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Research Article

Some Important Medicinal Plants used for Curing Dental Issues in Shamdhara (Oghi), Mansehra, Pakistan

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Abstract

Introduction: Shamdhara (study area) is an unexplored area so it is vital to introduce region for the first time.

Aims and Objectives: Main objective of the study was to record the ethno botanical uses of indigenous plants used for the treatment of dental disorders.

Materials and Methods: Field surveys were carried out to investigate and explore the medicinal of plants used for dental issues in Shamdhara, Oghi (Mansehra), Pakistan during 2016 - 17. Collected plants were properly pressed, dried, poisoned, mounted on herbarium sheets and after Identification the plant specimens were deposited in the Herbarium, department of Botany, Government Post Graduate College, Mansehra for voucher numbers. During field work interviews were carried out to study traditionally medicinal uses (dental problems) of collected plants during field work.

Results: Present results revealed that seven medicinal plants belonging to 7 genera and 7 families from study area and all of these plant species belongs to angiosperms. Trees dominate the study area with 4 species, followed by herbaceous growth form with 3 species. All the seven families; Caryophyllaceae, Juglandaceae, Meliaceae, Mimosaceae, Oleaceae, Polygonaceae and Ranunculaceae contributed with one plant species each. In the plants parts used as preparations for medicinal purpose, leaves were the most widely used part in the treatment of different dental diseases (36%), followed by fruit (27%) and flower (18%). The dental problems treated through medicinal plants were toothache and gum bleeding. A plant species was also reported for teeth cleaning purpose.

Conclusion: Plants of study area provide most of the basic requirement for the survival of local communities. There is huge pressure exerted on natural vegetation due to their overuse by the inhabitants of the area. If proper remedial measure will not be taken, then this process will lead to decline of valuable plant species from the study area. This exploration is a part of an ongoing project in which we will explore ethnobotanical as well as ecological gradients of the regional flora in near future.

Keywords: *Traditional knowledge; Medicinal plants; Dental problems; Oghi; Pakistan*

Introduction

Ethno botanical study of plants aims to discover the local uses of plants by the local communities [1]. About 5000 years ago, the origin of therapeutic uses of herbal medicine can be traced back to China [2]. Human race is mostly dependent on plants due to which their requirement increased day by day [3]. From Pakistan, 6000 flowering plant species have been the identified and reported so far [2].

Good dental hygiene plays a key role in one's well-being and general quality of life. Poor dental hygiene results in several severe diseases [4]. Proper oral hygiene goes a long way for preventing dental problems [5]. According to Muhammad and Lawal [6], the major reported teeth problems associated with every human adult are; plaque, tooth decay, gingivitis, and periodontal disease. There is a long history of the use of plants for improving dental health and to promote oral hygiene [7]. The natural ways to treat dental diseases; number of plants can eliminate infection and inflammation associated with dental diseases. The use of miswak has positive effect on dental health using a single blind and crossover design [8].

Pakistan has rich history on the folk use of plants; a lot of work has been done on traditional medicinal plants in different regions. However the remedial properties of most plants against oral diseases have not been sufficiently listed. Only single study on dental disorders was found in literature from Pakistan reported by Rahman., et al [1]. In which they reported 25 medicinal plant species belonging to 17 families used for treating 8 different dental problems. Shamdhara (study area) is an unexplored area on the basis of ethnomedicinal context and the old aged local inhabitants mostly practiced medicinal plants for dental problems. Due to their death, this vital folk asset is moving towards depletion. So that's why through this documentation such an important traditional knowledge can be easily conserved from depletion.

Materials and Methods

Shamdhara is the union council of Tehsil Oghi, District Mansehra in Khyber Pakhtunkhwa, Pakistan. This area is deprived of basic needs and necessities of life i.e. health, economic poverty, education, communication services, etc. Field surveys were carried out to investigate and explore the medicinal of plants used for dental issues in Shamdhara, Oghi (Mansehra), Pakistan. Collected plants were properly pressed between the blotting papers for drying, and then mounted on herbarium sheets [9]. During field work interviews were carried out to study traditionally medicinal uses (dental problems) of collected plants during field work. Plants were identified through Flora of Pakistan following Ali and Nasir [10] and deposited in the Herbarium, department of Botany, Government Post Graduate College, Mansehra for voucher numbers.

Results and Discussion

Traditional Medicinal plants are widely practical in the treatment of various dental diseases. With the knowledge from traditional healers, local people, and shepherds the medicinal plants having curative properties are used against number of oral disorders. The traditional medicinal plants used for dental problems have no side effects and are thus a miraculous gift of Mother Nature. In present study, a total of seven medicinal plants belonging to 7 genera and 7 families (Figure 1) were recorded from study area of which 7 (100%) plant species belongs to angiosperms (Figure 2).

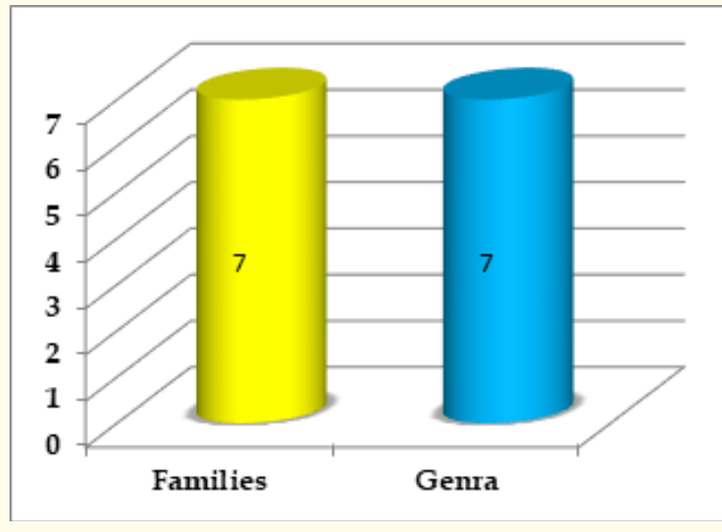

Figure 1: *Number of genera and families recorded from study area.*

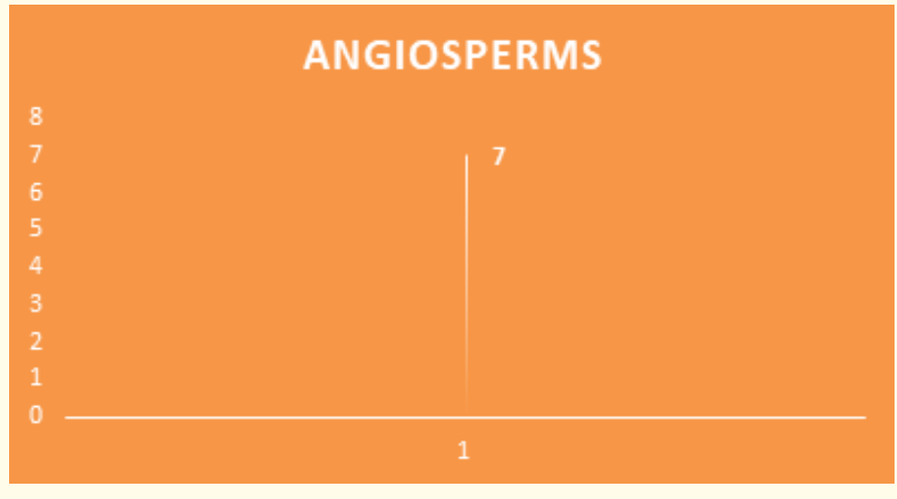

Figure 2: *Number of angiospermic plant species recorded from study area.*

On the basis of plant habit, trees dominates the study area with 4 species having (57%), followed by herbaceous growth form with 3 (43%) species (Figure 3). The reason for tree dominancy might be due to the most preferred and useful in dental treatments. All the seven families; Caryophyllaceae, Juglandaceae, Meliaceae, Mimosaceae, Oleaceae, Polygonaceae and Ranunculaceae contributed with one plant species each (Figure 4).

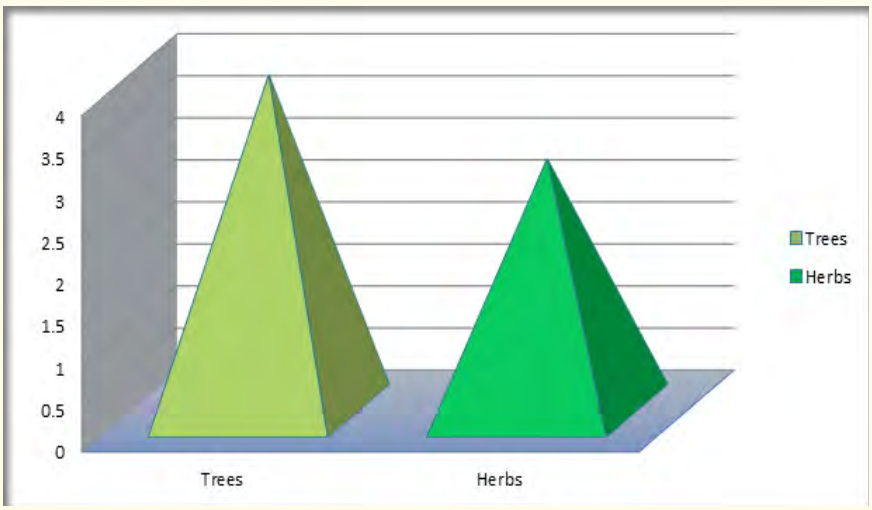

Figure 3: *Diversity in growth form of medicinal plant species recorded from study area.*

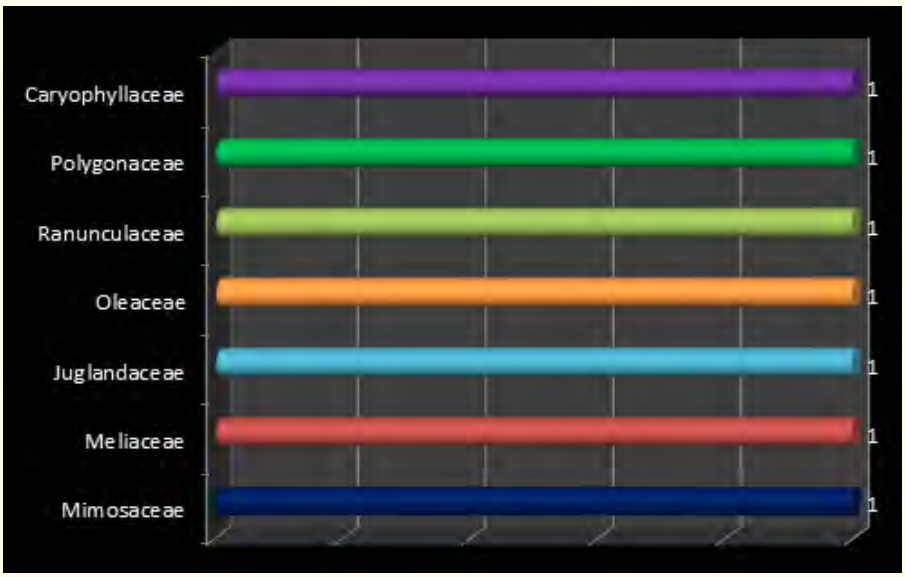

Figure 4: *Diversity of plant species recorded from study area.*

The phyto parts were used as preparations for medicinal products. Leaves were the most widely used plant part in the treatment of different diseases (36%), followed by fruit (27%), flower (18%), whereas, minimum used parts were bark and root (9%) (Figure 5). Ijaz., *et al.* [3] also reported leaves as the most useful plant part of medicinal values. The dental problems treated through medicinal plants were toothache (4 species) and gum bleeding. For toothache, *Azadirachta indica, Olea ferruginea, Rumex hastatus* and *Stellaria* media were used while gum bleeding was treatment through *Acacia nilotica, Juglans regia* and *Ranunculus muricatus*. Single plant species was reported for teeth cleaning purpose i.e., *Juglans regia.*

S. No	Plant Species	Vernacular Name	Family Name	Plant Habit	Part Used	Medicinal uses
1	*Acacia nilotica* (L.) Delile	Kikar	Mimosaceae	T	Fr	Gum bleeding
2	*Azadirachta indica* A. Juss.	Neem	Meliaceae	T	L	Toothache
3	*Juglans regia* L.	Akhroot	Juglandaceae	T	L, B, Fr	Sparkling of teeth, gum bleeding
4	*Olea ferruginea* Royle	Khooney	Oleaceae	T	L, Fr	Toothache
5	*Ranunculus muricatus* L.	Zirgulay	Ranunculaceae	H	Fl	Gum bleeding
6	*Rumex hastatus* L.	Khatimal	Polygonaceae	H	L, R	Toothache
7	*Stellaria media* (L.) Vill.	_	Caryophyllaceae	H	Fl	Toothache

Table 1: *List of medicinal plants their vernacular, and family name, plant habit, parts used and medicinal uses recorded in study area.*

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