

**EXPLORATION OF SOME MEDICINAL PLANTS USED BY TRIBAL PEOPLE IN PALI REGION, KORBA DISTRICT OF CHHATTISGARH****\*Bhagyawati Kanwar and Dr. Lata Sharma**

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(C.G.).**ABSTRACT**

This study deals about the medicinal herbs found in the Pali region of Korba district. The region has been selected because there is no systematic account of medicinal herbs in that particular region. The quadrat method has been used for sampling to understand the vegetation of medicinal plant of that region. Quadrat sampling leads to occurrence of 50 medicinal herbs with their frequency. Density and Abundance and also mentioned relative frequency, relative density and relative abundance and got IVI of all medicinal herbs found in the Pali region of Korba, Chhattisgarh.

**KEYWORDS:** Exploration, Quadrat method, medicinal plants, tribal people Pali, Korba, Chhattisgarh.

**INTRODUCTION**

Medicinal plants are enriched with many useful properties which do we in drug development we use that drug for the treatment of common ailments such as hypertension dysentery, constipation, diarrhoea, bronchial, stomach pain, asthma, fever, cold, cough etc. We have been using plant for medicinal purpose from ancient era. Every drugs made by extract of the plant whether it is Ayurvedic, Homeopathy or Allopathy are useful for the treatment of different diseases.

Chhattisgarh is an herbal state with enriched diversity of the plants species 44% of its geographic area covered with forest. Korba district situated between latitude 22°0' to 23°01' and longitude 85°08' to 83°09' of Chhattisgarh state. The research place Pali is historical place which reached floristic diversity of medicinal plants. The atmospheric pressure of that place is 1006 mbar (milibar), humidity is more than 75, situated in tropical climate are based

on monsoon. The significant tribes of the district are Gond, Korwa, Munda, Baiga etc. The life style of tribal people depends upon the any kind of livelihood.

Medicinal plants utility trends have been increased due to their much efficacy, safe mode for utilization and less side effect. Various parts of the medicinal plants are used for different purpose and also a source of economic growth to local peoples (Samant *et. al.* 1997). Some ethno botanical studies were made by Ayyanar and Ignacimuthu (2005), Balakrishnan *et. al.* (2009), Ignacimuthu *et. al.* (2006) and P.C Trivedi *et. al.*(2006).

## MATERIALS AND METHODS

The Study was carried out in the region of Pali of korba district. A quadrat is used in the specific of the plant communities to be sampled. That specific area are –

- Lowland area
- Hightide area
- Agriculture area
- Barren area
- Zonal area

Sampling unit of area was taken in the area of definite size. All the species occurring in each quadrat was noted and their numerical count was carried out to know about the plants species occurring in that area. The ethnomedicinal information was obtained from knowledgeable person, experienced people medicine men and heads and local inhabitants of the village, who have knowledge of plants for health and livelihood security (Sandey and Sharma, 2016). This study helps in identification and occurrence of dominant species in the area and also taken photographs and has been done in laboratory by literatures including flora/Encyclopaedia like De. L. C.(2005), Sharma R. (2003) Trivedi P.C. (2006) and Pullaiah, T. (2006), further confirmation was made with the help of experts of the field also.

Name of species and number of individual species in each unit are recorded and percentage frequency, density and abundance are calculated by the formula.

% frequency, density and abundance for different species can be worked out by the formula given below.

% frequency is the number of timer a plant species occur in a given number of quadrates. Frequency is usually expressed as a percentage and is some time called a frequency indicates

the probability of finding a species in a series of quadrates examined in an area of Interest. This is described as the % of Quadrates occupied by a given species.

$$\% \text{ frequency} = \frac{\text{No. of Quadrates in which it occurred}}{\text{Total No. of Quadrates studied}} \times 100$$

Density, the number of individuals of a species living in a particular area is the density of that population. Density is dependent upon many factors, such availability of food, water, light, heat etc. We can find one thousand or more grasses plants in square meter of well maintain lawn. This is described as the number of individuals per unit area.

$$D = \frac{\text{Total No. of individuals}}{\text{Total No. of Quadrates studied}}$$

Abundance in ecology, abundance is the relative representation of a species in a particular ecosystem. It is usually measured as the number of individuals found per Sample –

$$A = \frac{\text{Total No. of individuals}}{\text{No. of Quadrates of Occurrence}}$$

$$\text{Relative density} = \frac{\text{density of one species}}{\text{density of all species}} \times 100$$

$$\text{Relative frequency} = \frac{\text{frequency of one species}}{\text{frequency of all species}} \times 100$$

$$\text{Relative dominance} = \frac{\text{dominance (based area) of one species}}{\text{species}} \times 100 \text{ dominance of all}$$

IVI = Relative density + Relative frequency + Relative dominance.

## RESULTS

On the basis of field survey on medicinal plants it has been found that 50 species under 15 families showed their presence in the campus which were collected identified, listed and recorded medicinal herbs from different areas. That plants deals with by using quadrate sampling method. The Plants are arranged following their Botanical name, family and table of frequency, Density and Abundance show in Table I.

S.No.	Name of Plants Species	Family	Name of individuals in each Quadrate										% Frequency	Density	Abundance
			Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10			
1	<i>Abutilon indicum</i> Linn.	Malvaceae	-	-	-	-	1	-	1	-	1	-	30%	0.3	1.0
2	<i>Achyranthus aspera</i> Linn.	Amaranthaceae	3	2	1	-	-	4	5	-	-	-	50%	1.5	3.0
3	<i>Ageratum conyzoides</i> Linn.	Asteraceae	5	-	-	-	4	-	-	6	-	-	30%	1.5	5.0
4	<i>Alternanthera ficoidea</i> (L.)P.Beauv.	Amaranthaceae	5	-	4	-	8	-	-	7	-	6	50%	3.0	6.0
5	<i>Argemone Maxicana</i> Linn.	Papeveranceae	3	6	-	-	3	-	1	-	4	-	50%	1.7	3.4
6	<i>Blumea lacera</i> Linn.	Asteraceae	6	-	4	1	-	-	8	-	1	2	50%	2.1	4.2
7	<i>Beorhavia diffusa</i> Linn.	Nyctaginaceae	7	-	-	-	3	-	-	2	-	1	30%	1.3	4.3
8	<i>Cassia tora</i> Linn.	Leguminosae	1	-	-	2	-	-	1	-	-	-	30%	0.4	1.3
9	<i>Chenopodium album</i> Linn.	Amaranthaceae	2	5	-	-	-	4	2	3	-	-	40%	1.4	3.5
10	<i>Chloris barbata</i> (L.)Sw.	Gramineae	2	2	-	-	3	-	1	-	-	-	40%	0.8	2.0
11	<i>Croton bonplan dianum</i> Linn.	Euphorbiaceae	1	-	-	2	1	-	-	-	1	-	40%	0.5	1.2
12	<i>Cynodon Dactylon</i> (L.)Pers.	Poaceae	10	24	16	3	11	2		2	5	8	90%	8.1	9.0
13	<i>Dactyloctenium aegyptium</i> Linn.	Poaceae	5	-		4	7	-	-	3	-	-	40%	1.9	4.7
14	<i>Desmodium triflorum</i> (L.)Dc	Fabaceae	8	-	7	-	5	4	2	1	3	1	80%	3.1	3.8
15	<i>Digitaria sanguinalis</i> (L.)Scop.	Poaceae	4	-	-	-	2	-	3	-	-	-	30%	0.9	3.0
16	<i>Echinochloa crus-galli</i> (L.)Beauv.	Poaceae	2	5	-	-	-	4	-	5	-	-	40%	1.6	4.0
17	<i>Eleusin indica</i> (L.)Gaert n.	Poaceae	2	1	2	-	-	1	-	-	1	2	60%	1.9	3.1
18	<i>Eragrostis amabilis</i> (L.)Wight & Arm. ex Nees	Poaceae	2	2	1	-	-	3	6	-	5	3	70%	2.2	3.1
19	<i>Eragrostis pilosa</i> (L.)P.Beauv.	Poaceae	2	1	-	-	2	-	1	-	2	-	50%	0.8	1.6
20	<i>Eragrostis tenella</i> (L.) Wight & Arm. ex Nees	Poaceae	4	-	-	-	2	3	-	3	-	1	50%	1.3	2.6
21	<i>Eragrostis unioides</i> (L.)Wolf	Poaceae	6	-	-	3	4	-	5	-	-	-	40%	1.8	4.5
22	<i>Euphorbia hirta</i> Linn.	Euphorbiaceae	1	-	-	2	11	-	2	5	5	-	60%	2.6	4.3
23	<i>Euphorbia maculata</i> Linn.	Euphorbiaceae	7	-	6	-	3	4	2	-	-	-	50%	2.2	4.4
24	<i>Euphorbia prostrata</i> Linn.	Euphorbiaceae	6	3	-	-	4	-	-	6	-	1	50%	2.0	4.0

25	<i>Heteropogon contortus</i> (L.)P.Beauv.	Poaceae	-	-	-	2	5	2	-	1	1	-	40%	1.2	2.0
26	<i>Hygrophyla spinosa</i> Schum.	Acanthaceae	3	7	-	1	1	-	2	3	-	4	70%	2.1	3.0
27	<i>Hyptis suaveolens</i> (L.)Poit.	Lamiaceae	5	5	-	-	3	6	-	-	2	1	60%	2.2	3.6
28	<i>Kyllinga tricep</i> Linn.	Cyperaceae	3	-	-	7	-	-	-	1	-	-	30%	1.1	3.6
29	<i>Lagascea mollis</i> Cav.	Asteraceae	3	2	1	-	-	2	-	-	-	-	40%	0.7	1.7
30	<i>Microstegium vimineum</i> (Trin.) A.Camus.	Poaceae	7	-	-	4	-	-	6	-	-	2	40%	1.9	4.7
31	<i>Oldenlandia corymbosa</i> Linn.	Rubiaceae	3	-	-	2	-	-	2	-	5	4	50%	1.6	3.2
32	<i>Parthenium hysterophorus</i> Linn.	Asteraceae	5	8	-	-	7	-	5	-	4	6	60%	3.5	5.8
33	<i>Penicum repens</i> Linn.	Poaceae	6	-	-	-	3	-	2	-	3	-	40%	1.4	3.5
34	<i>Pennisetum setaceum</i> (Forssk.)Chiov.	Poaceae	-	-	-	5	-	-	-	-	-	-	10%	0.5	5.0
35	<i>Phyllanthus niruri</i> Linn.	Phyllanthaceae	6	-	7	-	4	-	-	-	-	2	40%	1.9	4.7
36	<i>Phyllanthus virgatus</i> (G.Forst)	Phyllanthus	3	-	-	2	-	1	-	-	5	3	50%	1.4	2.8
37	<i>Physalis minima</i> Linn.	Solanaceae	5	4	-	-	8	-	-	2	-	1	50%	2.0	4.0
38	<i>Rungia pectinata</i> (L.)Nees	Acanthaceae	-	-	-	3	1	-	-	4	-	-	30%	0.7	2.3
39	<i>Senecio vulgaris</i> Linn.	Asteraceae	3	2	-	-	1	-	4	-	2	-	60%	1.3	2.1
40	<i>Sida acuta</i> Burm.F.	Malvaceae	2	-	-	5	-	-	3	4	-	-	40%	1.4	3.5
41	<i>Sida cordata</i> Burm.F.	Poaceae	1	2	3	-	-	-	6	-	2	1	60%	1.5	2.5
42	<i>Sida cordifolia</i> Linn.	Malvaceae	1	-	3	-	-	5	-	-	-	2	40%	1.1	2.7
43	<i>Solanum virginianum</i> Linn.	Solanaceae	-	-	-	-	4	-	-	3	-	6	30%	1.3	4.3
44	<i>Sonchus oleraceus</i> Linn.	Poaceae	-	-	-	-	7	2	-	-	-	-	20%	0.9	4.5
45	<i>Sphaeranthus indicus</i> Linn.	Asteraceae	1	-	-	2	-	3	4	-	-	5	50%	1.5	3.0
46	<i>Tephrosia purpurea</i> (L.)Pers.	Fabaceae	-	-	-	1	-	-	3	-	4	5	40%	1.3	3.2
47	<i>Themeda quadrivalvis</i> (L.)Kuntze	Poaceae	-	-	-	-	6	-	-	3	-	2	30%	1.1	3.6
48	<i>Tridax procumbens</i> Linn.	Asteraceae	1	2	4	-	-	-	3	-	5	6	60%	2.1	3.5
49	<i>Urena lobata</i> Linn.	Malvaceae	2	-	4	3	-	1	-	5	-	-	50%	1.5	3.0
50	<i>Xanthium strumarium</i> Linn.	Asteraceae	-	-	3	2	-	-	4	-	-	-	30%	0.9	3.0

Table II: Including of relative frequency, relative density, relative abundance and IVI of the medicinal herbs.

S.No.	Name of Species	Family	Relative Frequency	Relative Density	Relative Abundance	IVI
1	<i>Abutilon indicum</i> Linn.	Malvaceae	1.32	0.31	0.56	2.19
2	<i>Achyranthus aspera</i> Linn.	Amaranthaceae	2.20	1.55	1.69	5.44
3	<i>Ageratum conyzoides</i> Linn.	Asteraceae	1.32	1.55	2.82	5.69
4	<i>Alternanthera ficoidea</i> (L.)P.Beauv.	Amaranthaceae	2.20	3.11	3.39	8.7
5	<i>Argemone Maxicana</i> Linn.	Papeveranceae	2.20	1.76	1.92	5.88
6	<i>Blumea lacera</i> Linn.	Asteraceae	2.20	2.18	2.37	6.75
7	<i>Beorhavia diffusa</i> Linn.	Nyctaginaceae	1.32	1.35	2.43	5.1
8	<i>Cassia tora</i> Linn.	Leguminosae	1.32	0.41	0.73	2.46
9	<i>Chenopodium album</i> Linn.	Amaranthaceae	1.76	1.45	1.97	5.18
10	<i>Chloris barbata</i> (L.)Sw.	Gramineae	1.76	0.83	1.13	3.72
11	<i>Croton bonplan dianum</i> Linn.	Euphorbiaceae	1.76	0.51	0.67	2.94
12	<i>Cynodon Dactylon</i> (L.)Pers.	Poaceae	3.96	8.41	5.09	17.46
13	<i>Dactyloctenium acgyptium</i> Linn.	Poaceae	1.76	1.97	2.65	6.38
14	<i>Desmodium trifolium</i> (L.)Dc	Fabaceae	3.52	3.22	2.14	8.88
15	<i>Digitaria sanguinalis</i> (L.)Scop.	Poaceae	1.32	0.93	1.69	3.94
16	<i>Echinochloa crus-galli</i> (L.)Beauv.	Poaceae	1.76	1.66	2.26	5.68
17	<i>Eleusin indica</i> (L.)Gaert n.	Poaceae	2.64	1.97	1.75	6.36
18	<i>Eragrostis amabilis</i> (L.)Wight & Arm. ex Nees	Poaceae	3.08	2.28	1.75	7.11
19	<i>Eragrostis pilosa</i> (L.)P.Beauv.	Poaceae	2.20	0.83	0.90	3.93
20	<i>Eragrostis tenella</i> (L.) Wight & Arm. ex Nees	Poaceae	2.20	1.35	1.47	5.02
21	<i>Eragrostis unioides</i> (L.)Wolf	Poaceae	1.76	1.87	2.54	6.17
22	<i>Euphorbia hirta</i> Linn.	Euphorbiaceae	2.64	2.70	2.43	7.77
23	<i>Euphorbia maculata</i> Linn.	Euphorbiaceae	2.20	2.28	2.48	6.96
24	<i>Euphorbia prostrata</i> Linn.	Euphorbiaceae	2.20	2.07	2.26	6.53
25	<i>Heteropogon contortus</i> (L.)P.Beauv.	Poaceae	1.76	1.24	1.69	4.69
26	<i>Hygrophyla spinosa</i> Schum.	Acanthaceae	3.08	2.18	1.69	6.95

27	<i>Hyptis suaveolens (L.)Poit.</i>	Lamiaceae	2.64	2.28	2.03	6.95
28	<i>Kyllinga tricep Linn.</i>	Cyperaceae	1.32	1.14	2.03	4.49
29	<i>Lagascea mollis Cav.</i>	Asteraceae	1.76	0.72	0.96	3.44
30	<i>Microstegium vimineum (Trin.) A. Camus.</i>	Poaceae	1.76	1.97	2.65	6.38
31	<i>Oldenlandia corymbasa Linn.</i>	Rubiaceae	2.20	1.66	1.80	5.66
32	<i>Parthenium hysterophorus Linn.</i>	Asteraceae	2.64	3.63	3.28	9.55
33	<i>Penicum repens Linn.</i>	Poaceae	1.76	1.45	1.97	5.18
34	<i>Pennisetum setaceum (Forssk.) Chiov.</i>	Poaceae	0.4	0.51	2.82	3.73
35	<i>Phyllanthus niruri Linn.</i>	Phyllanthaceae	1.76	1.97	2.65	6.38
36	<i>Phyllanthus virgatus (G.Forst)</i>	Phyllanthus	2.20	1.45	1.58	5.23
37	<i>Physalis minima Linn.</i>	solanaceae	2.20	2.07	2.26	6.53
38	<i>Rungia pectinata (L.)Nees</i>	Acanthaceae	1.32	0.72	1.30	3.34
39	<i>Senecio vulgaris Linn.</i>	Asteraceae	2.64	1.35	1.18	5.17
40	<i>Sida acuta Burm.F.</i>	Malvaceae	1.76	1.45	1.97	5.18
41	<i>Sida cordata Burm.F.</i>	Poaceae	2.64	1.55	1.41	5.06
42	<i>Sida cordifolia Linn.</i>	Malvaceae	1.76	1.14	1.52	4.42
43	<i>Solanum virginianum Linn.</i>	solanaceae	1.32	1.35	2.43	5.01
44	<i>Sonchus oleraceus Linn.</i>	Poaceae	0.8	0.93	2.54	4.27
45	<i>Sphaeranthus indicus Linn.</i>	Asteraceae	2.20	1.55	1.69	5.44
46	<i>Tephrosia purpurea (L.)Pers.</i>	Fabaceae	1.76	1.35	1.80	4.91
47	<i>Themeda quadrivalvis (L.)Kuntze</i>	Poaceae	1.32	1.14	2.03	4.49
48	<i>Tridax-procumbens Linn.</i>	Asteraceae	2.64	2.18	1.97	6.79
49	<i>Urena lobata Linn.</i>	Malvaceae	2.20	1.55	1.69	5.44
50	<i>Xanthium strumarium Linn.</i>	Asteraceae	1.32	0.93	1.69	3.94

## CONCLUSION

The maximum and minimum frequency, Density, Abundance and relative frequency, relative density, relative abundance of the medicinal herb is *Cynodon dactylon* and *Abutilon indicum*. *Cynodon dactylon* having a maximum IVI 17.46 and *Abutilon indicum* having minimum IVI 2.19. According to the study of Quadrate sampling method.

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