THE ETHNOBOTANICAL STUDY OF MEDICINAL PLANTS IN RAWALAKOT USED FOR ASTHMA

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خلاصہ

تجریدی دواؤں پادپ وادی راولا کوٹ اور ضلع پونچھ آزاد جموں وکشمیر میں اپنے ارد گرد کے علاقوں کے مقامی کمیونٹی کے بیماری کا اہم ذریعہ تصور کیا جاتا ہے۔ سٹڈید علاقے کی آبادی کے بارے میں کے بارے میں معلومات استعمال دواؤں پودوں اور اس خام کی تیاری کی ایک پرانی بیماری دمہ میں ریکارڈ کرنے کے لئے حالیہ مطالعہ کا بنیادی مقصد تھا: اور ریکارڈ شدہ کوائف کی quantification ۔ اٹھنوبوتاناکال سروے کے دوران 15 پر جاتیوں کے مخالف استماٹاک پودوں کے لئے 15 خاندانوں سے تعلق رکھنے والے کی نشاندہی کی گئی ہے۔ اٹھنوماداکانال استعمال کرتا ہے، پھول، تنا کے دوران، بیج، جڑوں اور رہیزوماس استعمال کرنے کی نشاندہی کی گئی ہے۔ یہ بھی مقصد رہے ہیں کہ نوجوان نسل کے معالجہ اخلافیہ نایاب روایتی طبّی پودوں کی پہچان کے طور پر استعمال کی جانب کی نشاندہی کی ہے۔ یہ بھی مقامی کمیونٹی روایتی دواؤں پودوں کی اہمیت کے بارے میں تعلیم دینے کی ضرورت کہ تجویزدی ہے

Abstract

Medicinal plants are considered to be the prime source of remedy for the ailment of the local community of the Rawalakot valley and its surrounding areas in Poonch District of the Azad Jammu and Kashmir. The basic aim of the current study was to record information regarding the population of the area about the use of medicinal plants and its crude preparation in a chronic Asthma: and quantification of recorded data. During Ethnobotanical survey 15 species of Anti-Asthmatic plants belonging to 15 Families were identified. In Ethnomedicinal uses, flowers, stem, Seeds, Roots, and Rhizomes were used. It's seen that young generations are inclined to the use of allopathic medicines. It is also suggested that local community should be educated about the importance of the traditional medicinal plants.

Introduction

Azad Jammu and Kashmir, (AJ&K) is a mountainous region in Northern Pakistan that supports a diversity of plant habitats, soil types and climatic conditions, with many plants endemic to Pakistan, recorded from this area. Reports on the traditional medicinal uses of plants by the local communities of AJ&K are increasing (Dar, 2003; Rashid et al., 2015), but Kashmir's plant resources still remain largely unexplored, particularly with regard to their ethnobotanical values. More than Fifty thousand plants have been reported to possess therapeutic properties throughout the world (Thomson and Chaudhuri (2004)). About 80% of the people of developing countries are still dependent on traditional indigenous medicines for their basic healthcare (Anon., 2002; Malik *et al.*, 2010). Rawalakot is endowed with a diversity of Medicinal plant species. Many of which are used for various ailments. People use medicinal plants for treatment of Asthma because of their fewer side effects contrast to synthetics Asthma is the chronic inflammatory disease of the airway, symptoms include wheezing, cough, shortness of breath, dyspnea, chest tightness and limitation variable expiratory airflow. Generally, asthma occurs in both male and female of all age groups and socioeconomic level (Holgate and Polosa, 2008). The reason is still unclear but generally, it is found that asthma is more common in poor urban Neighborhoods, in cold climates, and in industrialized countries. The exact cause is unknown however extreme environmental factors like exposure to low-branded cigarette smoke, highly polluted city centers and poorly ventilated houses increase the chances of asthma in the community. Some genetic cases of asthma and hypersensitivity to various environmental factors like pollen, dust and other allergen may also be investigated. Its number increasing day by day. Asthma is usually linked to changes in the level of components of the immune system such as mast cell,

Table.1. Classification of Medicinal Plants which are used for the treatment of Asthma.

S/No	Botanical Name	Family	Local name	Parts Used	Used For	Mode of Administration	Cultivated	Dosage
1	*Sisymbrium irio* Linn.	Brassicaceae	Khob kala/ khaksi	seed	Asthma, Bronchitis, Typhoid, fever	decoction, syrup	wild	5g
2	*Onosma bracteatum* Wall. ex G. Don	Boraginaceae	Gawozuban	Leaves, stem	asthma, Bronchitis, Nervine tonic	decoction, syrup, Khamera	wild	5 to 10 g
3	*Glycyrrhiza glabra* L.	Leguminosae	Melati	Stem	asthma, Bronchitis, GIT (gastrointestinal tract)Disorders	Powder for GIT, Decoction for asthma	wild	10g
4	*Zingiber officinale* L.	Zingiberaceae	Adrak	Rhizome	Asthma, RTI(reproductive tract infections), cough, GIT disorders	Decoction	cultivated	1 to 2 g
5	*Linum usitatissimum* Linn	Linaceae	Alsi	Seeds	Asthma, Used as Expectorant	Syrup	cultivated	1 to 3 g
6	*Cuminum cyminum* Linn	Apiaceae	Zeera safad	Seeds	Asthma, Bronchitis, Flavouring Agent, gastric tonic, constipation	Powder, syrup, Majoon	cultivated/ wild	2 g
7	*Lavandula angustifolia* Mill er	Lamiaceae	Ustukhuddus	Flowers	Asthma, eyesight	decoction, powder	wild	1 to 2 g
8	*Viola odorata* L.	Violaceae	Gul e Banafsha	Dried flowers	Asthma, Flu, Influenza, Fever, cough	Decogtion	wild	10g/cup
9	*Cordia macleodii* (Griff.)	Boraginaceae	Sapistan	seeds	Asthma, Bronchitis, Expectorant, Analgesic, Anti-inflammatory, diuretic	decoction, syrup	wild	5 g
10	*Justicia adhatoda* L.	Acanthaceae	Barg-e-Bansa	Leaves	Asthma, Fever, cough, Pneumonia	Decoction	wild	10g
11	*Althea officinalis* L.	Malvaceae	Khatmi	Seeds	Asthma, Bronchitis	decoction, syrup	wild	10g
12	*Chrysopogon aucheri* (Boiss.	Poaceae	khus Khus	Seeds, Stem, bulb	asthma, cough, Fever, Narcotic	decoction, Majoon	cultivated	1 to 2g
13	*Ziziphus mauritiana* L.	Rhamnaceae	Anab	Fruit	Asthma, Blood purifier, Hepatic tonic	decoction, syrup, majoon	wild	1 to 2 g
14	*Cucumis sativus* Linn.	Cucurbitaceae	Kakdi sengi	Nuts	Asthma, Bronchitis, cough, Gastric tonic, expectorant		wild	1 to 2 g
15	*Piper longum* L.	Piperaceae	Filfil-e-Daraz	seeds	Asthma, Bronchitis, used as Expectorant	Powder, decoction	cultivated	1 to 2 g

eosinophil, lymphocytes, inflammatory cells and other cytokines cells products. It is observed that patients suffering from Asthmatic posses huge amount of IgE (Immunoglobulin E) at mast cell receptor (Castillo and De

Beer, 1947). The Antigen and IgE antibody interaction result into the releases of mediators such as histamine, leukotrienes and prostaglandins, leading to inflammation and bronchitis (Tripathi, 2001). The complete cure of asthma is still to be discovered, however various preventive measures are in common practice like control exposure to the allergen responsible for asthma attack, and using anti-inflammatory medication like corticosteroids, and immunotherapy, Which is highly expensive and with multiple side and adverse effects, Due to these reasons The patients are switching towards complementary and alternative medicine to treat asthma. Such plants possess Anti-asthmatic, Antihistaminic, Anti-allergic activity and a smooth muscle relaxant (Kumar *et al*., 2009). According to "WHO (1990) report" it is stated that nearly 80% of the Asian populations rely on traditional medicinal plants for the cure and prevention of a number of chronic diseases including asthma. A present study reports on Ethnobotanically important plant species from Rawalakot, AJK, Pakistan and analyzes indigenous traditional knowledge on the utilization of most common used Medicinal Plants used for Asthma.

Methodology

The ethnobotanical survey was conducted in the city of Rawalakot and its surrounding of the District Poonch by collecting data about Anti-asthmatic plants used locally. A number of Hakeems, Shepherd, knowledgeable, all locals, all old aged people and traditional practitioners have been interviewe. Semi-structured questionnaire about the traditional use of plants and their local names were collected and evaluated for the mentioned plants; their botanical names were identified by using the Internet and from medicinal books and botanical experts. Plants were listed in Table.1 including their family names and part used for asthma.

Results and Discussion

This study was conducted on the basis of the effect of associated factors on asthma including; age, family history, no. of hospital admissions, gender, smoking, use of inhalational steroids, duration of uncontrolled asthma, sleep disturbances, duration of asthma etc. was studied in the study area and then the following plants species were identified and were used for the treatment of asthmatic patient. During Ethnobotanical survey 15 species of Anti-Asthmatic plants belonging to 15 families were identified. During Ethnomedicinal uses, flowers, stem, seeds, roots, and rhizomes were identified to be used. The renowned plants used identified in the study included, *Sisymbrium irio* (Brassicaceae), *Onosma bracteatum* (Boraginaceae), *Glycyrrhiza glabra* (Leguminosae), *Zingiber officinale* (Zingiberaceae), *Linum usitatissimum* (Linaceae), *Cuminum cyminum* (Apiaceae), *Lavandula angustifolia*, (Lamiaceae), *Viola odorata* (Violaceae), *Cordia macleodii* (Boraginaceae), *Justicia adhatoda* (Acanthaceae), *Althea officinalis* (Malvaceae), *Chrysopogon aucheri* (Poaceae), *Ziziphus mauritiana* (Rhamnaceae), *Cucumis sativus* (Cucurbitaceae), *Piper longum* (Piperaceae), With various parts used, in various proportion as mentioned in the Table 1.

Conclusions

Medicinal plants are still widely used for health care by locals of Rawalakot of District Poonch. Some species of woodlands seem to be vulnerable to over-collection and deforestation.Young generation is inclined toward allopathic medicines. Ethnobotanical knowledge of important medicinal plants is restricted to the old people only. It is suggested to restrict the local community should restrict deforestation of Rawalakot (District Poonch) for next two to three decades for the conservation of plant biodiversity.

References

Anon. (2002). Report on the OECD expert meeting on agri-biodiversity indicators, November 2001: Summary and recommendations. OECD Joint Working Party on Agriculture and Environment COM/AGR/CA/ENV/EPOC(2002)35.

Castillo, I,C. and De Bear(1947) A method for tracheal chain preparation. *J. Pharmacol. Exp*., 90: 104-109.

Dar, M (2003). Ethnobotanical uses of plants of Law at district Muzaffarabad, Azad Jammu and Kashmir. *Asi J Pl Sci*; 2: 680-682.

Holgate, S.T. and Polosa, R. (2008). Treatment strategies for allergy and asthma. *Nat. Rev. Immunol.*, 8(3): 218-230.

Kumar, D., Prasad, D.N. Parkash, J., Bhatnagar S.P. and Kumar D., (2009). The antiasthmatic activity of ethanolic extract of Aervalanata Linn. *Pharmacology on line*, 2: 1075-108.

Malik, R.N., Husain, S.Z. and Nazir. I. (2010). Heavy metal contamination and accumulation in soil and wild plant species from an industrial area of Islamabad. *Pak. J. Bot*., 42(1): 291- 301.

Rashid S., Ahmad, M., Zafar, M., Sultana, S., Ayub, M. and Khan, M.A. (2015). Ethnobotanical survey of medicinally important shrubs and trees of the Himalayan region of *Azad Jammu and Kashmir*. *Pak J Ethnopharmacol*; 26(166): 340-351.

Tripathi, K.D., (2001). *Essentials of Medical Pharmacology*. Jaypee Brothers Medical Publishers Ltd., New Dehli, India, 4: 681.

Thomson N. and Chaudhuri, R. (2004). "Asthma and cigarette smoking." Eur. respiratory J., 24 : 822-833.

WHO (World Health Organization), (1990). The Use of Traditional Medicine in Primary Health Care. A *Manual for Health Workers in South-East Asia*. SEARO Regional Health Papers, New Delhi, 19: 1-