International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

Survey of Medicinal Plants Used in Management of Diabetes from Parbhani District (M. S)

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Abstract: ***Diabetes mellitus is a major health problem in India and World. According to International Diabetes Federation every year more than 366 millions of the Peoples are suffering from diabetes II and India is considered as capital of diabetes. From ancient times plants have been used to cure diabetes in ayurvedic system of medicine because of presence of bioactive principals having capacity to manage diabetes. To explore the knowledge of traditional medicinal plants used in treatment of diabetes a survey was conducted in the Academic Year 2023 - 24, total 20 peoples were interviewed face - to - face mannered. Most of them have indigenous knowledge of medicinal plants with anti - diabetic properties.25 indeginous medicinal plant species belonging to20 families were recorded which are used to control diabetes from this region some of these are Gymnemma sylvestre, Tinospora cordifolia, Phyllanthus amarus, Phyllanthus eblica, Ocimum sanctum, Aloe vera, Syzgium cumini, Asparagus racemosus, Boerhaavia diffusa etc. plants parts are used as antidiabetic drug s. Current paper deals with detailed information of plants used as antidiabetic drug, its botanical name, common name in marathi, , Family name, Part used as drug source and method of consumption.***

Keywords: Medicinal plants, antidiabetic properties, *G. sylvestre*, *Syzgium cumini*

1. Introduction

Now a days diabetes is a major health problem throughout the world and since 2011 India became capital of epidemic of diabetes. In India according to studies 8.31% of Indians are suffering from diabetes (1, 2). Most of the diabetic patients belongs to age between 20 - 80 years. Prevalence of diabetes is due to excess of body fat, higher insulin level indicates peripheral insulin resistance (3, 4). It is proved that allopathic medicines used in treatment have side effects like, vomiting, joint pain, nausea, flatulence, weight gain etc. Therefore peoples from Parbhani region instead of consuming allopathic drugs relay on herbal drugs as they don't have any side effects (5). Ethnobotanical studies conducted during past few decades in India near about 800 Plants are identified as antidiabetic drug plants (6) and are used in various formulations as antidiabetic drugs, are suggested for consumption by ayurvedic practioners, local peoples , herbs supplier shops etc. as alternative medicine. Plants are well known in traditional medicine to cure various ailments of humans including diabetes, there is increasing demand of plant product to control diabetes due to low cost, less side effects and easy availability. World health organization has recommended use of plants for management of human diseases (7).

A survey was made during academic year 2023 - 2024 keeping in mind utilization of plants to manage diabetes by the local peoples from all tahsils. Parbhani is one of the major district of Marathwada region of Maharashtra state. This district lies between 18.45 and 20.10 North Latitudes and 76.13 and 77.39 East Longitude, it is bounded by Hingoli district on Northside, Nanded on east, Latur on south and on West Beed and Jalna Districts. Ajanta Hill ranges passes through its Jintur tahasil and Balaghat hill ranges passes through its southern side. Total area occupied by Parbhani district is 6251Km2. It has 9 tahasils - Parbhani, Gangakhed Sonpeth, Pathri, Manwat, Palam, Sailu, Jintur and Purna. A survey was conducted in tahasils of Parbhani district,

2. Material and Methods

Survey was conducted during academic year 2023 - 2024 for collecting information about utilization of medicinal plants to cure disease was collected from elder peoples having knowledge of medicinal plants from all tahasils of parbhni district by face to face interviews asking about semi - structured questionnaires. The collected information was tabulated (Table 1) includes local name of the plant (Marathi), Plant part used as drug source, mode of consumption. A total 20 traditional healers were interviewed from different tahasils for collection ethnobotanical information of medicinal Plants used to manage diabetes. The medicinal plants were collected, identified with different floras (8, 9). Herbarium sheets were prepared and deposited into Departmental Herbarium of Departent of Botany, Shri. Shivaji College, Parbhani as voucher specimen for ready references. Total 25 plant species belonging to20 families were identified to posses antidiabetic properties.

3. Result and Discussion

In the present study 20 local peoples were interviewed from different tahasils of Parbhani District. All Informers were found to possess knowledge of medicinal plants used to manage diabetes and other diseases. Out of 20, 05 were ayurvedic practioners and 15 were local healers who received knowledge of medicinal plants from their parents or grandparents from generation to generations this information is shared with their family members used to cure disease. The information collected during this survey work was tabulated (Table 1) regarding Botanical name of the Plant, Family, Local name in Marathi, Plant part used as medicine, method of consumption, total 25 plants were identified belonging to 23 genaras are found to use to manage diabetes. Some plant species were wild, some were cultivated by these

peoples for its easy availability and conservation. Some informers discussed about avaliblity of plants which were available several years ago are wanting because of trade secrete of the herbal drug collectors and due to lack of the knowledge of their cultivation practices.

During interviews most of the traditional healers are using common herbal drugs plants includes the leaves of *G. sylvestre*, *A. indica*, *A. marmelos*, the seeds and fruits of *Syzygium cumini*, *Momordica charantia*, *Trigonella foenum - graecum* are consumed by making decoction, while the leaves of *T. bellerica*, *Syzygium cumini* fruits of *P. emblica*, were consumed raw. The flowerbuds of *Syzygium aromaticum*, *Rosa alba* are consumed by making decoction.

The most common plant parts used in the preparation of traditional medicine was 50 % leaves, 13 % Fruits, 13% Flowers, 08% Roots, 05% Bark, 05% Seeds, 02% stem, 02% whole plant and 02%Tubers. Decocation, Infusion and raw consumption are common traditional herbal formulations aong the local as well as ayurvedic practioners of Parbhani district. Majority used decocation method of preparation of the herbal drug (10)

4. Conclusion

From above survey it is conclude that 25 medicinal plants posses potential and plays an important role in managent of diabetes. Total 20 traditional healers were interviewed face to face and information regarding medicinal plants, their identification, their mode of consumption was recorded and confirmed with available literature studies to manage diabetes (11, 12, 13, 14, 15). Most of the Traditional healers don't have scientific methodology but have practice from generation to generations to give herbal medicine by which disease are cured. Present study will be helpful to protect the knowledge of medicinal plants.

Table 1: Botanical Name, Family Name, Common Name (Marathi), Plant part used as drug source, Mode of consumption

Sr. No.	Botanical Name	Family Name	Common Name (Marathi)	Plant part used as drug source	Mode of consumption
1)	*Gymnemma sylvestre* (Retz) Br.	*Asclepidaceae*	Aphumari	Leaves	Decoction
2)	*Azadirachta indica* **A.** Juss.	*Meliaceae*	Kadu limb	Leaves	Raw
3)	*Agel marmelos*	*Rutaceae*	Bel	Leaves	Decoction
4)	*Tinospora cordifolia*	*Menispermiaceae*	Gulvel	Stem & Leaves	Decoction
5)	*Ocimum sanctum* L.	*Lamiaceae*	Tulas	Leaves & Root	Decoction
6)	*Syzygium aromaticum* (L) Merr & L. Perry	*Myrtaceae*	Lavang	Flower buds	Decoction
7)	*Syzygium cumini*	*Myrtaceae*	Jambool	Seeds	Infusion
8)	*Trigonella foenum - graecum*	*Fabaceae*	Methi	Seeds	Infusion
9)	*Boerhaavia diffusa* **L.**	*Nyctaginaceae*	Punarnava	Leaves	Infusion
10)	*Asparagus racemosus* Wild	*Asparagaceae*	Shatavari	Roots	Decoction
11)	*Andrographis paniculata (*Burn. f) Nees	*Acanthaceae*	Kiryata	Leaves	Decoction
12)	*Phyllanthus emblica* L.	*Euphorbiaceae*	Awala	Fruits	Raw
13)	*Aloe vera* L.	*Lilliaceae*	Korphad	Leaves	Raw
14)	*Rosa alba* L.	*Roseaceae*	Gulab	Flower	Infusion
15)	*Ficus racemosa* L.	*Moraceae*	Umber	Fruit	Decoction
16)	*Ficus religiosa* L.	*Moraceae*	Pimple	Bark	Decoction
17)	*Calatropis gagantia* (L.) R. Br. ex. Schult	*Asclepidaceae*	Ruchki	Leaves	Decoction
18)	*Bryophyllum pinnatum* (L) Oken	*Crassulaceae*	Panphuti	Leaf	Infusion
19)	*Momordica charatia* L.	*Cucurbetaceae*	Karle	Tender leaves and Fruits	Decoction
20)	*Terminalia bellerica (*Gaertn) Roxb. .	*Combretaceae*	Behda	Fruits	Raw
21)	*Terminalia chibula* Retz.	*Combretaceae*	Hirada	Fruits	Raw
22)	*Terminalia arjuna* (Roxb. Ex D. C) Wigt & Arn.	*Combretaceae*	Arjun	Bark	Infusion
23)	*Aegle marmelos* (L.) Correa	*Rutaceae*	Bell	Leaves	Decoction
24)	*Cathranthus roseus* var. albus	*Apocynaceae*	Sadaphuli	Flowers and Leaves	Decoction
25)	*Allium sativum* L.	*Amarllidaceae*	Lasun	Leaves & Bulbs	Raw

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