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REVIEW ON MULTI ACTIVITY OF MORINGA OLIFERA

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ABSTRACT :

Moringa oleifera Lam., commonly known as munga, is one of the most.[2] The joints are impacted by rheumatoid arthritis (RA), a chronic, recurrent autoimmune, inflammatory multisystem disease. Many rheumatologists believe that methotrexate (MTX) is the most significant and practical disease-modifying antirheumatic medication (DMARD). Because of its safe profile, fluoxetine, a selective serotonin reuptake inhibitor, has been used extensively to treat depression. Moringa oleifera (MO) is well-known for its therapeutic and nutritional properties. These plants have several components that stimulate the heart and blood vessels.[4] Because of its many therapeutic and non-therapeutic uses, Moringa oleifera, sometimes referred to as the "tree of life" or "miracle tree," is regarded as a significant herbal plant. The herb has long been used to treat inflammation, cancer, liver and heart disease, wounds, discomfort, and ulcers. In order to support future study, this review attempts to gather an overview of global studies, pharmacological activity, phytochemical, toxicological, and ethnomedicinal updates of Moringa oleifera. It also intends to shed light on the plant's economic and phytopharmaceutical uses.[1] Many nations, especially those in India, Pakistan, the Philippines, Hawaii, and many African countries, use this tree's leaves, fruit, flowers, and immature pods as a highly nutritious vegetable .

KEYWORDS : Moringa Oleifera , leaves , Drum strick tree ,seeds, barks

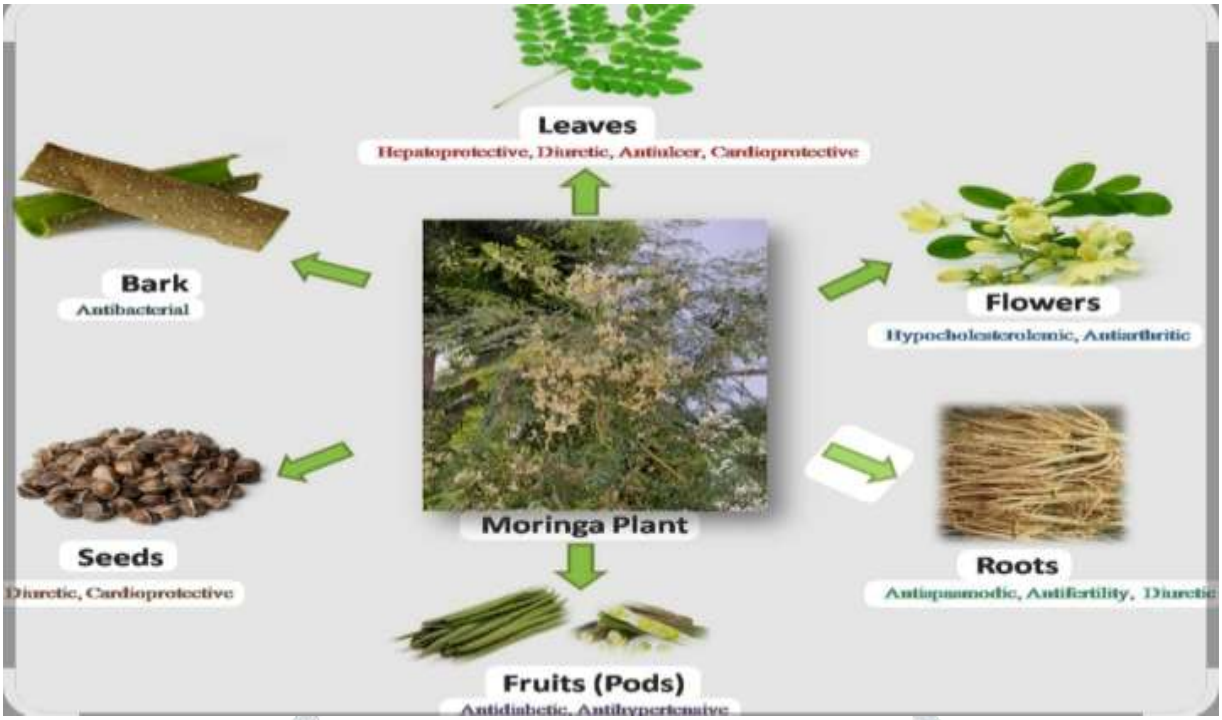
INTRODUCTION

The lining of healthy joints is extremely thin and devoid of blood vessels, whereas the lining of rheumatoid arthritis-affected joints is thick and heavily packed with white blood cells. White blood cells secrete two substances called interleukin-1 and tumor necrosis factor alpha (TNF-alpha), which lead to joint degradation, swelling, and pain [3]. It was recently revealed that novel cytokines, such as IL-17 and IL-18, exist. The lining of healthy joints is extremely thin and devoid of blood vessels, whereas the lining of rheumatoid arthritis-affected joints is thick and heavily packed with white blood cells. White blood cells secrete two substances called interleukin-1 and tumor necrosis factor alpha (TNF-alpha), which lead to joint degradation, swelling, and pain [3]. It was recently revealed that novel cytokines, such as IL-17 and IL-18, exist. Because of their many therapeutic uses, several plants are used to treat hematological disorders, liver disease, cancer, inflammation, and problems with liver and kidney function . Moringa peregrina has garnered a lot of attention lately due to its traditional, nutritional, and therapeutic applications. There are thirteen species in the Moringaceae family, but the most well-known is Moringa oleifera, which is indigenous to India and grows in tropical and subtropical areas as well as the southern Himalayan valleys. M. peregrina is another member of the Moringaceae family that thrives in Sudan and Egypt. Additionally, M. peregrina is widespread in Saudi Arabia, particularly in the districts of Al-Madinah, Al-Wajh, and Tihama . Because of their many therapeutic uses, several plants are used to treat hematological disorders, liver disease, cancer, inflammation, and problems with liver and kidney function The notion of employing Moringa oleifera as a nutritional supplement or ingredient in food preparation is supported by the plant's essential amino acid content, carotenoids in its leaves, and components having nutraceutical qualities.

Fig : Moringa olefira bark

FUNCTION AS PER PARTS

LEAVES	FLOWERS	PODS	SEEDS
Anti-inflammatory	Anti-inflammatory	Anti-inflammatory	Anti-inflammatory
Anti-cancer	Anti-cancer	Anti- cancer	-
Diuretic	Diuretic	-	-
Anti-bacterial	Anti-bacterial	-	Anti-bacterial
Laxative	-	-	-
Anti-diabetic	-	-	-
Anti-pyretic	Anti-pyretic	-	Anti-pyretic



CONTENT

Phytoconstituents of moringa and their relevant therapeutic effect

Plant parts	Compound	Class	Therapeutic activity
Leaves	Rutin	Flavonoid	Found to have maximum affinity and interaction towards BRAC-1 gene.
Seed	Myricetin	Flavonoid	Potential preventation of diabetes mellitius and other diabetic complications.
Flowers	D-mannose	carbohydrates	Treatment of defency cause by genetic defects , and acute urinary tarct infection
Stem	Beta – sitosterol	Phytosterol	Anti-oxidant , cardiovascular

MECHANISM OF ACTION

Moringa works against rheumatoid arthritis by reducing inflammation through the modulation of key inflammation markers and pathways . It inhibit pro-inflammatory enzymes and cytokines , potentially by supressing the NF-Kb pathway , it contain bioactive compound like flavonoids and polyphenols that inhibit pro-inflammatory enzyme (COX and LOX) , downregulate pro-inflammatory cytokinesand upregulateanti-inflammatory cytokines by suppressing the NF-Kb pathway . furthermore , its antioxidant properties combat oxidative stress , which is prevalent in rheumatoid arthritis .

METHODS

- Take moringa bark and dry it well .
- Dry at 60 degree
- Take the dired barks of moringa

- Now milled it in milling machine
- Moringa powder is sieved form 20 no mesh
- Moringa powder is obtain

STUDY OVERVIEW

This four-week, single-site, double-blind randomized controlled trial of MO extract on RA patients was carried out. Members of the group were divided into two groups: the treatment group and the control group. Each group was given fifteen research objects. This study was carried out in the outpatient clinic of the Dr. Moewardi Hospital in Surakarta, Central Java, Indonesia. The ethical conduct of this investigation was authorized by the hospital's ethics and health research council under reference number 1248/HREC/2020.

FUTURE SCOPE

Herbal medicine can have a profound healing impact and fully activate the human immune system through a multi-target, multi-way synergistic effect. However, numerous toxicity tests have demonstrated its safety. Other uses Found to have maximum affinity and interaction towards BRAC-1 gene, Potential preventation of diabetes mellitis and other diabetic complications, Treatment of defency cause by genetic defects , and acute urinary tract infection Anti-oxidant , cardiovascular in various dosage form.

In light of this, medicinal plants and herbs have progressively emerged as a means of treating a wide range of illnesses in recent years. Traditional old texts state that M. oleifera serves a variety of purposes and is essential for both preventing and treating illnesses. M. oliefera is a medicinal and edible plant that has drawn a lot of interest from nations all over the world. Understanding how to study this exotic species using traditional Chinese medical theory and describe the pharmacological action and mechanism of its medicinal substance has become both an opportunity and a challenge for us. Although M. oleifera only comes in common dosage forms like granules, tablets, and capsules, the creation of dietary supplements and adjuncts is inextricably linked to the design of prepared formulations and the choice of suitable preparation that can improve the stability and safety. Only nano prepration has been researched among the new preparations; the other preparation kinds ought to begin with M. oleifera's biopharmaceutical characteristics, such as elucidating the permeability and solubility of pertinent medicinal substance in conjunction with other dosage forms, such as nanopharmaceuticals, to enhance the stability and safety of the preparation's in vivo bioavailability

RESULT AND DISCUSSION

Plant extracts were evaluated phytochemically to show the presence of primary and secondary metabolites. Proteins, gum, and mucilages were not found in any extract, but alkaloids, tannins, flavonoids, phenolics, and saponins were found in all of them. The anti-inflammatory, anti-arthritic, and immunosuppressive qualities of M. oleifera extract have been demonstrated in earlier studies conducted in human . These measures are expected to reduce the inflammatory process and disease activity in RA patients. IL-6 levels will be greater in RA patients. An exacerbation of the RA illness is correlated with these higher IL-6 levels. Giving MO extract may help reduce the degree of disease activity in RA. The inflammatory reaction is reduced or suppressed by MO extract. Nevertheless, this study's drawback is that it neglected to record the patient's regular medication dosage.

CONCLUSION

Moringa oleifera, methotrexate, and fluoxetine improved adjuvant arthritis. Extract from Moringa oleifera can be utilized , Therefore, a novel treatment for rheumatoid arthritis may reduce the dosage of MTX to prevent its negative effects. Additionally, fluoxetine has a positive impact on depression linked to rheumatoid arthritis and can be used to treat rheumatoid arthritis in order to prevent potential negative effects from high dosages of

methotrexate. This is a succinct and empirically supported conclusion for a study or paper on the anti-rheumatoid properties of Moringa oleifera: - When it comes to treating rheumatoid arthritis, Moringa oleifera shows great promise as a natural remedy. Its diverse range of bioactive substances, such as polyphenols, flavonoids, and isothiocyanates, supports its immunomodulatory, anti-inflammatory, and antioxidant qualities. According to experimental research, moringa can prevent oxidative stress, decrease pro-inflammatory cytokines, and lessen joint inflammation—all of which are important pathogenic variables in rheumatoid arthritis. Even though preclinical findings are encouraging, more clinical research is necessary to confirm its effectiveness, establish the best dosages, and guarantee human subject safety. All things considered, especially in the context of integrative and herbal therapy, Moringa oleifera shows promise as an adjuvant or alternative treatment approach for rheumatoid arthritis.

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