



ISSN (E): 2320-3862
ISSN (P): 2394-0530
NAAS Rating: 3.53
JMPS 2020; 8(1): 11-14
© 2020 JMPS
Received: 07-11-2019
Accepted: 09-12-2019

Kh. Abdullah Al Mahmud
Department of Biotechnology &
Genetic Engineering, University of
Development Alternative,
Lalmatia, Dhaka, Bangladesh

Mohammed Rahmatullah
Professor, Department of
Biotechnology & Genetic
Engineering, University of
Development Alternative,
Lalmatia, Dhaka, Bangladesh

Corresponding Author:
Mohammed Rahmatullah
Professor, Department of
Biotechnology & Genetic
Engineering, University of
Development Alternative,
Lalmatia, Dhaka, Bangladesh

Rural home remedies: Medicinal plants used in a village of Tangail district, Bangladesh

Kh. Abdullah Al Mahmud and Mohammed Rahmatullah

Abstract

Only a tiny fraction of the 250,000 or more plant species of the world has been explored for their therapeutic properties. It is quite possible that the solutions to the treatment of many complex diseases may lie in plants that are very commonly seen. The objective of this study was to document the phytotherapeutic practices of a folk medicinal practitioner (FMP) of Lakshmipur district, Bangladesh who used commonly available plants to treat complex diseases. The FMP claimed to cure diseases of heart, kidney and liver with fruits of *Citrullus lanatus* (watermelon). Breast cancer and liver disorders were treated by him with black grapes (*Vitis vinifera* black variety). Plant parts from *Zingiber officinale* (ginger) and *Artocarpus heterophyllus* (jackfruit) were used by the FMP for treatment of obesity and heart attacks, respectively. Scientific validations of the folk medicinal practices of the FMP can lead to important drug discoveries.

Keywords: Home remedies, Tangail district, Bangladesh, medicinal plants

Introduction

Before allopathic medicine there were traditional medicines, which did not disappear with the advent of allopathic medicines but still persists in modern times. And possibly before traditional medicines took a systematic form (like in Ayurveda, Unani or traditional Chinese medicine), there were home remedies. In fact a study in Africa suggest that traditional remedies may start from home and pass on progressively to family members, next to neighbors, then village elders, and finally to traditional healers [1]. Home remedies are present in practically all countries of the world. For instance, home remedies for treatment of hair and scalp have been reported from West Bank-Palestine [2].

In Bangladesh, home remedies and folk medicine play a vital role in the maintenance of health-care in both rural and urban households. Practically every family has their own repertoire of home remedies. In villages, elderly women can be found who has practically built up their own collection of home remedies. They can be found rising up early in the morning, collecting herbs and plant parts for 2-3 hours and then bringing back the collected materials, which are dried and stored in various jars and containers. The herbs and plant parts are then dispensed as per requirements to sick persons. It is also the cultural heritage of ethnic women to collect medicinal plants for therapeutic purposes [3].

Although Bangladesh is a small country without any accurate estimates of its floral species, it has been estimated that there may be more than 5000 floral species within its borders. This huge number of angiosperms, since plants have medicinal properties, has formed the backbone of a number of traditional medicinal systems including folk medicine, tribal medicine, and home remedies, which systems essentially rely on phytotherapy for treatment. But at the same time, adequate studies are yet to be done to document the huge diversity of medicinal plant usage. To compensate for this inadequacy, we had been documenting the phytotherapeutic practices of folk and tribal medicinal practitioners along with home remedies for almost a decade [4-35]. However, we estimate that we have not even documented even 5% of traditional phytotherapeutic practices. Many more surveys need to be done for adequate documentation, which besides being of use in discovery of new drugs will also help plant conservation and establishing intellectual property rights. The objective of the present survey was to document the folk remedies of a rural housewife in Nolin bazaar village of Tangail district, Bangladesh.

Methodology

The rural housewife chosen at random was Sefali Begum, residing in Nolin bazaar village of Tangail district, Bangladesh (Figure 1).

Informed consent was first obtained from her as to disseminate the information obtained from her as well as her name in national and international journals. The home remedy informant (HRI) took the authors to various places within the village to show the plants, which she used in her remedies and described their uses. Local names of the plants were obtained

from the HRI. Plants were photographed. Plant parts were also collected, dried and pressed and brought to Dhaka for identification by a competent botanist at the University of Development Alternative. Plant specimens were deposited with the Medicinal Plant Collection Wing of the University of Development Alternative.

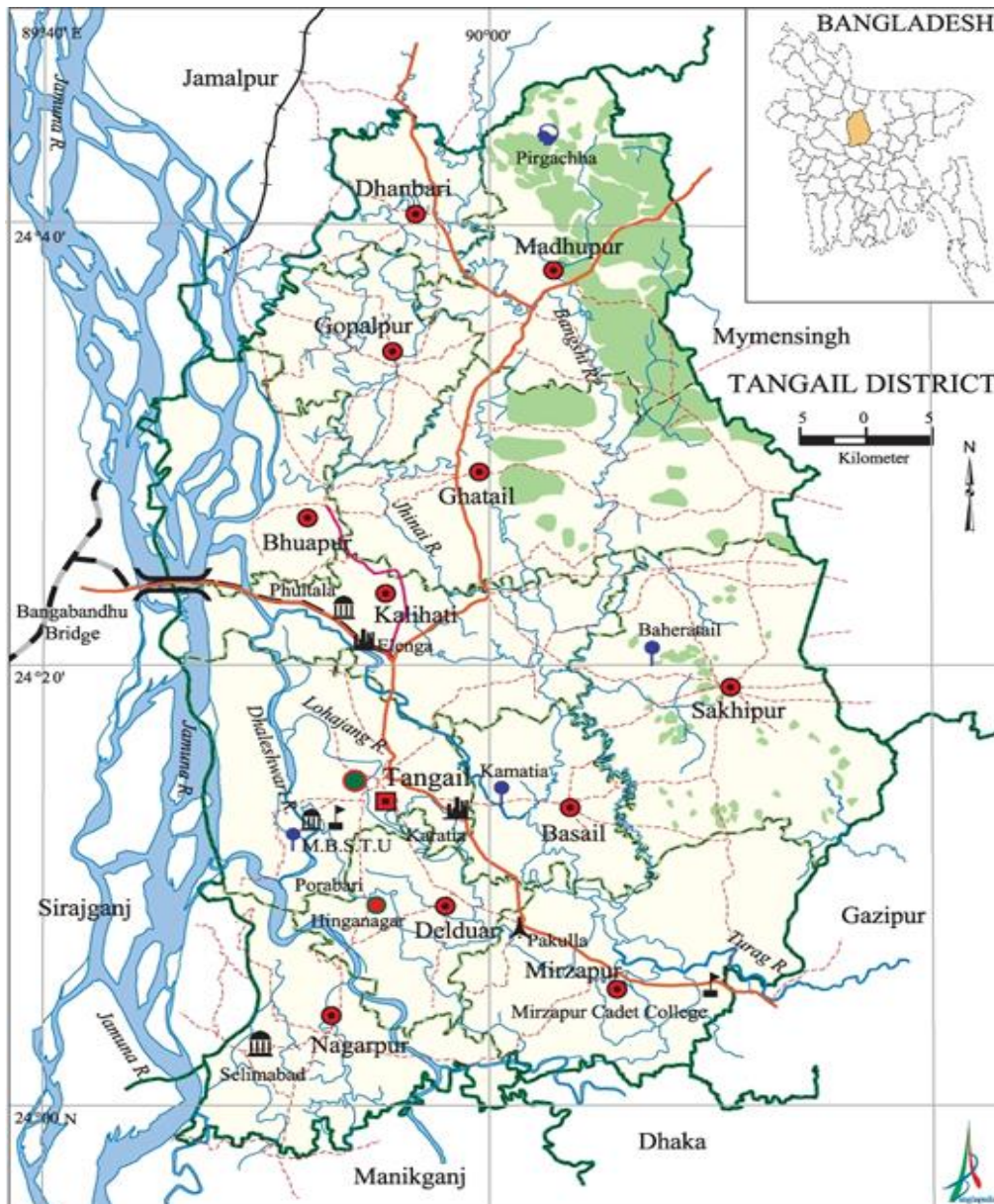


Fig 1: Map of Tangail district (inset: map of Bangladesh showing Tangail district in yellow).

Table 1: Home remedies of the HRI in Tangail district, Bangladesh

Serial Number	Scientific Name	Family Name	Local Name	Parts used	Ailments treated
1	<i>Amaranthus spinosus</i> L.	Amaranthaceae	Kanta notey	Root	Dysentery. Root is made into a paste with water in which rice (uncooked) has been washed. The paste is taken orally with a few drops of honey and some sugar.
2	<i>Cocos nucifera</i> L.	Arecaceae	Narkel	Oil from fruit pulp	Skin infections. Oil from fruit pulp is mixed with sulfur and topically applied.
3	<i>Heliotropium indicum</i> L.	Boraginaceae	Hatishura	Leaf	Conjunctivitis. 1-2 drops of leaf juice are applied to the eyes.
4	<i>Momordica charantia</i> L.	Cucurbitaceae	Korolla	Leaf	Small pox, chicken pox. Leaves of <i>Momordica charantia</i> and <i>Azadirachta indica</i> are fried or boiled together and taken orally.
5	<i>Mucuna pruriens</i> (L.) DC.	Fabaceae	Alkushi	Leaf	Ear infections. Leaf juice is lightly warmed and 1-2 drops applied inside the ear.
6	<i>Tamarindus indica</i> L.	Fabaceae	Tetul	Young leaf	Gastrointestinal problems. Young leaves are boiled thoroughly in water followed by drinking the water.
7	<i>Centratherum</i>	Malvaceae	Somraji	Leaf, seed	Helminthiasis. One-half tola (local measure, 80 tolas approximate 1 kg) leaf

	<i>anthelminticum</i> (L.) Kuntze		Hakuj		juice or one anna (local measure, 16 annas approximate 1 kg) powdered seeds is taken orally with honey or mishri (crystalline sugar).
8	<i>Hibiscus rosa-sinensis</i> L.	Malvaceae	Joba	Leaf	Meho (Ayurveda term for endocrinological disorders including menstrual disorders). 8-10 leaves from a red-flowered plant is crushed in one chatak (local measure, 16 chataks approximate 1 kg) water till a saliva-like fluid oozes from the leaves. The water is strained, mixed with a little sugar and taken daily orally in the morning on an empty stomach.
9	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Neem	Leaf	See <i>Momordica charantia</i> .
10	<i>Paederia foetida</i> L.	Rubiaceae	Gondho vadulia	Leaf	Indigestion, loss of appetite, diarrhea. Crushed leaves are mixed with rice flour. Small lumps of the mixture are fried and taken orally. Chronic dysentery. Leaf juice is taken orally.

Results and Discussion

The HRI was found to use a total of 10 plants distributed into 8 families in her plant-based remedies. The plants were used to treat gastrointestinal disorders, skin infections, eye and ear infections, pox, helminthiasis, and endocrinological disorders. The results are shown in Table 1.

A number of the remedies used by the HRI were quite novel, and to our knowledge, previously unreported. For instance, the use of *Momordica charantia* leaves for treatment of chicken pox and small pox (the latter when it used to occur but not presently) has not been reported before. However, an anti-viral protein active against influenza A has been described to be present in the plant^[36]. On the other hand, it is not certain that the protein in question would maintain activity following frying or boiling, as being done by the HRI and also show activity against the viruses causing chicken and small pox. Similarly, to our knowledge, the use of *Mucuna pruriens* to treat ear infections is also a novel home remedy.

Amaranthus spinosus is used for treatment of diarrhea in Thailand and in some parts of India^[37]. *Heliotropium indicum*, among other uses, has folk medicinal use in Bangladesh to clear blurred vision^[38]. Sulfur and coconut oil along with other components has been shown to be an effective ointment for skin problems^[39]. Leaves of *Tamarindus indica* are used to treat diarrhea in East Africa^[40]. So overall it can be said that the home remedies of the HRI contained both novel remedial measures against some diseases along with use of other plants or plant parts, which has been reported to have similar phytotherapeutic uses in other parts of the world.

Acknowledgement

The authors are thankful to the HRI for providing information.

References

1. Sewani-Rusike CR, Mammen M. Medicinal plants used as home remedies: A family survey by first year medical students. *Afr J Tradit Complement Altern Med*. 2014; 11(5):67-72.
2. Zaid AN, Jaradat NA, Eid AM, Zabadi HA, Abdulsalam, Darwish SA. Ethnopharmacological survey of home remedies used for treatment of hair and scalp and their methods of preparation in the West Bank-Palestine. *BMC Complement Alternat Med*. 2017; 17:355.
3. Motaleb MA. In: Selected Medicinal Plants of Chittagong Hill Tracts. MK Hossain, I Sobhan, MK Alam, NA Khan, R Firoz (Eds), IUCN (International Union for Conservancy of Nature), Bangladesh Country Office, 2011.
4. Rahmatullah M, Ferdousi D, Mollik MAH, Jahan R, Chowdhury MH, Haque WM. A Survey of Medicinal Plants used by Kavirajes of Chalna area, Khulna District, Bangladesh. *Afr J Tradit Complement Alternat Med*. 2010; 7(2):91-97.
5. Rahmatullah M, Khatun MA, Morshed N, Neogi PK, Khan SUA, Hossain MS *et al*. A randomized survey of medicinal plants used by folk medicinal healers of Sylhet Division, Bangladesh. *Adv Nat Appl Sci*. 2010; 4(1):52-62.
6. Rahmatullah M, Kabir AABT, Rahman MM, Hossain MS, Khatun Z, Khatun MA *et al*. Ethnomedicinal practices among a minority group of Christians residing in Mirzapur village of Dinajpur District, Bangladesh. *Adv Nat Appl Sci*. 2010; 4(1):45-51.
7. Rahmatullah M, Momen MA, Rahman MM, Nasrin D, Hossain MS, Khatun Z *et al*. A randomized survey of medicinal plants used by folk medicinal practitioners in Daudkandi sub-district of Comilla district, Bangladesh. *Adv Nat Appl Sci*. 2010; 4(2):99-104.
8. Rahmatullah M, Mollik MAH, Ahmed MN, Bhuiyan MZA, Hossain MM, Azam MNK *et al*. A survey of medicinal plants used by folk medicinal practitioners in two villages of Tangail district, Bangladesh. *Am-Eur J Sustain Agric*. 2010; 4(3):357-362.
9. Rahmatullah M, Mollik MAH, Islam MK, Islam MR, Jahan FI, Khatun Z *et al*. A survey of medicinal and functional food plants used by the folk medicinal practitioners of three villages in Sreepur Upazilla, Magura district, Bangladesh. *Am-Eur J Sustain Agric*. 2010; 4(3):363-373.
10. Rahmatullah M, Jahan R, Khatun MA, Jahan FI, Azad AK, Bashar ABMA *et al*. A pharmacological evaluation of medicinal plants used by folk medicinal practitioners of Station Purbo Para Village of Jamalpur Sadar Upazila in Jamalpur district, Bangladesh. *Am-Eur J Sustain Agric*. 2010; 4(2):170-195.
11. Rahmatullah M, Ishika T, Rahman M, Swarna A, Khan T, Monalisa MN *et al*. Plants prescribed for both preventive and therapeutic purposes by the traditional healers of the Bede community residing by the Turag River, Dhaka district. *Am-Eur J Sustain Agric*. 2011; 5(3):325-331.
12. Rahmatullah M, Azam MNK, Rahman MM, Seraj S, Mahal MJ, Mou SM *et al*. A survey of medicinal plants used by Garo and non-Garo traditional medicinal practitioners in two villages of Tangail district, Bangladesh. *Am-Eur J Sustain Agric*. 2011; 5(3):350-357.
13. Rahmatullah M, Biswas KR. Traditional medicinal practices of a Sardar healer of the Sardar (Dhangor) community of Bangladesh. *J Altern Complement Med*. 2012; 18(1):10-19.
14. Rahmatullah M, Hasan A, Parvin W, Moniruzzaman M, Khatun Z, Jahan FI *et al*. Medicinal plants and formulations used by the Soren clan of the Santal tribe in Rajshahi district, Bangladesh for treatment of various ailments. *Afr J Tradit Complement Alternat Med*. 2012;

- 9(3):350-359.
15. Rahmatullah M, Khatun Z, Hasan A, Parvin W, Moniruzzaman M, Khatun A *et al.* Survey and scientific evaluation of medicinal plants used by the Pahan and Teli tribal communities of Natore district, Bangladesh. *Afr J Tradit Complement Alternat Med.* 2012; 9(3):366-373.
 16. Rahmatullah M, Azam MNK, Khatun Z, Seraj S, Islam F, Rahman MA *et al.* Medicinal plants used for treatment of diabetes by the Marakh sect of the Garo tribe living in Mymensingh district, Bangladesh. *Afr J Tradit Complement Alternat Med.* 2012; 9(3):380-385.
 17. Rahmatullah M, Khatun Z, Barua D, Alam MU, Jahan S, Jahan R. Medicinal plants used by traditional practitioners of the Kole and Rai tribes of Bangladesh. *J Altern Complement Med.* 2013; 19(6):483-491.
 18. Rahmatullah M, Pk SR, Al-Imran M, Jahan R. The Khasia tribe of Sylhet district, Bangladesh, and their fast-disappearing knowledge of medicinal plants. *J Altern Complement Med.* 2013; 19(7):599-606.
 19. Akter S, Nipu AH, Chyiti HN, Das PR, Islam MT, Rahmatullah M. Ethnomedicinal plants of the Shing tribe of Moulvibazar district, Bangladesh. *World J Pharm Pharmaceut Sci.* 2014; 3(10):1529-1537.
 20. Azad AK, Mahmud MR, Parvin A, Chakraborty A, Akter F, Moury SI *et al.* Medicinal plants of a Santal tribal healer in Dinajpur district, Bangladesh. *World J Pharm Pharmaceut Sci.* 2014; 3(10):1597-1606.
 21. Azad AK, Mahmud MR, Parvin A, Chakraborty A, Akter F, Moury SI *et al.* Ethnomedicinal surveys in two Mouzas of Kurigram district, Bangladesh. *World J Pharm Pharmaceut Sci.* 2014; 3(10):1607-1620.
 22. Kamal Z, Bairage JJ, Moniruzzaman, Das PR, Islam MT, Faruque MO *et al.* Ethnomedicinal practices of a folk medicinal practitioner in Pabna district, Bangladesh. *World J Pharm Pharmaceut Sci.* 2014; 3(12):73-85.
 23. Anzumi H, Rahman S, Islam MA, Rahmatullah M. Uncommon medicinal plant formulations used by a folk medicinal practitioner in Naogaon district, Bangladesh. *World J Pharm Pharmaceut Sci.* 2014; 3(12):176-188.
 24. Esha RT, Chowdhury MR, Adhikary S, Haque KMA, Acharjee M, Nurunnabi M *et al.* Medicinal plants used by tribal medicinal practitioners of three clans of the Chakma tribe residing in Rangamati district, Bangladesh. *Am.-Eur J Sustain Agric.* 2012; 6(2):74-84.
 25. Malek I, Miah MR, Khan MF, Awal RBF, Nahar N, Khan I *et al.* Medicinal plants of two practitioners in two Marma tribal communities of Khagrachhari district, Bangladesh. *Am.-Eur J Sustain Agric.* 2014; 8(5):78-85.
 26. Shakera J, Mandal R, Akter T, Nahar N, Rahmatullah M. Folk medicine in Bangladesh: Healing with plants by a practitioner in Kushtia district. *Arch Pharm Pharmacol Res.* 2019; 1(5):2019. APPR.MS.ID.000525. DOI: 10.33552/APPR.2019.01.000525.
 27. Rahmatullah M, Jannat K, Nahar N, Al-Mahamud R, Jahan R, Hamid A. Tribal medicinal plants: documentation of medicinal plants used by a Mogh tribal healer in Bandarban district, Bangladesh. *Arch Pharm Pharmacol Res.* 2019; 1(5):APPR.MS.ID.000523. DOI: 10.33552/APPR.2019.01.000523.
 28. Shova NA, Islam M, Rahmatullah M. Phytotherapeutic practices of a female folk medicinal practitioner in Cumilla district, Bangladesh. *J Med Plants Stud.* 2019; 7(4 Part A):1-5.
 29. Jannat K, Al-Mahamud R, Jahan R, Hamid A, Rahmatullah M. Phyto and zootherapeutic practices of a Marma tribal healer in Bandarban district, Bangladesh. *Int J Appl Res Med Plants.* 2019; 2(1):9; DOI: 10.29011/IJARMP-109.100009.
 30. Shandhi MM, Khatun T, Mondol N, Patwary SA, Jannat K, Rahmatullah M. Tying or hanging of plants to body to cure diseases: an esoteric method of treatment. *J Med Plants Stud.* 2019; 7(2):131-133.
 31. Mondol N, Patwary SA, Shandhi MM, Khatun T, Jannat K, Rahmatullah M. A study of folk medicinal practices in Debashur village, Gopalganj district, Bangladesh. *World J Pharm Res.* 2019; 8(5):589-598.
 32. Jannat K, Shova NA, Islam MMM, Jahan R, Rahmatullah M. Herbal formulations for jaundice treatment in Jamalpur district, Bangladesh. *J Med Plants Stud.* 2019; 7(2):99-102.
 33. Hosen MS, Rahmatullah M. Simple phytotherapeutic practices of a Tripura tribal medicinal practitioner in Bandarban district, Bangladesh. *J Med Plants Stud.* 2019; 7(1):93-95.
 34. Howlader MS, Jannat K, Rahmatullah M. Some medicinal plants used for treatment of diarrhea and dysentery by folk medicinal practitioners in Chandpur district, Bangladesh. *Arch Nat Med Chem.* 2019; 4:1022.
 35. Reza R, Hosen MS, Rahmatullah. Use of *Jasminum sambac* and *Eleusine indica* in a novel method for treatment of snakebite. *J Nat Ayurvedic Med (JONAM),* 2019, 3(4). DOI: 10.23880/jonam-16000208.
 36. Pongthanapisith V, Ikuta K, Puthavathana P, Leelamanit W. Antiviral protein of *Momordica charantia* L. inhibits different subtypes of Influenza A. *Evid-Based Complement Alternat Med* 2013; 2013: Article ID 729081.
 37. Hussain Z, Amresh G, Singh S, Rao CV. Antidiarrheal and antiulcer activity of *Amaranthus spinosus* in experimental animals. *Pharm Biol.* 2009; 47(10):932-939.
 38. Reza R, Hosen MS, Ripon SS, Rahmatullah M. Multiple traditional medicinal uses of *Heliotropium indicum* L. (Boraginaceae). *Asian J Pharmacogn.* 2018; 2(1):38-41.
 39. Shah MK. Coconut oil compound ointment. *Indian J Dermatol Venereol Leprol.* 2003; 69(4):303-304.
 40. Havinga RM, Hartl A, Putscher J, Prehsler S, Buchmann C, Vogl CR. *Tamarindus indica* L. (Fabaceae): Patterns of use in traditional African medicine. *J Ethnopharmacol.* 2010; 127:573-588.