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Research Article

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Medicinal plant home remedies in several villages of Patuakhali district, Bangladesh

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ABSTRACT

Home remedies are a common feature of treatment in Bangladesh especially for seasonal diseases and diseases for which visits to trained medicinal practitioners are considered to be not necessary. Most home remedies use medicinal plants or plant parts and as such are not much different from folk medicinal practices. The objective of the present study was to document the home remedies of villagers in several villages of Patuakhali district in Bangladesh. The survey was conducted with the help of a semi-structured questionnaire and the guided field-walk method. It was observed that the villagers used a total of 22 plants distributed into 19 families as home remedies. These plants were used to treat diseases, which included gastrointestinal disorders, respiratory tract disorders, jaundice, high blood pressure, obesity, tuberculosis, leucorrhea, cuts and wounds, urinary trouble, diabetes, rheumatism, pain, and as sex stimulant. Home remedies can be a valuable source of information on medicinal plants and the plants used to treat high blood pressure, obesity, diabetes, rheumatism, and tuberculosis by the rural people can be of special interests to scientists for further studies.

Key words: Home remedies, Patuakhali, medicinal plants, Bangladesh

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INTRODUCTION

Traditional medicine in Bangladesh takes many forms like Ayurveda, Unani, homeopathy, folk medicine, as well as home remedies. Home remedies are common throughout both urban and rural Bangladesh, and have often been overlooked because of their common features. However, most home remedies use medicinal plants and as such, can provide valuable information on medicinal plants and their uses. Home remedies are not remedies prescribed by a professional practitioner but which are used in families for generations and the knowledge transferred from generation to generation. Usually elderly people are more knowledgeable about home remedies. Since home remedies for the most part use medicinal plants, they are not much different from folk medicine, except perhaps in the simplicity of the practices.

We had been conducting extensive ethnomedicinal surveys among the folk and tribal medicinal practitioners of Bangladesh for a number of years [1-23]. We have also conducted some previous surveys on home remedies [24, 25] for the information obtained can be a useful supplement to the information obtained on folk and tribal medicinal practices. The objective of the present study was to document the home remedies used by the rural population of several villages in Patuakhali district, Bangladesh.

EXPERIMENTAL SECTION

The present survey was conducted among the rural population living in Vangra, Dhulia, Boga, Kalishuri, and Botkajol villages in Patuakhali district, Bangladesh. Prior Informed Consent was obtained from the villagers for the survey. Homesteads in the different villages were visited and interviews carried out to see whether that particular homestead used any home remedies. If the answer was in the affirmative, actual interviews were carried out with the help of a semi-structured questionnaire and the guided field-walk method of Martin [26] and Maundu [27]. In this method, the villagers took the interviewers on guided field-walks through areas from where they collected their medicinal plants, pointed out the plants, and described their uses. Interviews were carried out in the Bengali language, which was spoken alike by the villagers and the interviewers. Plant specimens were photographed, collected, pressed and dried and brought back to Dhaka for identification at the Bangladesh National Herbarium.

RESULTS AND DISCUSSION

It was observed that the villagers used a total of 22 plants distributed into 19 families as home remedies. These plants were used to treat a number of complex and not so complex diseases, which included gastrointestinal disorders, respiratory tract disorders, jaundice, high blood pressure, obesity, tuberculosis, leucorrhea, cuts and wounds, urinary trouble, diabetes, rheumatism, pain, and as sex stimulant. The results are shown in Table 1. The number of diseases treated and the number of medicinal plants used attest to the practical knowledge on medicinal plants and their medicinal attributes among the rural population of the country.

It was also observed that different homesteads used a given plant for treatment of diseases, which differed considerably. For instance *Centella asiatica* was used by several homesteads to increase sexual power, i.e. as a sex stimulant. Other homesteads used the plant for treatment of tuberculosis and leucorrhea. In these cases, the plant was used with *Curcuma longa*. Still other homesteads used the plant to treat dysentery. Interestingly, several homesteads used the plant along with *Tagetes erecta* to treat dysentery, while other homesteads used the plant with *Coccinia cordifolia* to treat dysentery. *Coccinia cordifolia* alone was used by some homesteads to treat diabetes and other homesteads to treat jaundice. *Mangifera indica* was used by itself to treat obesity, and along with *Adhatoda vasica* to treat dysentery. *Adhatoda vasica* was used by itself for treatment of coughs.

The plants used to treat high blood pressure (hypertension), diabetes, rheumatism, obesity, and tuberculosis deserve special interest because these diseases are incurable with modern allopathic medicine or as in the case of tuberculosis difficult to cure because of the emergence of drug-resistant vectors. High blood pressure was treated by different homesteads either with *Alternanthera philoxeroides* or with *Cynodon dactylon*. These are two of the most common plants in Bangladesh, and if the rural uses can be scientifically validated, can prove to be affordable and accessible sources at virtually no cost for treatment of this condition, which can rapidly lead to cardiovascular disorders and fatality. Diabetes was treated with *Coccinia cordifolia*, *Swietenia mahagoni*, or *Tinospora cordifolia*. Interestingly, the antidiabetic properties of all three plants have been scientifically reported [28-30]. Aerial parts of *Cynodon dactylon* have also been reported to have hypotensive effects in high fructose treated Wistar rats [31].

Achyranthes aspera was used by several homesteads to treat jaundice. The hepatoprotective effect of the plant has been described [32]. *Coccinia cordifolia* was also used by some homesteads to treat jaundice. The hepatoprotective effect of *Coccinia grandis* (synonym of *Coccinia cordifolia*) against paracetamol induced hepatotoxicity has been reported [33]. *Adhatoda vasica* was used for treatment of coughs. The effectiveness of the plant in treatment of coughs and other respiratory tract disorders has been reviewed [34].

It can thus be seen that the home remedies of the villagers are not based on mere superstitious beliefs, but quite a number of the remedies have scientific validations. Thus the other plants also merit scientific attention as to their remedial potential towards not only discovery of new drugs but also serving as a source for alternative and effective medicines. Rural people are generally poor and scientific validation of the home remedies can offer an accessible and affordable remedy for treatment of a number of diseases.

Table 1. Home remedies of villagers in several villages in Patuakhali district, Bangladesh

Serial Number	Scientific Name	Family Name	Local Name	Parts used	Ailments and mode of medicinal use
1	*Adhatoda vasica* L.	Acanthaceae	Bashok	Leaf	Coughs. Leaf juice is orally taken. Dysentery. Leaf juice of *Adhatoda vasica* and leaf juice of *Mangifera indica* is taken orally on an empty stomach twice daily with water.
2	*Achyranthes aspera* L.	Amaranthaceae	Apang	Root	Jaundice. Root juice is taken on an empty stomach.
3	*Alternanthera philoxeroides* (Mart.) Griseb.	Amaranthaceae	Helencha	Leaf	High blood pressure. Leaf juice is taken orally with water regularly in the morning.
4	*Mangifera indica* L.	Anacardiaceae	Aam	Leaf	Obesity. Young leaves are chewed and taken orally once daily in the morning. This is continued for 2 years. See *Adhatoda vasica*.
5	*Centella asiatica* (L.) Urb.	Apiaceae	Thankuni	Leaf	To increase sexual prowess. Leaves of *Centella asiatica* are taken orally on an empty stomach along with rhizomes of *Curcuma longa*. Tuberculosis, leucorrhea. Leaves of *Centella asiatica* and rhizomes of *Curcuma longa* are sliced and taken orally. See *Tagetes erecta*. See *Coccinia cordifolia*.
6	*Mikania cordata* (Burm.f.) B.L. Rob.	Asteraceae	Pakistani lota	Leaf	To stop bleeding from cuts and wounds. Leaf juice is topically applied. Stomach pain, acidity. Leaf juice is orally taken. Gastric trouble. Leaf juice is taken daily orally with water on an empty stomach.
7	*Tagetes erecta* L.	Asteraceae	Gada	Leaf	Dysentery. Leaves of *Tagetes erecta* are cut into small pieces, soaked in water and then taken orally with leaf juice of *Centella asiatica*.
8	*Kalanchoe pinnata* (Lam.) Pers.	Crassulaceae	Pathorkuchi	Leaf	Urinary trouble. Leaf juice is orally taken with water twice daily after meals.
9	*Coccinia cordifolia* (L.) Cogn.	Cucurbitaceae	Telakucha	Leaf	Diabetes. Leaves are cut into small pieces and then taken orally in the morning with water. Dysentery. Leaf juice of *Coccinia cordifolia* and leaf juice of *Centella asiatica* is taken orally twice daily. Jaundice. Leaf juice is taken orally in the morning with water on an empty stomach.
10	*Cuscuta reflexa* Roxb.	Cuscutaceae	Swarna lota	Stem	Rheumatism. Stems are sliced into small pieces and soaked in water. The water is taken every morning orally after meal.
11	*Tamarindus indica* L.	Fabaceae	Tetul	Leaf	Mucus. Leaf juice is boiled and taken orally in the morning and evening for 1 month.
12	*Ocimum tenuiflorum* L.	Lamiaceae	Tulshi	Leaf	Coughs. Leaf juice of *Ocimum tenuiflorum* is taken thrice daily. At the same time, leaf juice of *Nyctanthes arbor tristis* is taken orally twice daily.
13	*Swietenia mahagoni* (L.) Jacq.	Meliaceae	Mehogoni	Seed	Diabetes. Paste of seeds is taken orally with water.
14	*Tinospora cordifolia* (Willd.) Miers.	Menispermaceae	Padma guruch	Stem	Diabetes. Stems are soaked in water for 2 hours. The water is then taken orally.
15	*Artocarpus heterophyllus* Lam.	Moraceae	Kanthal	Leaf	Coughs. Leaf juice is orally taken.
16	*Psidium guajava* L.	Myrtaceae	Peyara	Leaf	Toothache. Leaves are chewed and taken orally.
17	*Nymphaea nouchali* Burm. f.	Nymphaeaceae	Shapla	Flower	To increase sexual power. Flowers are orally taken.
18	*Nyctanthes arbor tristis* L.	Oleaceae	Shefali	Leaf	See *Ocimum tenuiflorum*.
19	*Cynodon dactylon* (L.) Pers.	Poaceae	Durba ghash	Leaf	High blood pressure. Leaf juice is orally taken.
20	*Dendrocalamus longispathus* (Kurz) Kurz	Poaceae	Orah	Leaf	Body pain. Leaf juice is taken orally in the morning on an empty stomach.
21	*Nigella sativa* L.	Ranunculaceae	Kali jira	Seed	Rheumatism. Seeds are taken orally in the mashed form.
22	*Curcuma longa* L.	Zingiberaceae	Holud	Rhizome	See *Centella asiatica*.

CONCLUSION

A number of the plants used by the rural people of Patuakhali district especially plants used to treat diseases like high blood pressure, diabetes, obesity, rheumatism and tuberculosis deserve scientific attention towards discovery of possible novel and more efficacious drugs.

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