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Ethnobotanical uses of *Eclepta prostrata* (L) in Argada and Sirka coal wary of Ramgarh District in Jharkhand

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Abstract
Eclipta prostrata has been traditionally used in Ayurvedic and herbal system of medicine used by the tribes of Jharkhand. In the present investigation ethnobotanical uses of *Eclipta prostrata* from the study areas of Argada and Sirka coal wary of Ramgarh District in Jharkhand has been recorded. The standard methods of ethnobotanical explorations were open-ended interviews, semi-structured interviews and structured interviews. The paste of Amla fruit, Methi seeds, Neem leaves and *Eclepta prostrata* leaves were applied over the scalp portion of head for one to two hours continued for four to six months to control hair fall and promoting the growth of hair. *Eclepta prostrata* plant was used for many purposes like in Asthma, Bronchitis, Constipation, Diarrhoea and dysentery, Body pain, General weakness, Pneumonia, Fever, High blood pressure, Jaundice, Liver and spleen enlargement, Skin diseases and loss of appetite.

Keywords: *Eclepta prostrata*, ethnobotanical uses, Ramgarh

Introduction
Eclepta prostrata (L.) is native of North, Central and South America and introduced in Europe, Africa and the Middle East Asia. It is commonly called False "Daisy or Bhringraj" which is found as a common weed throughout India ascending up to 6000 ft. It is a small succulent annual herb, belonging to the family Astraceae and grows in rice field, gardens along ditches and moist field road side. It is an erect or prostrate, much branched, roughly hairy, annual, rooting at the nodes; the leaves are opposite, sessile and lanceolate. The branches are hairy, reddish brown and can grow up to the height of 40 cm (Manik *et al*., 2012) [1].
E. prostata an edible plant is of great economic value both for its protein content as well as existence of essential amino acids. The plants are rich source of minerals i.e. Na, Mg, Cu, Fe, Ca, Zn, P and Phytate. The plant is reported to exhibit protective effect on carbon tetrachloride induced acute liver damage, by reducing centrilobular necrosis, hydropic degeneration and fatty change of the hepatic parenchymal cells (Khin *et al*., 1975). It is widely reported as a traditional medicine, thus it prompted us to evaluate hair growth promoting activity along with other plants. Therefore, this approach may incorporate some novel findings that may promote us to explore extensive bioactive compounds from crude extract for prevention of hair loss as well as enhancing hair growth.
E. prostata has also been reported with multiple medicinal uses and is known for numerous biological activities. Studies of various research groups reported that hundreds of plants or substances are having potential to promote hair growth as well. The aim of the present study was to find out the ethnobotanical use (especially for prevention of hair loss) of *Eclepta prostrata* (L) in Argada and Sirka coal wary of Ramgarh district in Jharkhand.

Materials and Methods
The present investigation was carried out in Argada and Sirka coal wary of Ramgarh district in Jharkhand during the year 2012 to 2015. Simple random sampling procedure was adopted for selection of the villages (study sites). Twenty villages were randomly selected from Argada and Sirka coal wary of Ramgarh district representing the entire study areas. Open-ended interviews were used in qualitative data collection and essentially a casual conversation that revealed detailed information about application the *Eclepta prostata* plant (Barker and Cross, 1992) [4]. Semi-structured interviews were based on a checklist of topics or questions. Where quantitative data are required for analytical purposes, structured interviews were conducted using a series of predetermined questions, which form the basis of the interview schedule, or in some cases where local participants are literate, the formal verbal interview was replaced by a written questionnaire as suggested by Martin, 1995 [5].

One of the most important useful techniques is Interview and Schedule technique was adopted for collection of information related to utilization of each part of the *Eclepta prostrata* plant in villages of Argada and Sirka coal wary of Ramgarh district. In interview and schedule method, a set of the question were asked by interviewer and answers recorded on the spot by investigator himself.

Results and Discussion

Eclepta prostrata plant is Non-Wood Forest Product (NWFP) which plays an important medicinal role in the livelihood of rural areas of Argada and Sirka coal wary of Ramgarh district. The local people were washed the whole plant from the fresh water and then dry them in shady places. Amla fruit, Methi seeds, Neem leaves and dry *Eclepta prostrata* plant were used for making a paste. The paste was applied over the scalp portion of head for one to two hours and continued for four to six months. The hair fall were controlled after six months and promote the growth of hair. The *Eclepta prostrata* plant is used as hair tonic by the local people of Ramgarh district. The juice of leaves was also useful for promote the growth of hair. Similar type of ethnobotanical uses was observed by Khan and Khan (2006) in Uttar Pradesh, the equal amount of fresh extract of *Allium cepa* bulb and *Azadirachta indica* leaves was applied. The leaf extract of *Eclipta prostata* was given orally twice a day till 3 months for treatment of alopecia. Some people were also used the drugs extract from leaves to twice a day with cow milk for 3 months till complete cure of hair fall. Jadhav *et al.*, (2009) [2] reported that the decoction of *Eclipta prostata* is used to invigorate the liver, greying of hair, staunch bleeding, spermatorrhoea, menorrhagia.

It was observed that, *Eclepta prostrata* plant was used for many purposes like in Asthma, Bronchitis, Body pain, general weakness, pneumonia, Fever, high blood pressure, Jaundice, liver and spleen enlargement, skin diseases and loss of appetite. The root of *Eclipta prostata* was also used for the constipation, Darrhoea and dysentery. The roots of *Eclepta prostrata* possess purgative, homeostatic, anti-inflammatory and it also reduces the blood pressure, blood flow and inflammation (Asolkar *et al*., 1992; Chopra *et al*., 1980) [7, 8]. It was also reported by the respondents that powder of *Eclepta prostrata* plant has been shown to cure infective hepatitis, viral hepatitis and jaundice.

Conclusion

From the above finding, it was concluded that Amla fruit, Methi seeds, Neem leaves and dry *Eclepta prostrata* plant were used for making a paste and applied over the scalp portion of head from one to two hours for continue of four to six months for control hair fall and promote the growth of hair. *Eclepta prostrata* plant was used for many purposes like in Asthma, Bronchitis, Constipation, Darrhoea and dysentery, Body pain, General weakness, Pneumonia, Fever, High blood pressure, Jaundice, Liver and spleen enlargement, Skin diseases and loss of appetite.

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