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Medicinal plants used against typhoid fever and toothache in Pir-Panchal Range of the Shopian district of Kashmir Himalaya

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ABSTRACT

The current study was undertaken with a view to explore the possibilities of utilizing the plant resources of the district Shopian. A total of plants/specimens along with detailed information and their uses would serve as a valuable record for future reference and study. Most of these plants are wild and some plants are cultivated. The current study reveals that 22 medicinal plants belonging to 14 families are being used for treating typhoid fever and toothache in the Shopian district of Kashmir Himalaya. Of these 22 medicinal plants, 5 plant species are used both for treating fever and toothache. These medicinal plants have been arranged alphabetically. Despite the extensive use of medicinal plants by the people of this region, extensive work has not been done yet on ethnomedicinal and other aspects. The current study is an effort to promote a realm among the people regarding the possibility of natural alternatives in preventing typhoid fever and tooth diseases in the study area.

KEY WORDS: Himalaya, medicinal plants, Shopian, toothache, typhoid

INTRODUCTION

From ancient days, plants are used for habitat, food, and medicine. The use of plants for medicinal valve is as old as our culture. The first known record of remedial plants was Sumerian herbal of 2200 in the 5th century BC. The Greek doctor Hippocrates lists out some 400 herbs of common use. In AD 77, the Greek surgeon Dioscorides published "De Materia Medica" plants, which are used particularly for their medicinal value. This descriptive medical book on medicinal plant treatment contained data on how and when each plant was accumulated, even if it was poisonous or not or it was edible or not. He highlighted the economic efficacy of plants. For long periods, herbs have been used for various times for several purposes such as healing the sick and ailing. Most of the herbs keep the body in harmony with nature and maintain proper balance. Human has always been conscious of the effects of plants on the body, mind, and feelings. For example, fragment plants were used to cure the body and give a scene of prosperity. The most precious flowers are accorded to Gods, and use of aromatic odor is recorded from a long times. Human has undoubtedly always been concerned with the question of health and survival and has sought within the framework of his knowledge and solution to the problems of illness.

The WHO has recognized the role of traditional system of medicine and considered them a part of strategy to provide health care to the masses. The need for medicinal plant-based raw material is increasing annually worldwide. International market size for herbal and medicinal plants is estimated at US $60 billion and is featured to reach US 5 $ Trillion by 2050 (WHO, 2002). About 75-80% of the total exports of raw drugs came from India (Malik *et al*, 2011). India is the home of about 17,000 species of plants, out of which 7500 are known for their therapeutic uses. Ayurveda has reported about 2000 medicinal plant species, followed by Siddha and Unani. The "Charak Samhita," and ancient written document with rich literature regarding herbal therapy, describes the production of around 340 herbal drugs and their native use for treating various problems and diseases.

MATERIALS AND METHODS

Location and Study Area

District Shopian is situated on the latitude of 33°, 44 N and Longitude of 74, 50 E. It lies on the southwest of Kashmir. It is at one time called as "Shen-e-vann" meaning "Forest of Snow." Shopian is commonly known as the apple bowl of Kashmir. The district is at a distance of 50 km from the state capital Srinagar. Beset with considerable topographic, altitudinal climatic variation, it depicts a great habitat diversity and harbors a rich flora. The district is mainly agrarian, and most of the plants grow luxuriantly as weeds in waste lands, fallow lands, cultivated fields, etc (Raza *et al*, 1978).

Methods

Frequent field trips and ethnomedicinal surveys of the selected areas of Shopian, Keller, Zainapora tehsils of Shopian district of Jammu and Kashmir were undertaken during 2015-2016 as per the guidelines suggested by Schultes (1962), Jain (1967). The information about the use of plants as medicine and folklore was recorded by personal interviews with tribals (Gujjars and Bakarwals), Paharis, shepherds (chopans), and old experienced villagers under study. An inventory of plants and plant products used by the people of rural and tribal areas in their day-to-day life was prepared. Almost all the plants were collected in different seasons with the help of tribal and rural people. Parts of the plants used in the treatment of various problems and other related information were recorded. The information of plants was written in the field book. The data obtained from different localities, pertaining to local medicinally important plants, were carefully recorded. The information collected from the local people was further verified and checked by some knowledgeable person of the study area. Every such plant was studied for its identification. The chemical constituents written for each species of plant in the enumeration have been taken from the Glossary of Indian medicinal plants (Chopra *et al*, 1956).

RESULTS

The present study reported that 22 ethnomedicinal plant species belonging to 14 families are being used in the treatment of typhoid fever and toothache. The botanical

Table 1: Medicinal plants of Shopian district of Jammu and Kashmir used to cure typhoid fever and toothache

S. No.	Botanical name	Family	Local name	Chemical constituents	Part used	Ethnomedicinal use
1	*Achillea millefolium* L.	Asteraceae	Pahel-gass	Achilleine, azulenes, coline	Whole plant	Toothache, fever
2	*Aconitum heterophyllum wall.* Ex Royle	Ranunculaceae	Patis	Heterastine, heterophylline, atisine, atidine, hetidine	Root	Toothache, high fever
3	*Arnebia benthamii* (wall.) Johnston	Boraginaceae	Khazaban	Dry plant yields essential oil	Leaves	High fever
4	*Artemisia absinthium* L.	Asteraceae	Tethwen	Sesquiterpene lactone, artabsinarabsin	Whole plant	Various fevers
5	*Cichorium intybus* L.	Liliaceae	Handiposh	Cichorin, lactucin, intybin	Root	Typhoid
6	*Datura stramonium* L.	Solanaceae	Datur	Flavonoids, coumarins, tannins	Seeds leaves	Dental caries
7	*Delphinium denudatum*	Ranunculaceae	Mori		Root, flower	High fever, toothache
8	*Delphinium roylei* Munz.	Ranunculaceae	Mameri		Root	Tooth cavity pain
9	*Juglans regia* L.	Juglandaceae	Doon	Globulin (cysteine and tryptophan)	Root bark	Tooth infections, cleaning of Teeth
10	*Nepeta cataria* L.	Lamiaceae	Gandsoi	Volatile oil and Tannin	Whole plant, leaf	High fever
11	*Origanum vulgare* L.	Lamiaceae	Mazren	Volatile oil, tannins, resin, sterols, and flavonoids	Aerial part	Toothache
12	*Plantago major* L.	Plantaginaceae	Logout gul	Glucosides, saponins	Seed, leaf	Fever and toothache
13	*Polygonum hydropiper* L.	Polygonaceae	Marchwangangass	Essential oil, oxymethyl anthraquinones	Leaves	Toothache
14	*Potentilla fruticosa* L.	Rosaceae	Banchai		Leaves	High fever
15	*Potentilla nepalensis* Hook.	Rosaceae	Panzpater	-	Leaves, root	High fever
16	*Prunella vulgaris* L.	Lamiaceae	Kal-weth	Essential oil	Flower	High fever
17	*Rhododendron campanulatum* D. Don	Ericaceae	Wan-nas	Andromedotoxin	Leaves, flower	Fever, toothache
18	*Salvia moorcroftiana* Wall. ex. Benth	Lamiaceae	Shrematus	Essential oil, mucil	Root	High fever
19	*Salix babylonica* L.	Salicaceae	Veer	Salicin	Twig	Weak gums, cleaning of teeth
20	*Sonchus asper* L.	Asteraceae	Dudh–kandij	A and B lactucerols, cerylalcohol, and mannitol	Aerial part	Fever
21	*Taxus baccata* L.	Taxaceae	Posthal	Taxine	Leaf	High fever
22	*Viola biflora* L.	Violaceae	Banfsha	-	Leaf extract	High fever

name, family, local name, chemical constituents, parts used, and ethnomedicinal uses of these medicinal plants have been compiled and shown in Table 1.

DISCUSSION

Specifically, the Shopian district of Kashmir Himalaya harbors a good proportion of endemic as well as non-endemic flora; based on its endemicity and unique geography, it has attracted the attention of explorers and botanists from the time when journey was most tedious and quite unsafe. The purpose of the current investigation is to explore the flora of this floristically rich area with a special emphasis on gathering information from the tribals and rural people living in the forest areas pertaining to ethnobotanical uses of plants, which are so bountiful in their ambience. Especially the rural people and the tribals of this selected area depend on the surrounding forests for almost everything. They prefer to use their folk medicines practiced by their elderly persons who enriched their knowledge by long experience. According to informants, they are capable of healing and curing various diseases with home medicines.

CONCLUSION

The study area is very rich both floristically and ethnomedicinally. Further research is required on the phytochemistry of such plants which are effective in the treatment of a particular disease. Moreover, the study has brought to some useful medicinal plants which are subjected to pharmacological and clinical trials on experimental animals, and if found efficacious, they can be recommended for human use. For this purpose, it would be better if the active ingredient or active principle is isolated by further researches so that more effective use of these plants may be made.

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