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RESEARCH ARTICLE

MEDICINAL PLANTS USED IN THE TRADITIONAL TREATMENT OF SCORPION STINGS AND MAD-DOG BITE

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ABSTRACT

Animal bites and stings are common throughout the World. After snake bite, scorpion stings and mad-dog bites are major problems of public health. These are causing heavy loss of human and livestock population in Africa and Asia. The anti-venoms require time, money and labour for their development. Also, they have some limitations. Therefore, traditional medicinal plant or herbal treatment is the only alternative available for the treatment of scorpion stings and mad-dog bites. In this attempt, total 07 medicinal plant species belonging to 07 families have been mentioned for scorpion stings treatment; while 09 plant species belonging to 07 families for mad-dog bites treatment, as herbal medicine. Mode of treatment is also given in some detail.

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INTRODUCTION

Millions of people die every year due to poisonous animal bites and stings. Scorpion sting is a common public health problem world over. It poses threats to the farmers and farm labours, forest dwellers, village people etc. (Chippaux and Goyffon, 2008). Scorpion venom contains several neurotoxins which are highly lethal than snake venom neurotoxins. Most patients die due to multisystem failure (Bawaskar and Bawaskar, 2007, 2012). The mortality associated with scorpion stings rates from 3-22% Worldwide (Binorkar, 2012). Not all, but very few species of scorpion are potentially lethal to human beings. Death due to scorpion stings can be attributed to mistaken traditional beliefs, poor transportation facilities and health services. Although administration of anti-scorpion venom serum is the only treatment available, it has many limitations like species specificity, availability, affordability and ideal storage conditions (Kankonkar *et al*., 1998). Development of anti-scorpion venom serum is costly, time consuming and requires ideal storage conditions. Therefore, herbal treatment is the only available alternative for scorpion sting treatment. All over the World, locally available and widely accepted medicinal plants have been evaluated and many more are claimed to have positive role in the treatment of scorpion stings. These plants are being used as folk medicines by the traditional healers for the treatment of bites and stings.

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Thus medicinal plant resources can be exploited for novel compounds having anti scorpion venom activity. Overall, these drugs are safe, effective and inexpensive (Antony *et al.,* 2010; Bahekar *et al.,* 2012). They control infection, and improve health and quality of life. In Kerala, Visha-Vaidya a traditional herbal healing treatment is popular for the treatment of bites of snake, mad dog; stings of scorpion etc. (Latha *et al*., 2012). In Ayurveda numerous medicinal plants are mentioned for the treatment of 'Vrishchika Damsha' (scorpion sting) (Deshmukh and Chalakh, 2016). Repots on traditional phytotherapy against scorpion stings are available from various countries of the World. A list of ethnobotanicals used for the treatment of scorpion stings has been provided (Hutt and Houghton, 1998). Dey *et al*. (2013) reviewed the pharmacological investigations of medicinal plants used for scorpion stings treatment. These studies are important for posterity and to stimulate research (Igoli *et al*., 2011). Rabies is a disease for both human beings and animals. It is a viral disease transmitted by the bite or scratch from a rabid animal. This disease causes heavy loss in human and livestock population in the endemic region i.e. developing countries of Africa & Asia (WHO, 2011). Rabid dogs are the principal source of transmission to human (Williams and Barker, 2001). Prevention and control of rabies can be achieved by strict quarantine measures, elimination of stray dogs, extension program, control of rabies in wildlife, registration of dogs and prophylactic vaccination (Bhoop, 2001). In Ethiopia, plant based traditional medicines are used for the control of rabies from many years. Several traditional herbs have been formulated by traditional healers to treat human and animal rabies (Bahekar and Kale, 2012). These folk

A) Medicinal plants used in the treatment of Scorpion stings

Sr. No.	Botanical Name and Family	Common Name	Mode of Treatment
1.	*Achyranthes aspera* L. (Amaranthaceae)	Aghada, Kutra.	5 gm roots are boiled in 100 ml water and 50 ml extract is prepared; whole extract is given once as antidote.
2.	*Azadirachta indica* A. Juss. ssp *Vartakii.* Meliaceae	Trishul Neem.	Dried leaves are burnt in wooden cigar and the fumes are inhaled as antidote
3.	*Cleome viscosa* L. (Capparidaceae)	Tilvan	2-3 drops leaf juice are put into ear for 3-days to treat scorpion sting
4.	*Cynodon dactylon* (L.) Pers. (Poaceae)	Durva, Harali	Whole plants are chewed in mouth and the juice is taken inside the stomach to get relief from pain.
5.	*Mucuna pruriens* (L.) DC. (Fabacea)	Kuhili, Kavach-Bij	Seed paste is applied on scorpion sting to get relief from pain.
6.	*Scilla hyacinthiana* (Roth.) Macbr. (Liliaceae)	Jangali Kanda	Bulb paste is applied on scorpion sting.
7.	*Tribulus terrestris* L (Zygophyllaceae)	Gokharu, Sarata	50 ml root extract/juice is given twice a day up to three days to get quick relief.

B) Medicinal plants used in the treatment of Mad-dog bites

Sr.No.	Botanical Name and Family	Common Name	Mode of Treatment
1.	*Achyranthes aspera* L. (Amaranthaceae)	Aghada, Kutra.	a) 5 gm roots are boiled in 100 ml water and 50 ml extract is prepared; whole extract is given once as antidote. b) Roots are crushed in butter-milk and strained. Strained butter-milk is given to drink at once. Same treatment is practiced for 6-7 times. Solid remains are applied on the bite. Salt is not allowed to eat.
2.	*Alangium salvifolium* (L. f.) Wang. (Alangiaceae)	Ankol, Ankul, Potya-ankol.	100 gm roots are boiled in 150 ml water and 100 ml extract is prepared. 30 ml fresh root extract is given with 5 ml ghee up to 7-days.
3.	*Argemone mexicana* L., (Papaveraceae)	Pivala Dhotra, Bhilai, Kakbhilai.	Four gm root powder is mixed with 50 gm curd and given to eat once a a day till relief.
4.	*Clitoria ternatea* L. (Fabaceae)	Gokarni, Aparajita, Supli.	Two and half seeds are given to eat twice a day up to 3-days.
5.	*Curculigo orchioides* Gaertn. (Hypoxidaceae)	Kali Musali	Piece of root is given to eat with baked gram.
6.	*Luffa acutangula* (L.) Roxb. (Cucurbitaceae)	Kadu Dodka, Ran-dodka.	1 gm fruit pulp is given twice a day for 7-days.
7.	*Merremia aegyptia* (L.) Urb. (Convolvulaceae)	-------	50 gm seed powder is mixed with 25 gm jaggary and small tablets of one gm each are prepared. 1-tablet is given twice a day up to 7-days.
8.	*Mucuna pruriens* (L.) DC. (Fabacea)	Kuhili, Kavach-Bij	Seed are boiled in Cow-urine for some time. Dried and made to powder. This powder is fried in cow-ghee and given twice a day up to relief.
9.	*Paracalyx scariosus* (Roxb.) Ali. (Fabaceae)	Ranghewada	200 gm roots are boiled in 500 ml water & 400 ml extract is prepared. 20 ml root extract is given with 10 ml cow-ghee up to 7-days.

medicinal claims are supported with anti rabies activity (Meresa *et al*., 2017). With recent continuous increase in use of traditional and complementary medicine, medicinal plants can play important role in management of rabies (Paudel *et al*., 2018). Also medicinal plants are used repeatedly by the multiple local herbal healers to treat animal poisons. Corresponding ethnobotanical studies have been carried out by different researchers across the country (Selvanayagam *et al*., 1995). The tribal people prefer herbal treatments for animal bites and stings. There are herbs having magic and wonderful effects. Tribal people have deep faith on herbal remedies and mantras (Umamaheshwari *et al*., 2017).

Study Area

Warud is a tahsil place in Amravati district in the Indian state of Maharashtra. It is situated between 21°28′0″N 78°16′0″E and 21.46°N 78.26°E. The survey of medicinal plants was carried out during 2014-2018.

RESULTS

Information regarding the use of medicinal plants for the treatment of scorpion stings and mad-dog bites has been given in tabular form. Botanical name, family, common name and mode of treatment is given.

DISCUSSION

In all, 7 medicinal plant species belonging to 7 families have been mentioned as a medicine for scorpion stings; while 9 plant species belonging to 7 families have been mentioned for mad-dog bites treatment. Poisonous animal bites and stings is a cause of concern throughout the World. Millions of people die every year due to poisonous animal bites and stings. Mostly peoples like farmers, farm labourers, hunters, village people and migrating human populations suffer from animal poisons. Anti-venom drugs have some limitations. Therefore, herbal treatment is the only available alternative and these are being used as folk medicines by the traditional healers for the treatment of animal bites and stings. Herbal drugs are safe, effective, inexpensive and readily available. They control infection, and improve health and quality of life. Corresponding ethnobotanical studies have been carried out by different researchers across the country.

Conclusion

Very few attempts has been made on crude drugs used for poisonous bites and stings. However, most commonly used herbs have not been fully investigated for their anti-venom activities. These studies are important for future generations and to stimulate further research. With recent continuous increase in use of traditional and complementary medicine,

medicinal plants can play important role in this regard. Medicinal plant resources can be exploited for novel compounds having anti-venom activities.

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