

## Study of Medicinal Plants in the Graveyards of Rajshahi City

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**Abstract:** A study of medicinal plants in the graveyards of Rajshahi city corporation area were carried out. The plants, which were used by the local people, were surveyed and collected, as identified. In all the cases the medicinal use, part(s) used were ascertained. For each species, botanical name, family, local name and medicinal uses are given. Altogether 49 species belonging to 47 genera and 33 families are enumerated. About the species *Artocarpus heterophyllus*, *Azadirachta indica*, *Achyranthes aspera*, *Annona squamosa*, *Cocos nucifera*, *Dalbergia sissoo*, *Erythrina variegata*, *Ficus benghalensis*, *Mangifera indica*, *Justicia gendarussa*, *Ocimum sanctum*, *Oxalis corniculata*, *Psidium guajava*, *Syzygium cumini*, *Vitex negundo*, *Zizyphus mauritiana* were very common and *Asparagus racemosus*, *Aloe barbadensis*, *Cassia alata*, *Feronia limonia*, *Rauvolfia serpentina*, *Vitis quadrangularis* were very rare species in the study area.

**Key words:** Medicinal plants, Graveyards, Rajshahi City

### INTRODUCTION

Medicinal plants were very commonly available in abundance especially in the tropics. During recent years, many of these natural sources have been destroyed by over exploitation and deforestation. Apart from the use in the treatment of illness through self-medication, these medicinal plants are valuable for modern medicine in other ways. The success of any health care system depends on the availability of suitable drugs on a sustainable basis. With the increasing cost of modern medicines it becomes more difficult for the poor to afford allopathic medicine. Here medicinal plants play a key role in the health care of the poor<sup>[22]</sup>.

The Muslim graveyards are the sacred places. The graveyards are situated in such a place, which is outside of human habitation and usually have some protected devices. The soil of graveyards is fertile due to the decomposition of human bodies. As soil of the graveyards is fertile, quick growth and development of some medicinal plants occur, i.e. *Azadirachta indica*, *Artocarpus heterophyllus*, *Annona squamosa*, *Bombax ceiba*, *Dalbergia sissoo*, *Erythrina variegata*, *Ficus benghalensis*, *Mangifera indica*, *Tamarindus indica* etc.

The graveyards are protected area, where common people cannot go. As the graveyards are undisturbed place, as a result medicinal plants can grow at their will. The medicinal plants are planted or naturally

grown, i.e. *Aegle marmelos*, *Alstonia scholaris*, *Azadirachta indica*, *Andrographis paniculata*, *Asparagus racemosus*, *Terminalia arjuna*, *Terminalia chebula* etc. in the study area.

Various kinds of medicinal plants grow naturally in graveyards. Furthermore, many kinds of medicinal plants are planted in graveyards. All categories of people-literate and illiterate, rich and poor-of Rajshahi city use these kinds of medicinal plants in order to cure various diseases. Most of the poor people are unable to take modern Medicare due to economic incapability. That is why, they use medicinal plants to cure most of their diseases<sup>[21]</sup>.

### MATERIALS AND METHODS

The investigation of medicinal plants in the graveyards of Rajshahi city corporation area were carried out. Study area was selected there were three graveyards: a) Tikapara: It is situated in the east site of Boalia Thana. The measurement of the area is near about 4 acres. It is an old graveyard. b) Hetemkhan: It is situated in the north site of Boalia Thana. The measurement of the area is near about 2.5 acres. It is an also old graveyard. c) Meherchandi: It is situated in the east site of Motihar Thana. The measurement of the area is near about 1 acre. It is a new graveyard. These area had been surveyed in 15 days intervals for collecting plant species.

**Table 1:** The table mentioned local name, scientific name, family, part use and process of use for each species.

Local name	Scientific name and family	Part use	Process of use
Apang	<i>Achyranthes aspera</i> Family:Amaranthaceae	Root, bark,leaf	Paste of root bark is used in sciatica and juice of roots are used in abortion. Paste of leaves are used in eczema and wound.
Basak	<i>Adhatoda vasica</i> Family:Acanthaceae	Leaf, bark	Juice made from young leaves are used in cough and asthma. Juice made from bark and leaves are used in vomiting and worm.
Chatim	<i>Alstonia scholaris</i> Family:Apocynaceae	Bark, latex	Juice made from bark is used in fever, rheumatism and dysentery. Latex is used in relive earache.
Kantanotey	<i>Amaranthus spinosus</i> Family:Amaranthaceae	Whole plant	Juice made from whole plants are used in asthma and cold fever.
Ghritakumari	<i>Aloe barbadensis</i> Family:Liliaceae	Leaf, mucilage	Juice made from leaves are used in beautification, tonic and anthelmintic. The mucilage is used in wound and itches.
Bel	<i>Aegle marmelos</i> Family:Rutaceae	Fruit, leaf	Decoction of immature fruits are used in babies dysentery and pulp of ripe fruits are used in digestive, tonic and stomachic. Juice of leaves are used in abscess and fever.
Ata	<i>Annona squamosa</i> Family:Annonaceae	Root, fruit, bark,leaf	Juice of roots are used in dysentery and ripe fruits are used in tonic. Juice of bark is used in diarrhoea and paste of leaves are used in abscess.
Kalomegh	<i>Andrographis paniculata</i> Family:Acanthaceae	Leaf, whole plant	Paste made from leaves are used in wound, ring worm and itches. Juice made from whole plants are used in fever, dysentery, diarrhoea and tonic.
Kadam	<i>Anthocephalus chinensis</i> Family:Rubiaceae	Bark, leaf	Juice of barks are used in tonic and paste made from leaves are used in wound. The decoction made from its leaves are used in mouth ulcer.
Kathal	<i>Artocarpus heterophyllus</i> Family:Moraceae	Leaf, bark	Juice made from young leaves are used in wound, asthma and itches. Juice made from bark mixed with turmeric used in menstrual disease.
Sialkanta	<i>Argemone mexicana</i> Family:Papaveraceae	Stem, root, latex	Curry made from stems are used in fever, cold, jaundice and diabetes. Juice made from roots are used in tonic, diuretic and pain killer. Latex is used in wound, skin disease and itches.
Satamuli	<i>Asparagus racemosus</i> Family:Liliaceae	Root, bark	Juice made from the tuberous roots are used in tonic, blood dysentery, diabetes, jaundice, diarrhoea and promotes lactation in mother. Paste of barks are used in wound and itches.
Neem	<i>Azadirachta indica</i> Family: Meliaceae	Leaf, fruit	Juice made from young leaves mixed with excess water of boil rice used in worm. Paste of leaves are used in eczema, ringworm and itches. Fruit juice mixed with coconut oil used as lice killer.
Shimul	<i>Bombax ceiba</i> Family:Bombacaceae	Bark, root	Paste made from barks are used in wound and itches. Juice made from barks are used in dysentery, diarrhoea and excessive menstrual discharge. Juice made from immature plant roots are used in diabetes.
Dadmardan	<i>Cassia alata</i> Family:Caesalpinaceae	Leaf	Paste made from leaves are used in ringworm and decoction of leaves are used in eczema.
Kalkasunda	<i>Cassia sophera</i> Family:Caesalpinaceae	Root, leaf	Juice made from roots are used in fever and diuretic. Paste made from leaves are used in ring worm and sore.
Arhar	<i>Cajanus cajan</i> Family: Fabaceae	Root, leaf	Juice made from young leaves are used in jaundice and juice made from roots are used in diabetes.
Thankuni	<i>Centella asiatica</i> Family: Apiaceae	Whole plant, leaf	Vegetable of whole plant is used in dysentery and paste of leaves are used in headache, itches and eczema.
Batabilebu	<i>Citrus grandis</i> Family:Rutaceae	Bark, fruit	Juice of bark mixed with mustard oil is used in cough and juice made from ripe fruit is used in influenza.
Telakucha	<i>Coccinia cordifolia</i> Family:Cucurbitaceae	Root, leaf	Vegetables made from leaves are used in fever and diabetes. Juice made from leaves are used in cough and asthma. Juice made from roots are used in dysentery.

Table 1: Continued

Narikel	<i>Cocos nucifera</i> Family:Areceaceae	Root, fruit	Green coconut water is cooling refrigerant and commonly used as dehydrating agent in cholera, diarrhoea and dysentery. Juice of roots are used in diuretic and menstrual disease.
Akanda	<i>Calotropis gigantea</i> Family:Asclepiadaceae	Leaf, root, latex	The leaves are commonly used in pain and juice of roots are used in dysentery. Its latex is used to easy removal of thorn from human body.
Dhutra	<i>Datura metel</i> Family:Solanaceae	Leaf	Paste made from leaves are used in wound and juice of leaves are used in earache.
Shisu	<i>Dalbergia sissoo</i> Family:Fabaceae	Leaf, wood	Juice made from leaves are used in gonorrhoea and paste made from wood is used in wound, itches, abscess and vomiting.
Kalokeshi	<i>Eclipta alba</i> Family:Asteraceae	Whole plant, leaf	Paste made from leaves are used in wound, itches and skin disease. Juice made from whole plants are used in promoted growth and improves colour of hair, jaundice, asthma and gall bladder stone.
Madar	<i>Erythrina variegata</i> Family:Fabaceae	Leaf, bark, root	Juice made from leaves are used in blood dysentery, earache and toothache. Juice of bark is used in fever and juice made from roots are used in the flow of menstrual period when this is absent.
Khatbel	<i>Feronia limonia</i> Family:Rutaceae	Leaf, fruit	Juice made from leaves are used in dysentery and vomiting. Fruit pulp is used in blood dysentery, tonic, diuretic and diarrhoea.
Bot	<i>Ficus benghalensis</i> Family:Moraceae	Bud, latex	Juice made from young bud is used in diarrhoea and dysentery. Latex is used in externally applied in rheumatism and toothache.
Datmajan	<i>Glycosmis pentaphylla</i> Family: Rutaceae	Fruit, leaf	Juice of ripe fruit is used in dysentery and juice of leaves are used in fever, cough, jaundice and rheumatism. Paste of leaves are used in eczema and skin disease.
Jagathmadan	<i>Justicia gendarussa</i> Family: Acanthaceae	Leaf	Juice made from leaves are used in asthma and paste made from leaves are used in rheumatism wound and itches.
Patharkuchi	<i>Kalanchoe pinnata</i> Family: Crassulaceae	Leaf	Juice made from leaves are used in cold, cough, diabetes, diuretic and blood dysentery. Paste of leaves are used in wound.
Mehendi	<i>Lawsonia inermis</i> Family: Lythraceae	Leaf	Paste made from leaves are used in burning of the feet, wound, dandruff and foot sore.
Am	<i>Mangifera indica</i> Family: Anacardiaceae	Leaf, bark seed	Its gum used in itches and decoction of young leaves are used in burning sensation during micturation, fever and toothache. Juice made from stem bark is used in dysentery and dust of dry seeds are used in diabetes.
Lajjabati	<i>Mimosa pudica</i> Family: Mimosaceae	Leaf, shoot, root	Decoction of leaves, shoots and roots are used in fever and juice made from leaves and shoots are used in dysentery.
Tulshi	<i>Ocimum sanctum</i> Family: Lamiaceae	Leaf, root	Juice made from the leaves mixed with honey used in cold and cough. Juice of leaves are used in itches, ring worm, earache and wound. Juice of roots are used in fever.
Amrul	<i>Oxalis corniculata</i> Family: Oxalidaceae	Leaf	Vegetables made from leaves are used in cough and paste of leaves are used in scabies and itches. Juice made from the leaves are used in dysentery, anemia, piles, dyspepsia and fever.
Dalim	<i>Punica granatum</i> Family: Punicaceae	Fruit, root	Immature fruit juice is used in dysentery and rind of fruit is used in dysentery and diarrhoea. Juice of root barks are used in worm.
Amlaki	<i>Phyllanthus emblica</i> Family: Euphorbiaceae	Fruit	Fruits are used in tonic, diuretic, vomiting, cold, cough and burning sensation. Dried fruits are used in dysentery, anemia, jaundice, dyspepsia and hair tonic.
Piyara	<i>Psidium guajava</i> Family: Myrtaceae	Leaf, stem, fruit	Juice made from the stem bark is used in dysentery and decoction of leaves are used in toothache and vomiting. Fruits are used in diarrhoea and good source of Vitamin-C.

**Table 1:** Continued

Sarpogondha	<i>Rauvolfia serpentina</i> Family: Apocynaceae	Root	Juice made from the roots are used in blood pressure and tonic. Decoction of roots are used in diarrhoea, dysentery, colic and fever.
Redri	<i>Ricinus communis</i> Family: Euphorbiaceae	Leaf, seed	Paste made from the leaves are used in headache and the oil extracted from the seed used in rheumatism.
Jam	<i>Syzygium cumini</i> Family: Myrtaceae	Bark, seed	Paste made from the bark is used in dysentery and wound. Dry seeds dust mixed with normal water used in diabetes.
Kumarilata	<i>Smilax zeylanica</i> Family: Liliaceae	Root	Juice made from roots are used in blood dysentery and abscess.
Tetul	<i>Tamarindus indica</i> Family:Caesalpinaceae	Leaf, fruit	Ripe fruit pulps are used in burning sensation, dyspepsia, increasing appetite and digestive. Juice of leaves are used in cold, dysentery and tonic.
Haritaki	<i>Terminalia chebula</i> Family: Combretaceae	Fruit	Paste made from immature fruits are used in wound and unripe fruits are used in worm, rheumatism, vomiting, urinary disease, dysentery and blood dysentery.
Arjun	<i>Terminalia arjuna</i> Family: Combretaceae	Leaf, shoot	Paste made from dry shoot bark mixed with water used in water used in heart disease and leaf soaked in water over night in burning sensation and dyspepsia.
Harjora	<i>Vitis quadrangularis</i> Family: Vitaceae	Stem	Paste made from the stem barks are used any bone fracture and curry made from of stems are used in gout.
Nishinda	<i>Vitex negundo</i> Family: Verbenaceae	Leaf, root	Juice of fresh leaves are used in cold, cough and asthma. Juice of roots are used in tonic, fever and diuretic.
Boroi	<i>Zizyphus mauritiana</i> Family: Rhamnaceae	Leaf, stem	Juice made from the stem bark is used in blood dysentery and paste made from the young leaves are used in wound and headache.

Collections were made throughout the year and particular care was taken not to miss the flowering stages of the fruits. The following field data were recorded from the herbarium specimen, i.e. date, collection number, local name, scientific name, family, habitat, medicinal uses and distribution. Herbarium sheets were prepared in multiple sets and flowers were preserved in 70% alcohol for future study. Identifications were made with the help of Hooker<sup>[11]</sup>, Khan<sup>[15]</sup>, Cronquist<sup>[4]</sup>, Heywood<sup>[10]</sup>, Lawrence<sup>[17]</sup>, Naderuzzaman<sup>[18,19]</sup> and Prain<sup>[20]</sup>. Medicinal uses were made with the help of Alam<sup>[1]</sup>, Bhattachariya<sup>[2]</sup>, Biswas<sup>[3]</sup>, Ghani<sup>[5,6]</sup>, Guha<sup>[7]</sup>, Hassan<sup>[8,9]</sup>, Khan<sup>[14]</sup> and Kirtikar<sup>[16]</sup>. For the local name and up-to-date current nomenclature Huq<sup>[12]</sup> and Huq<sup>[13]</sup> were consulted. All specimens are kept in the Herbarium of Rajshahi University.

## RESULTS AND DISCUSSION

The important medicinal plants in the graveyards of Rajshahi city corporation area were carried out. A total of 49 species belonging to 47 genera and 33 families were collected and identified. Most of the local people in the study area are poor and illiterate. In one hand, these people are out of the reach of modern medicines and on other hand, the market price of most available medicines are very expensive. As a result, these

medicinal plants are used by them to cure following the diseases, especially for abscess, asthma, abortion, burning sensation, blood pressure, cough, cold, chicken pox, constipation, dysentery, diarrhoea, diabetes, eczema, fever, fracture of bone, headache, heart disease, itches, jaundice, menstrual disease, paralysis, piles, skin diseases, snake-bite, sex problems, toothache, vomiting, wound, worm and others. Different plants of different spp. are used as medicine for treating various diseases; bark of 15, leaf of 39, fruit of 9, root of 11, seed of 1, wood of 1, latex of 4, stem of 5, mucilage of 1 and whole plant of 3 species were used as medicine. The well analyzed and check listed information about the plant materials collected from the study area are described below (Table-1).

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## REFERENCES

1. Alam, M.K., 1996. Village Trees of Bangladesh: Diversity and Economic Aspects. Bangladesh Journal of Forest Science, Chittagong. 25(1&2): 21-36.

2. Bhattachariya, S., 1989. Chirangiby Banoushadi. Vol. 1-10, Ananda Publisher Ltd. Calcutta.
3. Biswas, K., 1973. Bharatio Banoushadi, Vol. 1-6, Calcutta University Press, Calcutta.
4. Cronquist, A., 1968. The Evolution and Classification of Flowering Plants. Houghton Mifflin, Boston.
5. Ghani, A., 1988. Herbal Oshud and Bangladesher Bhesaj Udvid. Hamdard Foundation, Dhaka-1205, Bangladesh.
6. Ghani, A., 1998. Medicinal Plants of Bangladesh. Asiatic Society of Bangladesh, Dhaka-1205, Bangladesh.
7. Guha, S., 1994. Bhesaj Bidya. West Bengal State Book Board, Calcutta.
8. Hassan, M.A. and A.M. Huq, 1993. Amader Banoushadi Samphad. Hassan Book House, Dhaka.
9. Hassan, M.A., 1988. Gas Gasra-deya Chikitsha. Hassan Book House, Dhaka.
10. Heywood, V.H., 1979. Flowering Plants of the World, Oxford University Press, Oxford. London.
11. Hooker, J.D., 1872-1888. Flora of British India. Vol. 1-7. L. Reeve & Co. Ltd. London.
12. Huq, A.M., 1986. Name Changes of Bangladesh Angiosperms. Bangladesh National Herbarium, BARC, Dhaka.
13. Huq, A.M., 1986. Plant Names of Bangladesh. Bangladesh National Herbarium, BARC, Dhaka.
14. Khan, M.S. and A.M. Huq, 1975. Medicinal Plants of Bangladesh, BARC, Dhaka.
15. Khan, M.S. and A.M. Huq, 1981. An Annotated list of trees of Dhaka, Bangladesh National Herbarium, Dhaka.
16. Kirtikar, K.R. and B.D. Basu, 1987. Indian Medicinal Plants. Vol.1-4, Lalit Mohan Basu, Leader Road, Allahbad, India.
17. Lawrence, G.H.M., 1951. Taxonomy of Vascular Plants. Oxford & IBH Publishing Co. New Delhi, Bombay, Calcutta.
18. Naderuzzaman, A.T.M., 1984. An Annotated list of Trees of Rajshahi, Rajshahi University Studies, Part-B., 12: 19-27.
19. Naderuzzaman, A.T.M. and M. Tareque, 1993. Study on the weed flora of Rajshahi. Rajshahi University Studies, Part – B., 21: 75-88.
20. Prain, D., 1903. Bengal Plants. Vol. 1-2, Botanical Survey of India, Calcutta.
21. Rahman, A.H.M.M., 1999. Study of Biodiversity of Graveyards of Rajshahi City. M.Sc. Thesis. Department of Botany, Rajshahi University, Bangladesh.
22. Rao, P.V., 1991. Traditional Medicine Modern Perspectives (Proceedings of the World Federation of Proprietary Medicine Manufactures 10<sup>th</sup> General Assembly) Self Medication: Progress Built on Tradition. Seoul, Korea.