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Medicinal plants used for the treatment of various skin disorders by a rural community in warud region of Maharashtra

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Abstract

Skin ailments present a major health burden in the rural community. Maintaining healthy skin is important for a healthy body. The uses of wood as a major fuel for cooking in the village; this rural community is more prone to burn accident and even due to hot climate more susceptible to fungal infections too. The lay people in this area depend on the medicinal plant for their primary health care. Herbal medicine is gaining significant popularity because of numerous advantages such as often having negligible side-effects, better patient tolerance, easily available at urban and rural places, being relatively affordable and acceptable due to a long history of use. Besides herbal medicines provide rational means for the treatment of many diseases that are obstinate and incurable in other systems of medicine. For these reasons, several plants have been investigated for the treatment of skin diseases ranging from itching to skin cancer. So far 45 plants have been reported to be effective in various skin diseases during the past 2 years period (2017 to 2019) of research work, which is which are referenced beneath.

Keywords: Ethnomedicine, skin, medicinal plants, skin infections

1. Introduction

Human skin, the outer covering of the body, is the largest organ in the body. It protects the underlying muscles, bones, ligaments, and internal organs so it also acts as the first line of defense. Approximately 34% of all occupational diseases encountered are skin diseases. Skin illness is numerous and a frequently occurring health problem affecting all ages from the neonates to the elderly and cause harm in a number of ways. Skin diseases present a major health burden as well as a financial burden both developed and undeveloped countries.

Skin illness is a typical ailment and it influences all ages from the neonate to the older and causes hurt in a number of ways ^[1]. There are in excess of a thousand conditions that may affect the skin yet most skin illnesses are as rashes include acne, dermatitis, eczema, hives, pityriasis rosea, and psoriasis; viral infections include herpes simplex, shingles (herpes zoster) and warts, some systemic viral infections, such as chicken pox and measles, may also affect the skin, viral infections cannot be cured with antibiotics. Bacterial infections impel folliculitis, cellulitis and Lyme disease, bacterial infections, fungal infections, parasitic infections, pigmentation disorders, tumors, cancer, trauma and other conditions like wrinkles, rosacea, spider veins and varicose veins ^[2].

Several plants have been used in traditional medicine for several thousand years. In the most recent couple of decades, there has been an expanding enthusiasm for the investigation of therapeutic plants and their customary use in various pieces of India. Huge learning of how to utilize the plants against various illnesses might be required to have amassed in territories where the utilization of plants is still of extraordinary significance. As per the World Health Organization (WHO), around 65-80% of the total populace in developing nations depends basically on plants for their essential social insurance because of neediness and absence of access to present day medicine.

Lately, the utilization of ethnobotanical data in restorative plant investigate has increased significantly ^[3]. The essential advantages of utilizing natural medication are that they are generally more secure than allopathic synthetic drugs, offering significant restorative advantages and increasingly moderate treatment ^[4] Around 200 years prior our pharmacopeia was dominated by herbal medicines ^[5] and practically 25% of the drugs prescribed worldwide originated from plants. Of the 252 medications considered as fundamental and basic by the WHO, 11% are sole of plant origin.

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Many of the plant materials used in traditional medicine are readily available in rural areas at relatively cheaper than modern medicine [6]. Plant-derived substances which are used for drug preparation could be found in various parts like roots, leaves, shoots, and bark of plants [7, 8].

Traditional herbal medicines have played an important role in the management of dermatological conditions. Hundreds of medicinal plants worldwide are used in traditional medicine for the treatment of skin diseases caused by bacteria, fungi, and viruses [9]. For these reasons, several plants have been investigated for the treatment of skin diseases used by the rural community of Warud region of Maharashtra.

2. Material and methods

2.1 Study area

Warud tehsil is located in Amravati District of Maharashtra (India), its geographical distribution is between 21° 25' 0" N latitudes and 78° 24' 0" E longitudes. Warud is also known as California of Vidarbha and produces world-class orange it is nearly equidistant from Amravati (85 km), Nagpur (105 km), Wardha (110 km). This city is at the boundary of Maharashtra state and Madhya Pradesh state. The north side of Warud city is surrounded by Satpura Hill Ranges. This Satpuda hills separate Maharashtra and Madhya Pradesh state. The weather in Warud is very cool in winter (around 8 °C) and very hot in summer (in the range 40 to 44°). Soil is calcareous, grayish-black in color and of varying depths and texture [10] Woodland are spread over 10,171.904 hectares of land. The tribal livings in the zone are Raj Gond, Gond, Gawali, Gayaki, and Thatya. A tribal, as well as rural folk of this area are dependent on forest wealth to a large extent. Their lifestyle is still intricately interwoven with nature.

2.2 Data collection and sampling techniques

In order to retrieve knowledge of medicinal plants used to

treat skin disorders from the rural community, frequent field trips were made to different localities of the in the study area of Warud region particularly village viz. Pusla, Khaparkheda, Urad, Shendurjanaghat, Dhanodi, and Warud city Interviews were undertaken at 37 homesteads, using structured questionnaires open-ended field discussions and also by observation of their actual treatment practices, wherever possible [11-13]. The main focus was on plants species used for skin disorders and information regarding local plant names, plant parts used preparation and its application was collected, the botanical names were obtained by referring available literature [14-17].

3. Result

The result of this investigation is presented in Table 1, which represent the list of medicinal plants used to cure the skin diseases. Data on medicinal uses of plants are arranged the following sequence: Local name, scientific name, habit, family, parts used and ailments or disease. The medicinal plant species used for skin diseases in Warud region district of Amravati, India include 45 species representing 29 families the majority of abundant were species belonging to the family Euphorbiaceae (5) and Fabaceae (4). The remaining families were represented by fewer species. [Fig. 1] The most frequently mentioned plants being used were, *Azadirachta indica* A. Juss., *Tridax procumbens* *Argemone mexicana* L., *Ocimum sanctum* L., *Santalum album* L., *Pongamia pinnata* L. and *Lantana camara* L. The analysis of the recorded medicinal plants based on growth habits showed highest proportion of trees with 17 species (37.77%), followed by 16 herbs (35.55%), 8 shrubs (17.77%) and 4 climbers (8.88%) [Fig. 2.] Leaves were utilized more often constituting followed by bark seeds and whole plant each, and the remainders were root, latex, and bulb [Fig. 3].

Table 1: List of medicinal plant species used to treat skin problems.

S. No.	Local name	Scientific Name	Family	Habit	Part(s) used	Ailments/ disease
1	Gunja	<i>Abrus precatorius</i> L.	Fabaceae	Climber	Seed	Scratches, sores, wounds
2	Kupi	<i>Acalypha indica</i> L.	Euphorbiaceae	Herb	Leaves	Skin diseases
3	Kutra	<i>Achyranthes aspera</i> L.	Amaranthaceae	Herb	Leaves	Boils, scabies
4	Bel	<i>Aegle marmelos</i> (L.) Corr.	Rutaceae	Tree	Leaves	Itches
5	Kanda	<i>Allium cepa</i> L.	Liliaceae	Herb.	Bulb	Scars
6	Korphad	<i>Aloe vera</i> (L.) Burm f.	Liliaceae	Shrub	Leaves	Acne, scars
7	Saptaparni	<i>Alstonia scholaris</i> (L.) R.	Apocynaceae	Tree	Stem	Wart
8	Kante bhaji	<i>Amaranthus spinosus</i> L.	Amaranthaceae	Herb	Leaves	Boils and burns
9	Ramphal	<i>Annona squamosa</i> L.	Annonaceae	Tree	Leaves	Boils
10	Satyanashi	<i>Argemone mexicana</i> L.	Papaveraceae	Herb	Fresh leaves	Eczema
11	Neem	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Tree	Leaves	Boils, blisters
12	Mayalu	<i>Basella Alba</i> L.	Basellaceae	Climber	Leaves	Irritation, swellings
13	Kanchan	<i>Bauhinia variegata</i> L.	Fabaceae	Tree	Bark	Skin ulcers
14	Kobi	<i>Brassica oleracea</i> L.	Brassicaceae	Herb	Fruit	Anti-inflammatory and anti-pruritic
15	Char	<i>Buchanania lanzan</i> Spreng.	Anacardiaceae	Tree	Root, bark	Chronic wound
16	Padas	<i>Butea monosperma</i> (Lam.) Taub	Fabaceae	Tree	Seed	Inflammation: Antioxidant
17	Zendu	<i>Calendula officinalis</i> L.	Asteraceae	Herb	Flowers	Burns
18	Rui	<i>Calotropis gigantea</i> (L.) R.	Asclepiadaceae	Shrub	Stem	Warts
19	Bahava	<i>Cassia fistula</i> L.	Caesalpiniaceae	Tree	Leaves	Wounds
20	Tarota	<i>Cassia tora</i> L.	Caesalpiniaceae	Herb	Leaves	Skin disease
21	Turmeric	<i>Curcuma longa</i> L.	Zingiberaceae	Herb	Rhizome	Anti Inflammatory
22	Dhattura	<i>Datura metel</i> L.	Solanaceae	Herb	Leaves	Pimples
23	Nilgiri	<i>Eucalyptus globules</i> Labill	Myrtaceae	Tree	Leaves	Scabies
24	Dudhi	<i>Euphorbia hirta</i> L.	Euphorbiaceae	Herb	All Parts of plants	Wart
25	Pimpad	<i>Ficus religiosa</i> L.	Moraceae	Tree	Stem latex	Healing cracks and fissures.
26	Erandi	<i>Jatropha curcas</i> L.	Euphorbiaceae	Tall Shrub	Leaves	Eczema
27	Jangli erandi	<i>Jatropha glandulifera</i> Roxb	Euphorbiaceae	Tall Shrub	Seed	Ringworm
28	Ghaneri	<i>Lantana camara</i> L.	Verbenaceae	Shrub	Fresh leaves	Itch of measles.

29	Kavat	<i>Limonia acidissima</i> L.	Rutaceae	Tree	Tender Leaf	Rashes
30	Tomato	<i>Lycopersicon esculentum</i> Mill.	Solanaceae	Herb	Fruit	Healing sunburn
31	Champa	<i>Michelia champaca</i> L.	Magnoliaceae	Tree	Leaves	Dandruffs
32	Karela	<i>Momordica charantia</i> L.	Cucurbitaceae	Climber	Fruit, leaves	Skin cancer
33	Tulsi	<i>Ocimum sanctum</i> L.	Lamiaceae	Herb	Leaves	Treating wounds of leprosy
34	Menda dudhi	<i>Pergularia daemia</i> (Forsk.) Chiov.	Asclepiadaceae	Climber	Leaves	Freckles
35	Amla	<i>Phyllanthus emblica</i> L.	Euphorbiaceae	Tree	Bark	Scabies
36	Karaj	<i>Pongamia pinnata</i> L.	Papilionaceae	Tree	Stem Bark	Itchy skin rashes.
37	Ghod	<i>Portulaca oleracea</i> L.	Portulacaceae	Herb	Whole plant	Psoriasis
38	Harkaya	<i>Rauwolfia serpentina</i> (L.) Benth. Ex Kurz	Apocynaceae	Herb	Root	Skin cancers, burns, eczema
39	Chandan	<i>Santalum album</i> L.	Santalaceae	Tree	Fragrant wood	Pimples
40	Asoka	<i>Saraca asoca</i> (Roxb.) Willd	Caesalpiniaceae	Tree	Flower	Eczema
41	Sharpunkha	<i>Tephrosia purpurea</i> (L.) Pers	Fabaceae	Shrub	Whole plant	Treat injuries
42	Raan bhendi	<i>Thespesia lampas</i> (Cav.) Dalz.	Malvaceae	Tree	Leaves	Ringworm
43	Tuja	<i>Thuja orientalis</i> L.	Cupressaceae	Shrub	Leaves	Psoriasis
44	Kambarmodi	<i>Tridax procumbens</i> L.	Asteraceae	Herb	Leaves	Septic, wounds, scabies
45	Ashwagandha	<i>Withania somnifera</i> (L.) Dunal	Solanaceae	Shrub	Root tuber	To prevent skin cancers

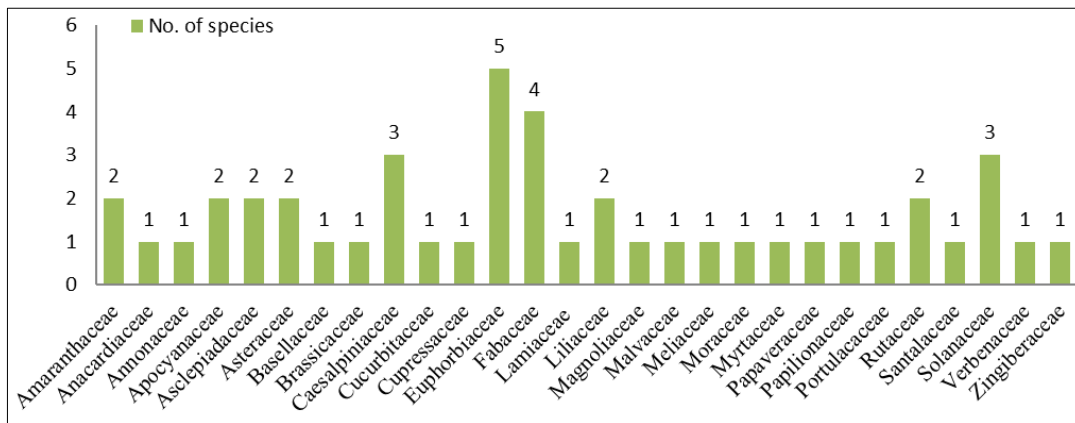


Fig 1: Number of plant species per family



Fig 2: Habit of the plant's species used in skin diseases.

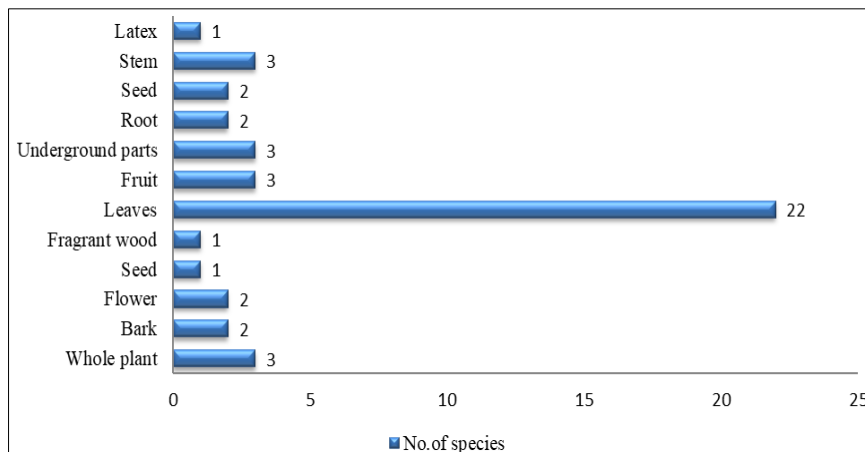


Fig 3: Plant parts used for the treatment of skin disease by the local people

4. Discussion

Skin ailments are a major health burden in a rural community. Maintaining disease-free skin is important for a healthy body. In specific regions, these people traditional medicines are endemic and have made due more than many years. This traditional information aggregated throughout the years is enhanced and scattered orally starting with one age then onto the next. The most frequently used plant species to cure skin disorders in this study are *Azadirachta indica* A. Juss., *Tridax procumbens*, *Argemone mexicana* L., *Ocimum sanctum* L., *Santalum album* L., *Pongamia pinnata* L. and *Lantana camara* L. These plant uses are also earlier reordered in a different area of India by various investigators showing the significance of Traditional medicine in the treatment^[18-25].

5. Conclusion

The rural community has faith in traditional medicine, therefore, their preference to traditional medicine over allopathic medicine and herbal medicine is an integral part of their primary healthcare. Most of the plant species useful for the treatment of skin diseases appear to be restricted to the forest, so activities such as deforestation, Overgrazing, habitat destruction, urbanization, etc., may pose a serious threat to these species. Conservation of these plants species is the need of great importance.

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