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RESEARCH ARTICLE

ETHNO-MEDICINAL WEEDS OF PALANPUR TALUKA, GUJARAT, INDIA

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Abstract

India has been a treasure of Ayurvedic herbs since ancient times. In today's era of allopathic medicine; this knowledge is diminishing to the extent that people cannot even identify common herbs. A weed is a plant that does not need to be cultivated and grows naturally in abundance in monsoons. This work focuses on how the people of Palanpur taluka use weed as medicine. A total of 88 species were found during the study, out of which 45 species belong to 43 Genera of 20 different angiosperm families, used in medicine and for other useful purposes. It is used in diseases like fever, cold, cough, skin disease, and physical weakness and some are use as vegetables.

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Introduction:-

Ayurveda being the study of several drugs and their uses is the foundation stone of ancient medicinal science of life and art of healing. Charaka Samhita and Sushruta Samhita are the great ancient Indian ethics relating to the treatment of various diseases and ailments that reflect a glorious period of phototherapy. (Bhattacharya AK and Patrak K, 2004)

Ethno-botany is a direct relationship between human-beings and plants. This relationship is divided into two broad groups such as abstract and concrete. The medicinal use of plants is one of the concrete relationships among them (Jain, 2004).

Since the dawn of human civilization, men have used plants as a source of medicine, because they were easily available in the immediate environment. The most effective plants from them were selected and now they are part of ethnomedical traditions. Weed species interfere with our endeavors, such as agriculture. (Nihar Ranjan Chakraborty and Buddhadeb Duary, 2014)

The species which grow on their own, without human efforts can be termed as weeds. They are in general harmful to the crops and can dominate the vegetation if not cared for. The weeds are of no use as they are growing irregularly and randomly. They are generally controlled from crop fields and destroyed. Many of the weeds are found to be medicinally important. (Gambhire VS and RM Biradar, 2016)

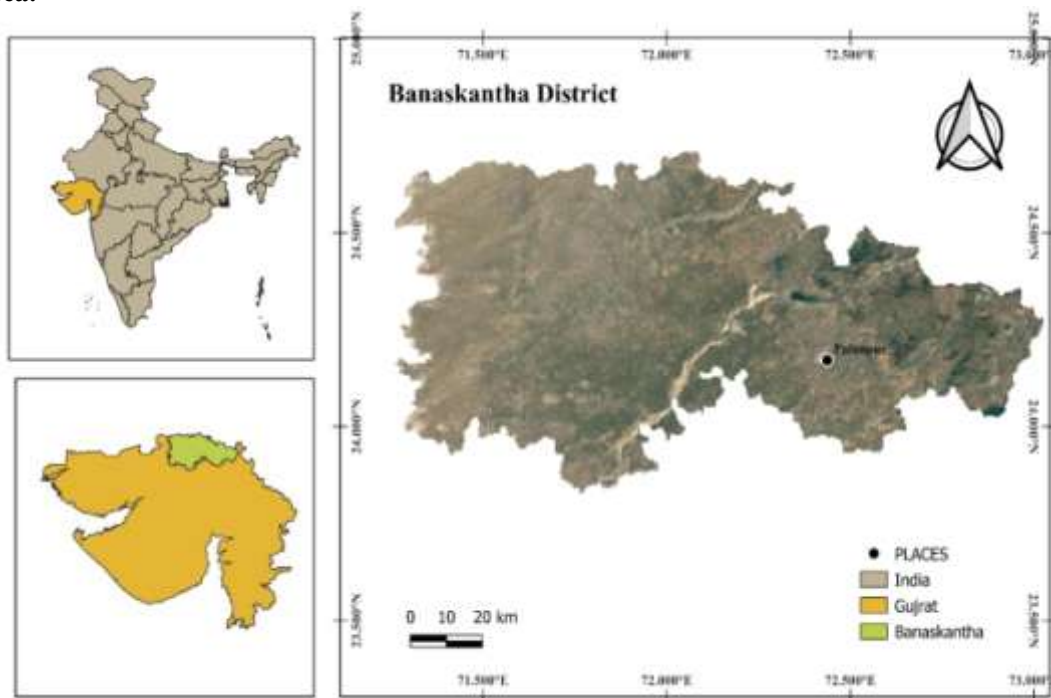
Weeds are thought to be useless by people, but not all growing weeds are useless like Ashwagandha and Gokhru are a weed but have medicinal value. Many researchers interested in ethno-medicine have worked in the field of ethno-

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medicine in North Gujarat including Punjani B.L. (1997), Patel N.K.,(2001), Patel M.M.,(2002), Bhagvan R.R.,(2002), Patel D.M.,(2003), Jangid M.S.,(2005), Chaudhary N.S.,(2005), Patel K.M.,(2008), Dave D.N.,(2008), Patel Y.M.,(2009), Seliya A.R.,(2011), Pandey V.B.,(2012), Patel N.N.,(2012), Desai B.B.,(2012). Above mention authors had done research work on angiosperms with little mention of weeds. Ethno-medicine studies on weeds in Palanpur taluka and its villages are yet to be done. This study is an attempt to increase the medicinal use of non-useful plants.

Study Area:



Latitude and longitude of Palanpur taluka is 24.1934° N, 72.4374° E, having total area as 787 km² consisting 735.25 km² rural area and 51.32 km² urban area. The area is famous for its dynamic weather and quite harsh summer. Warmest month of Palanpur taluka is may (41.48°C / 106.66°F), coldest month is January (15.56°C / 60.01°F), wettest month is august ((170.06mm / 6.7in) and driest month is January. Palanpur taluka belongs to Gujarat state. It is having population 417,686 till June 2023.

Material And Methods:-

This work was done from July 2022 to May 2023 in Palanpur taluka. Present data was collected by repeated floristic survey in different seasons. Weeds were identified with the help of Flora of G.L. Shah (1978) and Handbook of Weed Identification (Naidu 2012). The ethno medicinal value of weeds was verified with the knowledge of local people, aged rural folks, and traditional Ayurvedic practitioners, local herbal drug sellers and referring literature of Punjani B.L. (1997), Mitaliya K.D. (1998) Patel N.K. (2001), Seliya A.R. (2011). Detail of the plants which has been studied is given in Table no. -1

Result And Discussion:-

A total 88 weed species are identified in present survey. Out of these, 45 species are used as medicinally and economically. These 45 species belongs to 43 Genera of 20 different angiosperms families, these weeds are used by the people living in different villages of Palanpur for curing diseases like fever, cold, cough, skin diseases, as a salve on the injured body part and to remove physical weakness. The uses of leaves, stem, roots, seed, and tubers of different weeds are noted in table no. 1. A part from this, Ayurvedic physicians also use such weeds in the preparation of medicine.

Conclusion:-

India posses a great biodiversity in medicinal weeds. Since, ancient time's Ayurveda has used these medicinal weeds but with the advent of modern medicine the knowledge regarding these is limited to books and with some people. Still, these weeds are source of many ayurvedic medicines. The main purpose of doing this work is that people recognize such herbs and try to revert back to Ayurveda and understand the importance of weeds which are neglected.

Photograph of Some Weed*Euphorbia hirta* L.*Boerhavia diffusa* L.*Tridax procumbens* L.*Launaea procumbens* L.*Xanthium strumarium* L.*Sida cordifolia* L.

Casia tora (L.)Roxb

Celosia argentea L

Convolvulus pluricaulis choisy.

Photographs Of Tribble People



Table No. 1:- Recorded Medicinal Weed Plants Of Palanpur Taluka.

No	Botanical name	Gujarati local name	Family	Useful part	Uses
1	Euphorbia hirta L.	Nagla dudheli	Euphorbiaceae Nagla dudheli	Leaves	A poultice of leaves is applied on eczema, itching, shingles.
2	Boerhavia diffusa L.	Bethi satodi	Nyctaginaceae	Leaves, Root	Powder or decoction of the root is used in cough, respiratory diseases and jaundice.
3	Tinospora cordifolia (Thunb.) Miers	Galo	Menispermaceae	Leaves, stem	Its decoction gives relief in swine flu, bird flu, throat infection, sneezing.
4	Tridax procumbens L.	Pardeshi bhangro	Asteraceae	Leaves	Applying the fresh paste of the leaves on wounds, cuts, bruises, warts, pus in the ears can stop the bleeding and heal quickly.
5	Launaea procumbens L.	Bhoipatri	Asteraceae	Leaves	A paste of fresh leaves can be applied on ringworm, psoriasis, eczema, skin disorders.
6	Xanthium strumarium L.	Gadariyu	Asteraceae	Root, Leaves	Root decoction is used in rheumatism, inflammation. A poultice of fresh leaves is applied on wounds, warts, eczema etc. A decoction of its fruit is used in unwa, stones.
7	Sphaeranthus indicus L.	Gorakhmundi	Asteraceae	Entire plant	A decoction of its whole leaves is used in fever, indigestion, swelling, respiratory diseases.
8	Vernonia cinerea L.		Asteraceae	Leaves, seeds, roots	The leaves are useful in the treatment of conjunctivitis and tumors. Whereas the seeds are useful in alleviation of worm infestation, psoriasis and leucoderma. The roots are used as an antipyretic.
9	Sonchus asper (L.) Hill		Asteraceae	Leaves, Root	A decoction of the root is applied to scorpion stings. A poultice of leaves is applied on wounds, eczema, and shingles.
10	Amaranthus viridis Hook.F.		Amaranthaceae	Leaves, Root	Eating a vegetable made from its leaves is beneficial in constipation. Making a paste of the leaves and applying it on the boil is beneficial. A decoction of the root is used in piles, stones, blood disorders.

11	Digeria muricata L.	Kanjaro	Amaranthaceae	Leaves	Eating a vegetable made from its leaves is beneficial in constipation.
12	Celosia argentea L.	Lampdi	Amaranthaceae	Leaves, Seeds	Its seeds are used for relief in stones, nausea. Leaf use As vegetables.
13	Aerva lanata (L.) Juss.exschuit		Amaranthaceae	Leaves	A decoction of its leaves is beneficial in jaundice, rheumatism, cough, cough and respiratory diseases.
14	Achyranthus aspera L.	Angehdi	Amaranthaceae	Leaves	Its leaf paste is applied on the wound.
15	Chenopodium album L.	Chill	Amaranthaceae	Leaves	Fresh leaf vegetable is beneficial in constipation, flatulence, indigestion.
16	Alternanthera sessilis (L.) DC.		Amaranthaceae	Leaves	A poultice of fresh leaves is applied on rot, goiter, swelling.
17	Pupalia lappacea (L.)Juss		Amaranthaceae	Leaves	The leaves mixed with palm-oil, are used in Ghana to treat boils (Agyare et al., 2009). The leaves are also used in topical applications to cuts, or used as enema or febrifuge (Agyare et al., 2009).
18	Casia tora (L.)Roxb.	Kuvadio	Fabaceae	Leaves,Seed	A poultice of its fresh leaves and dried seeds is applied on the stairs. Its leaves are beneficial in constipation.
19	Melilotus indica (L.)All	Ranmethi	Fabaceae	Leaves, Root	It is used for swellings, tumors, skin rash, wounds, gastrointestinal problems and colds. Seeds taken to treat genital organ diseases.
20	Tephrosia purpuria (L.)Pers	Sarpankho	Fabaceae	Whole plant	The powder or decoction of its Panchanga is beneficial in hemorrhoids, spleen swelling, liver swelling, pyorrhea, herpes, gall bladder stones, kidney stones, etc. Chewing its root can cure hives.
21	Abrus precatorius L.	Chanothi	Fabaceae	Leaves	Chewing its leaves removes the scales on the tongue.
22	Cassia auriculata	Aval	Fabaceae	Leaves	Applying a paste of fresh leaves on bruises, wounds, swelling is beneficial.
23	Physalis minima L.	Popti	Solanaceae	Entire plant	Decoction is used in jaundice, phlegm-cough, rheumatism, fever.
24	Datura strumarium L.	Dhtura	Solanaceae	Leaves	Leaves are used for the relief of headache and a vapor of leaf infusion is used

					to relive the pain of rheumatism and gout.
25	<i>Solanum xanthocarpum</i> L.	Bhoringni	Solanaceae	Leaves	A decoction of its leaves is used in cough-cough, stones, rheumatism, hemorrhoids.
26	<i>Withania somnifera</i> L.	Ashwgandha	Solanaceae	Root, Leaves	A poultice of fresh leaves is applied on boils, swellings, and lumps. The use of root powder removes sexual impotence. If you don't sleep, its use will help you sleep properly. Mental stress is reduced.
27	<i>Justicia procumbens</i> L.		Acanthaceae	Leaves	A decoction of its leaves is used in fever, jaundice, worms, honeybees, hives, and indigestion.
28	<i>Cuscuta reflexa</i> Roxb.	Amervel	Convolvulaceae	Thin week stem	Stem decoction are useful in constipation, flatulence, liver complaints and bilious affection.
29	<i>Convolvulus pluricaulis choisy.</i>	Sankhpushpi	Convolvulaceae	Whole herb	The whole herb is used medicinally in the form of decoction with cumin and milk in fever, nervous debility, and loss of memory.
30	<i>Calotropis gigantea</i> (L.)R.Br.	Akdo	Asclepiadaceae	Stem latex	Applying its latex on the wound gives relief. If swelling occurs due to pricking of a plant, applying latex gives relief.
31	<i>Argemone mexicana</i> L.	Darudi	Papaveraceae	Seed, Leaves	Its seed oil is applied on skin disorders. Since its seeds are poisonous, they are not used in interior design. A poultice of its leaves is applied on eczema, scabies, shingles, and white spots.
32	<i>Corchorus capsularis</i> L.	Shan	Tiliaceae	Root	Root paste cure dysentery
33	<i>Abutilon indicum</i> (L.)Sweet	Kanski ,Khatpat	Malvaceae	Root, Seed	A decoction of its root is given in fever, anemia. Powdered seeds taken with milk cures sexual impotence.
34	<i>Sida rhombifolia</i> L.	Bala	Malvaceae	Leaves	Leaves are used for healing sores.
35	<i>Sida cordifolia</i> L.		Malvaceae	Roots, Leaves	The roots juice is used for wounds healing while bark is effective in curing facial paralysis and the leaves are used for the blood fluctuation
36	<i>Cleome gynandra</i> L.		Cleomaceae	Leaves	Leaves paste is used in rheumatism headache and

					stiff neck. It's warm juice is popular remedy for ear diseases
37	Capparis sapiaria L.	Kanther	Capparaceae	Leaves	Leaves paste give relief on eczema.
38	Capparis deciduas (Forsk.) Edgew	Kerdo	Capparaceae	Fruit, Seeds	fruits and the seeds are used to cure cholera, dysentery and urinary purulent discharges
39	Tribulus terrestris L.	Gokhru	Zygophyllaceae	Fruit	Powder of the fruit is used in piles, stones, fever, sexual impotence and general weakness.
40	Dactyloctenium aegyptium (L.) Wild		Poaceae	Whole plant	Plant juice was used for fevers, used externally for wounds and ulcers dysentery and acute hemoptysis
41	Cynodon dactylon (L.) Pers	Dharo	Poaceae	Whole plant	Its freshly extracted juice gives relief in piles, hives, and hemorrhoids.
42	Chloris barbata Sw.		Poaceae	Whole plant	juice from the plant is used to treat skin disorders
43	Cyperus rotundus L.	Chiyo	Cyperaceae	Whole plant	Powder of its tuber gives relief in indigestion, indigestion, indigestion.
44	Commelina benghalensis L.	Sis muliyu	Commelinaceae	Whole plant	Plant decoction to cure worm infections, decoction of the whole plant is useful for constipation and leprosy
45	Typha angustata Bony. & Chaub.	Gha bajriyo	Thypaceae	Leaves	Applying its leaves on sores turns redness.

References:-

1. Anderson, E. (1939). A classification of weeds and weed-like plants. Science, **89(2312)**, 364-365.
2. Bhatt, M. D., Adhikari, Y. P., & Kunwar, R. (2021). Ethnobotany of weeds in Kanchanpur district, far-western Nepal. Ethnobotany Research and Applications, **21**, 1-19.
3. Bhattacharjya, D. K., & Borah, P. C. (2008). Medicinal weeds of crop fields and role of women in rural health and hygiene in Nalbari district, Assam.
4. Choudhary, B. A., Aslam, M. S., Ijaz, A. S., Uzair, M., Awan, A. J., & Khan, T. R. (2014). Survey of ethno-medicinal weeds of district Toba Tek Singh, Punjab, Pakistan. Indian Research Journal of Pharmacy and Science, (2), **124-132**.
5. Chakraborty, N. R., & Duary, B. (2014). Utilization of some weeds as medicine by the local people in Birbhum District of West Bengal, India. International Journal of Bio-resource and Stress Management, **5(Mar, 1)**, 148-152.
6. Dhole, J. A., Dhole, N. A., & Bodke, S. S. (2009). Ethnomedicinal studies of some weeds in crop fields of Marathwada region, India. Ethnobotanical Leaflets, **2009(12)**, 3.
7. Gambhire, V. S., & Biradar, R. M. (2016). Medicinal importance of some weeds of Aurangabad district, Maharashtra, India. Bioscience Discovery, **7(1)**, 57-59.
8. Islam, M., Ahmad, H., Rashid, A., Razzaq, A., Akhtar, N., & Khan, I. (2006). Weeds and medicinal plants of Shawar valley, district Swat. Pak. J. Weed Sci. Res, **12(1-2)**, 83-86.
9. Jangid, M. S. (2011). weed plants of Modasa taluka district Sabarkantha (Gujarat) by Ms Jangid and Is. S. Sharma. Life Sciences Leaflets, **13**, 435-442
10. Jangid, M. S. (2005). Texoethnobotanical Studies of Angiosperms of Modasa Taluka, Dist, Sk. (Ng) (Doctoral Dissertation, Ph. D. Thesis Hng Uni, Patan).

11. Karlikar, b. H., & Solanki, h. A. (2015). 8. Quantitative and qualitative analysis of weeds in Gandhinagar district, Gujarat, India by Binny h. Karlikar and Hitesh a. Solanki. Life sciences leaflets, **68**, **51-56**
12. Kumar, R., Chaudhary, D., & Kumar, S. (2021). Important Ethnomedicinal Weeds of Noornagar and Shakarpur Region of Muzaffarnagar, Uttar Pradesh, India. International Journal of Botany Studies, **6(5)**, **515-518**.
13. Kumar, V. (2015). Ethno-medicinal plants in five forest ranges in Dang district, south Gujarat, India. Indian J. Trop. Biodiv, **23(2)**, **1-9**.
14. Maitreya, B. B. (2015). Ethnomedicinal values of some weed plant species of Bhavnagar, Gujarat, India. Communities, **2(3)**, **2675-2681**
15. Pandya, P. R. (2009). A study of the weed flora of some cultivated fields of Bharuch district (Doctoral dissertation, Saurashtra University).
16. Patel, S. K., & pandey, V. (2014). 13. Preliminary survey on weed flora associated with agricultural crops in sabarkantha_ district_ gujarat_ India by sk patel1 and vinod pandey2. Life Sciences Leaflets, **52**, **98-104**
17. Patel, S., Desai, P., & Pandey, V. (2014). Weeds of Crop Fields in Satlasana Taluka of District mehsana, Gujarat, India. Journal of Medicinal Plants, **2(5)**, **08-11**.
18. Patel, H., Maru, R. N., & Patel, R. S. (2018). Ethnomedicinal plants traditionally used by the tribals of RDF Poshina Range of Sabarkantha District, North Gujarat, India. IJSRSET, **4**, **582-589**.
19. Patel, N. K. (2010). Ethno-medicinal plants used for gonorrhoea diseases in Danta Taluka (Gujarat). Ethnobotanical Leaflets, **2010(5)**, **10**.
20. Patel, S. K., Desai, P. R., & Pandey, V. B. (2014). Ethnomedicinal plants used by the tribals in Bhiloda taluka of Sabarkantha district, Gujarat. Indian J. Adv. Plant Res, **1**, **33-36**.
21. Patel, N. B., & Patel, K. B. (2015). Ethnomedicinal plants used by the tribals of district Sabarkantha, Gujarat, India. J Med Plants Stud, **4(3)**, **179-181**.
22. Rao, S. S. (2015). Ethno botanical study of medicinal plants of Sri Pancha Narasimha Swamy and Sri Matsyagiri Narasimha Swamy. J Med Plants Stud, **3(3)**, **37-42**.
23. Shah, G. L. (1978). Flora of Gujarat State Part I & II, Sardar Patel University. Vallabh vidhyanagar, **1-1074**.
24. Seliya, A. R., & Patel, N. K. (2009). Ethnomedicinal uses of climbers from Saraswati River region of Patan district, North Gujarat. Ethnobotanical leaflets, **2009(7)**, **5**.
25. Tiwari, P., Rautela, B., Rawat, D. S., & Singh, N. (2020). Weed Floristic Composition and Diversity in Paddy Fields of Mandakini Valley, Uttarakhand, India. Int. J. Bot. Stud, **5(3)**, **334-341**.
26. Tintisara, M. P. (2014). 3. TRADITIONAL USES OF PLANTS BY THE TRIBALS IN BHILODA (E) FOREST RANGE OF DISTRICT SABARKANTHA_ GUJARAT By MP TINTESARA. Life Sciences Leaflets, **47**, **15-19**.