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Safe Herbal Drinking Water

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***Abstract*: Traditional knowledge about the use of medicinal plants for herbal drinks (HDs) is well documented for widespread use. This study highlights the taxonomic diversity and traditional knowledge on medicinal plants used for HDs (water) while examining the diversity of diseases treated with HDs in the study area. Current state of knowledge on the links between water quality, new issues, risks, and solutions. This special issue will also cover different perspectives of water studies related environmental and health risk.**

***Keywords*: Herbal waters, Antibacterial activity, E.coli.**

1. Introduction

Water is an important which plays a major role. It gives life to plants, animals and all living things. It is the universal solvent of many reactions. Safe drinking water is the water that can delivered to the personal hygiene. Water covers more than two-thirds of earth surface, but mostly salty and undrinkable. Herbal water extraction of drinking water is good for health and other issues. Water is connected day to day life directly or indirectly. Herbal water provides number of benefits and services for humans and the ecosystem. Based on herbal ingredients, each herbal has health benefits. Human body contains up to 70 percent water, and water is necessary for everything the body does. So drinking water is very good but sometimes we'd all like something different - a beverage that's healthy, refreshing, and full of flavour. That's the Herbal Water. Pineapple Mint, Watermelon Basil, Strawberry, Lemon, Cherry Lime, Grapefruit Raspberry, Mango Pineapple, tulsi, etc. are the ingredients of herbal waters.

2. Drinking water

Barry M. Popkin, et al. attempts to provide some sense of our current knowledge of water including overall patterns of intake and some factors linked with intake, the complex mechanisms behind water homeostasis, the effects of variation in water intake on health and energy intake, weight, and human performance and functioning. Water represents a critical nutrient whose absence will be lethal within days. Water's importance for prevention of nutrition related non-communicable diseases has emerged more recently because of the shift toward large proportions of fluids coming from caloric beverages.

3. pH

M. Hanief Sofi, et al., reported that Nonobese diabetic (NOD) mice spontaneously develop type 1 diabetes (T1D), progression of which is similar to that in humans, and therefore are widely used as a model for understanding the immunological basis of this disease. The incidence of T1D in NOD mice is influenced by the degree of cleanliness of the mouse colony and the gut microflora. In this report, we show that the T1D incidence and rate of disease progression are profoundly influenced by the pH of drinking water, which also affects the composition and diversity of commensal bacteria in the gut. Female NOD mice that were maintained on acidic pH water (AW) developed insulitis and hyperglycemia rapidly compared with those on neutral pH water (NW).

4. Anti-bacterial activity

Jun Hee Kang, et al., (2011) in their work, to obtain water microorganisms producing anti-migratory activity which is important in controlling the metastasis of cancer cells. At first, their antibiotic activities were examined by paper-disc method. More than 40 water microbes produced compounds with antibiotic activity.

Usman Ali Khan, Hazir Rahman, et al., reported that Medicinal plants are traditionally used for the treatment of human infections. The present study was undertaken to investigate Bergenia ciliata, Jasminum officinale, and Santalum album for their potential activity against human bacterial pathogens. B. ciliata, J. officinale, and S. albumextracts were prepared in cold and hot water. The activity of plant extracts and selected antibiotics was evaluated against five bacterial pathogens including Staphylococcus aureus, Bacillus subtilis, Proteus vulgaris, Pseudomonas aeruginosa, and Escherichia coli using agar well diffusion method.

5. Antioxidant activity

Do QD, et. al., (2014) reported that Limnophila aromatica is commonly used as a spice and a medicinal herb in Southeast Asia. In this study, water and various concentrations (50%, 75%, and 100%) of methanol, ethanol, and acetone in water were used as solvent in the extraction of L. aromatica. The antioxidant activity, total phenolic content, and total flavonoid content of the freeze-dried L. aromatica extracts were

investigated using various in vitro assays. The extract obtained by 100% ethanol showed the highest total antioxidant activity, reducing power and DPPH (2,2-diphenyl-1-picrylhydrazyl) radical scavenging activity. The same extract also exhibited the highest phenolic content (40.5 mg gallic acid equivalent/g of defatted L. aromatica) and the highest flavonoid content (31.11 mg quercetin equivalent/g of defatted L. aromatica). The highest extraction yield was obtained by using 50% aqueous acetone. These results indicate that L. aromatica can be used in dietary applications with a potential to reduce oixidative stress.

6. Prevention of diseases

- *Kidney damage:* Water helps dissolve minerals and nutrients, making them more accessible to the body. It also helps remove waste products (Maughan, R.J. et al., 2003).
- *Dehydration:* Dehydration happens if we use and lose more water than the body takes in. It can lead to an imbalance in the body's electrolytes. Electrolytes, such as potassium, phosphate, and sodium, help carry electrical signals between cells. The kidneys keep the levels of electrolytes in the body stable when they function properly (Carlton, A., et al., 2015).

A. Theertham (Holy water)

The holy basil leaves used in theertham act as a tonic which fights against fever, cold, cough, sore throat, respiratory disorders, kidney stones, heart disorders, stress, mouth infections, insect bites, headaches, skin and tooth disorders. It also acts as nerve tonic to sharpen the memory.

The Betel Leaves in theertham can cure many health problems such as Stomach ulcers, controls diabetes and cholesterol levels, acts as anti-microbial and anti-inflammatory, relives constipation, and relives diarrhoea and dysentery. The holy water mixed with Cardamom, Cloves, edible camphor helps in digestion, detoxifies the body, controls cold, flu, cancer and blood pressure, acts as anti- inflammatory, relives tooth pains & respiratory infections, Enhance sexual health, cures nervous disorders, fights against epilepsy.

B. Pathimugam water (Caesalpinina sappan)

Pathimugam or Indian red wood soaked in water is a popular thirst quencher in Kerala. The bark of the tree is used to attain medicinal benefits. The healing water that turns light pink in color is used as a cure for kidney disorders, skin diseases, cholesterol, blood purification and diabetes (Suwan T, et al., 2018)

C. Vetiver (Chrysopogon zizanioides)

Vetiver is a perennial bunchgrass of the Poaceae family, native to India. It is a coolant, but yet aids in digestion. It is widely used in treating fever, dysuria, burning sensation, fatigue syndrome, skin disorders etc., Potable water prepared with this also has many health benefits (Caldecott, Todd, 2011)

D. Thetran kottai (Strychnos potatorum)

The clearing nuts of India are the product of a tree which is described as larger than that of the nux vomica. It is without thorns or tendrils; leaves very shortly petioled, elliptic, acute, glabrous, membranaceous, five- and almost penninerved; corymbs axillary, opposite, shorter than the leaf. The powder of Thetrankottai seeds is given in a dose of 3-4 g to treat indigestion and diarrhoea (Abdul Razack S, et al., 2015).

E. Nannari (Hemidesmus indicus)

The climbing, woody vine grows deep in the canopy of the rainforest. It's native to South America, Jamaica, the Caribbean, Mexico, Honduras, and the West Indies. It is also the common name of a soft drink that was popular in the early 1800s. The drink was used as a home remedy. It was later introduced into European medicine and eventually registered as an herb in the Unites States Pharmacopoeia to treat syphilis. It contains a wealth of plant chemicals thought to have a beneficial effect on the human body. Chemicals known as saponins might help reduce joint pain and skin itching, and also kill bacteria. Other chemicals may be helpful in reducing inflammation and protecting the liver from damage (Verma et al., 2005).

7. Conclusion

A study was conducted to removal or kill of bacteria in various household waters. It is easy method. Its treat infectious diseases. Medicinal plants has many antimicrobial and other health benefits properties. The herbal study used in this study were selected using the ayurveda knowledge.

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