RESEARCH ARTICLE

Traditionally used Medicinal Plants for Wound Healing in the Chittoor District, Andhra Pradesh (India)

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ABSTRACT

Plants are used for prevention and cure of various diseases of human beings. In this article, an extensive study is reported enumerating 40 plants that have wound healing properties and are as well used traditionally in Chittoor District of Andhra Pradesh. These are found to exhibit extensive 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 for wound heal up. Entire plants as well as parts of these plants in fresh or dry form or as plant juices are used for wound healing. The findings of this exploratory work on ethno-botany of medicinal plants of Chittoor District are detailed in this article along with other generative information.

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

INTRODUCTION

About 80% population of the developing world is still dependent upon the traditional medicine available in their surroundings i.e., vegetation/forest to meet their demand; rely on medicinal plants because of their effectiveness, lack of modern health care alternative (Sandhya *et al*., 2006; Caniago and Siebert, 1998). A wound occurs accidently in our life, is inescapable most of the times unknowingly, and may arise due to physical injuries that result in an opening or breakage of skin or by chemical means. Wound healing is a process of filling up of gaps and maintains the anatomical structure and functions of skin and human body. Tissue regeneration is that part of process of wound healing through which it restores the integrity of tissue layers systematically (Caniago and Siebert,1998). Sometimes wound healing, a continuous process, is hindered due to deficiency of certain vitamins, trace elements and proteins (Davis *et al*., 1989). In this article, it is attempted to give an insight into the medicinal plant parts with associated potential wound healing properties that could prove beneficial in different therapeutic practices. Research on wound healing agents is one of the developing areas in modern biomedical sciences. Many traditional practitioners, tribesmen and mendicants across the world particularly in countries like India with legacy practices have valuable but in the form of oral information of many lesser-known and hitherto unknown wild plants in

use by them for treating wounds and burns (Bharadwaj and Sharma,1997; Mikhalchik *et al.*, 2004) across Chittoor District. The District is located in the Rayalaseema Region of Andhra Pradesh, India. The entire District occupies an area of about 18,859 square kilometres. The geographical coordinates of Chittoor District range between 12°37′ - 14°8′ north latitudes and 78°3′ - 79°55′ east longitudes. The temperature varies from 19°C to 45°C and the annual rainfall is about 438.0 mm; and is housing dense 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 tribal as well as common communities of Chittoor District in wound healing treatments.

MATERIALS AND METHODS

The information about the medicinal plants used by the local peoples of Chittoor District in wound healing was obtained from tribesmen (local Chanchulu) and

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

S. No	Botanical Name	Vernacular Name	Family	Part Used
1	Acacia catechu	Willd Khair	Mimosaceae	Bark
2	Acalypha indica L.	Kuppi	Euphorbiaceae	Whole plant
3	Achyranthes aspera L.	Aghada	Amranthaceae	Leaves
4	Aloe vera (L.)	Korphad	Liliaceae	Leaf juice
5	Annona squamosa L.	Sitaphal	Annonaceae	Leaf
6	Argemone maxicana L.	Kusuma	Papavaraceae	Leaves and latex
7	Azadirachta indica	Neem	Meliaceae	Leaves
8	Butea monosperma	Palas	Fabaceae	bark
9	Bombax ceiba L.	Kateshevar	Bombacaceae	bark
10	Brassica juncea L.	Mohari	Brassicaceae	Fruits
11	Bryophyllum calycinum	Panfuti, Salisb.	Crassulaceae	Leaf
12	Caesalpinia bonduc L.	Sagar Gota	Caesalpiniaceae	Fruit
13	Calotropis procera (Ait.)	Thalla Gilledu	Asclepiadaceae	Leaves and latex
14	Carica papaya L.	Papai	Caricaceae	Fruit Extract
15	Colocasia esculenta (L.)	Alu	Araceae	Leaf extract
16	Commiphora mukul Hook	Guggule	Burseraceae	Whole Plant
17	Costus speciosus Koenig.	Pushkarmula	Costaceae	Root
18	Curcuma longa L.	Pasupu	Zingiberaceae	Rhizome, Seeds
19	Daucas carota L.	Carrot	Apiaceae	Root
20	Erythrina varaegata L.	Pangara	Fabaceae	Leaf
21	Euphorbia hirta L.	Dudhi	Euphorbiaceae	Whole Plant
22	Ficus religiosa L.	Pimpal	Moraceae	Bark
23	Gloroisa superba L.	Agnisika	Liliaceae	Leaves
24	Jatropha gossypifolia L.	Aadavi Aamudamu	Euphorbiaceae	Whole plant
25	Lantana camara L.	Ghaneri	Verbenaceae	Leaf juice
26	Lawsonia innnermis	Mehdi	Lythraceae	Leaves Seeds,
27	Mimosa pudica L.	Touch me not	Mimosaceae	Leaves
28	Moringa oleifera Lamk.	Mulagaku	Moringaceae	Leaves
29	Nerium indicum Mill.	Ganneru	Apocyanaceae	Leaves
30	Ocimum sanctum L.	Tulsi	Labiatae	Leaves
31	Phyllanthus emblica L.	Usiri	Euphorbiaceae	Whole plant
33	Pongamiya pinneta	Rutaceae	Ganuga,Kanuga	Whole plant
32	Punica granatum L.	Danimma	Punicaceae	Peels
34	Ricinus communis L.	Aamudamu	Euphorbiaceae	Whole Plant
35	Semecarpus anacardium	Munthamamidi	Anacardiaceae	Fruits
36	Terminalia arjuna	Arjun	Combretaceae	Bark
37	Tridax procrumbens L.	Gaddichamanthi	Asteraceae	Whole plant
38	Trigonella foenumgraecum L.	Methi	Fabaceae	Seeds
39	Withania somnifera Dunal.	Ashwagandha	Solanaceae	Root, Seeds
40	Zingiber officinale Rosc	Allamu	Zingiberaceae	Rhizome

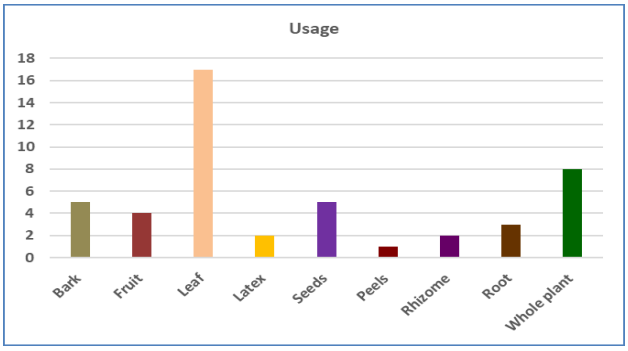

Figure 1: Different parts of the plants used by people according to their preferences for wound healing.

medicinal herb stores. The collected information was mainly related to plant parts used with specific quantifications and vernacular names. The plants were collected and identified using taxonomical methods. The identified plants, plant parts with various vernacular names, often named differently in different dialects, often confusing as the same products were named differently. The botanical names and families were identified from sources like the books, Wealth of India, Internet etc. The botanical names are arranged alphabetically for quick process. 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, (Mehra *et al*., 1984; Udupa *et al*., 2006; Suguna *et al*., 2000; Chaudhari and Mengi, 2006; Sripriya *et al*., 2013).

RESULTS

A total of 40 plant species have been recorded that are used in the treatment for wound healing. The parts utilized are listed in the Table-1. The list is furnished as a representation of preliminary works. An exhaustive list will be finalized within a total span of 3 years of survey and sampling. This article attempted to present such plants, which are extensively used in traditional medicine of India, and there have been wide ethno-botanical references corroborating oral information from local tribesmen (Chanchulu). Although traditional medicines offer a safe and inexpensive approach to treatment of wounds and burns, such methods and practices have not received adequate attention because they are scarcely documented. The list of plants as provided in Table-1 has extensive popularity for their wound healing activity. Most of these studies involved random screening of plant or extracts for wound healing activity, while some of the plants enumerated in Table-1 have been known earlier through generations in oral knowledge.

DISCUSSION:

Traditional knowledge of herbal medicine is disappearing due to various socio-economic reasons and this knowledge should be conserved and spread to give the baseline information for the chemists to discover new drugs. This is one of the steps taken towards the documenting of 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 Chittoor District. Thus, the major focus of the current article has been to identify and project the plants especially of Indian origin, which have potential to emerge as modern drug substitutes.

Conflicts of interest: The authors stated that no conflicts of interest**.**

REFERENCES

Sandhya B, Thomas S, Isabel W and Shenbagarathai R (2006) Ethnomedicinal Plants used by the Valaiyan Community of Pairanmalai Hills (Reserved Forest), Tamilnadu, India -A Pilot Study", African *Journal of Traditional, Complementary and Alternative Medicines*,3(1)101-114.

Caniago I and Siebert S (1998) Medicinal plants ecology, knowledge and conservation in Kalimantan, Indonesia", *Eco. Bot*, 52, 229- 250.

Heggers JP, Kucukcelibi A, Listengarten D, Stabenau CJ, Ko F, Broemeling LD, Robson MC and Winters WD (19960) Beneficial effect of Aloe on wound healing in an excision wound model", *J. of Alter.e and Com. Med.,* 2, 271–277.

Davis RH, Leitner MG, Russo JM and Byrne ME (1989) Wound healing. Oral and topical activity of *Aloe vera", J. American Podiatric Medical Asso.*79,559–562.

Bharadwaj RL and Sharma DN (1997) Evaluation of neem (*Azadirachta indica* Juss) oil as a potent wound healer, histomorphological and histochemical study", *Indian Veterinary Medical Journal*, 21, 187–190

Mikhalchik EV, Ivanova AV, Anurov MV, Titkova SM, Penkov LY, Kharaeva ZF and Korkina LG (2004) Wound-healing effect of papayabased preparation in experimental thermal trauma, *Bull. of Exp. Bio. and Med.*137,560–562.

Mehra KS, Mikuni I, Gupta U and Gode KD (1984) *Curcuma longa* (Linn) drops in corneal wound healing Tokai", *Journal Experimental Clinical Medicine*, 9, 27 -31.

Udupa SL, Shetty S, Udupa AL and Somayaji SN (2006) Effect of *Ocimum sanctum* Linn. On normal and dexamethasone suppressed wound, *Indian J. of Exp. Bio.* 44, 49–54.

Suguna L, Sumitra M and Chandrakasan G (2000) Influence of *Phyllanthus emblica* extract on dermal wound healing in rats", *J. of Medicinal and Aromatic Plants*, 32,2–3.

Chaudhari M and Mengi S (2006) Evaluation of phytoconstituents of *Terminalia arjuna* for wound healing activity in rats", *Phytotherapy Research*, 20, 799–805.

Sripriya D, Venkanna L & Estari Mamidala (2013) Analgesic and Anti Inflammatory Effects of Ocimum americanum (Linn) in laboratory animals", *Int, J. of Scientific & Engineering Research*, 4(6): 2724-2727.