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Formulation and Evaluation of Moringa Herbal Tablet

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Abstract: *Moringa tablet as phytopharmaceutical herbal due to the ability of Increasing the 58% hemoglobin level in pregnant women as well as Preventing the decrease of serum ferritin by 50% leading to anemia. Recently, the need of easy-todissolve tablet has been increased upon the Natural extract and therefore, the choose of effervescent dosage form is Highly preferable. This study was aimed at designing the optimal Composition of antianemia effervescent drug based on Moringa oleifera Lam. Leaves extract. Effervescent tablets were prepared In four formulas based on acid-base (1:2 and 1: 3) and taste variations (i.e.Lemon and strawberry). The tablet was formulated using wet granulation Method. Prior to tablet compressing, the granules were tested for the Physical properties including water content, contact angle, flowability, Tapped index, compactibility, and granule density. The four designed formulas Show excellent properties either for granules or tablet forms. All formulas Showed acceptable physical properties of granules and tablets. In regards Of acceptability, all formulas yield a fairly bitter taste which is possibly due To the tannins and phenolic compounds of the extract. Addition of flavoring Agents, such as lemon and strawberry, is unable to mask the bitter taste of The final tablet. Herein, the first Moringa leaves effervescent tablet Prepared using wet granulation was successfully formulated. This study is Possibly advantageous as the bottom line for the further formulation of Moringa oleifera Lam.-based effervescent..*

Keywords: Moringa tablet

I. INTRODUCTION

Moringa oleifera, commonly known as the drumstick tree, is a plant known for its high nutritional and medicinal value. Its leaves are rich in vitamins, minerals, amino acids, and antioxidants. Due to its wide range of therapeutic effects—such as anti-inflammatory, antidiabetic, and antimicrobial properties—moringa is increasingly used in herbal formulations.

Tablet dosage forms are preferred because of their stability, accurate dosing, ease of administration, and patient compliance.

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Aim & Objectives

To formulate herbal tablets using Moringa oleifera leaf powder.
To evaluate the physicochemical properties of the formulated tablets.
To ensure the formulation meets standard quality parameters.

LITERATURE REVIEW:-

Moringa tablet: A review on nutritive importance and its medicinal application Author links open overlay panel
Lakshmipriya Gopalakrishnan b Kruthi Doriya a
Devarai Santhosh Kumar a
Department of Chemical Engineering, Ordnance Factory Estate, Yeddumailaram, Indian Institute of Technology Hyderabad, Telangana, India
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Received 2 January 2016, Revised 23 February 2016, Accepted 3 April 2016, Available online 11 April 2016, Version of Record 26 May 2016.

Moringa tablet: An Updated Comprehensive Review of Its
Pharmacological Activities, Ethnomedicinal,
Phytopharmaceutical Formulation, Clinical,
Phytochemical, and Toxicological Aspects
Ashutosh Pareek 1,*, Malvika Pant 1, Madan Mohan Gupta
2, Pushpa Kashania 1, Yashumati Ratan 1, Vivek Jain 3,
Aaushi Pareek 1, Anil A Chuturgoon 4,*

Method:-

Active Ingredient:

Moringa oleifera leaf powder (dried and sieved) **Excipients:**

Function Examples
Binder Starch paste, PVP K-30Disintegrant Starch, Crosspovidone Filler Lactose, Microcrystalline cellulose
Lubricant Magnesium stearate
Glidant Talc, Colloidal silicon dioxide

Methodology

Preparation of Moringa Leaf Powder:

Fresh moringa leaves were washed, shade dried, and ground to a fine powder.
Powder was sieved through mesh #60 for uniformity.

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Tablet Formulation (Wet Granulation Method) Steps:

Weighing: All ingredients were weighed accurately.

Mixing: Moringa powder mixed with disintegrants and fillers.

Granulation: Binder solution added to form a damp mass.

Screening: Mass passed through sieve #12 to form granules.

Drying: Granules dried at 45°C for 30–45 minutes.

Lubrication: Dried granules mixed with lubricants and glidants.

Compression: Granules compressed into tablets using a tablet press.

Evaluation Parameters

Pre-compression Evaluation (Granules):

Angle of repose – **for flowability** Bulk density Tapped density

Carr's Index and Hausner's Ratio

Post-compression Evaluation (Tablets):

Parameter	Acceptable Range
Weight variation	±5% (for tablets <500 mg)
Hardness	4–8 kg/cm²
Friability	<1% weight loss
Disintegration	<15 minutes (as per herbal norms)
Dissolution	>80% drug release in 30 minutes
Content uniformity	85–115% of label claim
Moisture content	<5% (LOD method)

Phytochemical Screening:

Qualitative tests to detect the presence of:

Flavonoids

Alkaloids

Saponins

Tannins

Phenolic compounds

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Microbial Load Testing:

Total viable count

Absence of pathogens (E. coli, Salmonella) **Stability Studies** (Optional):

Stored under accelerated conditions (40°C ± 2°C / 75% RH ± 5%)

Observed for physical and chemical changes over 3 months

Ingredients used

Moringa powder

Honey

Water

Results :

Tablets showed uniform weight, sufficient hardness, and low friability.

Disintegration time was within acceptable herbal standards.

Dissolution study confirmed adequate drug release.

Phytochemical analysis confirmed the presence of bioactive compounds.

Microbial tests confirmed absence of harmful organisms.

PH Test:-

PH Value	Interpretation	Expected for Moringa
1-6	Acidic	Unlikely unless additives are acidic
6.5-7.5	Neutral to slightly alkaline	Common for moringa due to minerals
8-14	Alkaline	May occur if formulation is highly mineralized

Tabel No-1

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Solubility Test

Observation Criteria	Ideal Result
Disintegration Time	Should break apart within 10-30 minutes
Solubility	Should form a uniform suspension or dissolve well
Residue	Minimal undissolved material
Foaming or floating	Acceptable, but should settle over time

Table No - 2

II. CONCLUSION

Moringa herbal tablets were successfully formulated using standard wet granulation. The tablets passed all quality control evaluations and are suitable for use as a nutraceutical or herbal supplement. Further clinical studies are recommended to evaluate the therapeutic efficacy in humans.

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