



RESEARCH ARTICLE

ETHNOBOTANICAL STUDY RELATED TO DIARRHEA AND DYSENTERY IN ALIGARH DISTRICT, U.P., INDIA

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ABSTRACT

The importance of medicinal plants in traditional healthcare practices, providing clues to new areas of research and in biodiversity conservation is now well recognized. However, information on the uses of plants for medicine is lacking from many interior areas of Aligarh district. Ethnobotanical studies were carried out in different areas of Aligarh district. This paper documents the traditional knowledge of medicinal plants that are in uses for curing Diarrhea and Dysentery by local people, vaidhya etc. During ethnobotanical study, 38 species of medicinal plants, belonging to 37 genera under 26 families are used as phytoremedy. The mode of administration of different plant species for treatment of diarrhea and dysentery are presented here with their family and local name.

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INTRODUCTION

Diarrhea is a change in normal bowel habits characterized by frequent passage of loose, fluid stools that is usually associated with most gastrointestinal disturbances. It causes loss of body fluids along with salts. The symptoms of diarrhea include abdominal pain, loose watery stools, and frequent urge to pass stools, and sometimes fever also. The dysentery is characterized by mucous or bloody stools, is generally caused by bacteria or viral infection. The symptoms of dysentery include abdominal pain and stools with blood or mucous.

MATERIALS AND METHODS

Several field visits are conducted to different localities and rural areas of Aligarh district during the survey. Where a number of herbal medicine practitioners locally called as 'Vaidhya', 'Hakim', 'Kabiraj' and other experienced old men and women are consulted. While noting ethnomedicinal informations, every care is taken to record the local name of plants and their parts, method of drug preparation and their uses. The modes of application of the different plant species are different for the treatment of a particular disease. All voucher specimens are identified by using relevant flora

(Duthie, 1903-1929). The ethnomedicinal uses of the plants reported by medicine practitioners and others are compared with available Scientific Literatures (Amiri and Joharchi, 2012; Bhatt and Gaur, 1992; Islam, 2000; Saini, 1996; Katewa *et al.*, 2001; Khanna *et al.*, 1996; Kumar and Chauhan, 2005; Mustapha, 2014; Pandey and Kumar, 2006).

RESULTS

In the present study, it is observed that the use of plant is generally depended upon the availability of those plants near their villages. From interactions with various local informants of ethnic communities, 38 species of medicinal plants, belonging to 37 genera under 26 families are collected from the vicinity of the communities which use them as traditional cures for diarrhea and dysentery. The species have been arranged in alphabetical order of the botanical names followed by family name in bracket, local names if available and mode of administration, during the survey of Aligarh district.

1. *Abutilon indicum* L. (Malvaceae), 'Kanghi'. The leaf extract prepared by grinding with butter milk is given orally to cure dysentery.
2. *Acacia nilotica* L. (Mimosaceae), 'Babul'. Two teaspoonfuls of gum are dissolved in one glass of water to make "syrup". It is given orally in dysentery early in

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- the morning in an empty stomach for 3 days. For children, one teaspoonful gum should be given.
3. *Achyranthes aspera* L. (Amaranthaceae), 'Chirchita'. Stem bark of *Achyranthes aspera* and a few seeds of black pepper (*Piper nigrum*, Piperaceae) are grinded with water to make the paste. It is orally given to cure blood dysentery.
 4. *Aegle marmelos* L. (Rutaceae), 'Bel patther'. Ripe fruit is widely used in different villages for treatment of chronic diarrhea and dysentery accompanied by loose stools.
 5. *Ailanthus excelsa* Roxb. (Simaroubaceae), 'Urroo'. Resin powder mixed with the curd is given as an astringent in diarrhea and dysentery.
 6. *Alstonia scholaris* L. (Apocyanaceae), 'Chitwan'. Leaves extract is given as a valuable remedy in case of diarrhea and dysentery.
 7. *Bauhinia purpurea* L. (Caesalpiniaceae), 'Kachnar'. Bark is crushed with some drop of water to make paste. About one teaspoonful is given once a day in an empty stomach to treat the diarrhea.
 8. *Butea monosperma* Lam. (Fabaceae), 'Dhak'. Gum powder of plant mixed with curd is given orally twice a day for two days.
 9. *Casuarina equisetifolia* L. (Caesalpiniaceae), 'Jangli Jharu'. Stem bark decoction is an excellent remedy in the treatment of chronic diarrhea and dysentery.
 10. *Centella asiatica* L. (Apiaceae), 'Brahmi'. A one fourth cup of juice extracted from the entire plant is given to patient once a day for three days. Meat, fishes, milk and spices are strictly prohibited. OR Whole plant is crushed and juice is extracted. A dose of 3 teaspoonfuls juice mixed with a little honey is given orally. Dose is being used thrice daily for 2 days. Meat, spice, egg and milk are strictly prohibited.
 11. *Corchorus capsularis* L. (Tiliaceae), 'Kharenti'. Dried leaf powder of *Corchorus capsularis* mixed with equal amount rhizomatous powder of *Curcuma longa* (Zingiberaceae, Haldi) is given along with curd in cases of dysentery. OR Curry prepared from soft leaves of the plant is given along with rice to the patient in case of dysentery.
 12. *Coriandrum sativum* L. (Apiaceae), 'Dhania'. Roasted powder (5 grams) of seeds is given thrice a day along with curd to check dysentery. Seed powder (10–12 grams) may be given twice a day.
 13. *Cuminum cyminum* L. (Umbelliferae), 'Zira'. The seed powder is given to the patient along with curd in case of diarrhea. OR The powder prepared by the mixing of roasted seeds of *Cuminum cyminum*, some black pepper (unripe fruit of *Piper nigrum*, Piperaceae) and some amount of salt is given to get relief.
 14. *Cynodon dactylon* (L.) Pers. (Poaceae), 'Doab ghass'. Plant juice (10–20 ml) is given orally in case of chronic diarrhea and dysentery.
 15. *Cyperus rotundus* L. (Cyperaceae), 'Motha'. Bulbous roots (3– 6 grams) of *Cyperus rotundus* are scraped and pounded with little ginger (rhizome of *Zingiber officinale*, Zingiberaceae) to prepare the paste. This paste mixed with little amount of honey is given in case of dysentery.
 16. *Eclipta prostrata* L. (Asteraceae), 'Kala Bhangra'. Expressed juice (5–10 ml) of leaves is given with lukewarm once daily for two –three days to allay dysentery of children.
 17. *Emblica officinalis* Gairtn. (Euphorbiaceae), 'Amla'. Ripe fruit with lemon juice is given for arresting dysentery and diarrhea.
 18. *Eugenia jambolana* Lamk. (Myrtaceae), 'Jamun'. Pulp juice of seeds mixing with some amount of Rose water and molasses (Gud) is given to the patient in case of bacterial dysentery.
 19. *Euphorbia prostrata* Sims. (Euphorbiaceae), 'Gonemchi'. Plant juice is given with crystallized sugar (Misri) to stop diarrhea.
 20. *Ficus benghalensis* L. (Moraceae), 'Bargad'. Bark infusion is a good tonic for diarrhea and dysentery.
 21. *Ficus racemosa* L. (Moraceae), 'Gular'. Bark decoction (50 – 100 ml) is used. Curry of unripe fruits is also given to the patient.
 22. *Mangifera indica* L. (Anacardiaceae), 'Aam'. Bark juice mixing with goat milk and little sugar or honey is given orally to cure the blood dysentery.
 23. *Mentha longifolia* L. (Lamiaceae), 'Podina'. Leaf decoction is given thrice a day as a good remedy for diarrhea and dysentery.
 24. *Mimusops elengi* L. (Sapotaceae), 'Maulsari'. Pulp of ripe fruit is successfully used in curing the chronic dysentery.
 25. *Momordica charantia* L. (Cucurbitaceae), 'Karela'. Leaves are crushed and steeped in water, which is given orally as a remedy of diarrhea and dysentery.
 26. *Musa paradisiaca* L. (Musaceae), 'Kela'. Ripe fruits mixed with little mishri (crystallized sugar) and black salt is used orally twice (morning and evening) a day in case of diarrhea and dysentery. OR Root bark of *Musa paradisiaca* along with stem bark of *Mangifera indica*, *Azadirachta indica*, *Ziziphus mauritiana* and fruit of *Artocarpus integrifolia* are pounded by adding little amount of lime water and is orally given to cure diarrhea and dysentery. OR An infusion of about 125 grams rachis of the inflorescence is given orally once a day per dose in dysentery.
 27. *Ocimum sanctum* L. (Lamiaceae), "Krishna Tulsi". A decoction prepared by boiling leaf powder of *Ocimum sanctum* mixed with little amount of fruit paste of Jaiphal (dry fruit of *Myristica fragrans*, Myristicaceae) is given orally twice a day for getting relief. OR The leaf juice (10 grams) mixed with a little amount of Suhaga (sodium borate, borex) is given twice a day in case of greenish and yellowish stool in diarrhea. OR The seed extract prepared by soaking the seeds (12 – 20 grams) overnight in water is prescribed twice a day in case of bacterial dysentery. OR The decoction prepared by boiling 12 grams seeds in cow milk (125 ml) is given to the patient for seven days in an empty stomach in case of bacterial dysentery.
 28. *Oxalis corniculata* L. (Oxalidaceae), 'Khati Mithi'. 10 gram leaf paste is given once a day in an empty stomach for 5–7 days to cure dysentery. OR Leaves are boiled in the cow milk and strained. The filtrate is given thrice a day for seven days to the patients suffering from dysentery and diarrhea. OR Whole part of plant pounded with Zira (fruit of *Cuminum cyminum*, Umbelliferae) is orally given with water thrice a day in diarrhea and dysentery.
 29. *Saccharum officinalis* L. (Poaceae), 'Ganna'. Sugarcane juice (stem juice) added with little amount of Kala namak is given orally in the cases of diarrhea of children.

30. *Saraca asoca* Roxb. (Caesalpiniaceae), 'Ashok'. Flower powder given along with curd is useful in bleeding dysentery.
31. *Sesamum indicum* L. (Pedaliaceae), 'Til'. An infusion prepared by mixing the one part of seed powder of plant, five parts of Mishri (crystallized sugar) and four parts of milk of goat is given continuously for some days in empty stomach in case of diarrhea.
32. *Solanum melongena* L. (Solanaceae), 'Baigan'. Leaf juice mixed with mother's milk is given to the children in case of diarrhea.
33. *Sorghum vulgare* L. (Poaceae), "Jwar". Lukewarm chapatti of seed flour mixed with curd is given to get relief in case of diarrhea.
34. *Syzygium cumini* L. (Myrtaceae), 'Jamun'. Stem bark powder mixed with curd is orally given to cure the dysentery. It is also observed that juice prepared by the mixing of stem bark powder of *Syzygium cumini* and tuberous root of *Asparagus racemosus* is also useful in blood dysentery. OR Leaf juice (10 gram) mixed with honey (5 gram) is given to the patient in the cases of diarrhea thrice a day for 3–4 day.
35. *Tamarindus indica* L. (Caesalpiniaceae), 'Imli'. About 10 - 15 grams dried flowers are crushed with little amount of water. It is given for three – five days to check blood dysentery. OR 15 grams tender leaf paste is given to patient to check dysentery.
36. *Trigonella foenum-graecum* L. (Caesalpiniaceae), 'Methi'. Infusion of roasted seeds is being used orally in dysentery twice a day for seven days.
37. *Venonia cinerea* L. (Asteraceae), 'Phulni'. Root decoction (50–100 ml) is given twice (morning and evening) a day in diarrhea.
38. *Vinca rosea* L. (Apocynaceae), 'Sadawahar'. Leaf juice is used orally in the cases of blood dysentery.

Conclusion

The present paper shows that a large number of medicinal plants are used in the interior area of Aligarh district for treating the diarrhea and dysentery. In addition to their medicinal uses, some of these plants have other uses. The paper provided here can be utilized to further studies on conservation and cultivation of ethnomedicinal plants. Ethnomedicinal informations collected from the practitioners, villagers and old men, who provided the mode of drug preparation from plant sources, still play an important role in curing the diarrhea and dysentery. The youth should also be encouraged to learn the traditional medicinal knowledge to preserve it from being lost with the older generation.

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