Hadjod S: Asthisamhari E: Adament creeper Nallabontu 20127 Fl & Frt: Jun-Dec. Climbing shrub.

Stem extract is applied on the body to give strength and affected parts.

2. *Costus speciosus* (Koen ex. Retz.) Sm. Zingiberaceae VN: Bogachchika dumpalu H: Kebu S: Kemuka E: Crepe ginger Ippaguda 20154 Fl & Frt: Jun-Nov. Herb

Leaf paste is applied on abscess and boils to cure them.

3. *Eclipta prostrata* L. Asteraceae VN: Gunta kalagaraku H: Bhringaraj S: Bhringaraj E: False Daisey Talam guda 20063 Fl & Frt: Throughout the year. Herb.

Leaves are boiled in gingelly oil and tied on abscess.

4. *Erythrina suberosa* Roxb. Fabaceae VN: Mulla moduga/Vanjiram H: Pangra Kosingiguda 20082 Fl & Frt: Mar-Jun. Tree.

Stem bark paste is tied on the abscess and ejects puss from it.

5. *Litsea glutinosa* (Lour.) C. B. Rob. Lauraceae VN: Narraalagi H: Chandana S: Medasaka E: Indian Laurel Bharanikota 20254 Fl & Frt: Jun-Sep. Tree.

Bark paste is applied and tied on wounds, tumours and abscess to cure them. The dried bark powder is also applied.

6. *Rauvolfia serpentina* (L.) Benth. Apocynaceae VN: Pathalagaridi H: Chota chand S: Sarpagandha E: Serpentina root Jinkabuddaduguda 20001 Fl & Frt: Aug-Jan Shrubs.

Leaves are ground to paste and applied on affected parts.

6. Ethnomedicinal plants to cure carbuncle

1. *Bridelia retusa* (L.) A. Juss. Euphorbiaceae VN: Puttakaraka H: Khaja S: Asana E: Spinous Kino tree Guddi kola 20226 Fl & Frt: Aug-Dec. Tree.

Stem bark paste is applied.

2. *Butea monosperma* (Lam.) Taub. Fabaceae VN: Moduga chettu H: Dhak S: Palash E: Flame of the forest Basigittangi 20238 Fl & Frt: Jan- May. Tree.

Fresh gum is applied externally.

3. *Calotropis gigantea* (L.) W.T. Alton. Asclepiadaceae VN: Tella jilledu H: Safed aak S: Arka E: Madar Pollajammuguda 20065 Fl & Frt: Mar-Dec. Shrub.

Leaves are burnt, powdered and applied on affected parts, which heals fastly

4. *Cordia dichotoma* G. Forst. Boraginaceae VN: Chinna nakkeru H: Lasura S: Sleshmataka E: Indian Cherry Nallabontu 20014 Fl & Frt: Feb-May. Tree.

Stem bark paste is applied to heal them.

5. *Euphorbia tirucalli* L. Euphorbiaceae VN: Kalli H: Sehunda S: Snuhi E: Pencil tree Basigittangi 20119 Fl & Frt: Jul-Oct. Shrub.

Plant paste is applied.

6. *Gardenia latifolia* Aiton Rubiaceae VN: Tharipi chettu E: Brilliant Gardenia, H: Dikamali S: Hingu Godiyapadu 20155 Frt: Mar-Nov. Tree.

Leaf paste is applied on the affected area.

7. *Leonotis nepetaefolia* (L.) R. Br. Lamiaceae VN: Ranabheri H: Baraguma S: Granthika E: Lions year Godiapadu 20169 Fl & Frt: Oct-Feb. Shrub.

Ash obtained after burning the plant is mixed in castor oil and applied on affected areas.

8. *Phyllanthus reticulatus* Poir. Euphorbiaceae VN: Nallapuluguru H: Kale madhu ka per S: Krishna Kamboji E: Black honey shrub 20111 Fl & Frt: Jul-Nov. Shrub.

Leaf extract is applied on the affected parts.

9. *Ricinus communis* L. Euphorbiaceae VN: Amudamu H: Eranda S: Gandharva hastha E: Castor Nagulaguda 20158 Fl & Frt: Throughout the year. Shrub.

Leaves are warmed and tied on the carbuncle.

Method of preparation of drug to cure skin abscess includes that , plant parts are made into paste in water and applied externally; in *Cissus quadrangularis* stem extract and in *Eclipta prostrata* leaf extract obtained in gingily oil are applied on the skin abscess externally (Table.1)

The method of preparation of drug in curing carbuncle includes plant parts are made into paste in water and applied externally ; in *Leonotis nepetaefolia* ash of plant is mixed in castor oil, in *Calotropis gigantea* burnt leaves powder, in *Phyllanthus reticulatus* leaf extract and warmed leaves of *Ricinus communis* are used externally(Table.1).

The crude drug prepared by practitioners to treat skin abscess and carbuncle is applied externally in the form of extract, paste or ash and warmed leaves until the disease is cured. The paste is made by water, gingily oil and castor oil, depending upon plant species used in the treatment of skin abscess and carbuncle. (Table 1)

Table.1 Ethnomedicinal plants used by the tribes to cure skin abscess and carbuncle.

Name of the plant	Family	Disease Treated	Part (s) used	Method of ethnomedicine Preparation
<i>Cissus quadrangularis</i> L.	Euphorbiaceae	Abscess	Stem	Stem extract in water
<i>Costus speciosus</i> (Koen ex. Retz.) Sm.	Zingiberaceae	Abscess	Leaf	Leaf paste in water
<i>Eclipta prostrata</i> L.	Euphorbiaceae	Abscess	Leaf	leaf extract in gingily oil
<i>Erythrina suberosa</i> Roxb.	Fabaceae	Abscess	Stem bark	Stem bark paste in water
<i>Litsea glutinosa</i> (Lour.) C. B. Rob.	Lauraceae	Abscess	Stem bark	Stem bark paste in water, dried bark powder
<i>Rauvolfia serpentina</i> (L.) Benth.	Apocynaceae	Abscess	Leaf	Leaf paste with water
<i>Bridelia retusa</i> (L.) A. Juss.	Euphorbiaceae	Carbuncle	Stem bark	Stem bark paste in water
<i>Butea monosperma</i> (Lam.) Taub.	Fabaceae	Carbuncle	Gum	Fresh gum from bark
<i>Calotropis gigantea</i> (L.) W.T.Alton.	Asclepiadaceae	Carbuncle	Leaf	Burnt leaves powder
<i>Cordia dichotoma</i> G. Forst.	Boraginaceae	Carbuncle	Stem bark	Stem bark paste in water
<i>Euphorbia</i>	Euphorbiaceae	Carbuncle	Plant	Plant paste in

tirucalli L.				water
Gardenia latifolia Aiton	Rubiaceae	Carbuncle	Leaf	leaf paste in water
Leonotis nepetaefolia (L.) R.Br.	Lamiaceae	Carbuncle	Ash	Ash of plat mixed in castor oil
Phyllanthus reticulatus Poir.	Euphorbiaceae	Carbuncle	Fruit	leaf extract in water
Ricinus communis L.	Euphorbiaceae	Carbuncle	Leaf	Warmed leaves

7. Conclusion:

Present work documented the utilization of ethnomedicinal plants to treat skin abscess and carbuncle. Documentation of first-hand information of ethnic knowledge is essential, As all these ethnic practices are orally transmitted from ancestors. It provides a source to the future phytochemical and pharmacological studies in the field of drug discovery. The World Health Organization (WHO) has estimated that as many as 80% of the world population is dependent on traditional medicine for their primary health needs (Bannerman, 1982). The outcomes of the present study revealed that the aboriginal practice of plant-based medication for treating skin abscess and carbuncle is a well-established practice in the seven tribal areas. Information on the utilization of ethnomedicinal plants by the different tribes to cure skin abscess, carbuncle and other skin problems is collected for future phytochemical and pharmacological studies in the field of drug discovery. Then it would be an effective and useful work to AYUSH for further investigations.

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