

Traditionally Used Medicinal Plants for Wound Healing in the Washim District, Maharashtra (India)

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Abstract: - Plants are used for prevention and cure of various diseases of human beings. This article enumerates list of 39 plants that have wound healing properties and are as well as used traditionally in Washim district. These are known for curative properties for various ailments apart from their use as wound healers. These plants are in use for cure of various diseases, they are also used to the wound heal up. Entire plants, parts of plants in fresh or dry form or as plant juices are used for wound healing. The findings of exploratory work on ethno-botany of medicinal plants of Washim district generated information as mentioned in this article.

Keywords: - Wound healing, latex, extract, traditional use and Medicinal plants.

INTRODUCTION: -

About the 80% population of the developing world is still dependent upon the traditional medicine available in their surrounding i.e. vegetation/ forest to meet their demand, rely on medicinal plants because of their effectiveness, lack of modern health care alternative^{1,2}. A wound comes accidentally in our life and inescapable and that may arise due to physical injuries that result in an opening or break of skin or chemical means. Wound healing is a process of filling up of gaps and maintains the anatomical structure and function. Tissue regeneration is the part of process of wound healing through which it restores the integrity of tissue layers. Wound healing a continuous process is delayed due to deficiency of certain vitamins, trace elements and proteins. In this article we have made an attempt to give an insight into the medicinal plant parts with

potential wound healing properties that could prove beneficial in therapeutic practice.

Research on wound healing agents is one of the developing areas in modern biomedical sciences. Many traditional practitioners, tribesmen, local vaidus and mendicants across the world particularly in country like India with age old practices have valuable but oral information of many lesser-known hitherto unknown wild plants in use by them for treating wounds and burns.

Washim District in Maharashtra is a relatively newly formed district that was created on 1st July 1998. The district is located in the Vidarbha Region of Maharashtra, India. The entire district occupies an area of about 5150 sq kilometer. The geographical coordinates of Washim District are 76° 7' East Longitude and 19° 61' North Latitude. The Washim District Map shows that this district is surrounded by

Akola, Amravati, Buldhana, Yavatmal and Parbhani districts. The temperature varies from 9 °C to 45 °C and the annual rainfall is about 832 mm, housing pockets of deciduous forests rich in medicinal plants. The present study is thus an attempt to document different plant varieties that are used by the communities of Washim district, Maharashtra in wound healing treatments.

MATERIAL AND METHODS: -

The information about the medicinal plants used by the local peoples of Washim district in wound healing was obtained from tribesmen, local vaidus and medicinal herb stores. The collected information was mainly

related to plant parts used with quantity and vernacular names. The plants were collected and identified technically. The plants identified that, plant parts with ranging vernacular name, often named differently, often confusing as the same products were named differently. The botanical names, family were identified from the books, Wealth of India, internet and etc. The botanical names are arranged alphabetically. The parts of plants used for medicinal preparations vary from leaves, stem barks, seeds, roots, fruits and flowers respectively as mentioned in Table No 1.

The information generated was ascertained by referring floras and earlier publications.

Table: 1 List of the Medicinal plants used for Wound healing. Scientific names of the medicinal plants are arranged in alphabetical order

Sr. No.	Botanical Name	Vernacular Name	Family	Part Used
1	<i>Acacia catechu</i> Willd	Khair	Mimosaceae	Bark
2	<i>Acalypha indica</i> L.	Kuppi	Euphorbiaceae	Whole plant
3	<i>Achyranthes aspera</i> L.	Aghada	Amranthaceae	Leaves
4	<i>Aloe vera</i> (L.) Burm. f.	Korphad	Liliaceae	Leaf juice
5	<i>Annona squamosa</i> L.	Sitaphal	Annonaceae	Leaf
6	<i>Argemone maxicana</i> L.	Pili / Piwala Dhotra/ Ringani	Papavaraceae	Leaves and latex
7	<i>Azadirachta indica</i> Juss	Neem	Meliaceae	Leaves
8	<i>Butea monosperma</i> (Lamk.)	Palas	Fabaceae	bark
9	<i>Bombax ceiba</i> L.	Kateshevar	Bombacaceae	bark
10	<i>Brassica juncea</i> L.	Mohari	Brassicaceae	Fruits
11	<i>Bryophyllum calycinum</i> Salisb.	Panfuti	Crassulaceae	Leaf
12	<i>Caesalpinia bonduc</i> L.	Sagar Gota	Caesalpinaceae	Fruit
13	<i>Calotropis procera</i> (Ait.) R. Br.	Rui	Asclepiadaceae	Leaves and latex
14	<i>Carica papaya</i> L.	Papai	Caricaceae	Fruit Extract
15	<i>Colocasia esculenta</i> (L.) Schott	Alu	Araceae	Leaf extract
16	<i>Commiphora mukul</i> Hook	Guggule	Burseraceae	Whole Plant
17	<i>Costus speciosus</i> Koenig.	Penva, Pushkarmula	Costaceae	Root
18	<i>Curcuma longa</i> L.	Halad	Zingiberaceae	Rhizome, Seeds
19	<i>Daucus carota</i> L.	Gajar	Apiaceae	Root
20	<i>Erythrina varaegata</i> L.	Pangara	Fabaceae	Leaf
21	<i>Euphorbia hirta</i> L.	Dudhi	Euphorbiaceae	Whole Plant
22	<i>Ficus religiosa</i> L.	Pimpal	Moraceae	Bark
23	<i>Gloriosa superba</i> L.	Kal-lawi	Liliaceae	Leaves
24	<i>Jatropha gossypifolia</i> L.	Chandan jyoti	Euphorbiaceae	Whole plant

				latex
25	<i>Lantana camara</i> L.	Ghaneri	Verbenaceae	Leaf juice
26	<i>Lawsonia inermis alba</i> L.	Mehdi	Lythraceae	Leaves, Seeds, Bark and Flowers.
27	<i>Mimosa pudica</i> L.	Lajalu	Mimosaceae	Leaves
28	<i>Moringa oleifera</i> Lamk.	Shewaga	Moringaceae	Leaves
29	<i>Nerium indicum</i> Mill.	Kaneri	Apocyanaceae	Leaves
30	<i>Ocimum sanctum</i> L.	Tulsi	Labiatae	Leaves
31	<i>Phyllanthus emblica</i> L.	Awala	Euphorbiaceae	Whole plant
32	<i>Punica granatum</i> L.	Dalimb	Punicaceae	Peels
33	<i>Ricinus communis</i> L.	Erاند	Euphorbiaceae	Whole Plant
34	<i>Semecarpus anacardium</i> L. f.	Bibba	Anacardiaceae	Fruits
35	<i>Terminalia arjuna</i> (Roxb.) Wight & Arn	Arjun	Combretaceae	Bark
36	<i>Tridax procumbens</i> L.	Tongal modi / Dagadi Pala	Asteraceae	Leaves, Whole plant
37	<i>Trigonella foenum-graecum</i> L.	Methi	Fabaceae	Seeds
38	<i>Withania somnifera</i> Dunal.	Ashwagandha	Solanaceae	Root, Seeds
39	<i>Zingiber officinale</i> Rosc	Adrak	Zingiberaceae	Rhizome

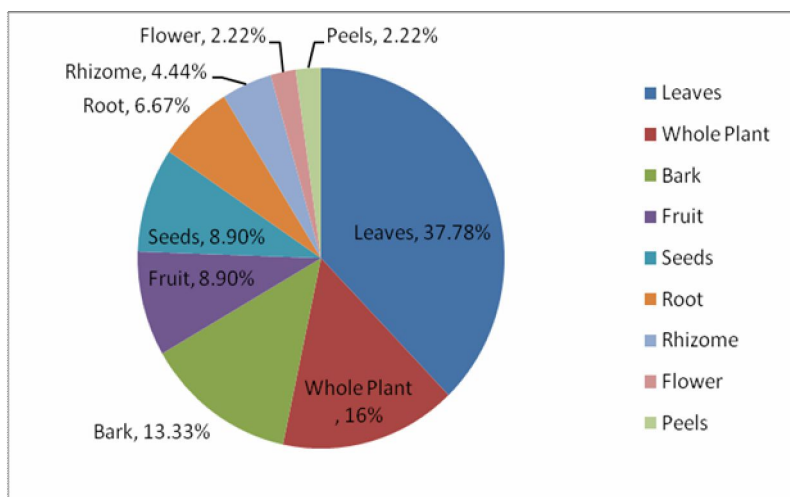


Figure 1: Different parts of the plants used by the people according to their preference for wound healing.

RESULT: -

A total number of 39 plant species have been recorded used in the treatment for wound healing. The parts utilized are listed in the table No.1. The list mentioned is as a representation of preliminary works, an exhaustive list will be finalized within a span of 3 years of survey and sampling.

We have presented such plants which are extensively used in traditional medicine of India and have been

ethno-botanical references corroborate oral information from local tribesmen/ vaidus.

Although traditional medicines offer a safe, inexpensive approach to treatment of wounds and burns, it has not received adequate attention.

There are a number of plants which have been reported for their wound healing activity. Most of these studies involve random screening of plant or extracts for wound healing activity, while some of the plants enumerated in Table No. 1 have been

pharmacologically validated for their wound healing activity viz. *Aloe vera*^{3,4}, *Azadirachta indica*⁵, *Carica papaya*⁶, *Curcuma longa*⁷, *Ocimum sanctum*⁸, *Phyllanthus emblica*⁹, *Terminalia arjuna*¹⁰.

A number of secondary metabolites / active compounds isolated from plants have been demonstrated in animal models (in vivo) as active principles responsible for facilitating healing of wounds. Some of the most important ones include tannins from *Terminalia arjuna*¹⁰, glycoprotein fraction from *Aloe vera*¹¹.

Among the different plant parts documented and utilized, highest proportion (37.78%) was of leaves, followed by whole plant (16 %), bark (13.33%), fruit (8.9%), seeds (8.9%), root (6.67%), rhizome (4.44%), flower (2.22%) and peels (2.22%) depicted in the figure 1.

The oil obtained from dried fruits of *Semecarpus anacardium* is applied over newly wounded area of the body to avoid water contact, sealing the surface and helps in wound healing. During the survey it was also noted that besides wound healing properties *Semecarpus anacardium* is also used for obtaining black dye and a source of natural dye.

Commiphora mukul is also used as incense and as a fixative in perfumery. Besides wound healing properties, some plants are poisonous too e.g. *Gloriosa superba*, *Calotropis procera*, *Withania somnifera*. *Withania somnifera* are also widely used for curing diabetes and ailments in addition to wound healing.

Zingiber officinale and *Curcuma longa* belongs to the family zingiberaceae are most commonly used for their medicinal value. Traditionally, the paste from the rhizomes are applied as a remedy for inflamed joints and sprains along with wounds, bruises¹². *Calotropis procera* leaves are smoked to cure asthma and cough, the latex is commonly used for ringworm, dog bites thorn injuries, skin diseases and in tanning industry. *Lawsonia innnermis alba* seeds of the herb are used in dysentery. Bark of the herb is used in jaundice. Henna leaves are used in baldness and prickly heat powder. Henna leaves are used in boils and burns. Used in hair dyes, oil is used in perfume industry.

These findings give credence to the traditional medicinal application of the plant as remedies for measles, internal and external wounds and infections.

DISCUSSION: -

Traditional knowledge of herbal medicine is disappearing which should be conserved and will give the base line information for the chemist to discover new drug. This is one of the steps taken towards the documenting treasures of indigenous knowledge upon the wound healing property of medicinal plants. There is an urgent need for proper collection of the medicinal plants from Washim district.

Thus, the major aim of the current article is to identify and project the plants especially of Indian origin which have potential to emerge as modern drug substitutes.

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