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PLANTS BASED TRADITIONAL SOFT DRINK OF TRIBALS – A REVIEW ON HANDIA

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ABSTRACT:- Handia and Mahua beverage are plants based traditional soft drink of tribals. Handia and Mahua beverage plays an important role in the life of these tribals. The tribal group of the region mainly depend on the forest Food, Medicine and Shelter. Handia is a popular and fashionable soft drink among the inhabitants of tribal communities of India, Specially Eastern and North-Eastern regions of India. It influences their social, cultural, economic life. Handia is prepared in almost every one-third houses of those regions. Various herbs collected from local forests are used to prepare "Ranu" or "Bakhar" tablets which are starter cultures for making the rice beer. De-husked, un-cleaned rice is boiled in water and then the cooked rice is fermented with required amount of Ranu tablets in earthen pots for a specific period of time. Handia is consumed by tribals as energy drink. People from other castes also consume it for intoxication or energy drink. Handia contains higher percentage of alcohol compared to beer or wines. Various researches have exposed the possible therapeutic benefits of Handia. So, now-a-days Handia is being prepared commercially by tribals. This study focuses on the documentation of the indigenous knowledge of local plant species by tribals and may contribute to the further study for discovery of live-saving drugs. Further study is needed to recognize the predominant microorganisms and to establish their contribution to product quality and safety.

KEYWORDS :– Handia, Rice, Beer, Fermenter, Tribal, Ranu Tablets

INTRODUCTION –:

Handia, this name comes from the word "Handi," meaning an earthen pot used to cook food. Handia is a traditional rice beer, a fermented drink made from rice, water and a special ingredient called Ranu. Ranu, a cake of herbs and spices that is mainly responsible for the fermentation process and the distinct aroma and flavour of Handia. It is used by tribals for both consumption and business purpose. So, now-a-days Handia is being prepared commercially by tribals. Handia is traditional rice based fermented soft drink popular in the Indian states like Assam, Orissa, Jharkhand, Madhya Pradesh, Chhattisgarh, West Bengal and was originated from the Indian Subcontinent.

Different versions of this drink exist in different parts of the world and they are locally known by their different names such as Makgeolli or Takju in Korea, Brem in Bali and Sake in Japan. Handia is generally prepared during weddings, festivals, rituals and other occasions, ceremonies or social gatherings and its consumed and enjoyed by people of all ages and genders. In the Munda, Gond, Kole, Dhanwar, Khairwar, Sahariya, Uraon and Santhal tribal community, Handia plays a pivotal role from social, economic and cultural perspective. Moreover, it is considered as a most sacred and indispensable drink among their community.

It has a milky white colour and sour in taste. It is consumed fresh or can be stored for later use. It is generally served in coconut cover's bowls, bamboo bowls or cups. To adjust Handia's alcohol content and taste, it can be mixed with water, sugar or fruit juice and then consumed. Some also add spices like ginger, cardamom or pepper for enhancing flavour (8). The beverage has an acidic pH (4.44±0.97). They inherit the recipe from their forefathers and consume it at breakfast, lunch and dinner. During summer, Handia saves their body from sunstroke (8, 6).

PREPARATION –

To make Handia, uncleaned rice (of a slightly reddish colour) and the tablet "Ranu" are used. "Ranu" has various local names Mullica or Mulikia and Bakhar (10). The preparation has two steps –

1. Ranu preparation –

Tribal collects them from forests and prepares "Ranu" at home. After preparing "Ranu," it is tested by throwing it into fire, if it blazes up, then it is usable and if not, then the "Ranu" is considered to be useless. All the roots and barks are bitter in taste and they are all available in forests only in rainy season. Sun–dried rice and the mixture of roots and barks are used to prepare "Ranu". Ranu acts as the fermenter for the preparation of the soft drink. Ranu tablets are a mixture of various plants (50%) and powdered un-boiled rice (50%). About 25 species of plants are used. Depending on the season and availability in a particular locality, the plant parts used may vary.

Though the exact ratio of the plants used for Ranu preparation could not be ascertained, but mostly the roots are preferred followed by fruits, flowers, young shoots, leaves and barks. The preference varies with pace to place. The collected plant parts are dried, chopped into pieces and then powdered. Sometimes, the dried parts or powdered forms of plant parts are openly sold in the local markets. The powdered plant parts are mixed with rice powder, after that suitable amount of water is added to make dough. Ranu is prepared in the form of round tablets and spread over straw beds. After 3 days, they are picked from straw beds and sun-dried for about 2 days. Later they are stored for use in the fermentation of rice beverages or in the treatment of various ailments. Ranu tablets are applied on mumps before sleeping to get relief. Few plants which are used across India listed in Table 1.

Figure (1) – Similar starter culture Ranu Tablets

Table: 1. Ethno botanical properties of different ethnic fermented beverages

S. N.	Name of Plant	Family	Plant parts used	Medicinal value / Properties
01	***Andrographis panaculeta* (Burm, f.) Wall. Ex. Nees.**	Liliaceae	Roots	Stomach ache, Pyrexia, Inflammation and intermittent
02	***Asparagus racemosus* Wild.**	Liliaceae	Roots	Nutritive Tonic, Cures fever, Leprosy, Cough and baronetcies
03	***Coccinia grandis* (L.) Voigt**	Cucurbitaceae	Roots	Diabetes, Skin diseases, Wound healing, Fever, Asthma, Cough, Snake bites, Digestion and Cataracts.
04	***Clerodendrum serratum* (L.) Moon.**	Verbenaceae	Leaf Roots	Treatment of pain, inflammation, rheumatism and fever especially.
05	***Calotropis gigantea* (L.) Dryand.**	Apocynaceae	Roots	They are relieve mild to severe skin woes, and digestive, respiratory, and neurological disorders
06	***Clerodendrum viscosum* Vent.**	Lamiaceae	Bark, Roots	Treating asthma, malaria, and skin diseases
07	***Cissampelos pareira* (L.)**	Menispermaceae	Roots	Used in various traditional therapies like ulcer, rheumatism, fever, asthma, cholera, diarrhoea, and rabies

08	***Dioscorea* ssp.**	Dioscoreaceae	Roots, Tuber	Used in haemorrhoids, coughs, diabetes, rheumatism, stomach pains, diarrhoea, and skin infections
09	***Dioscorea bulbifera* (L.)**	Dioscoreaceae		Used as a diuretic, anthelmintic, and for longevity preparations
10	***Dipteracanthus suffruticosus* (Roxb.) Voigt**	Acanthaceae	Roots	Treat gonorrhoea, syphilis, renal issues, and abortion.
11	***Elephantopus scaber* (L.)**	Asteraceae	Roots	Wounded healing, Whooping Cough, Urinary disease,
12	***Gardenia gummifera* (L.) f.**	Rubiaceae		Stomach, Dental, Worm infestation and Tuberculosis problems
13	***Homalium napaulense (DC.) Benth.***	Flacourtiaceae	Bark	Muscle pain, Rheumatoid arthritis and Urinary disease.
14	***Lygodium smithianum* C. Presl. ex Kuhn**	Lygodiaceae	Root	Treat skin ailments and problems, swelling and dysentery.
15	***Madhuca longifolia* var.**	Sapotaceae	Bark, Seed, Leaf	Inflammation, ulcers, and kidney problems.
16	***Ochna obtusata* DC. Var.**	Ochnaceae	Roots	Treat against asthma, arthritis, diabetes, and menstrual complaints.
17	***Orthosiphon rubicundus* (D.Don) Benth.**	Lamiaceae	Roots, Tuber	Treat a variety of diseases. It has anti-inflammatory, antioxidant, and other pharmacological properties.
18	***Phoenix acaulis* (Roxb.) Ex. Buch. - Ham.**	palm	Roots	Memory disturbances, fever, inflammation, paralysis, loss of consciousness, nervous disorders
19	***Polygala crotalarioides* Buch. - Ham.**	Polygalaceae	Bark	Treat fatigue, calm the mind, and strengthen the heart.
20	***Ruellia tuberosa* (L.)**	Acanthaceae	Roots	Kidney disease, Whooping Cough, Urinary disease, Stomach Problems
21	***Rauwolfia serpentina* (L.) Benth.**	Apocynaceae	Roots	They are used to treat high blood pressure (hypertension)
22	***Smilax macrophylla* Roxb.**	Smilacaceae	Roots, Stems	Treating fever, skin disease, and gout
23	***Tillandsia macbrideana* var. longifolia Rauh**	Bromeliaceae	Roots	Anticancer, antimicrobial and anti-diabetic assays
24	***Woodfordia fruticara* (L.) Kurz.**	Lythraceae	Roots	Rheumatism, foot and mouth disease , Dysentery
25	***Xantolis tomentosa* (Roxb.) Raf.**	Sapotaceae	Hole plant	Plants utilized in the treatment of acute joint pain.

2. Handia preparation –

Handia is processed by women since they are always in-charge of the kitchen and Handia making is a kitchen-centric work. It takes about 3 days to make Handia.

- Un-cleaned rice is boiled in water in 1:2 ratios. Then the cooked rice is sun-dried and stored in an earthen pot.
- Then "Ranu" tablets are broken into pieces and added to rice .The pot is closed and left in semi-dark place for 2-3 days.
- In few days, the rice ferments, making a hissing sound which gradually settles down, signalling that the process is over.

- For, ½ kg rice, 2 tablets (or one, if it is large) can be used.
- The upper liquid layer, called "Rasi" is prepared and consumed either directly or diluted. The semi-solid Handia is filtered and served after diluting with water, Chutney of tamarind; chilli and salt are used to accompany Handia.

Figure (2) – Similar Starter Culture Ranu Tablets

Summer season is the best consumption rate of higher of Handia. It is mainly considered as a summer special drink. It is believed to keep the stomach cool, protects from extreme heat wave and also intoxicating. On average about 30% families make Handia for their own consumption. Per capita consumption amount is about 1L / day. Handia making and selling has become secondary source of livelihood for tribals and some accept it as a primary source of income. It plays a pivotal role in all of their social, cultural and religious occasions and social occasion is not completed without this beverage. Tribals believe that this drink has healing and medicinal properties and can cure stomach, colic disorders.

USES OF HANDIA –

- Handia is used by tribal people for both consumption and business purposes. Previously, it was only prepared for consumption, but now it is also used for business purposes.
- The tribal people drink Handia at breakfast, lunch and dinner. During summer, it is believed to save the body from sunstroke.
- Tribals use this as an energy drink during their work. During winter, Handia heats up the body.
- Handia is believed to compensate the deficiency of food for as much as 10-15 days for tribals who cannot even get one meal a day. So, Handia works as a supplementary food for tribals.
- Now-a-days, people from other castes also consume Handia for intoxication. As a result, this drink has been commercialized gradually.
- Tribals believe that this drink has healing and medicinal properties and can cure stomach, colic disorders.
- Handia may help to slow down the signs of ageing and protects against harmful effects of UV rays.

NUTRITIONAL VALUE AND BENEFITS OF HANDIA –

Handia contains higher percentage of alcohol (18 – 25%) compared to beer or wines. According to USDA, Handia contains the following nutrients –

Table (1) – Nutrition values of Handia

S. N.	NUTRIENTS (Per 100gm)	VALUE (Serving size)
01	Carbohydrate (g)	5.4
02	Energy (Kcal)	134
03	Alcohol, ethyl (g)	16.1
04	Water (g)	78.4
05	Calcium (mg)	5.1
06	Iron (mg)	0.1
07	Magnesium (mg)	5.9
08	Phosphorus (mg)	5.82
09	Potassium (mg)	25
10	Sodium (mg)	2.3
11	Zinc (mg)	0.02
12	Copper (mg)	0.01
13	Selenium (mg)	1.4

Handia is Mother Nature's creation, an elixir that is enriched with probiotics. It is an abundant source of natural antioxidants. It is a health drink with abundance of essential amino acids, sugar, organic acids, vitamins and minerals. It contains about 18 –25% alcohol. Due to its lower alcohol content, the consumers do not become alcoholic even after repeated consumption.

- Various research studies have proved the potential benefits of Handia for health – Handia boosts immunity and metabolism.
- The presence of Lactic acid in Handia makes it a probiotic, thereby is good for gut health.
- It is anti-bacterial and Anti-cancerous.
- Handia may help to slow down the signs of ageing and protects against harmful effects of UV rays.

To understand Handia's possible therapeutic benefits more clinical trials are required. But due to its higher alcohol content, higher intake of it may outweigh its benefits. Therefore, moderate intake is the key to get maximum benefits.

CONCLUSION –:

Handia is not only a plants based traditional and fermented beverage, but also a part of their Culture and History of many tribals communities in Eastern and North-eastern regions of India. Handia is believed to have many medicinal and therapeutic benefits. In presence, it is also a source of income for many rural households who sell Handia in roadside stalls or local markets. Tribal women play key roles in the preparation and sale of Handia. By promoting Handia preparation and sale, many tribal women have become able to make economically uplift.

Handia is a plants based soft drink that connects people with their roots and their history. It is possible that the traditional knowledge of these various parts of plants may be an important lead for phytochemists and pharmacologists for further research. Once the efficacy of this native and indigenous drink is established, the drink may be recommended for conventional heal care system at wider level. This study focuses on the documentation of the indigenous knowledge of local plant species by tribals and may contribute to the further study for discovery of live – saving drugs.

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