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TRENDS OF USING LOCAL PLANTS FOR COMMON DISEASES IN RURAL AREAS OF DISTRICT BAGH AZAD JAMMU AND KASHMIR

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ABSTRACT

The present study describes anthropogenic pressure in some selected areas (Chowki, Noor Gala, Kain Gala, Chetrorra, Kotteri Najam Khan) of district Bagh in the lesser Himalayas. The questionnaire and field sampling surveys were used to estimate the threats in the study area. The study was conducted from August 2017 to December 2017. A total of 25 plants were identified that are used for the treatment of different diseases. The data was analyzed by SPSS. Quantitative comparison of human population with collected plants in all selected sites showed that there was a significant difference among them.

Key words: anthropogenic, traditional medicinal plants,

INTRODUCTION

Petrovska (2012) suggested the usage of wild plants for medicinal purposes to being as old as man. Different modes of application and uses to exploit this natural resource have been adapted by indigenous people (Shaheen et al., 2011). Man has familiarized himself with plants and used them in a variety of ways throughout the ages from the very beginning of human existence. Primitive man began to distinguish those plants suitable for nutritional purpose from others with definitive pharmacological action during his quest for food and to cope successfully with human suffering (Faiz et al., 2014). As the human contact with the variety of plants increased, there was a profound rise in the knowledge of biodiversity of plants and their possible uses. Nature has long been an essential source of medicinal agents.

A notable number of recent drugs have been derived from natural source, based on their use in traditional medicine. The number of multidrug resistant microbial strains and the appearance of strains with reduced susceptibility to antibiotics is

continuously increasing. The use of medicinal plants as a source for relief from illness can be traced back over five millennia to written documents of the early civilization in China, India and the North East, but it is doubtless an art as old as mankind. Various parts of plants such as root, stem, fruit, flower, twigs are used as a source of medicine in the form of extract. The crude extracts of plant parts and phytochemicals with antimicrobial properties are of a great significance in therapeutic treatment (Faiz et al., 2014; Faiz et al., 2015).

The present study was designed to quantitatively analyze the effect of local population on medicinal plants. Azad Kashmir has a reasonable amount of medicinal plants that have been used to treat different diseases for years. In present study, the medicinal plants of district Bagh were studied on which no notable study has been conducted previously, from the selected site.

MATERIALS AND METHODS

Study area

Bagh City is the chief town and district headquarters of Bagh district, in Azad Kashmir, Pakistan. Climate of the district varies with altitude and temperature generally remains between 2°C to 40°C. May, June and July are the hottest months, maximum and minimum temperatures during the month of June are about 40°C and 22°C respectively. December, January and February are the coldest months and the maximum temperature in January is about 16°C and minimum temperature is 3°C respectively. The annual precipitation is about 1500 millimeters.

Ethnobotanical data collection

Field studies were conducted from August 2017 to December 2017. Local administrators were consulted with the explanation of aims of the research for the identification of key informants. They gave advice regarding people with good information on herbal medicine. These informants also suggested the potential informants. Before conducting interviews,

informants were asked for their consent. The interview guide was used for gathering data about medicinal plants. Questionnaires designed for the traditional healers about medicinal plants knowledge mainly focused on local names of plants used, parts used and growth forms, ailments treated / managed, conservation status, mode of preparation and administration of the herbal remedies. The demographic characteristics of the respondents in this study included gender, age, occupational status and mode of knowledge acquisition. Plant names were verified using the International Plant Name Index (IPNI). The data was analyzed by student t-test and One-way analysis of variance ANOVA with SPSS 16.0 version.

RESULTS AND DISCUSSION

There were 25 different plants species collected from 5 different sites of district Bagh Azad Jammu and Kashmir. These plants species are used locally against different diseases.

Table 1: Collection of medicinal plants from selected sites

Sites	Population	Local names	Scientific names	Functions
Kotteri Najam Khan	1800	Sumbal	<i>Berberis lycium</i>	Cholera, diarrhea, eye troubles and Leprosy
		Gul naqsha	<i>Viola odorata</i>	Lungs damage, stomach ulcer
		Batwya	<i>Bergenia ciliate</i>	Anti urolithatic, fever, cough, diarrhea, pulmonary affection, lungs disease, respiratory disorders and joints problems
		Buda meva	<i>Fragaria nubicola</i>	Antioxidant activity, reduces risk of cancer and cardiovascular diseases, effective against brain stroke
Chowki	2300	Kankoli	<i>Lonicera quinquelocularis</i>	Acute fever, headache, respiratory infection, antibacterial, antitumor
		Chandal butti	<i>Ajuga bracteosa</i>	Leaves used for pimples, measles, stomach, jaundice, hypertension and for blood purification
		Khoo	<i>Gerbera gossipiana</i>	Stomachache, cough, heart and abdominal pain
		Timer	<i>Zanthoxylum aramatum</i>	Bark used as toothache, as carminative, stomachache, anthelmintic
		Charitya	<i>Swertia charity</i>	Hepatitis, digestive diseases, Typhoid fever
		Sanchal	<i>Malva sylvestris</i>	Gastric ulcer, anticancer, anti-inflammatory, skin tissue
Noorgala	2500	Kach mach	<i>Solinum nigrum</i>	Diabetes, stomach problem
		Lengrri	<i>Adiantum capilus</i>	Leaves as medicine remedy, cough syrup
		Podeena	<i>Mentho arensis</i>	Digestive diseases, diarrhea, urinary problems
		Daraik	<i>Melia azedarach</i>	Typhoid fever, hepatitis, anticancer activity

Table 2: Collection of medicinal plants from selected sites

Sites	Population	Local names	Scientific names	Functions
Noorgala	2500	Kali tangi	<i>Pyrus pashia</i>	Bark used for digestive disorders, sore throat, fever, peptic ulcer and Typhoid fever.

		Amlok	<i>Diospyros lotus</i>	Antioxidant, anti-allergic, anti-cancer, diarrhea, dry cough and hypertension
		Phawarra	<i>Ficus palmata</i>	Constipation, lung and bladder issues, warts treatment, anti-fungal, anti-tumor and anti-diabetic
Kain Gala	600	Desi thoom	<i>Allium cepa</i>	Eye infection, Anti Diabetic, Lower blood sugar, to remove skin warts, hair growth, Earache
		Ganyyar	<i>Amaranthus viridis</i>	Paste applied on Scorpion sting, vegetable for urinary problem, diarrhea, seed for gastric problems, reducing pregnancy pain
		Alfi butti	<i>Asplenium dalhousia</i>	Leaves of the plant used to remove infertility in women.
		Chekal	<i>Thymus linearis</i>	Tea, cook rice in it use after delivery to reduce pain
		Chukri	<i>Rumax daustratus</i>	Roots as joints problem, backbone pain, Leaves paste for blood clotting and wound healing
Chetrora	1250	Sultan butti	<i>Asnille milefalium</i>	Specially for Toothache, Stomach problem
		Hannd	<i>Tavexacum officinale</i>	As vegetable for headache and high blood pressure
		Banakhoor	<i>Asculus indica</i>	Abdomen pain, weakness

Table 3. Quantitative comparison of population with plants species

Parameters	Mean ± Sd	Range	95 % CI	*P value
Population	1.69 ± 778.13	600-2500	723.81-2656.18	0.008
1	33.00 ± 22.249	10.00-70.00	5.37-60.62	
2	29.400 ± 24.89	5.00-65.00	0-60.29	
3	29.800 ± 24.652	7-72.00	0-60.40	
4	27.60 ± 18.474	7-72.00	4.66-50.54	
5	42.20 ± 24.118	15-80	12.25-72.15	
6	34.40 ± 25.38	12-75	2.88-65.92	

7	27.600 ± 21.067	15-65	1.44-53.75	
8	30.60 ± 24.306	10-70	0.41-60.78	
9	42.600 ± 30.802	12-90	4.35-80.84	
10	40.000 ± 33.793	7-90	0-81.96	
11	29.000 ± 27.166	6-75	0-62.7	
12	28.000 ± 27.573	9-77	0-62.8	

Quantitative comparison of human population with collected plants in all selected sites showed that there was a significant difference among them ($p=0.008$). The mean concentration of population in all selected areas was 1.69 ± 778.13 with the range from 600 to 2500. The mean concentration of all collected 25 plants was as followed: $33.00 \pm 22.249 > 29.400 \pm 24.89 > 29.800 \pm 24.652 > 27.60 \pm 18.474 > 42.20 \pm 24.118 > 34.40 \pm 25.38 > 27.600 \pm 21.067 > 30.60 \pm 24.306 > 42.600 \pm 30.802 > 42.600 \pm 30.802 > 40.000 \pm 33.793 > 29.000 \pm 27.166 > 28.000 \pm 27.573 > 25.000 \pm 23.420 > 19.000 \pm 17.507 > 27.200 \pm 21.405 > 34.200 \pm 19.537 > 35.400 \pm 11.866 > 40.000 \pm 10.000 > 38.800 \pm 10.568 > 30.200 \pm 17.824 > 26.800 \pm 25.014 > 22.800 \pm 15.304 > 12.200 \pm 7.563 > 11.400 \pm 6.229 > 13.600 \pm 7.092$ respectively. The concentration of ranges of plants species was 10.00 to 70.00, 5.00 to 65.00, 7 to 72.00, 7 to 72.00, 15 to 80, 12 to 75, 15 to 65, 10 to 70, 12 to 90, 7 to 90, 6 to 75, 9 to 77, 2 to 60, 8 to 50, 5 to 52, 17 to 65, 20 to 50, 30 to 55, 24 to 53, 5 to 50, 4 to 60, 6 to 47, 3 to 21, 1 to 17 and 5 to 24 respectively.

CONCLUSION

Quantitative comparison of human population with collected plants in all

selected sites showed that there was a significant difference among them ($p=0.008$). The mean concentration of population in all selected areas was 1.69 ± 778.13 with the range from 600 to 2500. There were 25 different plants species collected from 5 different sites of district Bagh Azad Jammu and Kashmir. These plants species are used locally for treatment of several ailments.

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