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Plants used for bone fracture by Indigenous folklore of Nizamabad district, Andhra Pradesh

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Abstract
The present investigation provides information on the therapeutic properties of 17 crude drugs used for treating bone fracture by the natives of Nizamabad District. Of these, 12 species are not reported earlier for the bone fracture in major literature published so far. Information on botanical name, vernacular name, family, part used, mode of medicine preparation and administration is provided.

Keywords: Indigenous folklore, Nizamabad, Andhra Pradesh.

INTRODUCTION

Nizamabad district is situated in the northern part of the Andhra Pradesh and is one of the 10 districts of Telangana region in the state of Andhra Pradesh. It lies between 18-5' and 19' of the northern latitudes, 77-40' and 78-37' of the eastern longitudes. The geographical area is 7956 Sq. km's i.e. 19,80,586 acres spread over 923 villages in 36 mandals. Major rivers, such as, **Godavari** and **Manjeera** crosses Nizamabad district with some other streams Kalyani, Kaulas, Peddavagu also exist in the district.

The forest is covering area of 1.67 lacs hectares (4,18,450 acres) forming 22% of the total geographical area of the district. The forests fall under the category of Southern Tropical dry deciduous type. Thick forest belt produces major population of *Dalbergia, Tectona, Terminalia, Rhynchosia* species. The forest produce, which includes timber, fuel, bamboo and *Diospyros* leaves, yields good revenue. Mangoes and Custard apples grow well in the district.

Forest Dwellers: As per 2001 census the total population of the district is 23.55 lacs. Of these tribal population is 1.65 Lacs. Lambada, Naikpod, Yerukalas are major tribal groups in the area. Of these, Lambada is found most abundant throughout the area. Besides these tribal groups, several other communities are residing as forest dwellers.

METHODOLOGY

For documentation of ethno-botanical information and collection of plant material, several tours were undertaken during the period 2010- 2012. Data presented here is based on personal observations and interviews with traditional healers (Viz. medicine men, hakims and old aged people) and methodology used is based on the methods available in literature (Jain, 1989) and (Jain and Mudgal, 1999).

Ethnobotanical information about bone fracture gathered was documented in datasheets prepared. For collection of plant material, local informer accompanied to authors. Plant identification was done by using regional flora and flora of adjoining districts (Pullaih and Rao, 1995), (Cooke, 1958).

Plants used in bone fracture were compared with major published literature (Ambasta, 1992), (Anonymous, 1948-1976), (Asolkar *et.al.,* 1992), (Chopra *et. al.,* 1956 & 1969), (Jain, 1991), (Jain, 1996), (Jain, 1999), (Kapur, 2001), (Kirtikar & Basu, 1933), (Pradhan *et. al*., 2005), and (Sharma & Singh, 2001). Uses which are not mentioned in the mentioned literature are considered as uses less known and are marked by (*) asterisk.

Enumeration

Following data includes botanical name of species, vernacular name, family, plant part used, method of preparation of medicine and mode of administration and details about its application.

RESULTS AND DISCUSSION

Total 17 plant species recorded to be used for treating bone fracture are belonging to 15 families. Among these Five species viz; *Buchanania cochinchinensis, Dodonea viscosa, Grewia hirsute*, *Sarcostemma viminale* and *Vanda tessellate* have previous reports of used against bone fractures (Ambasta1992), (Anonymous 1948-1976), (Asolkar *et.al.* 1992), (Chopra *et. al.* 1956 & 1969), (Jain 1991), (Jain 1996), (Jain 1999), (Kapur 2001), (Kirtikar & Basu 1933), (Pradhan *et. al*. 2005), (Sharma & Singh 2001) and (Venkata Ratnam & Raju 2008). Information on the remaining 12 plants was not found in the literature.

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Table 1. Systematic enumeration of plants for bone fractures.

Sr. No.	Botanical name	Family	Local name	Use/s
1.	*Aegle marmelos* (L.) Corr.	Rutaceae	Maredu	* Extract prepared of stem bark along with stem bark of *Syzygium cumini* taken equal proportion. 20-30 ml extract with one glass goat milk taken once a day until cure.
2.	*Buchanania cochinchinensis* (Lour.) Almeida	Anacardiaceae	Morli chettu	Stem bark with bark of *Pongamia pinnata*, *Ficus religiosa*, *Syzygium cumini*, *Soymida febrifuga* and *Semecarpus anacardium,* each in equal proportion, crushed and 40-50 ml decoction taken once a day for 41 days.
3.	*Cordia macleodii* (Griff.) Hook. f. & Thoms.	Boraginaceae	Iriki	* Stem pieces tied to join the broken bones.
4.	*Crateva magna* (Lour.) DC.	Capparaceae	Usika manu	*20 gm stem bark powder with *Zingiber officinale* rhizome, *Piper nigrum* and *Piper longum* seeds each taken in equal proportion and 5 gm mixture is taken orally once a day for three days.
5.	*Dendrocalamus strictus* (Roxb.) Nees	Poaceae	Veduru	*Fractured part bandaged with wrapping of white cloth and bamboo sticks are tied from all side using coir thread. Mixture of 'Chanduram' (Lead Oxide) and 'egg' albumen is poured over it, which acts as plaster.
6.	*Dendrophthoe falcata* (L.f) Etting in Denkschr.	Loranthaceae	Badanika	*One tea cup juice of handful leaves taken twice a day for three days.
7.	*Dodonea viscosa* (L.) Jacq.	Sapindaceae	Bandada	Paste of leaves with *Curcuma longa* rhizome and oil applied externally and bandaged with bamboo strips and cotton cloth.
8.	*Grewia flavescens* A. Juss.	Tiliaceae	Givilika	*One tea cup extract of stem bark with 1 gm seeds powder taken orally twice a day for 5-6 days.
9.	*Grewia hirsuta* Vahl	Tiliaceae	Tadiki	One tea cup diluted paste of stem bark or root with 4 *Piper nigrum* seeds powder, taken orally twice a day until cure.
10.	*Lannea coromandelica* (Houtt.) Merr.	Anacardiaceae	Dumpidi	*Bark is used as a bandage in case of bone fracture.
11.	*Madhuca longifolia* (Koen.) Mac Bride var. *latifolia* (Roxb.) Chev.	Sapotaceae	Ippa chettu	*One tea cup extract of bark taken daily thrice for three days.
12.	*Phyllanthus acidus* (L.) K. Skeels	Euphorbiaceae	Chinna usiri	*50-60 ml extract of stem bark with goat milk taken orally twice a day till cure.
13.	*Prosopis cineraria* (L.) Druce	Mimosaceae	Jambi chettu	*60-80 ml extraction of stem bark with goat milk taken orally once a day for 7 days.
14.	*Sarcostemma viminale* (L.) R. Br.	Asclepiadaceae	Andiatukula teega	70 gm of fresh plant crushed and taken with 100 ml of goat milk for 7 days.
15.	*Sterculia urens* Roxb.	Sterculiaceae	Tapasi chettu	One tea spoon stem bark powder with goat milk thrice a day for 41 days.
16.	*Syzygium cumini* (L.) Skeels	Myrtaceae	Allaneredu	*One table spoon powder of stem bark with 7 *Piper nigrum* seeds powder taken twice a day for 30 days.
17.	*Vanda tessellata* (Roxb.) Hook. ex G. Don	Orchidaceae	Maradadu	One tea cup juice of leaves and roots with 6 *Piper nigrum* seeds powder taken orally thrice a day for 7 days (or) applied externally with eggs albumen and red lime powder (Jaju) on factored part and bandaged with bamboo sticks.

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