

Moringa oleifera: A Review [Let Thy Food Be Thy Medicine]

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ABSTRACT:

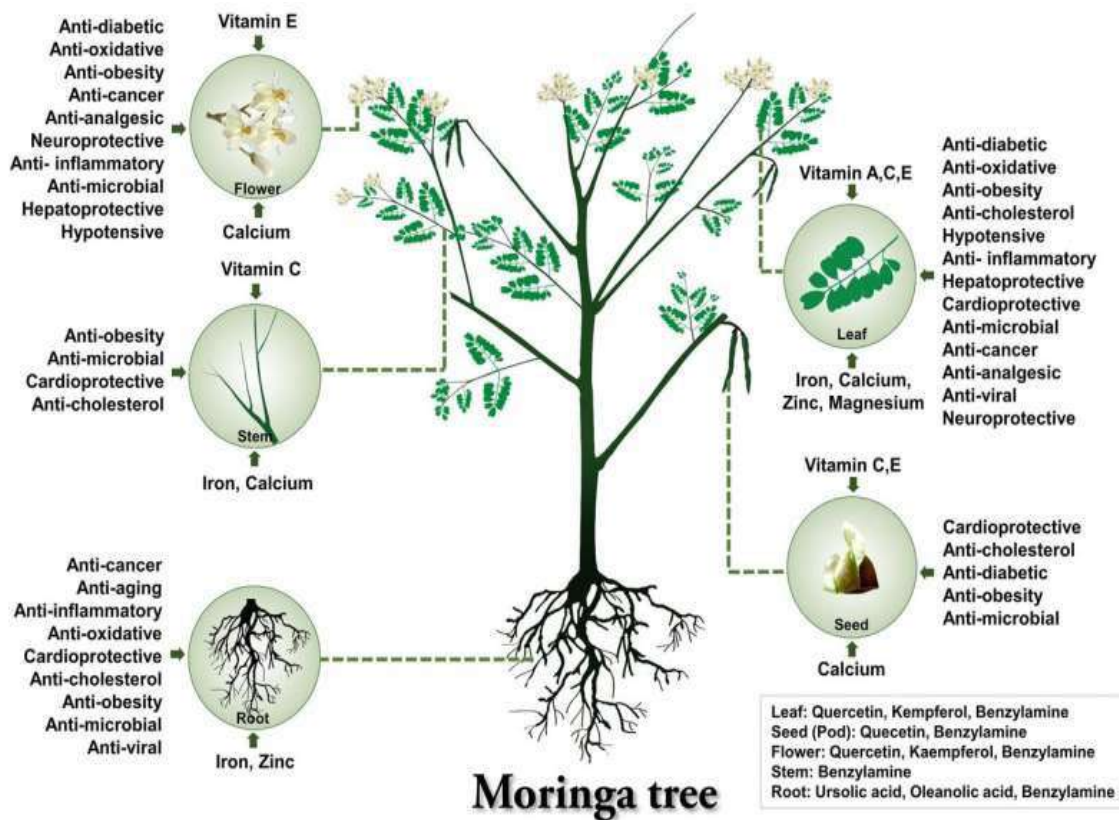
“Let’s thy food be thy medicine”... is a great approach to take when looking at lifestyle changes needed to prevent and reduce disease. Moringa oleifera leaves ,seeds, root,sap and flowers widely used in traditional medicine leaves and seed pods are used as food production in human nutrition a healthy diet includes eating and drinking of the right food to provide your boby with the nutrients needed to function property and maintain healthy leaf extract exhibit the greatest antioxidants activity and safety studies in animal involving aqueous leaf indicates a high degree of safety. Flowers is a used people for eating like vegetables .a rapid grow number of published study have shows that aqueous hydro alcohol or alcohol of M. oleifera leaves possess a wide range of additional biological activities includes antioxidants ,tissue protect like (liver ,kidney, heart, tastes and lungs). Analgesics ,antiulcer, antihypertensive, radio protective ,anti inflammatory, cardio protective etc . Seed are used with a coagulat agent for the removal of waste water M. Oleifera is bioactive ingredient, nutraceutical, therapeutic, biosorbent coagulation, biodiesel and other industrial properties of this “miracles tree “.

Keywords :Moringa oleifera, anti dyslipidemic, anti hyperglycemic,antioxidants, chemoprotctant,

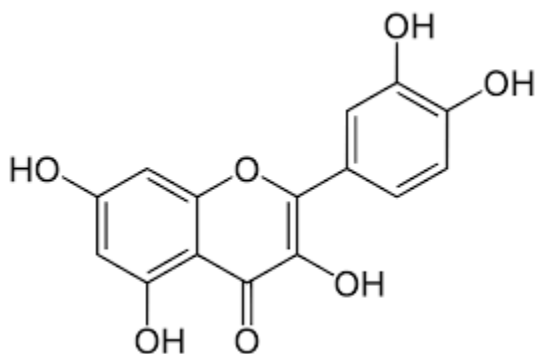
leaf extract nutritional properties, and inflammation, therapeutic activities, water purification. Anti diabetic ,anti cancer

I. INTRODUCTION :

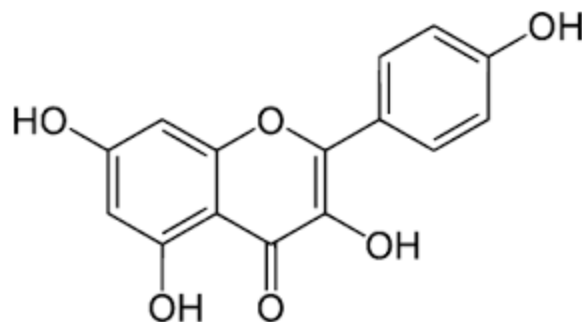
M. Oleifera belonging to the family of maringaceae is effective remedy for mal nutrition it has anitiamor, antipyretic, antipielieptic , anti inflammatory, anti ulcer, antihypertensive, cholesterol, lowering and antioxidants properties, apart form this it has antidibetic , antibacterial and moringa is good for health control fat, blood pressure and cholesterol. It contains calcium, iron ,vitamins A ,thiamin which is beneficial in many serious diseases. According to study these leaves are rich in antioxidants they work to thr problems caused by inflammation in the body. Children deprived of breast milk tend to show symptoms of malnutrition also , the beta corotene in drumsticks leaves helps keep the heart healthy by acting as an antioxidants. this study provides an o6an thr cultivation nutritional valu6,medical properties for commercial use and pharmacological properties of moringa oleifera, there are no elaborate report on the treatment of diabetes and cancer using moringa. This study aims to bridge the gap.



Chemical Constituents :



Quercetin



Kaempferol

Plantation And Soil Conditions :

M. Oleifera can grow in any tropical and subtropical region. It requires sandy or loamy soil. M. Oleifera is a fast growing drought resistant tree of the family moringaceae. This tree can reach a height of 10 – 12 meters. (33-39 feet). Trunks diameter of the moringa is 45 cm. (18 inches).

The flowers are fragrant and hermaphroditic surrounded by five equal thin veined petals of the M. Oleifera to grow tropical and subtropical, altitude 0-2000 m. Rainfall of the M. Oleifera is a 250- 3000 mm irrigation needed for leaf production if Rainfall < 800 mm.

PH of soil to grow M. Oleifera is a PH 5-9 in low planting densities digging pits with out causing and refilling them with soil is preferable

with out causing too much land erosion . Soil is an important factor that defines nutrients content and strength of thr plants . Gave the best result than phosphorus, potassium, sodim etc . Can be used for vegetation propagation.

● **Processing Of MoringaOleifera:**

In this study moringa leave were processed in two step (1)drying and (2) grinding leaves were dried with different drying treatments including germinated and fermented moringa seed flour and amino acid content was its peak in fermented and germinated seed flour however some studies have shows that children refuse to take in moringa due to its slight bither taste several such moringa fortification are possible to ensure in take of adequate amounts of nutrients in children.

● **Preservation Method :**

It can be also preserved for a long time without loss of nutrients ,drying and freezing can be done to store the leaves moringa may be case high accumulation of iron hence daily done of 70 g of maringa is suggested to be good and prevent over accumulation of nutrients.

● **Food From MoringaLeaves :**

- 1) • Moringa Leaves Juice
 - For Weight loss
- 2) •Moringa Leaves Tea
 - Cover The various diseases

● **Dosage Form Of M. Oleifera:**

➤ **Moringa capsule :**



➤ **Moringa tablet :**

➤ **Moringa powder :**



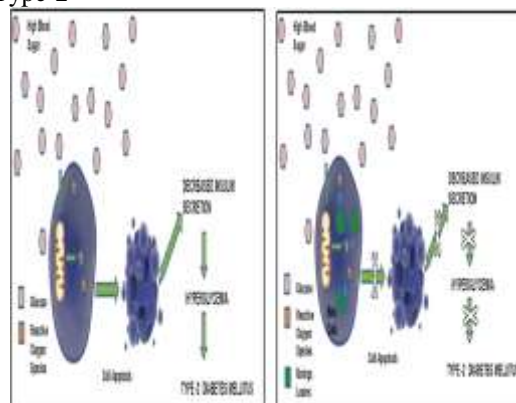
● **Medical Properties :**

The moringa tree is not affected by any serious disease in its native or introduced ranges moringa oleifera a leaf powder was an effective as soap ,hand washing , antiseptic, detergents, etc

- 1) Anti-diabetic properties
- 2) Anticancer properties
- 3) Other diseases

1) **Anti DiabetesProperties :**

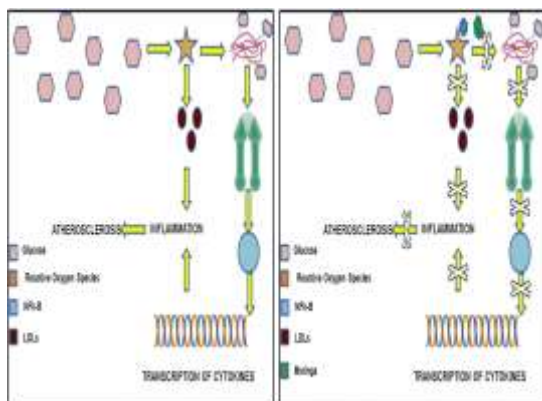
Type 1 and type 2 diabetes . Type 1 diabetes is one where patients suffer form non production insulin. Type 2 diabetes is one associated with insulin resistance reduces insulin secretion leading to hyperglycemia and in turn diabetes it can be used to prevent such ailment this facilintates trasedothelial migration which caused inflammater in the arteries and leads to atherosclerosis .it is used for anti atherosclerosis agent. In another study, the researchers fed the STZ induced diabetes rats with Moringa seed powder and noticed that the fasting blood glucose dropped. Thisreducesinsulin secretion. leading to hyperglycemia and in turn diabete mellitus Type-2



2) **Anti CancerProperties :**

All extracts kill the different cancer cell with different ratio but intriguingly the root care extract could kill the majority on cancer cell (approximately 70-80 percent) while sparing

normal BHK 21 cells . Moringa oleifera monocomposite may have potential for use as a natural source of anti cancer compound. Several factors like smoking, lack of exercise and radiation exposure can lead to the disease.Cancer treatments like surgery, chemotherapy and radiation are expensive and have side effects.



3) **Other Diseases :**

Moringa oleifera can be used as a potent neuroprotectant cerebral ischemia Is caused due to abstraction of blood flow to the brain moringa with its antioxidants can be reduced the reactive oxygen species .there By protecting the brain moringa is prescribed By herbal practitioners for patients with AIDS.

• **Commercial application :**

Moringaoleifera seed are used to extract oil called the ben oil. This oil is rich in oleic acid and sterol .it can also with stand oxidative rancidity .the oil is a used for cooking as perfume and also for lubrication .the pods can be absorb organic pollutant and pesticides.

Moringa seed used in cosmetic and are sources of biodiesel while the seed cakes can be used green manure or a fertilizer most snacks are made up of corn meal and several studies demonstrate that a little addition of Moringa oleifera to maize flour can add nutritive valve to the snack in terms of protein ,energy and minerals. Further studies on moringa as a fortified indian snakes is required before bringing commercialized Moringa oleifera to the market .

• **Production Area :**

India is the largest producer of moringa oleifera with an annual production of 1.-2 million tonners of fruits from on area 380 km² .

moringa is a grow in to large area and as living fences in South asia and South east asia .its is a commonly sold in local markets. Flowers and fruits appear twice a year so two harvest occurs in July to September and march to april

II. CONCLUSION :

From the above information we understand that the moringa is also food as well as thy medicine be our daily diet

The research on M. oleifera is yet to gain importance in India.

It is essential that the nutrients of this wonder tree are exploited for a variety of purposes. M. oleifera has great anti-diabetic and anti-cancer properties. It might be a viable alternative for water purification. The effect of environmental factors affecting the nutrient levels of leaves and other parts of M. oleifera grown across the globe require further analysis.

REFERENCE :

[1]. J.L.Rockwood,B.G. Anderson, D.A.Casamatta, Potential uses of Moringaoleifera and an examination of antibiotic efficacy conferred by M. oleiferaseed and leaf extracts using crude extraction techniques available tounderserved indigenous populations, Int. J. Phytotherapy Res. 3 (2013) 61 71.

[2]. J.N. Kasolo, G.S. Bimenya, L. Ojok, J. Ochieng, J.W. Ogwal-okeng,Phytochemicals and uses of Moringa oleifera leaves in Ugandan ruralcommunities, J. Med. Plants Res. 4 (2010) 753–757.

[3]. T.MutiaraTiti,E.S.W.Estiasih,Effectlactag oguemoringaleaves(Moringaoleifera Lam) powder in rats, J. Basic Appl. Sci. Res. 3 (2013) 430–434.

[4]. M.D. Thurber, J.W. Fahey, Adoption of Moringa oleifera to combat underviewed through the lens of the diffusion of innovations theory,Ecol. Food Sci. Nutr. 48 (2010) 1–13.

[5]. M.F. Aslam, R. Anwar, U. Nadeem, T.G. Rashid, A. Kazi, M. Nadeem,Mineral composition of Moringa oleifera leaves and pods from differentregions of Punjab, Pakistan, Asian J. Plant Sci. 4 (2005) 417–421

[6]. W.J. Asante, I.L. Nasare, D. Tom-Dery, K. Ochire-Boadu, K.B. Kentil,Nutrient composition of Moringa oleifera leaves

- from two agro ecological zones in Ghana, *African J. Plant* 8 (2014) 65–71.
- [7]. S.O. Dania, P. Akpansubi, O.O. Eghagara, Comparative Effects of different fertilizer sources on the growth and nutrient content of moringa (*Moringa oleifera*) seedling in a greenhouse trial, *Pharma. Clin. Res.* 5 (2014) 67–72.
- [8]. M. Mbikay, Therapeutic potential of *Moringa oleifera* leaves in chronic hyperglycemia and dyslipidemia: a review, *Front. Pharmacol.* 3 (2012) 1–12.
- [9]. L. Berkovich, G. Earon, I. Ron, A. Rimmon, A. Vexler, S. Lev-Ari, *Moringa oleifera* aqueous leaf extract down-regulates nuclear factor-kappaB and increases cytotoxic effect of chemotherapy in pancreatic cancer cells, *BMC Complement. Altern. Med.* 13 (2013) 212–219.
- [10]. Oduro, W.O. Ellis, D. Owusu, Nutritional potential of two leafy vegetables: *Moringa oleifera* and *Ipomoea batatas* leaves, *Sci. Res. Essays* 3 (2008) 57–60.
- [11]. D.I. Sánchez-Machado, J.A. Núñez-Gastélum, C. Reyes-Moreno, B. Ramírez-Wong, J. López-Cervantes, Nutritional quality of edible parts of *Moringa oleifera*, *Food Anal. Methods* 3 (2010) 175–180.
- [12]. L.J. Fuglie, *The Moringa Tree: A local solution to malnutrition* Church World Service in Senegal, 2005
- [13]. J.T. Barminas, M. Charles, D. Emmanuel, Mineral composition of nonconventional leafy vegetables, *Plant Foods Hum. Nutr.* 53 (1998) 29–36.
- [14]. S. Lalas, J. Tsaknis, Characterization of *Moringa oleifera* seed oil variety Periyakulam-1, *J. Food Compos. Anal.* 15 (2002) 65–77
- [15]. R. Yang, L. Chang, J. Hsu, B.B.C. Weng, C. Palada, M.L. Chadha, V. Levasseur, Nutritional and functional properties of moringa leaves from germplasm, to plant, to food, to health, *Am. Chem. Soc.* (2006) 1–17.
- [16]. B. Moyo, P. Masika, A. Hugo, V. Muchenje, Nutritional characterization of *Moringa (Moringa oleifera Lam.)* leaves, *African J. Biotechnol.* 10 (2011) 12925–12933.
- [17]. O.S. Ijarotimi, O. Adeoti, O. Ariyo, Comparative study on nutrient composition, phytochemical, and functional characteristics of raw, germinated, and fermented *Moringa oleifera* seed flour, *Food Sci. Nutr.* 1 (2013) 452–463.
- [18]. B. Sallau, S.B. Mada, S. Ibrahim, U. Ibrahim, Effect of boiling, simmering and blanching on the antinutritional content of *Moringa oleifera* leaves, *Int. J. Food Nutr. Saf.* 2 (2012) 1–6. [
- [19]. T.M. Kiranawati, N. Nurjanah, Improvement of noodles recipe for increasing breastmilk: design of the *Moringa* noodles, *Am. J. Food Sci. Technol.* 2 (2014) 88–92.
- [20]. A.A. Abou-zaid, A.S. Nadir, Quality evaluation of nutritious chocolate and halawa tahinia produced with moringa (*Moringa oleifera*) leaves powder, *Middle East J. Appl. Sci.* 4 (2014) 1007–1015.
- [21]. I.J. Asiedu-Gyekye, S. Frimpong-Manso, C. Awortwe, D.A. Antwi, A.K. Nyarko, Micro- and macroelemental composition and safety evaluation of the nutraceutical *Moringa oleifera* leaves, *J. Toxicol.* 2014 (2014) 1–13.
- [22]. M.E. Cerf, Beta cell dysfunction and insulin resistance, *Front. Endocrinol.* 4 (2013) 1–12.
- [23]. S.M. Divi, R. Bellamkonda, S.K. Dasireddy, Evaluation of antidiabetic and antihyperlipidemic potential of aqueous extract of *Moringa oleifera*