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Some Less Known Herbal Remedies Against Cut and Wounds from Ahmednagar Areas in Maharashtra, India

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Abstract

An extensive field surveys were arranged in Ahmednagar tahasil areas to document ethno-medicinal uses of the native ethno-flora against cut and wounds. The information is collected during the period from pre-monsoon of 2009 to the post-monsoon of 2011, from the local inhabitants through verbal interviews via informal ways. The paper focuses on the ethno-medicinal uses of 35 genera belonging to 24 families used cut and wounds formed due to specific means among the local inhabitants in their routine life.

Keywords: *Herbal remedy, Ahmednagar tahasil, Traditional knowledge.*

1 Introduction

Human interactions with the surrounding environment, especially plants have been started since the ancient period due to which the modern medicines have been arrived at the end of 20th century. Being a part and parcel of the nature, man has found busy in utilizing the wild plants for certain needs and necessities such as food, medicine, fodder, agricultural tools, house construction etc. It has been realized in recent years that most of the plants were in use by the traditional healers, hakims and ethnic societies of the world either as a food or as herbal drugs in the ancient time. Since the last three to four decades, due to the recent explorations considerable progress has been made in the field of ethno-medicinal remedies.

Use of these plants and their parts had contributed so much to the field of ethno-medicinal science by fulfilling the social and cultural needs of the rural, aboriginal and tribal people. These plant based herbal drugs are relatively safe [1], affordable, easily available in the market and are manufactured with the traditional eco-friendly methods. They can work selectively and gently without disturbing the other system as compared to modern synthetic drugs.

2 Study Area

Being a beautiful hilly landscape Ahmednagar tahasil is a part of the Garbhagiri hills famous for the rich ethno-floristic diversity. It is situated on the north-west side of the Ahmednagar tahasil at a distance of 26 km. It is located in between 18°16’33”N-19°35’58”N latitude and 73°86’68”E-77°68’38”E longitude. The area under the study is occupied by 33% of mixed type of vegetation and experiences an average rainfall of 221.8 cm/yr [2]. It has remained inhabited to certain extent by the native inhabitants for certain needs and necessities for curing specific livestock ailments.

The information from the inhabitants is documented from the study area to understand importance and significance of the native ethno-flora in the life of local inhabitants.

3 Review of Literature

Recent interest in ethno-medicinal explorations has increased due to the work of [3-22].

4 Methodology

Frequent field visits were arranged in the study areas during the period from pre-monsoon of 2009 to post-monsoon of 2011 to collect the ethno-medicinal data on uses of the wild ethno-flora by the local inhabitants. The plant specimens were collected by knowing their vernacular names through the help of knowledgeable informants as per guidelines [21-23]. The information was confirmed through the traditional healers through verbal and informal interviews.

The voucher specimens were prepared, tagged and confirmed by referring the standard floras [24-25] and preserved as per plan by [26]in the Botany Dept of the college for future study.



5 Enumeration/Result

The plant species enumerated here are arranged alphabetically according to botanical name with family (in parenthesis) followed by vernacular name, plant part used and traditional medicinal uses. Unknown or less known ethnobotanical uses are marked with an asterisk (*) sign.

4.1.Table:1-Detailed analysis of the plant species used in cut and wounds cure:

Sr. No.	Botanical Name	Local	Occurence	Habit	Plant Part	Herbal formulations for treatment
1.	*Plumeria alba* L. Linn (Apocynaceae)	Safed-chafa	An exotic ornamental	Tree	Exudates	Specific quantity of fresh latex mixed in 2-3 tsp of Coconut (*Cocos nucifera*) oil is applied topically on chronic wounds twice to thrice a day until cure.
2.	*Alstonia scholaris* (L.)R.Br. (Apocynaceae)	Saptaparni	An exotic ornamental	Herb	Exudates	Two to three tsp fresh latex boiled in a half cup of pig ghee is dropped on the chronic wounds twice or thrice a day until cure.
3.	*Aloe vera* (L.) Burm. Liliaceae)	Korphad	An exotic ornamental	Herb	Leaf	Two-three tsp leaves mucilage mixed with equal quantity of lemon (*Citrus limon*) fruit juice is applied externally on the wounds formed during agricultural practices twice or thrice a day until heal.

4.	*Mirabilis jalapa* L. (Nyctaginaceae	Gulbakshi	An exotic ornamental	Herb	Leaf	A poultice from fresh and healthy leaves in luke warm cow ghee is applied on fresh cuts and wounds once a day until total heal.
5.	*Caesulia axillaris* Roxb (Asteraceae)	Kala-maka	Common	Herb	Exudates	*Specific quantity of fresh latex from the plant is mixed with a pinch of soil from the termite mound and resultant preparation is applied on the wounds to heal fast.
6.	*Abutilon indicum* (L.) Sweet. (Malvaceae)	Petari	Common	Herb	Leaf	Two to three mase fresh leaves are crushed in goat's urine with a pinch of haldi (*Curcuma domestica*) powder and sunth (*Zingiber officnale*)powder and the paste is applied on the body regions twice a day for 5-8 days to cure cut and wounds.
7.	*Cleome viscosa* L. (Capparaceae)	Piwali tilvan	Common	Herb	Leaf	The poultice from fresh leaves is applied on the fresh cuts and wounds twice or thrice a day for early healing without pus formation.
8.	*Tridax procumbens* L.(Asteraceae	Tantani	Common	Herb	Leaf	A handful fresh leaves with a pinch of haldi (*Curcuma domestica*) powder are crushed in a half a cup of cow's urine and the poultice is applied 2-3 times a day for 8-10 days to heal cuts and wounds.
9.	*Triumfetta rhomboidea* Jacq. (Tiliaceae)	Zinjurdi	Common	Herb	Leaf	A handful of fresh leaves and 1-2 tsp of common salt are crushed with indigenous pestle in a mortar in 2-3 cups of rice starch is applied two to three times a day on wounds, cuts, burns and boils until total heal.
10.	*Urena lobata* L. (Malvaceae)	Chikana	Common	Herb	Leaf	A handful of young leaves and tender shoots crushed in a cup of luke warm water with a pinch of common salt is applied thoroughly twice or thrice a day to heal the wounds fast.

11.	*Nelumbo nucifera* Gaertn. (Typhaceae)	Kamal	Common	Herb	Rhizome	A handful of fresh rhizome pieces are crushed with a tsp of Haldi (*Curcuma domestica*) powder and a pinch of common salt in sufficient amount of Til (*Sesamum indicum*) oil to form a paste which is applied topically twice a day for 10-12 days to heal chronic wounds, cuts and burns
12.	*Xanthium indicum* Koen. (Asteraceae)	Landga	Common	Herb	Root	Aatpav fresh and young roots are crushed with haldi (*Curcuma domestica*) powder and common salt (a tsp each) and the paste is mixed in little amount of coconut (*Cocos nucifera*) oil for applying on wounds twice or thrice a day until healed.
13.	*Cryptolepis buchanani* Roem & Schult. (Periplocaceae)	Krishn- sariva	Common	Shrub	Exudates	Fresh latex of the plant is boiled in two to three tsp of Korphad (*Aloe vera*) leaves mucilage with a pinch of soil from termite mound and the paste applied on the body region up to 10-12 day to heal cut and wounds.
14.	*Carissa congesta* L. (Apocynaceae)	Karvande	Common	Shrub	Fruit	One to two tsp juice from unripe fruits mixed in a pinch of red soil is applied on cuts and wounds once a day until cure.
15.	*Celastrus paniculatus* Willd. (Celastraceae)	Malkangoni	Common	Shrub	Leaf	A handful of fresh leaves are crushed with 4-6 lasun (*Allium sativum*) cloves in a half cup of coconut oil and the extract is applied topically on the body region twice a day up to 5-6 days to heal wounds.
16.	*Lantana camara* (L.) Moldenke. (Verbenaceae)	Ghaneri	Common	Shrub	Leaf	An extract from 4-5 fresh and young leaves is mixed with a pinch of sulphur powder to get a homogeneous paste which is applied on fresh cuts and wounds to heal fast without pus accumulation.

17.	*Moringa oleifera* Gaertn (Moringaceae)	Shevga	Common	Tree	Exudates	One-two mase gum from the plant is boiled in a half cup of Neem (*Azadirachta indica*) seed oil together with hen eggs albumen and the paste is applied externally on fresh cuts and wounds until cure.
18.	*Acacia leucophloea* (Roxb.) Willd. (Mimosaceae)	Hiwar	Common	Tree	Fruit	Fine paste from 1-2 tolas young fruits in a half cupful coconut(*Cocos nucifera*) oil is applied topically on wounds due to axe once daily up to 6-9 days to heal.
19.	*Melia azadirach* L. (Meliaceae)	Bakan	Common	Tree	Leaf	Paste from a handful of fresh leaves is mixed with common salt and Haldi (*Curcuma domestica*) powder (a pinch each) in a cup of coconut oil is applied externally on painful wounds twice a day until cure
20.	*Eucalyptus globulus* Labill. (Myrtaceae)	Nilgir	Common	Tree	Leaf	A handful of fresh leaves and 1-2 tsp of common salt are crushed with indigenous pestle in a mortar in 2-3 cups of rice starch is applied two to three times a day on wounds, cuts, burns and boils until total heal.
21.	*Ailanthus excelsa* Roxb. (Simaroubaceae)	Maharukh	Common	Tree	Stem (bark)	Fresh and young stem bark pieces are crushed in 1-2 tsp of cow's urine and the paste is applied thoroughly on chronic wounds thrice a day until cure.
22.	**Curcuma anguistifolia* Roxb. (Zingiberaceae)	Ambe-halad	Cultivated crop plant	Herb	Rhizome	Paste from fresh rhizome pieces in luke warm coconut (*Cocos nucifera*) oil is applied on fresh cuts and wounds once a day at night before bedtime up to 6-8 days to heal fast.
23.	*Punica granatum* L. (Punicaceae)	Dalimb	Cultivated crop plant	Shrub	Fruit	A handful of dried fruit pericarp is burnt with a equal quantity of dried Neem (*Azadirachta indica*) leaves and the ash is applied to remove pus from the cuts and wounds.

24.	**Tylophora dalzellii* Hook.f. (Asclepiadaceae)	Lahan Pittamari	Rare	Climber	Leaf	*Young leaves are crushed with a tsp of haldi (*Curcuma domestica*) powder and a pinch of common salt in sufficient amount of Til (*Sesamum indicum*) oil and the paste is applied on cuts and wounds twice or thrice daily until total heal.
25.	**Passiflora leschenaultii* DC. (Passifloraceae)	Safed kamal	Rare	Climber	Root	*Fresh roots are ground with little quantity of water and the poultice is applied topically on the affected body once a day for 6-8 days to cure wounds.
26.	*Plumbago zeylanica* L. (Plumbaginceae)	Safed chitrak	Rare	Herb	Root	Fine paste from a handful of fresh roots in a cup of luke warm water is applied topically on the body 2-3 times a day for 6-8 days to heal wounds
27.	*Cardiospermum helicacabum* L. (Sapindaceae)	Kapalphodi	Rare	Herb	Seed	Two to three tolas of fresh seeds are crushed with a pinch Haldi (*Curcuma domestica*)powder and equal amount of sunth (*zingiber offcinale*) powder in a half cup of coconut oil and the formulation given orally twice daily up to 3-4 days to heal cuts and wounds.
28.	*Lepidagathis trineris* Wall ex.Nees. (Acanthaceae)	Khawadi	Rare	Herb	Whole plant	Ash from entire plant is boiled in sufficient quantity of coconut oil to obtain infusion which is applied externally on chronic wounds of pet animals twice a day up to 6-8 days to heal fast
29.	**Cissus quadrangularis* L. (Vitaceae)	Kand-wel	Rare	Shrub	Stem	An extract from certain quantity of young stem pieces with a pinch of common salt is boiled in sufficient quantity of coconut (*Cocos nucifera*) oil and the paste applied on the body region twice a day on chronic wounds until cure.

30.	*Argyreia nervosa* (Burm.f.) Boj. (Convolvulaceae)	Samudrashok	Rare	Shrub	Stem(bark)	Fresh stem bark pieces (3 inches long) extracted in a little quantity of mustard (*Brassica compestris*)oil with a pinch of common salt and sulphur powder is applied on cuts and wounds twice daily up to 6-8 days to cure.
31.	*Sapindus laurifolius* Vahl. (Sapindaceae	Ritha	Rare	Tree	Fruit	An extract of 4-6 young fruits is applied topically on wounds once daily up to 8-9 days to heal.
32.	*Dolichandrrone falcata* (Wall.ex DC.) Steenis. (Bignoniaceae)	Medshing	Rare	Tree	Leaf	An extract from 2-3 tolas of fresh leaves is mixed with a pinch of common salt in a half cupful of egg white (egg albumen) to obtain paste which is applied on chronic wounds of livestock once daily until cure.
33.	*Aegle marmelos* (L.) Corr. (Rutaceae)	Bael	Rare	Tree	Root	Fine paste from a 2-3 tolas fresh and young roots with 1-2 tsp of Kate-ringani (*Solanum xanthocapum*) fruits in a cupful goat's urine is applied topically on the body regions twice a day up to 8-9 days to heal cut and wounds in livestock.
34.	*Semecarpus anacardium* L.f. (Anacardiaceae)	Bibba	Rare	Tree	Seed	Dried seeds oil is mixed in little quantity of glycerin and applied on cuts and wounds of heels, toes and fingers once daily at night for 9-12 days to heal fast.
35.	*Terminalia arjuna* (Roxb. ex DC.) Wt & Arn. (Combretaceae)	Arjun	Rare	Tree	Stem (bark	A pinch of dried stem bark powder boiled with haldi () rhizome powder is applied on the body region twice daily one the fresh wounds to heal fast.

5. Abbreviations

tsp-tablesppon, 1 masa-1 gm, tola-10 gm, aatpav-100 gm, A handful-250 gm, 1 cup-100 ml, half lite -500 ml &-and.

6. Discussion

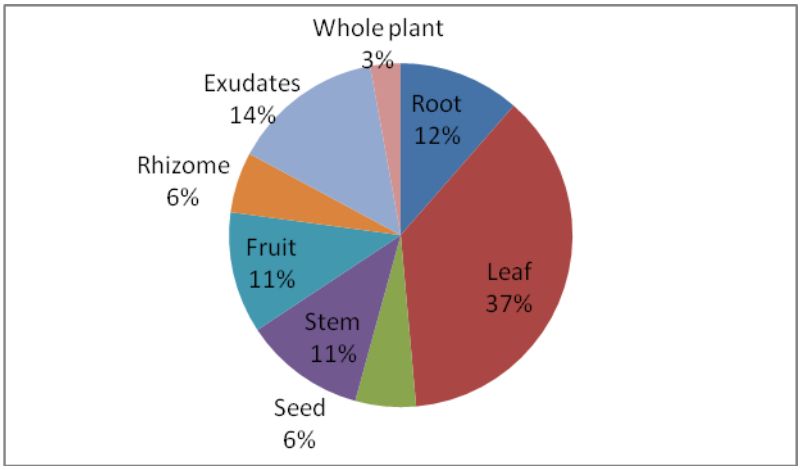
During the field visits (table:1) 34 genera belonging to 32 families have been reported from the study area. These plants have been utilized by the local inhabitants in curing cut and wounds in traditional ways. Some of the taxa i.e *Lepidagathis trineris* (Khawadi), *Argyreia nervosa* (Samudrashok), *Terminalia arjuna* (Arjun), *Cissus quadrangularis* (Kand-wel), *Semecarpus anacardium* (Bibba), *Nelumbo nucifera* (Kamal), *Plumbago zeylanica* (Safed chitrak), *Passiflora leschenaultii* (Safed kamal), *Aegle marmelos* (Bael), *Eucalyptus globulus* (Nilgir), *Tylophora dalzellii* Hook.f. (Lahan pittamari), *Dolichandrrone falcata* (Medshing), *Celastrus paniculatus* (Malkangoni), *Aloe vera* (Korphad) and *Caesulia axillaris* (Kala maka) possess potential of better economic exploitation.

Since all these plant species are in use in more or less proportion throughout the world, have wide scope for bio-prospecting. Therefore it is our prime duty should be to protect, conserve and maintain it in a proper way for our future studies.

5.1.Table: 2- Plant parts used in number of plant species with their percentage:

Out of the plant species studied (table:2), majority of the preparations (i.e.13) are from leaves (37.14%) followed by exudates in five plant (14.29%),roots and stem and fruits parts in four plants (11.43% each), rhizomes and seed parts in two plants each (5.71% each)and whole plant parts in one plants (2.86%),found to have uses in cut and wounds treatments.

Plant part used	Root	Leaf	Seed	Stem	Fruit	Rhizome	Exudates	Whole plant
No. of plant species	04	13	02	04	04	02	05	01
% of plant parts used	11.43	37.14	5.71	11.43	11.43	5.71	14.29	2.86



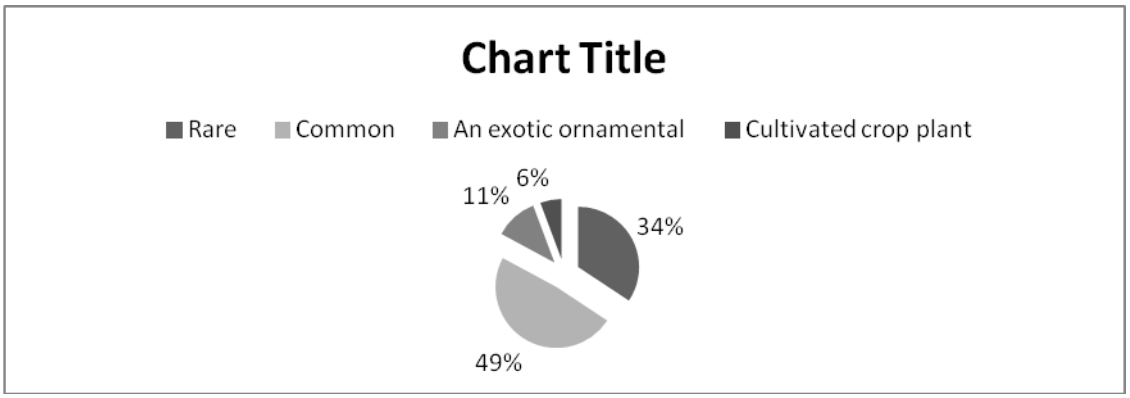
5.2.Table: 3- Habit wise analysis of the plants with their percentage:

Out of the plant species studied (table:3),majority of the plants (i.e.15) are herbs (42.86%) followed by eleven plants trees (31.43%), seven plants shrubs (20.00 %) and remaining two plants (5.71%) found climbers.

Habit	herb	Shrub	Tree	Climber
No. of plants species	15	07	11	02
% of plant species used	42.86	20.00	31.43	5.71

5.3.Table: 4- Occurrence wise analysis of the plants with their percentage:

Out of the plant species studied (table:4),majority of the plant species (i.e.17) are common (48.57 %) which are followed by thirteen plant species trees(37.14%), four plant species an exotic ornamental (11.43 %) and remaining one plant species (2.56 %)found cultivated crop plant.



7. Conclusion

Information collected from the study area, is located in Ahmednagar tahasil areas of Ahmednagar district. The traditional healers, local informants, vaidyas and hakims that reside in the forests and nearby villages mainly depend on plant resources have rich traditional ethno-medicinal knowledge of the plants and their uses which transmitted to them verbally in an informal ways from their forefathers [27].

There are a number of plants which are used traditionally against cuts and wounds by the tribal populace residing the state and the country but have not been validated or evaluated keeping the traditional claim in mind. Most of the pharmacological reports of plant/plant extracts screens the organic soluble extracts of the dried plant for their ability to heal wounds, but what is the major concern is that the most traditional claims of the plants as wound healing agents involves application of fresh plants as pastes in water. This is a major problem when it comes to the wound healing agents as what is being validated is the organic solvent extract of dry plant material and what is being used is the fresh plants aqueous extract, the chemical constituents in both cases will be very different. Another major problem with pharmacological validation is that the exact mechanism of the healing process of wound is not clearly understood; hence most of the researchers restrict the screening of plants to simple healing of wounds and do not go into the details. One has to remember that there are a number of parameters which are involved in the healing of wound including antioxidant defense and biochemical changes will help ethno-pharmacologists to understand the exact role of part of the plant and in the traditional system of medicine, thereby strengthening the ethno-pharmacological claims and building the global acceptance of the wound healing agents of plant origin.

Most of the traditional wealth of knowledge in India is eroding at faster rate due to loss of the ancient traditions and culture as they are mostly oral [28]. Due to

their continuous and progressive exposure to modernization, there is serious threat about extinction of such rich heritage of information in the coming time. Effort should be initiated for the documentation and computerization of useful medicinal plants and their traditional knowledge [29].

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