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INFLUENCE OF AYURVEDA: TRADITIONAL HEALTH PRACTICE OF TRIBES OF BHIMASHANKAR WILDLIFE SANCTUARY, PUNE, MAHARASHTRA

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ABSTRACT:

Ethno medicine is defined as a field of anthropology that studies cultural interpretation, beliefs, and notions related to illness and health by the ethnic or indigenous communities around the world over centuries. It also involves understanding the healing practices for different diseases. The traditional knowledge gained from their ancestors of proper usage of natural resources available in their native flora, for the management of disease. Hence this study was planned to document tribal knowledge from the Bhimashankar Wildlife Sanctuary, Pune, Maharashtra, India and verified with reported information of the Ayurveda.

Data was collected by recording detail interview of respondents during Medico-ethno-botanical survey in the year 2022-23. Collected data was analyzed using tools. Collected claims were also validated from books including classical textbooks of Ayurveda and ethno medicine and other search engines. However, novel folk claims could be explored for bioactive and further pharmacological activities to introduce in Ayurvedic Pharmacopoeia.

Keywords: Ayurveda, Ethno Medicine.

INTRODUCTION:

The human race has long relied on plants for basic necessities such as sustenance and health. Since classical times, natural resources have always been a source of medicines for India's traditional health care systems, such as Ayurveda, Unani, Siddha, Sowa Rigpa (https://main.ayush.gov.in/ayush-systems). As a result of civilization, direct reliance on natural resources has decreased. However, according to WHO, the majority of the world's population 80%) is contingent on natural resources to tackle a variety of diseases (Azaizeh et al. 2003, https://www.who.int/malaria/publications/world_mala ria_report). Ayurveda is a science having its own fundamental principles like prakriti, panchamahabhuta (Five basic elements- Earth, Water, Fire, Air, and Space),

tridosha (three regulatory functional factors of the body), etc. However, a lack of exchange of information from Ayurveda to modern science around the world has resulted in the waning of this priceless traditional wisdom (Jaiswal& Williams 2017). The traditional folk healers retain such knowledge of the proper usage of natural resources from their native flora for the management of diseases gained from their predecessor and transferred to the next generation. As evidenced by the preceding paper, indigenous plant species played vital role in various innovations (Suntar 2019). With this background, it is important to document ethnic knowledge through extensive Medico Ethno-Botanical studies to enrich the health care system. Such documentation are important for the conservation of native flora.In the CharakSamhita, one of the ancient Ayurvedic classical textbooks, the importance of ethnomedicines is well recognized (Agnivesh 2007) and since then several classical textbooks, notably Nighantu (Lexicon), have been modified by incorporating knowledge shared by tribal (Pandit 2006). In the contemporary period also, substantial research is undertaken in the field of medicinal plants and ethnomedicine, even so, chemical, and pharmacological screening of just 6% of total plant species might be produced as lifesaving medications (Goswami et al. 2002). To scientifically establish a drug and enrich the science and health care system, the documentation of ethno medicinal therapeutic use of medicinal plants needed improvisation and accuracy.

MATERIALS AND METHODS:

Survey Area:

The medico-ethno botanical survey was conducted in tribal pockets of Bhimashankar Wildlife Sanctuary, Pune, Maharashtra, India. (Fig.1.) The selected area lies in the northern part of the Western Ghats in Maharashtra. It is situated at the crest of the main Sahyadri range and includes spurs running gradually into the eastern plains, as well as steep terraced western slopes leading to the Konkan.Bhimashankar Wildlife Sanctuary located at 19°07′55″N 73°33′14″E& lies in between 19.132°N 73.554°E https://en.wikipedia.org /wiki/ Bhimashankar Wildlife Sanctuary).

Bhimashankar Wildlife Sanctuary has an area of 131 km2 (51 sq mi) and is a part of the Western Ghats (Sahyadri Ranges), which itself is recognized as one of the 12 biodiversity hotspots of the world. The sanctuary was notified by the state government of Maharashtra in 1985 with the total area of is 130.78sq. km., under the Wildlife Protection Act 1972. The sanctuary includes nine tribal villages. The area's bio-diversity has been retained as it will be preserved as a cluster of sacred groves for generations. These sacred

groves act as gene pools of this area, from where seeds were dispersed. In Ahupe - a tribal (MahadevKoli) village's sacred grove in the sanctuary, a climber Khombhal - Xantolistomentosa was found to be 800–1000 years old in 1984.

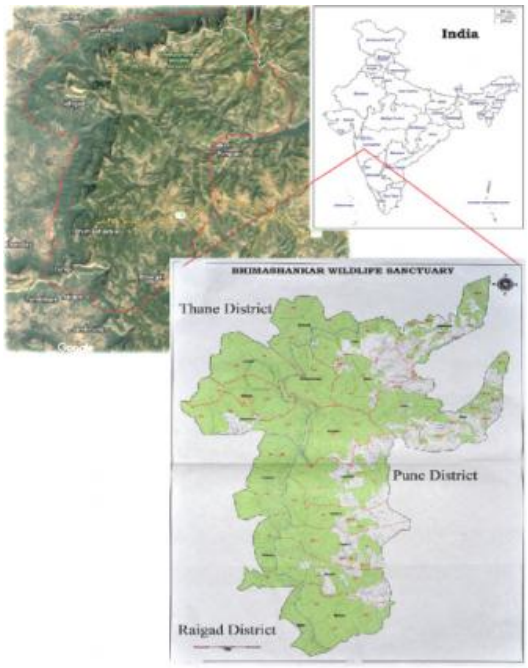

Figure1. The location of the surveyed area

Weather:

Bhimashankar receives ample rain from the southwest monsoon, between June and September. Temperatures are lowered during this time, ranging between 20°C and 32° Overall, there are four seasons summer, monsoon, post monsoon season, and winter season.

Tribal Communities in the Study Area:

The MahadeoKoli tribe has been residing in this forest area over many centuries. They are forest dwellers and as such they have developed a life style, which is suitable to the ecosystem here. They depend on the forest for most of their needs.

Data Collection and Identification of Plant Species:

A systematic survey study was planned in each quarter during the year 2022-23. Me & my guide visited villages for 10-15 days. A specially designed semi-structured questionnaire was prepared to document ethnomedicinal knowledge about the usage of natural sources for health care. Before conducting the survey, all the participants were explained the clear objective of the study in a language understood by them. Prior informed consent of the local forest department head, village heads, and tribal leaders was also taken whereas a local person of the community well versed in the local language also accompanied as a guide to assist the survey during the interview for better understanding of local terms used by tribal communities. Interviews of the local tribes and elderly people having experience with the usage of medicinal plants were conducted only after obtaining prior informed consent. The information shared by the respondents was filled in survey form which served as primary data. Information regarding the local plant names, and application, dose, duration, indication, method of diagnosis, etc. along with the details of knowledge providers was recorded during the interview. Moreover, a field survey was also conducted along with the tribal for

the collection of crude drugs from them and additional information about their tradition and culture were recorded from local informers by detail formal and informal discussions.

Taxonomical Identification and Herbarium:

The medicinal plant species used by the local communities of the study area were collected from the study area and authenticated with the help of flora (Singh &Karthikeyan 2001), published literature (https://www.teriin.org/projects/), and Agharkar research Institute, Pune.The Plant List (http://www.theplantlist.org) and International Plant Name Index (http://www.ipni.org), were used for the correct botanical name.

RESULT & DISCUSSION:

Data Organization:

The collected ethnobotanical data were entered into Excel spreadsheet 2010 and summarized using graphical statistical methods such as percentages.

During the survey we know that total 36 plant species marketed by tribes because of their medicinal importance. This indicates the precise knowledge about the usage of particular medicinal plants in particular disease (Table. 1)

Table. 1. Medico-ethno botanical claims of drug reported during the survey

Sr. No.	Botanical name	Common Name	Part Used	Family	Uses
1	*Gymnemasylvestre R. Br.*	Bedkichapala	Leaves	Apocynaceae	diabetes
2	*Zingiberpurpureum*	JangaliAdrak	rhizome	Zingiberaceae	cold, and jaundice
3	*Eulophia*	Amarkand	Rizhomes/ tubers	Orchidaceae	diarrhea, stomach pain
4	*Holarrhenaantidysenterica*	SafedKuda	Bark	Apocynaceae	fever and chronic colitis
5	*Dioscoreabulbifera*	RukhalaKand	Rizhomes/ tubers	Dioscoreaceae	Asthma
6	*Millettiapinnata*	Velyakaranj	Seed	Fabaceae	Fungal infections
7	*Andrographispaniculata*	Nalkand	Rizhomes/ tubers	Acanthaceae	rheumatoid arthritis
8	*Withaniasomnifera*	Ashwagandha	Rizhomes/ tubers	Solanaceae	alter the immune system
9	*Selaginellabryopteris*	Sanjivani	Leaves	Selaginellaceae	Fever
10	*Basella alba*	Bardola	Leaves	Basellaceae	dysentery
11	*Cissusquadrangularis*	Hadsandhi	Whole Plant	Vitaceae	joint pain
12	*Asparagus racemosus*	Shatavari	Rizhomes/ tubers	Asparagaceae	constipation
13	*Tinosporacordifolia*	Gulvel	*Stem*	*Menispermaceae*	antioxidant

14	*Alkannatinctoria*	Ratanjyot	*Root & Leaves*	*Boraginaceae*,	wound healing
15	*Nardostachysjatamansi*	jatamasi	Rhizomes	Caprifoliaceae	bitter tonic
16	*Aspidiumcicutarium*	Kombadnakhi	Rizhomes	Dryopteridaceae	inflammation
17	*Helicteresisora L.*	Murud sheng	root, bark	Malvaceae	snake bite, diarrhoea
18	*Abrusprecatorius*	Gunj	Root, Seed, Leaves	Fabaceae	cough
19	*Solanumsurattense*	Ringani	Whole herb	Solanaceae	bronchitis, asthma
20	*Areca catechu*	Ardhsupari	Fruit	Arecaceae	dyspepsia
21	*Heliotropiumindicum*	Lohatal	Leaves	Boraginaceae	wounds
22	*Terminaliachebula*	Hirda	Fruit	*Combretaceae*	constipation
23	*TerminalliaBellirica*	Behda	Fruit	*Combretaceae*	digestion
24	*Phyllanthusemblica*	KanthiAwla	Fruit	Phyllanthaceae	source of vitamin C
25	*dactylorhizahatagirea*	Panchagali	tubers	Orchidaceae	respiratory
26	*ceibapentandra*	SafedSavar	Leaves	Malvaceae	treat fever, cough
27	*Catunaregamspinosa*	Madanfal/ gelfal	Fruit	Rubiaceae	curing diarrhea and dysentery
28	*Acacia concinna*	Shikekai	Fruit	Fabaceae	cleansers
29	*PhyllanthusNiruri*	Bui Kohla	Whole plant	Phyllanthaceae	urinary tract stones and ulcers
30	*Terminaliaarjuna*	ArjunSadada	*Bark*	*Combretaceae*	heart disease
31	*Garciniaindica*	Ran Kokam	Fruit	Guttiferae	inflammation
32	*Glycyrrhizaglabra*	Jesthamadh	root and rhizome	Fabaceae	Antioxidant
33	*Althaeaofficinalis*	marsh mallow, SafedMalva	Leaves & Root	Malvaceae	Skin & digestion
34	*Colocasiaesculenta*	Elephant's ear	Corm	Araceae	asthma, arthritis, diarrhea,
35	*Bryophyllumpinnatum*	Panphuti	Leaves	*Crassulaceae*	Kidney stone
36	*Justiciaadhatoda*	Adulsa	Leaves	Acanthaceae	Cough

Taxonomic Variation:

Data analysis showed that crude drugs were reported during the survey. The plant family with the highest number of plants cited were Fabaceae(11.11%) followed by Malvaceae (08.33%) and Combretaceae (08.30%) and Apocynaceae (05.55%). (Fig. 2.)

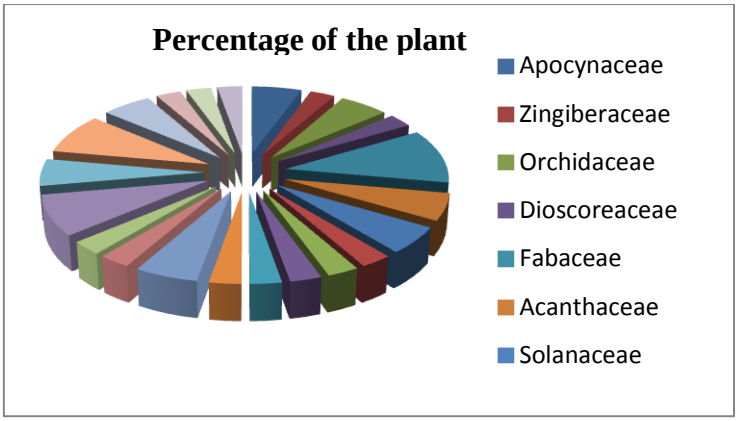

Figure 2. Percentage of the plant family

Form of Formulations:

For the treatment of various ailments, respondents in the study region use various means for administering medicine, such as juice, decoction, paste, powder, medicated oil, paste, infusion, and ash.

LIMITATION:

The ethno medicinal study is intended to record the traditional health practice adopted by the tribal, leaving in the remote area, close to nature. Their primary source of management of any ailment is a natural source available in their native area, but they didn't keep a record of such ancestral knowledge however share such wisdom by oral communication only. During this survey study, there were few well-known tribes who refused to share any information due to linguistic obstacles & uneasiness.

CONCLUSION:

After the validation of reported claims, it was observed that 16 claims of a single drug and all compound formulations are not recorded in the classical textbooks of Ayurveda. Ayurveda is a treasure house of vast knowledge recorded in numbers of classical literature and to validate each claim from all literature is quite difficult. Hence for the present study important classical textbooks and authorized textbooks having a compilation of references were referred.

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