



Potentials and practice of traditional medicine in Bangladesh

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Abstract: Bangladesh possesses a rich flora of medicinal plants. Continuous use of these plants as items of traditional medicine in the treatment and management of various health problems generation after generation has made the system an integral part of the culture of the people in this country. Both the unani and ayurvedic systems of traditional medicine have firm roots in Bangladesh and are widely practiced all over the country. The communication highlights the overview, diagnosis, treatment, contribution, official status, production, practice of traditional medicine in Bangladesh.

Keywords: Traditional, Drugs, Medicine, Bangladesh.

1.Introduction

The World Health Organisation (WHO) has defined traditional medicine as ‘ the sum total of all knowledge and practice, whether explicable or not, used in the diagnosis, prevention and elimination of physical, mental or social imbalance, relying exclusively on practical experience and observations handed down from generation to generation or in writing.’ The several advantages are due to lower prices and easy availability, less toxic & show little or no side effects than modern medicine, traditional medicine is more acceptable especially developing countries as well as they are prepared from natural raw materials by using older technology. The traditional medicine is a potential source of new drugs and its treatment procedure is less complicated and less time consuming than modern medicine. Instead of this, causative organisms donot normally develop resistance against traditional medicine and they are mostly compounded from natural substances so they are accepted by the biological systems of the human body [1]. But the major limitations were found such as sufficient scientific investigations and clinical or pharmacological experiments have not proved the claims of efficacy of most traditional medicine, no

precise or standard methods of diagnosis is not available, no definite dosage system is followed in preparing traditional medicine, some unhygienic practices are used in handling processing and preparing traditional medicines make them unacceptable to many potential consumers, strict maintenance of personal and environmental hygiene is often found lacking among the practitioners and manufacturers of traditional medicines, which affects the quality and safety of the products as well as treatment of diseases based on wrong diagnosis.

Diagnosis and treatment of traditional medicine

Diagnosis:

- Directly questioning the patient about the onset of the disease and past history of the disease.
- Patient's past life and his/her family history (specially disease such as diabetes, asthma etc).
- Patient's physical or psychological problems.
- Patient's any other gross abnormality such as breathing or body temperature or changes in eating habits or social behaviour, life style and other personal habits.

➤ Visual examinations of the patient's eyes particularly its colour, tongue and skin (for rashes or diseases).

➤ Clinical examination and inspection of movable parts.

➤ Biological examinations by the use of sensory organs.

➤ Divination.

➤ Use of astronomical signs to find any relationship, particularly in case of mental diseases.

➤ Analysing any recurring dreams of the patient.

Treatment:

➤ Internal or external application of medicinal products; prepared by the respective traditional medicine system.

➤ Physical manipulation of various parts of the body (like physiotherapy of modern medicine).

➤ Psychotherapy.

➤ Therapeutic fasting and dieting.

➤ Hydrotherapy.

➤ Heat therapy.

➤ Blood-letting.

➤ Bone setting and spinal manipulation.

➤ Massage and minor surgical operations.

➤ Subjecting the patient to physical torture like beating, forced sniffing of smoke from burning hot chilies etc.

Traditional medicine practice in Bangladesh:

Out of the estimated five thousand species of different plants growing in the country more than a thousand are regarded as having medicinal properties. Use of these plants for therapeutic purposes has been in practice in this country since time immemorial [2]. Now, at this age of highly advanced allopathic medicine, a large majority of the population of this country still prefer using traditional medicine in the treatment of most of their diseases even through modern medical facilities may be available in the neighborhoods. Among the largest ethnic group, the Bengali's on the main land , there are two distinct forms of Traditional medicine practice:

I) One is the old and original form based on old knowledge, experience and belief of the older generations. This includes:

i) Folk medicine, which uses mainly plant and animal parts and their products as medicines for treating different diseases and also includes treatments like blood-letting, bone-setting, hot and cold baths, therapeutic fasting and cauterisation.

ii) Religious medicine, which includes use of verses from religious books written on papers and given as amulets, religious verses recited and blown on the

face or on water to drink or on food to eat, sacrifices and offerings in the name of God etc.

iii) Spiritual medicine, which utilizes methods like communicating with the supernatural beings, spirits or ancestors through human media, torturous treatment of the patient along with incantations to drive away the imaginary evil spirits and other similar methods.

II) The other is the improved and modified form based on the following two main traditional systems:

i) The Unani-Tibb or Graeco-Arab system which has been developed by the Arab and Muslim scholars from the ancient Greek system,

ii) The Ayurvedic System which is the old Indian system based on the *Vedas*, the oldest scriptures of the Hindu saints of the Aryan age.

Apparently the recipients of the unani and ayurvedic systems of traditional medicine appear to be the rural people, but practically a good proportion of the urban population still continues to use these traditional medicines, although organized modern health care facilities are available to them [3]. Medicinal preparations, almost all of which are multicomponental, used in these two systems are invariably made from plant materials, sometimes with the addition of some animal products and also some natural or synthetic organic and inorganic chemical substances. Both indigenous and modern technologies are employed in preparing the medicines of these systems. Plant materials are used in these preparations in a variety of forms, such as small pieces, coarse powders, as their extracts, infusions, decoctions or distillates. They are dispensed as broken pieces, coarse and fine powders, pills of different sizes, in the form of compressed tablets, as liquid preparations, as semi-solid masses and in the form of ointments and creams, neatly packed in appropriate sackets, packets, aluminium foils, plastic or metallic containers and glass bottles. The containers are fully labeled with indications/ contra-indications, doses and directions for use and storage, just like modern allopathic medicinal preparations [4].

List of medicinal plants, animals, minerals used in traditional systems of medicine with their pharmacological uses and imported, exported traditional medicinal plants in bangladesh

• Major Medicinal Plants:

Adhatoda vasica , Holarrhena antidysenterica , Aegle marmelos, Mentha spicata , Aloe indica , Nigella sativa, Azadirachta indica , Paederia foetida , Cassia senna, Saraca indica, Cinnamomum verum , Tamarindus

indica, Curcuma longa, Terminalia arjuna, Gmelina arborea, Belerica, Hemidesmus indicus, T. Chebula.

• **Abundantly available Plants:**

Acalypha indica, Achyranthes aspera, Adhatoda vasica, Aegle marmelos, Allium sativum, Alstonia scholaris, Ananas sativus, Azadirachta indica, Calotropis gigantea, Carica papaya, Cassia alata, Cassia fistula, Centella asiatica, Cephalandra indica, Coriandrum sativum, Curcuma longa, Cyperus rotundus, Eclipta alba, Emblica officinalis, Euphorbia hirta, Mentha spicata, Mikania cordata, Mimosa pudica, Momordica charantia, Moringa oleifera, Ocimum sanctum, Paederia foetida, Phyllanthus niruri, Piper betel, Psidium guajava, Scoparia dulcis, Solanum xanthocarpum, Terminalia arjuna, T. Chebula, Vitex negundo, Zingiber officinalis.

• **Rare & Threatened Medicinal Plants:**

Abroma augusta, Abrus precatorius, Acorus calamus, Andrographis paniculata, Boerhavia diffusa, Dioscorea prazieri, Gloriosa superba, Hemidesmus indicus, Hydnocarpus kurzii, Kaempferia galanga, Kaempferia rotunda, Ocimum gratissimum, O. basilicum, Plumbago indica, P. zeylanica, Rawolfia serpentina, Tinospora cordifolia, Zingiber purpureum.

• **Selected Plants for some diseases:**

- Constipation : Aegle marmelos, Plantago ovata, Cassia senna, Carica papaya, Terminalia chebula.
- Indigestion: Carica papaya, Paederia foetida, Zingiber officinale, Centella asiatica.
- Parasitic infections: Ananas sativus, Azadirachta indica, Curcuma longa, Embelia ribes, Glycosmis arborea, Terminalia chebula.
- Piles: Terminalia chebula, Aloe indica, Cassia fistula, Carica papaya.
- Scabies: Azadirachta indica, Lawsonia inermis, Cassia alata, Curcuma longa, Mesua ferrea, Polygonum hydropiper.
- Diabetes: Cephalandra indica, Momordica charantia, Scoparia dulcis, Allium sativum, Catharanthus roseus, Lagerstroemia speciosa.
- Teeth & Gum Diseases: Azadirachta indica, Murraya koenigii, Psidium guajava, Syzigium aromaticum.

- Urinary problems: Aloe indica, Kalanchoe pinnata, Tinospora cordifolia, Tribulus terrestris.
- Dysentery/ Diarrhoea: Aegle marmelos, Centella asiatica, Euphorbia hirta, Holarrhena antidysenterica, Punica granatum, Kalanchoe pinnata.
- Cough/ Cold/ Bronchitis: Adhatoda vasica, Ocimum sanctum, Citruses, Acorus calamus, Zingiber officinale, Tylophora indica, Euphorbia hirta.
- Cardiac problems: Allium sativum, Terminalia arjuna, Nerium indicum, Thevetia nerifolia, Ureina indica.
- Hair tonics: Wedelia chinensis, Foeniculum vulgare, Lawsonia inermis, Emblica officinalis, Vitex negundo, Allium cepa.

Selected Animals for some diseases:

- Arthritis/Rheumatism: Ill Fishes, Jackals meat, Lizard oil.
- Asthma: Cockroach.
- Tonic: Pigeon, Sheep's milk.
- Vitality: Fish/ Chicken.
- Epilepsy: Animal skin.
- Carbuncles/ Boils: Pure ghee.
- Preventive cough/cold: Honey.
- Aphrodisiac: Sparrow.

Major minerals/ metals used for some diseases:

- Digestive: Rock salt.
- Scorpion sting: Lime stone.
- Antifungal: Copper sulphate.
- Oral Rehydration Salt: Common salt.
- Gastric pain: Laundry soap.
- Skin diseases: Sulphur.

Medicinal Plants Exported:

Abroma augusta, Adhatoda vasica, Andrographis paniculata, Cyperus rotundus, Emblica officinalis, Mimosa pudica, Saraca indica, Taractogenos kurzii, Terminalia arjuna, T. belerica, T. chebula, Zingiber officinale.

Medicinal Plants Imported:

Acacia arabica, Acorus calamus, Aloe vera, Anethum graveolens, Asparagus racemosus, Atropa

belladonna, Berberis vulgaris, Cassia senna, Cinnamomum verum, C. tamala, Cuminum cyminum, Elettaria cardamomum, Ferula asafoetida, Glycerrhiza glabra, Hydnocarpus kurzii, Juglans regia, Mesua ferrea, Myristica fragrans, Ocimum basilicum, Pimpinella anisum, Piper nigrum, P. longum, Pluntago ovata, Rawolfia serpentina, Rosa damascena, Santalum album, Solanum nigrum, Strychnos nuxvomica, Swertia chirata, Syzigium aromaticum, Tribulus terrestris, Withania somnifera.

Policies and Measures by Directorate of Drug Administration, Health Ministry, Govt. of Bangladesh [5]:

- Drug Evaluation,
- Adverse reactions,
- Supply management,
- Quality assurance,
- Packing & labeling,
- Control of advertisement,
- Penalty for manufacturing & sale of substandard drugs,
- Penalty for unauthorized import,
- Penalty for unpermitted production.

Major Producer in Bangladesh:

Hamdard Laboratories, Sadhana Ousadhaloy, Shakti Ousadhaloy, Ayurvedic PharmaLtd., Human Drugs Ltd, National Pharma, Kundeswari, Mujaher.

Contribution of traditional drugs to modern medicine

Many traditional medicines used for oral diseases also contain volatile oils. Extract of senna leaves and aloe juice (from aloe leaves) are used for reduced constipation. As well as, the chemical constituents of the plants are helpful in modern medicine and used as laxative [6]. Datura and belladonna are used as pain killer drugs in traditional medicine. The chemical constituents of these plants such as hyoscyamine, atropine etc. are used as antispasmodic and mydriatic drugs in modern medicine [7]. Roots of rauwolfia have been used for treating high blood pressure, insomnia and mental diseases. The active constituents of these roots (reserpine, deserpidine, rescinnamine) are used in modern medicine. The leaves and fruits of *Coccinea cordifolia*, seeds of *Eugenia jambolana*, bark of *Ficus benghalensis* and leaves of *Bridelia ferruginea* are popularly used in traditional medicine for treatment and management of diabetes [8]. But, in modern medicine; anti-diabetic property of these plants has been substantiated by clinical experiments. The leaves of neem tree and roots of babla tree used in traditional medicine for treating fevers including malaria. In modern medicine; antipyretic and anti malarial properties are shown by these plants. In traditional medicines, the extracts of *Vanda roxburghii*, *Costus afer* etc. is used for treating arthritis and in modern medicine

this activity have been proved in laboratory animals using these plant extracts [9].

Traditional Medicine Resource:

- Crude Drug market,
- Wild habitat--Forest floor, Homestead & Fellow land,
- Cultivation,
- Import.

Most of the plant ingredients of the traditional medicines used for curing gastro-intestinal disorders containing volatile oils [10]. But in modern medicine, it was proved that volatile oils helps digestion by promoting salivation, stimulating secretion of gastric fluids. The ingredients of most traditional medicines used in the treatment of gastro-intestinal and skin diseases have been found to contain tannins, which possess astringent and antibiotic properties [11]. Hundreds of the other similar examples of plants used in traditional medicine and there whose therapeutic efficacy and rationality of use have been established scientifically by isolation and pharmacological testing of their chemical constituents [12].

ACHIEVEMENTS OF TRADITIONAL MEDICINE IN BANGLADESH

- Amlaki syrup from *Emblica officinalis*.
- Tea-cola from tea wastes.
- Bel-ORS from green *Aegle marmelos*.
- Scopolamine hydrochloride from *Datura fastuosa*.
- Diosgenin from *Costus speciosus*.
- Oil from *Mentha arvensis*.
- Menthol crystal from *M. arvensis* oil.
- Neemtooth powder, paste, soap from *Azadirachta indica*.
- Hair tonic from indigenous plants.
- BasakTea from *Adhatoda vasica*.
- Antifungal fraction from plant.
- Selection of active Antidiabetic plant.

Conclusion

Traditional medicine systems, particularly Unani and Ayurvedic systems, are now well recognized and well accepted as good alternative systems of medicine in rural and urban areas of Bangladesh [13,14].

Considerable research is now going on in this country both privately and institutionally to improve the quality of these drugs. Establishment of a separate Research & Development laboratory by the Hamdard Laboratories of Bangladesh, a manufacturer of Unani medicines, in order to undertake research programmes to improve the quality of its current products and to develop new drugs from indigenous natural sources.

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