



Mahuva - Turmeric Powder: Evolution of Human Health

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Abstract

Mahuva- termo powder is combination of dry Mahuva powder and Turmeric powder. Mahuva and turmeric used from ancient time as food and ingredient. Mahuva and turmeric have potency to prevent from various infections and chronic diseases like common cold, fever, cancer, cardiovascular disease, obesity, osteomalacia and liver damage. Several of bioactive compound present in turmeric which makes turmeric been a part of traditional medicine.

Mahuva also shows response against infections, intestinal worms, coronary heart disease and Diabetes. This powder has characteristics - Anti-cancer, Anti-bacterial, Hepatoprotective etc. This paper is demonstrated about their nutritional value, role in human health and enthomedical properties. The Moto of this powder is" boost immunity and focus on nutrition because a lot depend on our nutrition and food is the best Medicine".

Keywords: Health, Immunity, Entho medical properties

INGREDIENT

Dry Mahuva flower Powder

Turmeric Powder

INTRODUCTION

Mahuva flower produced from tropical Mahuva tree. Mahuva is common name used for Mahuva Longifolia which belongs from Sapotaceae family. Mahuva is generally found in some countries like India, Pakistan, Bangladesh, Srilanka etc. Mahuva is basically used in feeding and liquor but now used in various preparations like Jam, jelly, cake, Laddu etc.

Phytochemistry: Mahuva flower

1. Rich in Vit. A & Vit.C
2. Primary constituent- sugar, amino acid, proteins, and
3. Seondry constituent - Alkaloids, Flavonoids, Tannins, Terpernoids, Phenolic compound, Saponins

Health benefits:

1. Anti-bacterial: Anti-bacterial activity of flower against the Klebsilla Pneumonia, Bacillus subtilis, and E.coli- Jyoti sinha Rai A K 2017.
2. Hepato- protective: Mahuvaflower showedpotetially effectonloweringthelevelof, SGOT, SGPT, ALP, and

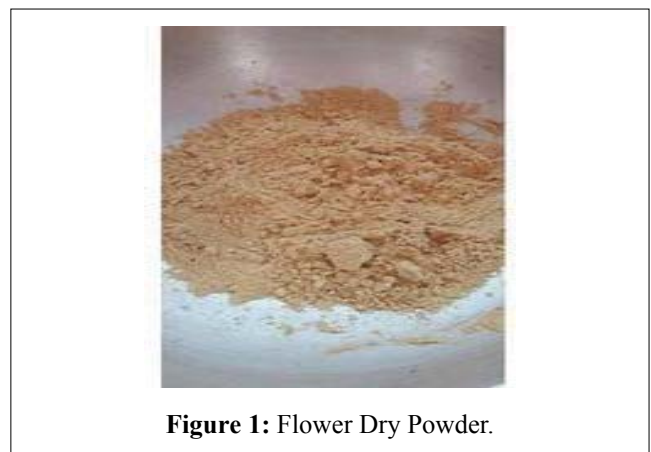


Figure 1: Flower Dry Powder.

Total bilirubin by increasing of proteins and albumin in blood serum.

3. Anti-oxident activity: Mahuva flower richly contains carotene which precursor of Vit. A and contains Vit. C which act as Antioxidant. The increasing concentration of ascorbic acid, reduction of Ferric cause increasing the antioxidant power (Pinakin D.J.et al. 2018)
4. Anti- cancer properties: The increasing concentration of floral bioavailability to decrease the cell viability and cytotoxic effect was found to increase (Bassavraj K et.al. 2015)

Table 1. Nutritional Value: Dry flower

Constituent	Value
Moisture	11.61-19.8 (wb %)
pH	-
Ash %	1.4-4.36
Protein %	5.62
Fat %	0.09-0.06
Starch (g/100g)	-
Total inverts %	-
Total sugar %	41.62
Reducing sugar (g/100g)	28.12
Cane sugar %	-
Calcium (mg/100g)	0.14-8
Phosphorus (mg/100g)	0.14-2
Carotene (Vit. A) (µg)	-
Vit. C (µg)	7
Fiber %	-

Table 2. Medicinal and Nutraceutical Properties.

Properties	Description
Nutraceutical	Antioxidant, Facilitate digestion, Increase immunity, Energetic glucose booster, Stimulant
Medicinal	Anti-ulcer, Hepatoprotective, Wound healing, Bone healing, Diabetes, Bronchitis, Rheumatism, Laxative, Anti- hemorrhoids, Emollient, Diuretic, Increasing milk production in lactating women, Anti-snake bite

Table 3: Phytochemistry.

Constituent	Value
Moisture	6-13%
Carbohydrate	64.9% (60-70%)
Fat	5.1% (3-7%)
Protein	6.3% (5-10%)
Dietary fiber	3-7%
Essential oil	5.8% (2-7%)
Curcuminoids	1-6%
Minerals	3.5%

Phytochemical compound including Curcumin (94%), Demthoxycurcumin (6%), Bisdemethoxy Curcumin (0.3%). Turmeric contains some 34 essential oil which is Turmerone, Germacrone, and Zingiberence.

Traditionally uses of Mahuva flower & ways of use:

1. Way of use: JUICE

*curing the Skin disease, Eye disease, Headache due to Pitta

2. Way of use : Flower powder

*Diarrhea and colitis

3. Roasted flower : cough & bronchitis

Turmeric

Turmeric is a rhizomatous flowering plant of Ginger family known as Zingiberaceae. Rhizome of this plant is most useful part of culinary and medicinal purpose. The yellow color of turmeric is due to compound **Curcumin**, is a bioactive compound which plays a vital role in Nutraceutical world. Apart from this Turmeric is an Anti-microbial agent and as an insect repellent.

Effect of Curcumin

1. Anti-carcinogenic — Studied shows that carcinogenic treatment in the tumor cells of colorectal cancer patient which in turn promoted apoptosis and the effect of Curcumin as an anti-inflammatory agent in head and neck squamous cell carcinoma cancer patients. The Curcumin play an essential role in various cellular responses including regulation of cell growth, proliferation division, survival and death.
2. Cardiovascular — Curcumin showed that the effective against heart muscles (myocardial) infraction also atherosclerosis. Curcumin also effective in decreasing the level of LDL (low density Lipoprotein), triglyceride and total cholesterol. Curcumin also increased the level of SOD (superoxide dismutase), CAT (catalase) and glutathione (GSH) (Khare P.2018)

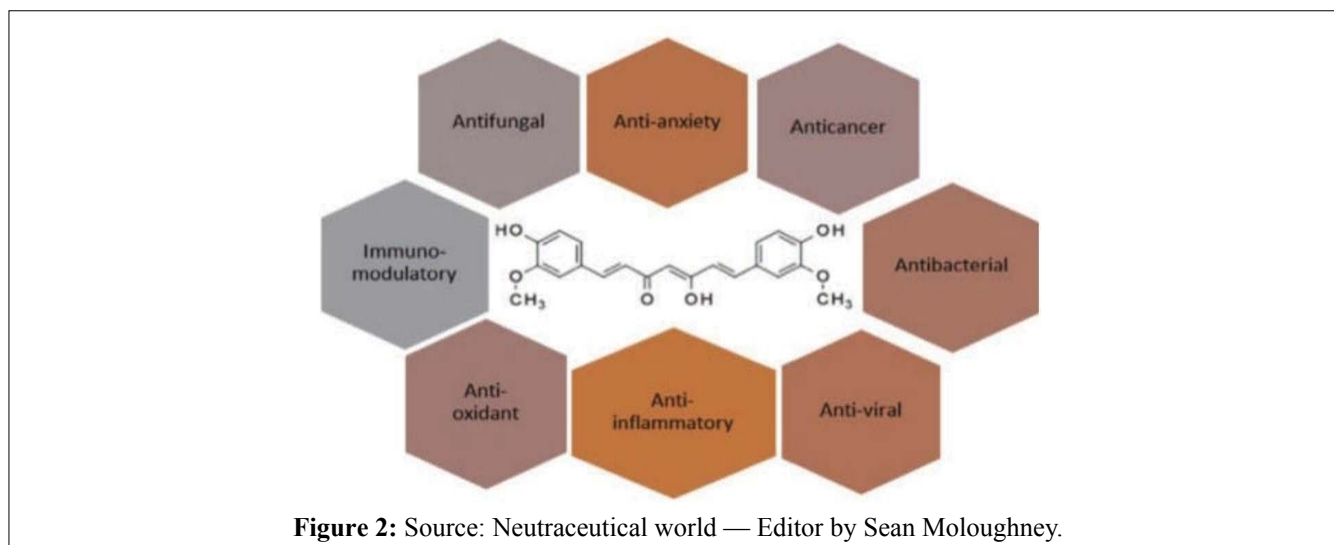


Table 4. Biological Activity of Curcumin and its metabolites.

Properties	Description
Neutraceutical	Antioxidants , immunity booster, stimulant tonic
Medicinal	Anti-inflammatory, Anti-carcinogenic, Anti- tumor, Anti-fibrotic, Anti- fertility acitivity, Anti-angiogenic, Anti-viral ,Anti-bacteria, Anti- protozoan, Hypoglycemic, Hypolipidemic, Thrombosis suppressing, Nephro protective, Hepatoprotective , Diabetes, Gall-stone formation, Cardio toxicity, Stimulant muscle regeneration, Chemopreventive (skin, liver, colon, stomach), multiple sclerosis, Alzheimer disease, HIV replication, Septic shock etc.

- Diabetes: Researches showed that the turmeric or Curcumin was found to be effectively in treating patients suffering from Diabetes & animals models. In diabetes Rat model administered to Curcumin diabetic rat reduce sugar and hemoglobin levels in the blood. One another studied shows that the oral administration of curcumin, reduction in blood glucose and increase in plasma insulin level (Khare P. 2018)
- Obesity: Hyperlipidemia is a major risk factor associated with obesity. Curcumin is demonstrate d to have an excellent potency to lowering the lipid lowering characteristics in obese who's suffering from dyslipidemia

CONCLUSION

In Mahuva and Turmeric powder is available variety of nutrients, medicinal properties and Neutraceutical properties which can make this best nutritive organic powder. This powder can overcome deficiency of nutrition, boost immunity and intestinal environment. Due to lack of knowledge Mahuva always used in cattle feed, liquor, little as food. Turmeric always used as ingredient for color, texture. So this paper aware about these product health benefits and evolution of human health.

Further researches on

- Production of vinegar from Raw Mahuva flower for bodytoxi-clean
- Preparation of jam from Raw Mahuva flower for Hepato patient, and underweight people

- Production of fortified transfer free oil from and cholesterol free oil from Mahuva seed for Cardiac patient, Hypertension patient, and obese class people.

REFERENCES

- Pinakin DJ, Kumar V, Kumar A, Gat Y, Suri S, Sharma K. Mahua(2018) A boon for Pharmacy and Food Industry. *Current Research in Nutrition and Food Science Journal*. Aug25;6 (2):371-81.
- Khare P, Kishore K, Sharma DK. (2018);Medicinal uses, Phytochemistry and Pharmacological profile of Madhuca longifolia. *Asian Journal of Pharmacy and Pharmacology*. 4(5):570-81.
- Kotha RR, Luthria DL. (2019)Curcumin: biological, pharmaceutical, Neutraceutical, and analytical aspects. *Molecules*. Jan; 24(16):2930.
- Rafiee Z, Nejatian M, Daeihamed M, Jafari SM.(2019) Application of curcumin-loaded nanocarriers for food, drugand cosmetic purposes.*Trends in Food Science & Technology*. Jun1;88:445-58.
- Bassavraj K. Nanjwade, Anas S. Mohamid Teerapol Srichana (2015), Curcumin- Neutraceutical and Pharmaceutical Application. Oct. 17-26-2015
- PK patel , Jaghel Vandana , Sk Chandel , jyoti sahu(2019) - Madhuka indica pharmaceutical, Neutraceutical and economical importance for tribal people of Chhattisgarh state *IJppr*, 913:16-28.
- Patel M and SN Naik (2010) flower of madhuca Indica present status of future perspective, PP 438-443.
- AB Kunnumakkar A goel Boedoi Devivasha, BB Aggarwal (2017) Curcumin the golden Neutraceutical multi-targeting for multiple chronic disease, 1325-1348.
- AR Ajuo , CAC and Leon LL ,(2001) Biological activities of curcuma longa L., vol96, n5,pp 723-728 issn 1678-8060

JS Jurneka (2019) anti-inflammatory properties of curcumin, a major constituent of *curcuma longa* - alternative medical review - 69.164.2084

SB Nimse , D pal,(2015) - free radical natural antioxidant and their reaction mechanism- RSC advances ,5 (35) 27986-28006.

Radha k Maheshwari, Anoop k singh , Jaya Gaddipati , Rikhab C

simal (2006) - multiple biological activity of curcumin 78(18), 2081-2087.

Govindarajan, VS and Stahl WH 1980, Turmeric- chemistry technology and quality, 12(3) pp.199-301.

Khare Pragati , kamal kishor, Dinesh k sharma (2018) medicinal use , phytochemistry profile of *Madhuka longifolia*, 4(5):570-581.