Plants used for the treatment of Rheumatism by the Bhoxa tribe of District Dehradun, Uttarakhand, India

Jyotsana SHARMA, R. M. PAINULI

Department of Botany, H.N.B. Garhwal University (A Central University), Srinagar Garhwal- 246 174, Uttarakhand India

Article History: Received 18th May 2011, Revised 28th May 2011, Accepted 6th June 2011.

Abstract: In the present investigation an attempt has been made to explore traditional medicinal knowledge of plant species used against rheumatism by the Bhoxa tribe of district Dehradun. An ethnobotanical survey was carried out among the tribal people in all seasons to collect the relevant information about the medicinal uses of wild plants. Frequent field trips were made for the collection of plant specimens and information from traditional healers through questionnaire and interviews. The plant species used against rheumatism have been enumerated in the present paper and each species has been provided with scientific name, local name and crude drug preparation (as per details provided by the folklore). It was observed that the Bhoxa tribe used 22 wild plant species belonging to 19 families as a remedy for Rheumatism.

Keywords: Ethnomedicine; Traditional knowledge; Bhoxa tribe; Rheumatism.

Introduction

The word rheumatism is derived from the Greek word 'rheuma', which means swelling. Rheumatism or rheumatic disorder is a non-specific term for medical problems affecting the joints and connective tissue. Rheumatism is characterized by the symptoms of inflammation - redness, heat, swelling and pain, fever, intense soreness, swelling, stiffness of the affected muscles, pain in eyes, loss of sleep and improper urination. About 1% of the world's population is afflicted by rheumatoid arthritis. Rheumatic disorder is commonly found in middle aged and elderly people; it also involves problems in the internal organs, such as heart, skin, kidneys and lungs. It is found in both men and women. Generally women are three times more affected by it than men. A vast number of traditional herbal remedies are recommended for rheumatism in different parts of the world.

The study of traditional knowledge of plants among tribal communities is an important aspect of ethnobotanical research. The tribal peoples throughout the world, have developed their own cultures, customs, religious rites, taboos, legends and myths, medicine, food, etc. They are the storehouse of accumulated experience and of knowledge about the native vegetation. The traditional knowledge is an important natural tool to facilitate development process in cost-effective and sustainable ways. It governs almost all important productive resource sectors and revolves around traditional values of resource used by the people of remote localities (Gadgil et al. 1993; Samal et al. 2004). Traditional medical practices are an important part of the tribal healthcare system in the developing world (Sheldon et al. 1997). During the last few decades there has been an increasing interest in the study of medicinal plants and their indigenous uses in different parts of the world. Documentation of such indigenous knowledge is essential for the conservation and utilization of biological resources (Luoga et al. 2000). In different societies throughout the globe medicinal plants makes the base of primary healthcare system and about 85% of traditional medicine are derived from plants (Fransworth 1988). In India ethnomedicinal investigations have been conducted from various rural and remote areas, where the inhabitants are still dependent on herbal medicines for their primary healthcare.

The Bhoxa tribe is one of the important communities scattered in different districts of
Sub-Himalayan belt of Uttarakhand state. They still practice age old agricultural methods except some rich counterparts of their community who have modern facilities. Their economy is mainly based on the agriculture. The Bhoxas inhabiting forest areas of the region are dependent on forest products for their food and other necessary things vital for their daily needs. Considering the importance of herbal medicines, the present study was undertaken in the rural areas of Dehradun district, Uttarakhand inhabited by the Bhoxa tribe. The present communication tries to highlight the traditional preparations used for the treatment of rheumatism by the Bhoxa tribe of Dehradun district.

Study Area

The present study was made among the Bhoxa tribe of Dehradun district. The district in the west is bordered by Sirmaur district of Himachal Pradesh and the Tons and Yamuna rivers, in the north and northwest it borders on the district of Uttarkashi and in the east by district Tehri and Pauri. In the south are Haridwar and Uttar Pradesh’s Saharanpur district. It is located between latitudes 29°58’ N and 31°2’ N and longitudes 77° 34’ E and 78° 18’E and covers an area of about 300 km². The climate of Dehradun district varies from tropical to temperate depending upon the elevational gradient.

Methodology

An ethnobotanical survey was undertaken to collect information from the Bhoxa tribe on the use of medicinal plants in Dehradun district of Uttarakhand. The survey was made during March 2009 to October 2010 and the information was taken on the basis of personal interviews with traditional healers, tribal doctors and old women of different age groups in the society. The information was collected with the help of questionnaire. The questionnaire contains name of plant prescribed, part of the plant used, detailed information about mode of preparation (i.e., decoction, paste, powder and juice), form of usage either fresh or dried and method of administration. The information was further verified by cross checking with other knowledgeables person of the study area. The plant specimens were brought to laboratory and identified with the help of pertinent flora (Babu 1977; Gaur 1999). These samples were matched with the specimens housed in Garhwal University Herbarium (GUH) Srinagar, Garhwal, the Herbarium of Botanical Survey of India, Dehradun (BSD) and the herbarium of Forest Research Institute, Dehradun (DD). Voucher specimens with whom the information are based, deposited in the Herbarium (GUH), following usual methods of preparation and preservation (Jain and Rao 1977; Rao and Sharma 1990; Singh and Subramaniam 2008; Gaur 2009).

Results

The present investigation represents 22 plant species belonging to 19 families used as a remedy for rheumatism by Bhoxa tribe. The plant species are arranged alphabetically with their botanical name followed with vernacular names, family of the plant, and their utilization.

1. **Ajuga bracteosa** Wallich ex Benth. (Lamiaceae) ‘Neelkanth’ The decoction of whole plant (about 2-3 teaspoonful) is administered orally thrice a day in treatment of rheumatism (Figure 1).

2. **Argemone mexicana** L. (Papaveraceae) ‘Pi-li Katili’ The seed oil is applied externally on affected parts of rheumatism (Figure 2).

3. **Bridelia retusa** (L.) Sprengel (Euphorbiaceae) ‘Khaja’ Stem bark is pounded, mixed with mustard oil and applied externally to treat rheumatism.

4. **Cassia fistula** L. (Caesalpiniaceae) ‘Amaltas’ The paste of young leaves is applied externally on rheumatic organ of the body (Figure 3).

5. **Celastrus paniculatus** Willd. (Celastraceae) ‘Kagni’ The oil extracted from seeds is used for massaging in rheumatism and joint pain.

6. **Cissampelos pareira** L. (Menispermaceae) ‘Jaljami’ The paste of leaves is applied externally in rheumatic pain.

7. **Costus speciosus** (Koenig ex Retz.) J.E. Smith. (Zinziberaceae) ‘Keu’ The roots are
grounded, mixed with mustard oil and made into paste, this paste is applied externally to get relief from rheumatism.

8. *Crataeva adansonii* Jacobs (Capparaceae) ‘Baana’ The leaf paste is applied externally as a remedy for rheumatism.

9. *Cryptolepis buchananii* Roemer & Schultes (Asclepiadaceae) ‘Dhudi’ The decoction of bark is orally given to treat rheumatic pain and paste of leaves is applied externally for the same.


11. *Gloriosa superba* L. (Liliaceae) ‘Agnisika/Karihari’ The roots are crushed, fried in mustard oil and made into paste; this paste is used externally for massaging in rheumatism.

12. *Holoptelea integrifolia* (Roxb.) Planchon (Ulmaceae) ‘Papri’ The oil of seeds is used for massaging in rheumatism.

13. *Ipomoea carnea* Jacquin (Convolvulaceae) ‘Behaya’ The leaf paste is applied externally in rheumatic area of the body.

14. *Jatropha curcas* L. (Euphorbiaceae) ‘Banarandi’ The oil of seeds is used externally in rheumatism (Figure 4).

15. *Melia azedarach* L. (Meliaceae) ‘Bai-kan’ The seeds decoction (3 teaspoonful) is used internally in treatment of rheumatism (Figure 5).

16. *Momordica charantia* L. (Cucurbitaceae) ‘Karela’ The infusion of fruits (2-3 teaspoonful) is used internally in treatment of rheumatism.

17. *Prunus persica* (L.) Batsch (Rosaceae) ‘Aaru’ The oil extracted from seeds is effective externally for massaging in rheumatism.


21. *Vitex negundo* L. (Verbenaceae) ‘Sambhalu’ The decoction of roots (2-3 teaspoonful) is prescribed for rheumatism (Figure 6).

22. *Woodfordia fruticosa* (L.) Kurz. (Lyrthraceae) ‘Dhaudi’ The infusion of roots (3 teaspoonful) is used internally to treat rheumatism.

**Discussion**

The present survey indicated that the folk medicines are quite prevalent among the Bhoxa tribe of the study area. The investigation revealed that, the traditional healers used 22 species of plants belonging to 19 families for the treatment of rheumatism. The study showed the tribal people in the different parts of district Dehradun still depend on medicinal plants for primary healthcare. It was found that most of the herbal preparations are used externally for massaging (66 %) while some other are administered orally (33 %). In some cases such as in *Cryptolepis buchananii* and *Ricinus communis* the traditional medicine made from different part of a single plant is used as both externally and internally. The different parts of plants are used for the preparation of medicine, but the most frequently used part is seed (32 %), followed by roots (24 %), leaves (20 %), bark (12 %), whole plant (8 %) and fruits (4 %). The most common forms of herbal preparations are paste (53 %), oil (21 %), decoction (15 %) and infusion (9 %).

The information on medicinal plants obtained from the tribal communities is useful for researches in field of pharmacology, in clinical and biological studies. It important to recognize the role of the traditional health care practices for future sustainable development. Ethnomedical study of tribal people can bring out many
more efficient herbal drugs. Therefore efforts should be made for the documentation of such valuable knowledge for future perspectives. At present time, many of the important plant species are on the verge of depletion, therefore such type of studies will be important for future prospects. Perusal of literature indicates that this part of Sub-Himalayan tract inhabited by Bhoxa tribe is less studied on this aspect, therefore, concertedive efforts have been made to record the information on plants used as herbal remedies for the treatment of rheumatism.

Figure 1: Ajuga bracteosa  
Figure 2: Argemone mexicana  
Figure 3: Cassia fistula  
Figure 4: Jatropha curcus  
Figure 5: Melia azaderach  
Figure 6: Vitex negundo
Acknowledgement

Authors wish to express their gratitude towards the tribal people and the locals of the area for their active collaboration during field studies. Authors are also thankful to Prof. R.D. Gaur, Department of Botany, Srinagar Garhwal, for providing necessary help and guidance.

References


