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Nutraceutical activity of haldiwala doodh mixture

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Abstract

Matruj Ayurveda Pharmacy created the special combination "Haldiwala Doodh mixture" for daily ingestion. Haridra, Yashtimadhu, and Tulsi helps the body function normally under traumatic conditions and increases energy. It also has the capacity to promote stress resistance. The best immuno-modulator is this combo. Tulsi, Adraka, and Yashtimadhu work together as an anti-allergic and have anti-histamine properties, making them useful in the treatment of allergic disorders such as allergic rhinitis and bronchial asthma. The anti-bacterial properties of the blend of Kantakari, Adraka, Haridra, and Tulsi aid to relieve symptoms of cough-cold, flu, and tonsillitis as well as poor breath, swollen gums, sore throats, and tonsillitis. This blend also exhibits antiseptic properties. Most of the symptoms that a patient needs to deal with on a daily basis can be effectively treated by it. It can be prescribed to all patients as supporting medicine also. This combination is very safe & can be prescribed during pregnancy & post pregnancy without any ill effects.

Keywords: Formulation, immuno-modulator, swollen gums, allergic rhinitis

Introduction

To combat such symptoms and keep the patient active and moving, Matruj Ayurveda Pharmacy created the special combination "Haldiwala Doodh Mixture" for daily ingestion. People have to deal with several health issues and fight off various illnesses on a daily basis to maintain health as a result of rising pollution levels and a fast-paced lifestyle. The product is self-explanatory because it is a combination of Haldi, Tulsi, Kantakari, Yashtimadhu, Adrak, and sugar that must be blended with milk, preferably lukewarm, to create "Haldiwala Doodh mixture." Tulsi, Yashtimadhu, and Haridra assist the body function normally in stressful situations and promote energy. They also have the ability to improve stress resistance. The ideal Immuno-Modulator ^[1] is this combination. Combined action of Tulsi, Adraka & Yashtimadhu acts as an Anti-allergy & contain Anti-Histamine function hence beneficial in treating allergy disorders like allergic rhinitis, bronchial asthma. Combination of Tulsi, Adraka, Yashtimadh &, kantakari acts as Anti-Inflammatory & lowers respiratory tract congestion, loosen and thin the mucus & enable body to get rid of inflammation. Haridra, Tulsi, Kantakari, and Yashtimadhu are well known for their anti-oxidant properties. This combination fights against invaders from outside the body, decreases free radicals in the body, and activates the body's natural antioxidant process. It also restores damage. Increases the levels of brain hormones, which promotes the creation of new neurons and inhibits a number of brain degenerative processes ^[2]. The anti-bacterial property of the mixture of Kantakari, Adraka, and Haridra Tulsi helps to relieve symptoms of cough-cold, flu, and tonsillitis as well as poor breath, swollen gums, sore throats, and tonsillitis. This property also demonstrates antiseptic property. The combination of Kantakari, Yashtimadhu, Tulsi, and Adraka acts as an Anti-Tussive and a very potent expectorant, which prevents the contraction of the respiratory airways and promotes mucus secretion. The three herbs Haridra, Tulsi, and Yashtimadhu purify the blood and promote healing. It has a calming effect by quickening the healing process and minimising respiratory tract discomfort. The healing process aids in preventing stomach and mouth ulcers. Muscular discomfort, chest pain, headaches, body aches, morning stiffness, throat pain, pain from trauma, and pain from swelling are all relieved by the painkilling effects of Kantakari, Yashtimadhu, Adraka, and Haridra ^[3].

In post surgical cases, it can be given as an adjuvant to speed up the healing action along with main treatment. In addition to helping with digestion and preventing motion sickness, the combination of Adraka, Yashtimadhu, and Haridra also helps with stomach upset or food poisoning, stimulates the release of bile from the gall bladder, which helps with digestion, not only lowers bad cholesterol levels but also lessens the damage they can cause and prevent plaque formation, all of which support heart health [4].

Table 1: Ingredient Botanical name [5- 8]

Sr. No	Ingredient	Botanical name	Family
1	Yashtimadhu	<i>Glycyrrhiza glabra</i>	Fabaceae
2	Kantakari	<i>solanum surattense</i>	Solanaceae
3	Tulsi swaras	<i>Ocimum sanctum</i>	Lamiaceae
4	Adaraka Swaras	<i>Zingiber officinale</i>	Zingiberaceae
5	Haridra	<i>Curcuma longa</i>	Zingiberaceae
6	Sugar	----	

Table 2: Herbs and their actions [9-13]

Sr. No	Drug	Res. System	Digest. System	CVS	Immune system
1	Kantakari	-Best medicine for cough and cold - Expectorant - Soothing action on throat (kNzya) -Effective in treating sore throat and tonsillitis	-Strengthens the stomach muscles -Corrects disorders of nutrition -Anti-helminthic property, eliminates intestinal worms	Effective in treating enlargement of liver and spleen	Effective in treating chest pain, muscular pain
2	Yashtimadhu	-Soothing and healing action reduces irritation and inflammation -Anti-allergic property useful to treat allergic rhinitis and bronchial asthma -Eases congestion and coughing by helping to loosen and thin mucus in airways –making a cough more productive	-Lowers stomach acid levels -relieves heartburn and indigestion -prevents ulcer formation	-beneficial for liver functioning by increasing bile flow and lowers cholesterol level -It limits the damage from LDL cholesterol -discourages plaque formation and thus contribute to healthy heart.	- pain relieving action helping in fever and headache -Has ability to improve resistance to stress.
3	Tulsi (Elixir of life)	-Very effective expectorant -Useful in relieving cough, cold and sore throat - Helps in relieving mouth infections and ulcers - Anti bacterial property help to relieve dental problems like bad breath and pyorrhea		-Efficient blood purifier -Helps attain a clear and glowing skin	Adaptogenic herb- helps body to combat stress and enable it to function normally during traumatic conditions -Combats both physical and emotional stress and boosts energy. -Provides relief from headache
4	Adraka	-Anti-histamine properties effective in treating allergies and curing asthma. -Inhibits airway contraction and helps in stimulating secretion of mucus. -Helps to get rid of congestion of throat and nose.	-Prevents motion sickness. -Effective in reducing upset associated with motion sickness. -Helpful in treating stomach flu or food poisoning. - Best medicine for digestion.	It encourages gall bladder to release bile and stimulates digestion	-Beneficial for treating chronic inflammation. -Provides substantial relief from pain caused due to inflammation and even swelling and morning stiffness.
5	Haridra				-Powerful anti-inflammatory and very strong anti-oxidant -Stimulates body's own anti-oxidant mechanism. -It boosts immune system -Boosts levels of brain hormone, increases the growth of new neurons and fights various degenerative processes in the brain.

Materials and Methods

Prefomulation Study

Yashtimadhu (*Glycyrrhiza glabra*), Kantakari (*Solanum surattense*), Tulsi swaras (*Ocimum sanctum*), Adaraka Swaras (*Zingiber officinale*) Haridra (*Curcuma longa*) dug abundantly aalale in india. Fresh drug were ordered Manilal supplier, crud drug authenticated from otanical Suay of India. The died seed were grounded in a mixtue giended and passed though siee no 85 bulk powder characteristics were determined. -Bulk density, Tapped

densit, Carr's index (%).

A pre-weighed, presieved quantity of seed powder was poured into a graduated cylinder and the volume was recorded (V0). The cylinder was tapped for approximately till the final volume remained constant. The bulk and tapped densities were then calculated using the following equations.

Bulk Density (poured density): m/V_0 , in g per cm^3 .

Tapped Density: m/V_t g per cm^3 .
 m = weight of the powder V_0 = bulk volume

Carr's index (%) = $(\text{Tapped density} - \text{Bulk density}) / \text{Tapped density} \times 100$

The Carr's index is related to flow ability of the powder

Proximate Analysis of Nutraceutical Powder Mixture

Whole nutraceutical powder mixture was analyzed for moisture, crude protein, fats, crude fibers, ash, carbohydrates, calcium and iron. The recommended methods were used for the determination of crude proteins, carbohydrates, fats, fibres, calcium, iron, moisture. This study was conducted at Matuj Ayureda Pharmacy Pvt Ltd, Katakari, Haridra, Tulsi ras, Adarak ras, Suga Bach 1 kg raw material

Formulation Development

Nutraceutical powder mixture as a health drink was prepared by mixing crud powder mixture of Yashtimadhu, Kantakari, Haridra, Tulsi ras, Adarak ras, Suga

Bach 1 kg raw material

Yashtimadhu: 50 g

Kantakari: 50 g

Haridra: 25 g

Tulsi ras: 200 kg

Adarak ras: 200 kg

The desired ingredients listed in table for Kalpa are taken as per desired weight mentioned in table and decoction is prepared with water. The water taken for decoction is 16 times that of weight of ingredients. The decoction is reduced to one eighth of total quantity by ingredients. The decoction is reduced to one eighth of total quantity by heating and strained. The decoction so obtained is further reduced to half the amount so as to form rasakriya/Ghana. Then sugar is added and stirred continuously so as to obtain desired granules of shatavari kalpa.

- **Dose:** 5 gm two times a day
- **Anupana:** lukewarm milk
- **Instructions to use:** Add the whole content of this pack

to a cup (100 ml) of lukewarm water and stir

- **Indications:** sore throat remedy, cough cold preventive, anti- allergic, anti- septic



▪ **Organoleptic tests**

- 1) Colour
- 2) Odour
- 3) Taste
- 4) Foreign Matter %

▪ **Physicochemical Analysis**

1. Moisture %
2. Bulk density gm/ml
3. Brix %
4. Total ash
5. Acid insoluble ash
6. Alcohol soluble extractive
7. Water soluble extractive
8. PH
9. Thin layer Chromatography
10. Heavy metal detection
11. Lead b) Arsenic c) Cadmium d) Mercury e) Iron f) Cyanide g) Nickel h) Cobalt i) Silver, j) Molybdenum

Results and Discussions

Washing, Drying and Size Reduction

Crud material of Yashtimadhu, Kantakari, Haridra, Tulsi, Adarak washed, dried and cut into small pieces, tulsi ras and adakras ras extracted.

All the three powders individually and as a mixture showed angle of repose more than 40°, Carr's index more than 25%, Hausner ratio was more than 1.2, indicating poor flow and compressibility characteristics.

Table 3: Proximate analysis of the sample

Sr. No	Parameter	Result	Test method
1	Proteins	Positive	AOAC 920.152
2	Carbohydrates	Positive	IS 1656.2012
3	Fat	Positive	IS 12711.2010
4	Iron	Positive	----
5	Monosaturated fat	Positive	----
6	Polysaturated fat	Positive	----

Table 4: Physicochemical evaluation

Sr. No.	Analytical Parameter	Specification	Reference Range
1	Colour	Dark yellow colour	Dark yellow colour
2	Odour	characteristics	characteristics
3	Taste	sweet	Sweet
4	Angle of Repose	More than 42°	---
4	Bulk Density	compressibility characteristics	---
5	Tapped Density	poor flow	---
6	Carr's index (%)	26%	---
4	Foreign matter%	Nil	Not more than 1%
5	Moisture %	8%	--

6	Bulk density gm/ml	1.1gm/ml	--
7	Brix %	10%	--
8	Total ash	7.848%	--
9	Acid insoluble ash	0.015%	--
10	Alcohol soluble extractive	28.45%	--
11	Water soluble extractive	21.5%	--
12	PH	5	--
14	Heavy metal detection	All negative	--

Table 5: Heavy Metal detection

Sr. No.	Metal	Reaction	Observation	Result
1	Lead	Samle +dil HCL + KI	No yellow precipitate	Absent
2	Arsenic	Sample + NH ₄ OH (Till alkaline)	No white precipitate	Absent
3	Cadmium	Sample + NH ₃	No white precipitate	Absent
4	Mercury	Sample+ NaOH	No black precipitation	Absent
5	Iron	Sample+ K ₄ FeCN ₆	No persion blue colour	Absent
6	cyanide	Sample +HgCl ₂	No grey precipitation	Absent
7	Nickel	Sample + NaOH+ Br ₂ Water	No black precipitation	Absent
8	Cobalt	Sample+ NH ₄ OH + CH ₃ COOH + KNO ₂ Crystal	No Yellow Precipitation	Absent
9	Silver	Sample + NaOH	No brown Precipitation	Absent
10	Molybdenum	Sample+ dil HCL	No White Precipitation	Absent

Phytochemical and quality specification of Haldiwala Doodth Mixture

Haldiwala doodth mixture is a strong, dark yellow color powder. Especially with a sweet and bitter aroma, which has a pleasant and disturbing after-flavor and aroma. The taste is strongly influenced by the taste of Adarak, jeshthmadh and haridra and kantakari. Assay as standard standards. These include identification (such as microscopy, thin chromatography (TLC), physicochemical parameters (loss of loss, total ash, acid-insoluble ash, extractor- alcohol soluble extractive, water-soluble extraction (pH)), foreign matter, heavy metal detection i.e Lead b) Arsenic c) Cadmium d) Mercury e) Iron f) Cyanide g) Nickel h) Cobalt I i) Silver, J) Molybdenum.

Anticoagulant Effects^[14]

Ginger has been shown to inhibit platelet aggregation and to decrease platelet thromboxane production. (8)- Gingerol, (8)-shogaol, (8)-paradol, and gingerol analogues (1 and 5) exhibited anti-platelet activities.

Anti-Inflammatory Effects

Ginger has been found to inhibit prostaglandin biosynthesis¹⁹ and interfere with the inflammatory cascade and the vanilloid nociceptor. Ginger has been shown to share pharmacological properties with non-steroidal anti-inflammatory drugs (NSAIDs) because it suppresses prostaglandin synthesis through the inhibition of cyclooxygenase-1 and cyclooxygenase-2. However, ginger can be distinguished from NSAIDs based on its ability to suppress leukotriene biosynthesis by inhibiting 5-lipoxygenase.

Antioxidant Effects

Ginger oil has dominative protective effects on DNA damage induced by H₂O₂. Ginger oil might act as a scavenger of oxygen radical and might be used as an antioxidant.

Cardiovascular Effects

In vitro research indicates that gingerols and the related shogaols exhibit cardio depressant activity at low doses and cardiotoxic properties at higher doses. 7 Both (6)-shogaol

and (6) gingerol, and the ginger dienes, are reportedly potent enzymatic inhibitors of prostaglandin, thromboxane, and leukotriene biosynthesis.

Weight Loss Effects

Spiced foods or herbal drinks, such as those that contain ginger, have the potential to produce significant effects on metabolite targets, such as satiety, thermogenesis, and fat oxidation.

Wound healing activity^[15]

Solanum xanthocarpum Schrad. & Wendl. (Family-Solanaceae), commonly known as Yellow-Berried Nightshade, fruits are used traditionally in the folklore for treatment of various kinds of wounds.

Conclusion

Written clinical studies and Ayurvedic literature have proven that people who take Haldiwala Doodth Mixture regularly for a while show improvements in general health and immunity. The broader health benefits of the various herbs used in this formulation and increase their therapeutic efficacy in treating different disease problem in body. Physical and chemical properties like appearance, physicochemical parameters (loss of loss, total ash, acid-insoluble ash, extractor- alcohol soluble extractive, water-soluble extraction (pH)), foreign matter, heavy metal detection i.e Lead b) Arsenic c) Cadmium d) Mercury e) Iron f) Cyanide g) Nickel h) Cobalt I i) Silver, j) Molybdenum. On the basis of experimental result achieved during validation process, it can be assumed that the current analysis method more accurate, precise, specific, linear and consistency from the physical chemical behavior and chemical assay of the newly developed drug formulation.

Discussions

Our observation in this study demonstrated that Matrui Ayurveda Pharmacy, formulated a unique combination "Haldiwala Doodh Mixture" for every day consumption to fight against such symptoms & to keep the patient active & moving. Due to increasing level of pollution & fast life style, people have to face multiple health complaints & need to fight against various ailments every day to maintain health. Combination of Tulsi, Adraka, Yashtimadh & amp,

kantakari acts as Anti-Inflammatory & reduces respiratory tract congestion, loosen and thin the mucus & help body to get rid of inflammation. Anti-Oxidant property of Haridra, Tulsi, Kantakari & Yashtimadhu is well known. This combination is strong antioxidant, also stimulates body's own antioxidant mechanism, reduces free radicals in the system, and fights foreign invaders, repairs damage. Haldiwala Doodth Mixture is a strong, dark yellow color powder. Especially with a sweet and bitter aroma, which has a pleasant and disturbing after-flavor and aroma. The taste is strongly influenced by the taste of Adarak, jeshthmadh and haridra and kantakari. Assay as standard standards. These include identification (such as microscopy, physicochemical parameters (loss of loss, total ash, acid-insoluble ash, extractor- alcohol soluble extractive, water-soluble extraction (pH)), foreign matter, heavy metal detection i.e Lead b) Arsenic c) Cadmium d) Mercury e) Iron f) Cyanide g) Nickel h) Cobalt I i) Silver, j) Molybdenum. It also having pharmacological activity i.e Anticoagulant Effects, Anti-Inflammatory Effects, Antioxidant Effects, Cardiovascular Effects, Weight Loss Effects, Wound healing activity. The objectie of the present research work is to develop the new drug poduct formulation.

Conflict of interest

The authors declare no conflict of interest.

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