A LITERAURE REVIEW ON URTICA DIOICA:AN ORDINARY CREATURE WITH EXTRAORDINARY FEATURES.

ABSTRACT

Urticadioica Linn is a popular medicinal plant which is native to Europe and is very commonly found in Temperate Asia, Western and Northern Africa, America and New Zealand. It is a traditional medicine used widely in various kind of treatment as was believed to be galactagogue – a substance that promote lactation. It is well recognized in Ayurveda due to its multidimensional pharmacological and therapeutic effects as the compress of nettle help to revive Rheumatoid arthritis, Muscle pain, Sciatic and as Rasaan tonic as it constitutes various beneficial phytochemicals. It is popularly known for its stinging action. Its chemical compounds are highly irritating mainly histamine. Traditionally, the leaves and roots are used as blood purifier, emmenagogue, nasal hemorrhage, eczema and diarrhea.

1. Introduction

Medicinal plants are well known due to their useful action weather therapeutic or other purpose like cosmetic or diagnosis. Urticadioica is as Kuksha, and Bichu or you can commonly call it BichuButti. It is broadly described and used in Indian traditional 'Ayurveda'. It grows in a height up to 2-4 meters and it produces pointed leaves and flowers that are white to yellow and it belongs to family Urticaceae. [1]It is well known for its edible leaves but these leaves when come in contact as raw form they cause an irritation to the skin like itching and redness or burning like sensation. The origin of its name is derived from Latin verb "urere" that means burn and dioica means "two houses" so urere because of stinging action of the hairs and two houses because it either contains male or female flower [2]. It is an herbaceous, perennial and flowering plant. As its pharmacological and therapeutic actions are well defined in Ayurveda it is a traditional plant known as Vrisckali in Sanskrit language. It does have yellow creeping rhizomes, toothed leaves and stems are covered with numerous stinging part and trichomes also [3]. For a good pharmacological activity, a plant needs chemical constituents filled with therapeutic efficacy and nutrition. It possesses alkaloids, tannins, flavonoid and it is also a medicinal plant which consists of various secondary metabolites that have various pharmacological effects on body. Urticadioica is not very popular but is a very useful medicinal plant [4]. It is also known as chronic or acute or even degenerative can be prevented.This genus is a large group of plants which comprises of almost 2,625 species in Urticaceae family. By this plant a wide range of diseases or problems can be cured [2] and [4].

Fig 1: Leaves of Urticadioica.

It is just an ordinary plant which can be used for other purposes for example it is used in Yarn making and it is also used as a galactagogues for cow by rural people. [1].

2. **Botanical Description**
3. **2.4 Taxonomy**
4. **Kingdom-** Plantae
5. **Subkingdom** – Tracheobionta
6. **Super division** – Spermatophyta
7. **Division** – Magnoliophyta
8. **Class –**Magnoliopsia
9. **Subclass** – Hamamelidae
10. **Order –**Urticales
11. **Family** – Urticaceae
12. **Genus** – Urtica L.
13. **Species –**Urticadioica L.

2.1 Habitat

Urticadioica L. is a small, evergreen and perennial plant. It is native to cold regions of Europe and is abundantly available in Northern India and now it grows worldwide. It is abundantly found in cooler temperate regions of the world – Africa, Asia, America and Europe. It is widely distributed in Northern regions of Europe and many regions of Asia but less in Southern Europe and North America. It is widely distributed in the USA and Canada, where it is found in other states but not in Hawaii and also in Northernmost Mexico. In Pacific Northernmost it grows in abundance and especially in the regions where annual rainfall is high. The distribution of U. dioica is also found in Europe and Britain and also in Faroe Islands, Iceland, Sweden, Greenland and Bulgaria. It grows in Himachal Pradesh at an elevation of 3,000 meters. Additionally, this specie is found in America, Nepal and other Asian countries. [5]. It grows very well in soil rich in Nitrogen. It blooms in the month of June to September every year. This plant is green and

erect, the leaves are in opposite manner, heart shaped at its base, oblong or ovate. The color of its flower can be reddish brown to greenish white. It occurs as racemes in the axils of the upper leaves, the plant possess either male or female flower. [6].

2.2 Morphological Characteristics

If we will talk about its appearance Urticadioica is an erect, herbaceous plant. And it is widely known for its painful and unpleasant stinging hair on the surface of its leaves and stem. Its sex identification can be done by its appearance that is if the flowers are yellow or purple then it's the male part and if it is green or white it's the female part of the plant. [7].

2.3 Reproduction

Urticadioica plant reproduce by very popular way of reproduction in plants that is Wind Dispersal of Seeds and creeping rhizomes (horizontal underground stems) and it grows in dense clumps often forming large colonies [7].

List 1 . Ethnomedicinal Uses

Sr. No.	Part Used	Uses	Region	References
1.	Leaves	As Anti-hemorrhagic agent.	Europe.	[7]
2.	Leaves	Galactogogue.	Himachal Pradesh, India.	[7]
3.	Dried Fruits.	Anti-Arthritis.	USA.	[8]
4.	Leaves.	Astringent.	Iceland.	[8]
5.	Leaves.	Blood Builder.	Europ.	[8]
6.	Aerial Plant.	Cleansing Tonic and Purifier.	Nepal.	[9]
7.	Leaves.	Crucial ingredient of traditional tea.	Mexico.	[9]
8.	Seeds.	Skin Problems.	Greenland.	[10]
9.	Roots.	Sciatica.	Nepal.	[10]
10.	Leaves.	Hemorrhoid.	Mexico.	[10]
11.	Whole Plant.	Gout.	India.	[10]
12.	Roots.	Hair Purposes.	India.	[10]
13.	Roots.	To treat large prostate gland.	Canada.	[11]

14.	Roots.	Gout and Rashes.	Nepal.	[11]
15.	Roots.	Chicken Pox.	Mexico.	[11]
16.	Roots.	Applied to bruises.	India.	[11]

This plant is also used for external purposes that is skin problems, sciatica, hemorrhoid, gout and also for hair purposes.[10]. As large prostate gland can be a big problem but its roots can be very beneficial in such case. Roots can also be used in other problems like gout, chicken pox and rashes. It is externally applied to bruises [11].

So, let us recall some points of its history. In the first century, PedaniusDioscorides a Greek Physician and Galen reported that the leaves of U. dioica consist of diuretic as well as laxative properties. Other traditional uses include asthma treatment, spleen illness and pleurisy. [10]. It is also used as weight loss aid. [12]. Nowadays in Germany this plant is being sold for prostate problems and as a diuretic. [13].

Since, it is being used for the treatment of rheumatism, gout, arthritis, eczema, UTIs, kidney stone, hay fever, anemia and early stages of prostate enlargement for hundreds of years. The condition of prostate enlargement is known as BPH. [13].

As, this is used to rheumatism for a long period of time, in recent clinical studies it showed that this plant possess possible anti-rheumatic properties. [14]. According to that study it was reported by Riehemannet. al. that this plant possess active chemical constituents that have capability to inhibit NF-Kb activation. Actually, this factor is a protein complex which controls DNA transcription and production of cytokines. [15].

Some other studies claim that as many as 80% of European Men with BPH were treated with the herbal remedy of this plant to control its symptoms including saw palmetto and roots.[16]. It was also mentioned that the roots can be very effective when used with other herbs and it was highlighted that better results can be found if given in combination with saw palmetto. It can be an effective treatment against BPH and treat urinary problems including reduction in urinary flow, incomplete urine excretion; post urination dripping and also the constant urge of urinate.

Nettle also show different important pharmacological effects including Anti-inflammatory effects and hypoglycemic effects in preclinical studies. The hydro alcoholic extract of this plant at 100 and 200 mg/kg can show significant anti-diabetic effect against those suffering from fructose induced diabetic patients [17]. It can also show other pharmacological significances including anti-viral, to treat hay fever and can also be used as an expectorant. [18]

5. Phytochemistry

4.1 Phytochemical Constituents

There are a lot of plants in this world known fortheir appearance, fragrance, beauty and medicinal uses. When it comes to medicinal uses the great focus is always its secondary metabolites which are going to be used as a medicine and to prepare a formulation for any medicinal purpose. So, phytochemical screening can be performed to understand the phytochemicals [1]. As, phytochemicals directly affects the Pharmacological properties it is important for a research to know about the phytochemical compositions of a medicinal plant. [25] Most common analytical techniques for analysis are GC-MS, HPLC and Other Chromatographic Techniques. [27].

In case of U. dioica it is also similar to other plants as its different parts have their own significance for their important chemical constituents. [26] But, this plant is more interesting than any other plant and the reason is off course it stinging action which is produced by its stinging hairs. So, the main cause of this stinging is the chemicals present in the leaves, stem or the whole plant which causes irritation and burning to the skin.These chemicals are formic acid and histamine. [1] The leaves of the Urtica are popularly used as a herbal tea to treat and prevent various physiological abnormalities as mentioned above. It was reported that leaves constitutes caffeic acid, high content of cholorophyll, chlorogenic acid and other pigments. [26] There are no reports published for the presence of alkaloids. Alguttin which is found in rhizome is a series of long chain amino acid linkage. [8] Structure was also confirmed in the study as a member of protein family as it do have two hevein like domains that are present in each subunit. [7].

Table No. 1 Phytochemistry of different parts of U. dioica

Sr. No.	PART	SECONDARY METABOLITES	EXAMPLES	Refernces
1.	Leaves. Roots. Seeds.	Flavonoids	Iso-rhamnetin Kaempferol Quercetin Iso-quercetin Astragalin.	[29],[33]
2.	Leaves.	Carotene	β- carotene	[34], [35]

	Roots.		Hydroxy beta carotene Lutein epoxide	
3.	Leaves. Rhizomes.	Phenolic Compounds	Phenylpropane Caffeic acid Chlorogenic acid Scopoline	[28]
4.	Seeds. Leaves. Rhizome. Root.	Essential Oils	Ester Ketone Acetophenone Ethyl ketone	[35]
5.	Seeds Leaves Rhizome Stinging Hairs	Other	Vitamin C Vitamin B Vitamin K Fatty acids Amino Acids (Agglutin in rhizomes). Histamine. Formic Acids. Caffeic acid. Cholorogenic acid.	[1],[4],
6.	Seeds Leaves	Minerals	Calcium Iron Magnesium Phosphoros Potassium Sodium Nitrogen traces.	[30],[31]

4.2 Phytochemical Analysis

4.2.1. GC-MS Analysis

In GC-MS analysis it was found that it contains derivatives of cinnamic acid, homovanilyl alcohol, coumarins and some phenolic compounds were found using trimethylsilyl ester. These phenolic compounds yielded 34 compounds and structure interpretation was done by Mass Fragmentation and then was compared with commercially available preparations.[11]

Other compounds found in GC-MS analysis are homovanilyl alcohol, vanillic acid, vanillin, (+) isolariciniresinol, (-) secolaricinresinol. By using methyl iodide, methylated derivatives of phenols and flavonoids from U. dioica with other plants were prepared by methyl iodide and analysis was done. In GC-MS analysic of U. dioica with methanolic leaf extract the presence of

homo vanillic acid (3.0ng/mg), vanillic acid (2.5ng/mg) and ferulic acid (574ng/mg) was found. [27].

4.2.2 HPLC Analysis

On preparative HPLC analysis using Sephadex column aqueous extract of U. dioica leaves yielded two fractions. One was found to contain proteins (glycoproteins) & carbohydrates. In the study of Blumenthal et. al. an experiment was attempted to study the link between proteins and carbohydrates by hydrolysis with NaOH and $NaBH_4$and it was found that both are connected via serine and O-galactosidic linkages and methylation was also done with the help of which it was reported that glycoproteins were branched but unfortunately in this methylation the study on second fraction was reported to be unsuccessful. [32]

In HPLC studies it was also reported that roots showed the presence of trans neo-olivil, a lignans glycoside. [29].

4.2.3. Other Traditional Methods

Traditional methods of extraction include steam distillation and soxhlet percolation with organic solvents. [33] These methods have alots of problems in them like degradation, loss of active compounds which were biologically active and time consuming etc. [35]

4.2.4. Phytochemical Composition of Urticadioica

There are a lot of factors that can affect the chemical composition of nettle plant like variety, climate, genotype, and vegetative stage, and soil, time of harvesting, processing, storage and treatment. This plant is a rich source of nutrients.

A comprehensive study has reported that harvested upgrowth contain approximately 90% of moisture, 3.7% proteins, 2.1% ash, 0.6% fats, 6.4% dietary fibers and carbohydrates up to 7%. While, powder of nettle leaves contains on average 30% proteins, 40% non-nitrogen compounds, 4% fats and 15% of ash.

List 2: Parameters of phytochemicals are as follows [36]

Sr. No.	Part Used	Parameter	Content
1.	Harvested Up-growth	Moisture (%)	7.04±0.77
2.	Leaves	Crude Protein (%)	33.77±0.35
3.	Leaves	Crude Fiber (%)	9.08±0.14
4.	Leaves	Crude Fat (%)	3.55±0.06
5.	Leaves	Total Ash (%)	16.21±0.54
6.	Seeds	Carbohydrates (%)	37±0.72
7.	Leaves	Calcium (%)	168.77±1.47
8.	Leaves	Iron (%)	227±0.21
9.	Leaves	Tannins (%)	0.93±0.01

10.	Leaves	Polyphenols (%)	3496±0.56
11.	Leaves	Carotenoids (%)	307.24±0.13

Chemical Composition of Nettle Leaf Powder

5. Pharmacological Action

Extract from Urticadioica have a broad-spectrum pharmacological activity. It does have highly acting antioxidants this plant source is a rich antioxidant plant which have good activity as an antioxidant can prevent various free radicals induced problems in the body. It also a good insects repellant and a good galactagogue. Acute urticaria and angioedema gives well response to Histamine 1 Receptor.

5.1 Different Pharmacological Actions to Cure or Prevent Physiological Damages or Abnormalities

As it consists of various bioactive compounds like Alkaloids, Flavonoids, Tannins, Fatty acids, Tannins, Volatile Oils, Polysaccharides, Isolectin, Sterols, Terpenes, Proteins, Vitamins and Minerals. Its root extract is used to treat Pro plastic hyperplasia. Its seeds are cultivated in rows which are one inches apart in spring. Size of its seeds is almost 1.3 by 1.0mm. Its hydro-alcoholic extract is used in oxidative stress induced Type 2 Diabetes Mellitus as a treatment. It also has therapeutic effects Arthritis, in Inflammation and in Hypoglycemia. [36]

5.1.1 Antioxidant Action

Antioxidants are those agents which help in the scavenging of free radicals and hence help in the prevention of deleterious effect of free radicals. Free radicals cause damage to the various parts of the body and hence can damage various system of the body and disturb body homeostasis. This plant extract possesses antioxidant properties. [36]

5.1.2 Anti-diabetic Action

In the study of Korani B. et. al. it was found that 250mg/kg hydro-alcoholic extract of the leaves of U. dioica was used to prevent severity of diabetes in STZ induced diabetes in rats and it showed reduction in complications like behavioral changes and cognitive dysfunction and oxidative stress.

This plant also possess antidiabetic mainly leaves possess this action. Leaf extract can help to decrease serum glucose level. Its extract shows significant increase in insulin secretion and hence decreases blood sugar level. In another study it has been shown that the cold methanolic leaf extract (250mg/kg) can show antihyperglycemic action in alloxan induced diabetes. [37]

5.1.3.Hepato-protective Action

In the study of Joshi B. et. al. the 150mg/kg extract of leaves of the plant show significant hepato-protection in isolated liver cells of rats (in vitro) lower down the chances of degeneration of hepatic cells and necrosis in CCl_4 induced hepatotoxicity. The ability of an agent or drug or a molecular entity to shoe action against liver damage are referred as hepato-protective. Again, leaves help to cure these kinds of damages tap liver. Leaf extract of U. dioica show a very good hepato-protective action by decreasing level of ALT, AST, ALP, MDA and can increase in SOD.

Another part of plant that are seeds also show hepatoprotection with ischemia –reperfusion and help to protect liver by increasing the activity of enzymes like aryl esterase and liver tissue catalase activity. [38]

5.1.4. Anti-inflammatory Activity

In the study of Patel S. et. al. it was reported that extract of Mt-OH extract seed oil of Urtica at a dosage of 200mg/kg inhibit the twitches in abdomen induced by acetic acid and 400mg/kg inhibit inflammation in paw edema induced by carrageenan and positive result was found.

It also possesses anti-inflammatory action. In a study it has been found that Mt-OH extract can show activity to inhibit acetic acid induced model on rats. Actually this can be caused due to the anti-inflammatory effect of the plant by inhibition of NF-kB activation. Actually, the hair in the leaves and stem of the plant consist of different kind of chemicals that can lead to pain relief and show action against inflammation.

Due to its action against inflammation, it can be used in Arthritis.

Secondary metabolites mainly responsible for anti-inflammatory action are Glycosides. [39]

5.1.5. Antimicrobial Activity

In a study of Modarresi A. - et. al. it was reported that the ethyl acetate extract was tested on 28 bacteria that were three yeast strain and seven fungal isolates and exhibited highest inhibition of pathogenic bacteria that are Bacillus cereus, MRSA & Vibrio para-haemolyticus. MIC for parahaemolyticus was reported to be 0.13mg/ml. It was also reported that only 47.06% of extract inhibited Gram-negative that was 8/17 and 63.63% only inhibited Gram-positive bacteria that is 7/10.

As, microbial infections are raising day by day so intake of this valuable herb can be very useful to fight against these microbial infections. The leaf extract of nettle can be very useful against both Gram positive as well as Gram negative bacteria. The bacteria that can be inhibited with the help of this herb are – Staphylococcus aureus, E. Coli, Klebsiella spp. Salmonella spp. And Pseudomonas spp. But the action can vary with bacteria. [40]

5.1.6. Antiviral Activity

In the study of et. al. they used U. dioca in combination with Sambucusnigra L. and used FIV as a model and found that at some concentration it showed anti-viral activity against FIV as assayed by forming of syncytia using CrFK.

As this plant can deal with so many physiological problems it has been found that it can also deal with viral infections. In some studies, it has been noticed that it can work against FIV, a virus that has been widely spread in domestic cats which can be similar to a very popular and lethal virus HIV. [41]

5.1.7. Diuretic Activity

In a study ofDizaye K. et. al. it was found that aqueous extract of whole plant was administered at a dose of 4 mg/kg showed diuresis in rabbits and significant diuretic property was found. As U. dioica is an herbal plant so it can act as a natural diuretic due to some beneficial constituents. It has been found that it is a loop diuretic and then it can cause hypokalemia by the excess output of Potassium in urine. This plant has been reported for its remarkable diuretic action. Wide range of phytochemicals such as Alkaloids, Tannins and Phenols which possess diuretic action are present in U. dioica. [42]

5.1.8. Immuno-modulatory Action

In the study of Beatriz S. et. al. they malnourished Wistar rats for 21 days and then they were treated with extract of the leaves U. dioica at a dose of 0.2g/ml and was found to give a significant immuno-modulatory action.

Immuno-modulatory action of this plant is due to flavonoids. Mainly in thosewho were suffering from the deficiency and chronic granulomatous disease. For the management of HIV infection an oral immunomodulator has been reported which consists of flavonoids extracted from U. dioica. When it is used as an immune-modulator it can produce several allergic substances that can cause oedema and also inflammation. [43]

5.1.9. Anti-cancer Activity

In the study ofKopyt'tko YFet. al the extract of the aerial parts of the plant was used and it exhibited highest cytotoxicity against breast infection and it was found that 85% cells were dead at 500µg/ml and due to the phenolic content present and was observed to inhibit mutagenesis in humans.

In today's world cancer has been one of the greatest lethal disease and as his herb consist of antioxidant property so it can be effective against free radical induced Cancer. Several studies have been found that has demonstrated that U. dioica possess Anticancer activity particularly it works against colon, gastric, lungs, prostate and breast cancer. [44]

Table No. 2. Phytochemicals and Pharmacological Action of Urticadioica

Sr. No.	Part of the Plant	Phytochemical Constituents	Pharmacological Activities	References
1.	Seeds Leaf Herb Root	Fatty acids-Palmitic acid, Stearic acid, Oleic acid Linoleic acid	Hypoglycemic Agent Antioxidant Anti-tumor	[45],[46],[47],[48] and [49]
2.	Leaves Stem	HT 5-HT Ach Protein Aspartic acid Serine Threonine Tryptophan Tyr	Hepato protective Wound healing Hypoglycemic Agent Anti-oxidant Cardio-protective. Nephro-protective.	[49]
3.	Aerial Parts	Phenols-Cholinergic phaselicSalicycliccaffeic acids Proto-catecheuic aldehyde Flavonoids-Rutin, Quercitin, Luteolin	Anti-rheumatoid arthritis, Anti-inflammatory Agent Analgesic.	[50]
4.	Aerial Parts Roots	Steroidal compounds-B-sitosterol, Daucosterol Palamitic acid, Stigmasterol, A-spinasterol KNO_3, Cholestrine-5 22-enyl-3β-alcohol Stigmasterol-3-o-β-D-glucopyranoside.	Anti-hyperplasic.	[51]
5.	Aerial Parts	Amino acids- Aspartic acid, Threonine, Serine,	Anti-proliferative, Anti-apoptotic,	[52], [53], [54] and [55]

		Alanine, Cholrigenic acid.	Anti-arthiritic, Anti-inflammatory, Anxiolytics.	
6.	Dried Fruit	Megastigm-anes(+)-blumenol A,(+)-Dehydrovoifolial, Flavanoid glycosides-Isovitexin, Astragalin, Afzelin, Quercitin, Iso-Quericitin.	Anti-arthiritic, Anti-inflammatory, Anxiolytics.	[55], [56]
7.	Herb Root Stalks Leaves	Phenols-Caffeoyl-malic acid, Caffeic acid, Chlorigenic acid, Tannins, Amines, Steroids, Amino acids- Aspartic acid, Threonine, Serine & Alanine Phenols-Pinoresinol, Neolivil, Unusual lectins.	Hepato-protective. Anti-oxidants Anti-rheumatoid arthritis.	[57], [58], [59], [60] and [61]
8.	Root	β-carotene and its isomers Amino acids- Valine, Threonine, Methionine, Isoleucine, Lysine Phenylala-nine, Histidine, Argininea and Glycosides.	Anti-prostatic hyperplasic.	[62] and [63]
9.	Leaves	Carotenoids-lutein Lutein isomers. Glycosides Proteins Ceramides Vitamins-B,C, & K. Minerals Lignans Phenolic acid Benzoic acid	Anti-diabetic, Anti-inflammatory, Anti-apoptotic, Cytotoxic, Anti-cancerous.	[64], [65], [66], [67], [68]

		Cinnamic acid Flavonoids Coumarins Phytosterols Minerals- Ca, Fe, Mg, P, K & Na. Carotenoids- β-carotene, Hydroxyl-β-carotene, Lucoxanthin, Lutein-epoxide, Violaxanthin.		
10.	Seeds	Fatty acids- Palmitic acid, Staric acid Oleic and Linoleic acid Eicosenoic acid Essential oils- Carvacol, Carvone, Napthelene HT,5-HT, Formic acid. Ach, Leukotriene.	Antidiabetic, Anti-inflammatory	[68] and [69]
11.	Stinging Hairs	Formic acid HT 5-HT Serotonin. Ach. Leukotriene.	Analgesic. Anti-viral.	[61], [62], [65] and [68]

7. Stinging Action of Nettle

As mentioned earlier in this review Nettle is well known for its stinging action, it causes inflammation on skin mostly hands come in contact with U. dioica that can cause burning sensation. This mechanism is known as Contact Urtica. [69] This contact of skin with leaves or stem or even whole body of the plant can lead to irritation, itching and pain by few biochemical presents in it. These active chemicals which produce this unpleasant sensation are – Histamine, Serotonin and Acetylcholine. [70] Solution to get rid of that pain is – Anti itching drugs as creams, these creams consist of Antihistaminic agents, Hydrocortisone that provides relief. [71]

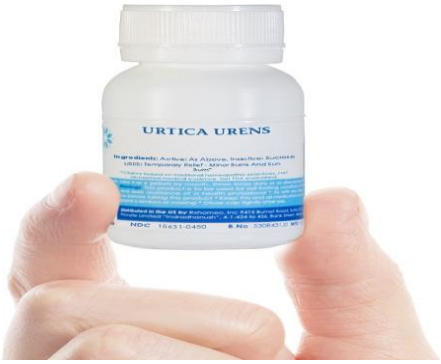
Cannabis leaves are also used to provide relief only by rubbing it on the affected region.  

Fig 2: Cannabis For relief from the stinging of Nettle.UrticaUrens with Anti-histaminic Property.

Table 3: Different Formulations of U. dioica with uses and manufactures: -

Sr. No.	Formulations	Uses	Manufacturer	Pictures	References
1.	Prostate Blend SP-16 Vegetarian Capsule.	Dietary Supplement	SOLARAY		72
2.	Dry Nettle Tea Leaves	Antioxidant	Sorich Organics		

3.	Organic Nettle Leaf.	Antihypertensive Joint pain treatment	The Indian Chai.		
4.	Plant Based DHT Blocker.	Anti-inflammatory action Hair fall reduction	OZIVA		
5.	Plant Based Super food, Nettle Leaves.	Allergy Relief. Diuretic. Relives Body Pain. Anti-oxidants. Reduce inflammation. Aids sugar control.	SORICH		
6.	Trexgenics Stinging Nettle Veg Capsule	Promotes hair growth and helps to reduce hair fall. Acts as a powerful DHT blocker. Improves prostate health.	Trexgenics		
7.	Urticadioica MT	Used for catarrh, leucorrhoea, bronchial haemorrhage blood-splitting, uterine haemorrhage, nephritis,	Dr. William Schwabe India.		

		haematuria and menorrhagea.			
8.	Bizpression Nettle Extract	The recommended usage level of extract should not exceed 2% when you add it to skincare and cosmetic formulas. It is formulated only for external purpose.	Bizpression.		
9.	Jaivik Nettle Patti	As antihypertensive. Promote weight loss. Boost our immune system. Reduce the symptoms of PMS.	Niyama®		
10.	Devinez Stinging Nettle Essential Oil	Makes our hair shiny. Can be used as leave in conditioner. Sooths our feet.	DEVINEZ		

Conclusion

So, from above mentioned information in this review article, it has been found that Urticadioica do have both therapeutic as well as dietary potential. It has also been found out that this medicinal herb is mentioned in Traditional Indian Pharmacopeia Ayurveda. As it contains a huge number of phytochemicals that do have pharmacological potential and is very effective against

so many physiological problems. Different pharmaceutical formulations are being used in different dosage form depending upon conventional route of administration.

COMPETING INTERESTS DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

Abbreviations Used

1. **DHT**-Di-hydro testosterone.
2. **BPH-** Benign Prostatic Hyperplasia.
3. **NF-kb-** Nuclear Factor Kappa Light Chain Enhancer of Activated B cells.
4. **RBC-** Red Blood Cell.
5. **DTD-** DT- diaphorase.
6. **GST-** Glutathione-S-transferase.
7. **SOD-** Superoxide Dismustase.
8. **CAT-** Catalase.
9. **GC-MS-** Gas Chromatography- Mass Spectrometry
10. **HPLC-** High Performance Liquid Chromatography.
11. **ALT-** Alanine transaminase.
12. **AST-** Aspartate phosphatase.
13. **ALP-** Alkaline phosphatase.
14. **MDA-** Malon di-aldehyde.
15. **HIV-** Human Immunodeficiency Virus.
16. **FIV-** Ferine Immunodeficiency Virus.
17. **HT-** Histamine.
18. **5-HT-** Serotonin.
19. **Ach-** Acetyl Choline.
20. **Tyr-** Tyrosine.
21. **CCl_4–** Carbon Tetrachloride.
22. **$NaBH_2$–** Sodium Borohydride.
23. **NaOH-** Sodium Hydroxide.
24. **KNO_3–** Potassium Nitrate.

NOTE:

The study highlights the efficacy of "ayurveda" which is an ancient tradition, used in some parts of India. This ancient concept should be carefully evaluated in the light of modern medical science and can be utilized partially if found suitable.

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