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Chemical Analysis of Some Ethnomedicinal Plants at Chhatarpur District (M.P.)

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Abstract

From ancient time, medicinal plants were used to prevent various critical diseases, the plant kingdom is an important source of herbal drugs. Even in recent years, there has been an increasing awareness about the importance of medicinal plants.

According to WHO (World Health Organization) medicinal plants would be the best source to obtain variety of drugs. Medicinal plants contain some organic compounds which provide definite physiological action on the ill man body and these bioactive substances including tannins, alkaloids, carbohydrates and other chemicals, which are affective on diabetes, blood pressure and arthritis. The present paper based on chemical analysis of plants used in diabetes, blood pressure and arthritis.

Keywords: Arthritis, Ethnomedicine.

Introduction

In present day ethnobotany is basically the study of interaction between man and plants. It holds and record an old age knowledge of tribal people about the miracle use of diverse and plants the science of mediciousdetes-back to the caveman that use the plants to care various diseases. The knowledge is inherited into the tribal and local rural people. They have prepected the knowledge through their own experiences. Now a day due to Global warming, Industrialization, Urbanization and population exploitation day by day people are suffering from so many chronic diseases like Nervous breakdown, paralysis, ulcer, including diabetes, high blood pressure and arthritis.

There are so many workers like patwordhan B (2005), Shrivastavaet. al, (2005) worked on high blood pressure. Mehta et.al, (2012), Singh et.al, (2010) on arthritis Arjariya et.al, (2011) on diabetes. The present paper focused on chemical analysis of some plants used in blood pressure, Arthritis and diabetes at Chhatarpur district.

Material and Methods

Various screening methods have been introduced for evaluating ethnomedicinal plants in arthritis, high blood pressure and diabetes. Chemical analysis by chromatography of *Termenalia- Arjuna, pterocarpus – marsupium, cassia-torra, moringa-oleifera*and*Nyctanthus* have been done at Ayurveda sadan (Research Lab) Arogyadhamchitrakoot (Satna) (M.P.). All samples of plants parts collected at Chhatarpur district.

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Table -1
Phytochemical Analysis

Name of Plants							
S. No.	**Name of Phytochemicals**	**1**	**2**	**3**	**4**	**5**	**6**
		Termenalia -arjuna	***Pterocarpus-marsupium***	***Cassia-tora***	***Gymnema-sylvestre***	***Nyctanthus***	***Moringa-oleifera***
1	Alkaloids	Positive	Positive	Positive	Positive	Positive	Positive
2	Carbohydrates	Negative	Positive	Negative	Negative	Negative	Negative
3	Protein	Negative	Positive	Positive	Positive	Positive	Positive
4	Resin	Positive	Positive	Positive	Positive	Positive	Positive
5	Saponin	Negative	Negative	Negative	Negative	Positive	Positive
6	Starch	Negative	Negative	Negative	Negative	Negative	Negative
7	Tannin	Positive	Negative	Negative	Positive	Positive	Positive
8	Steroids	Negative	Positive	Positive	Negative	Negative	Negative
9	Flavanoids	Positive	Positive	Positive	Positive	Positive	Positive

Table – 2
Quantitative Estimation of Carbohydrates in Six Plants Samples

S.No.	Name of samples	Concentration	Results
1	*Termenalia-arjuna*	0.978	5.69 mg/l
2	*Pterocarpus-marsupium*	0666	6.964 mg/l
3	*Cassia-tora*	0.113	5.191 mg/l
4	*Gymnema-sylvestre*	0.015	5.690 mg/l
5	*Nyctanthus*	0.198	6.499 mg/l
6	*Moringa-oleifera*	0.048	5.345 mg/l

Table – 3
Quantitative Estimation of Carbohydrates in Six Plants Samples

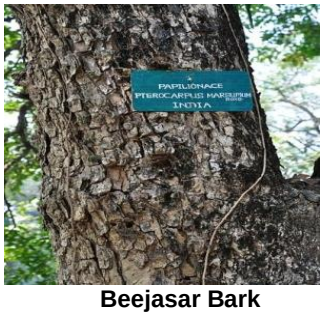
S.No.	Name of Samples	Concentration
1	*Termenalia-arjuna*	2.849 mg/l
2	*Pterocarpus-marsupium*	2.936 mg/l
3	*Cassia-tora*	2.636 mg/l
4	*Gymnema-sylvestre*	2.864 mg/l
5	*Nyctanthus*	2.817 mg/l
6	*Moringa-oleifera*	2.679 mg/l

Samples Parts and their Powder by Grinding
Sample-1

Arjun Bark

Arjun Bark Powder

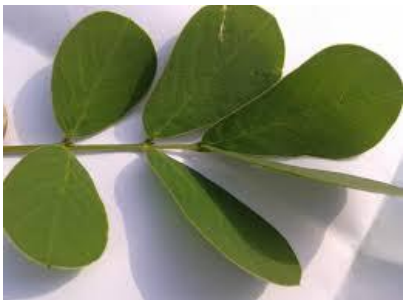
Sample- 2



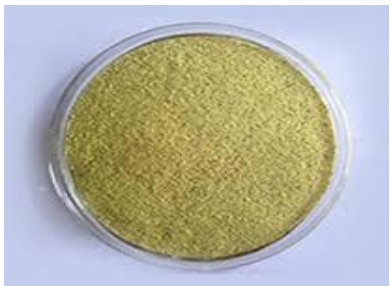
Beejasar Bark

Beejasar Bark Powder

Sample-3

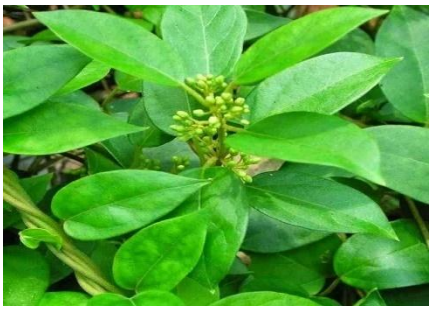


Cassia Tora Leaves



Cassia Tora Leaves Powder

Sample- 4

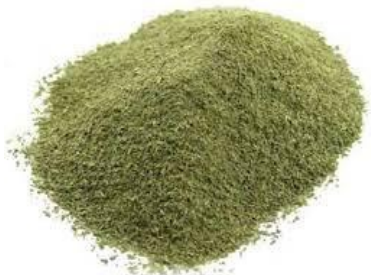


Gurmar Leaves

Gurmar Leaves powder

Sample- 5

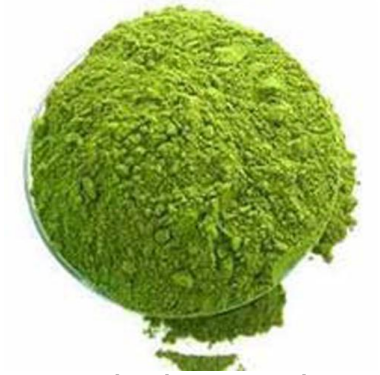
Nyctanthus Leaves



Nyctanthus Leaves Powder

Sample-6

Moringa Leaves



Moringaleaves Powder

Result and Discussion

Chemical analysis of six plants presented in table 1-3, included that Alkaloids carbohydrates, protein, Resin, Saponin, Starch, Tannin, Steroids and Flavonoids present in the given sample of plants used in diabetes, blood pressure and arthritis. In all plants alkaloids are positive but carbohydrates are positive in Pterocarpus-marsupium, Resins are present in all samples. Saponin present in Nyctanthus species starch absent in all samples, Tannin present in

Termenalia-arjuna. Gymnema-sylvestre and Nyctenthus and absent in pterocarpus-marsupium and cassia-tora. Steroids present in pterocarpus-marsupium and cassia-torawhile absent in other samples. Flavonoids present in all samples. By chemical analysis it was seen that Alkaloids and Flavonoids present in all samples. Some of them used for blood pressure, diabetes and some in arthritis.

Conclusion

on the basis of chemical analysis by chromatography we can say that phytochemicals which are used to cure different diseases. Tannin and carbohydrates different concentration of chemical in different plants.

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