

Current status of medicinal plants in Saran district Bihar.

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Abstract:-

The local denizens in rural area of Bihar rely on traditional medicine for their primary health care but now they are in danger of losing both their knowledge and the medicinal plants they have used since time immemorial. The study was conducted in the rural areas of Saran district. The aim of the study which included an Ethno - botanical survey was to assess the knowledge of medicinal plants and to cite (RFC) and its use value (UV).

Keywords:- Medicinal plants, Quantitative analysis, Bihar, Ethno - botany.

Introduction:-

The documentation of plants used for medicinal purposes is not new in India. There are many traces of this in ancient literature as these are essential for human survival. The process has continued till date for various reasons. Several Botanists and local healers have preserved the knowledge of the local medicinal plants. There have been many surveys in different regions of India pertaining to existing state of medicinal plants. Bihar lies in the Eastern part of India and occupies over 9359.57 thousand hectares with a population of over 104,099452 (54278157 Male and 49821295 Female).

69% of the total population lives in rural areas. Some researchers have mentioned that the villagers in Saran district use various medicinal plants for their primary health care. A comprehensive investigation was carried out in the area and the medicinal uses of the plants were correlated with the uses in various part of the country. (Jain 1991,Saini 2010). More than 80% of the total population of the state is dependent on the herbs and the traditional healers for their primary health care.

The present study examined if (i) local inhabitants had the knowledge of the medicinal uses of these plants (ii) the local inhabitants continued to use herbal medicines in the treatment of diseases (iii) name of the plants that are used for the treatment of various diseases (iv) the quantitative analysis of the knowledge of medicinal plants.

A lot of researches have been conducted and will be conducted. We took help from the earlier researches. Our research will benefit researchers in future.

(II study area)

Saran district lies in the northern part of the state. The Ganga river provides the southern boundary of the district beyond which lies the district of Bhojpur and Patna. In the north of Saran lie the districts of Siwan and Gopalganj. The Gandak river forms the dividing line of Vaishali and Muzaffarpur districts in the east. In the west of Saran lie the district of Siwan and Balia. There are 20 blocks in the district.

Figure I Showing map of India

Figure II Showing map of Bihar (Saran)

Figure III Medicinal plants data collection and Ethno - Botanical composition.

The field data were collected during the period of Feb. 2017 to March 2018. It was started in winter season and the collection was repeated in every two months. Field work consisted of data collection, documentation of plants, Photography. A combination of focused group, individual interviews, field-work /discussion and one local market survey was conducted with a tertiary educated translator present at each lesson; a total 30 men, 20 men and 7 paydays (traditional healer) were interviewed. Most of the informants were aged between 45 to 65 years. The selection of informants was mainly based on their rich indigenous knowledge and long term experience of utilization of medicinal plants

The informants were asked various questions about their traditional knowledge of plants, disease treated, parts used and the method of preparation and administration of medicines.

During the field visit, the survey of data collection was made in different places i.e waste lands, bare lands, playground, road side, agricultural fields etc. The collected samples of plants were brought to the department for identification, the serial number, vernacular name, botanical name, family and other information was gathered.

The parts used and their medicinal values were noted. The identification of plants' material was carried out with the help of sodh ganga and hairs floral (1925).

(Socio-economic condition of the district)

Some areas of the district have modern health facilities because of urbanisation and other prevailing factors. They have access to hospitals. However, the majority of local inhabitants (local villagers) use traditional medicines because they believe in their cultural practices. One other reason is that they don't have access to hospitals.

(Ethno - medicinal area analysis)

Data

The collection of Ethno -medicinal information was quantitatively analyzed using an index or relative data frequency as

$RDF = DF/N (0 < RDF < 1)$.

This index shows the local importance of each species and it is given by the frequency of data (DF the number of informants mentioned, the uses of species) divided by the local total people participating in the survey (N) without considering the uses categories.

Use value;-

The use value (UV) demonstrates the relative importance of plants known locally. It was calculated using the following formula:-

$UV = EUI/N$

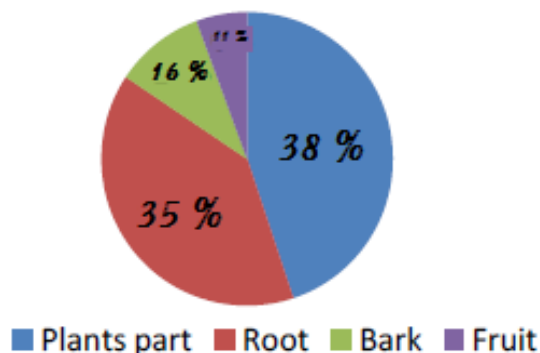
Where UI is the number of use mentioned by each informer for a given species and N is the total number of informants.

Result and discussion

Medicinal Plants - Parts and uses:-

A total of 65 plants that belong to 36 families were recorded with traditional use as herbal medicines against various ailments. The most encountered medicinal plants' families were lamiaaceae (6sps), casalpinaeeae (4sps), moraceae (5sps), fabaceae (4sps), rutaceae(4sps).

Parts of plants used in medicine preparation



Showing fig I percentage of plants part used

The parts of the plants primarily used are the leaves 48%, roots 12%, bark 9%, seeds 11%, latex 1%, fruit 10%, flower 11% also frequently used (fig I).

It was found that the highest number of plant species are used against stomach ache (12sps) followed by rheumatism (11sps), worries (10sps), for diarrhea and dysentery (8sps), for fever, cold, asthma, and menstrual problems (2sps) each while for pneumonia, epilepsy and brain disorders typhoid, scorpion and insect sting as well as for hypertension (2sps) each is used.

The traditional healer diagnose ailments by their signs and symptoms rather than specific laboratory test; this is because they lack modern techniques.

Fig. 2 Showing utility value of different plants growing in Saran district.

Fig. (2) shows 10 most popular medicinal plants with highest medicinal values as reported by the formants. It shows - *ocimum sanctum* and *madhuca indica* has the highest use value (98.5%) followed by *emblica officinalis* and *azadirachata indica* (90%). *Terminalia chebula* and *T. bahera* *ocimum sanctum* are extensively used in the treatment of cold and cough fever. In combination with other plants these are also used for the treatment of epilepsy, malaria etc. while *madhuca indica* is used to control temperature, gas, chicken, pox and dandruff besides making alcoholic beverages.

The UV of studied plants ranged from 40% to 98.5% which shows least relative importance of *adhathoda vasica* from *acanthaceae*. The highest was importance given to *osmium sanctum* and *medusa indica* from families *lamiaaceae* and *sapotaceae* respectively.

Conclusion:-

This study reports the quantitative Ethno - medicinal survey in some selected areas of Saran district, Bihar. The 65 plants species that belong to 36 families were from the families such as *euphorbiaceae*,

lamiiaceae and fabaceae etc. The leaves are the favored part of the plant. The most popular medicinal plants of this region, known to local people are emblica, officinal is, ocimm sanctum, madhuca indica, terminalia chedula. Based on their highest UV and RDF, we have compiled significant baseline data regarding indigenous knowledge about the native medicinal plants for treating common ailments. Now, it is ready for further investigation; phytochemicals and pharmacologically which may lead to natural drug discovery and development.

The medicinal plants in Saran district are in danger because of factors such as by setting up of industries, urbanisation, deforestation, grazing and expansion of new agriculture land.

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