

Development of Plant-Based Antidiabetic Gummies Using Moringa and Monk Fruit: A Novel Nutraceutical Approach

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- **Abstract** - Diabetes mellitus is a long-term metabolic disease characterized by elevated blood glucose levels, due to improper insulin action or secretion. The goal of the current research project is to create herbal antidiabetic candies using monk fruit extract, a naturally occurring non-caloric sweetener, and Moringa oleifera. Medicated gummies are oral chewable dose forms that include active pharmaceutical or herbal components in a chewable and patient-friendly form. They are manufactured with gelling polymers, such as gelatin. While the mogrosides in monk fruit provide intense sweetness without elevating blood glucose levels, moringa fruits are rich in flavonoids and bioactive substances with anti-diabetic and antioxidant properties. The intended gummies will provide a therapeutic dosage form that is tasty and patient-friendly. The anti-diabetic gummies were made using the gelatin-based heating and molding procedure, which involved dissolving the gelatin in distilled water, allowing it to expand, and then heating it at a regulated temperature to produce a transparent gel. As the mixture was mixed, finely powdered moringa was uniformly distributed throughout and monk fruit extract was added as a natural sweetener. Citric acid and flavoring chemicals are added to the gummies to improve their flavor and stability. To create uniform gummies, the ready mass is next poured into molds, allowed to cool and solidify, and then demolded. pH, weight fluctuation, hardness, drug content and stability, and organoleptic character are examples of physicochemical characteristics. The composition has the potential to be a novel herbal anti-diabetic delivery strategy, the researchers conclude. Results showed that the gummies' stability and qualities were satisfactory. According to the research, antidiabetic gummies made from moringa show promise as a nutraceutical product for the treatment of diabetes.
- **Keywords** - Mogrosides, natural sweetener, anti-diabetic gummies, Moringa oleifera, Monk fruit, herbal preparation, and palatable dosage.

INTRODUCTION-

Diabetes mellitus is one of the most prevalent metabolic disorders in the world, affecting millions of individuals and placing a significant burden on health care systems. It is primarily characterized by elevated blood glucose levels due to either insulin resistance, insulin insufficiency, or both. Long-term consequences of diabetes include retinopathy, neuropathy, nephropathy, and cardiovascular problems. Additionally, because herbal and plant-based medicines are safe, affordable, and have few side effects,

their use has grown in popularity in recent years. *Moringa oleifera*, often known as the drumstick tree, has gained a lot of attention because to its high concentration of phytochemicals such flavonoids, phenolics, and vitamins. It has anti-inflammatory, antioxidant, and anti-diabetic properties thanks to these bioactive substances. Mogrosides, found in monk fruit (*Siraitia grosvenori*), are naturally occurring sweeteners that do not raise blood sugar levels. The ideal combination to maintain blood glucose levels is moringa and monk fruit.

Patients generally do not adhere to the conventional dosage forms, such as pills and capsules, especially when it comes to children and the elderly. As a result, the development of gummy dosage forms offers a novel approach that combines therapeutic benefits with improved palatability and simplicity of administration. The goal of this research is to improve treatment outcomes by combining herbal medicine with novel drug delivery methods

Aim: To develop and analyse antidiabetic herbal gummies of *Moringa oleifera* and monk fruit as a natural sweetener with zero glycemic index that is sugar free.

Objectives:

- To authenticate herbal plant.
- To evaluate phytochemical test.
- To formulate antidiabetic gummies
- To evaluation of antidiabetic gummies

Types Of Diabetes Mellitus:

Diabetes mellitus that can be categorized into the following types:

1. Diabetes Mellitus Type One

Diabetes type 1 is an autoimmune condition that results in little or no insulin production due to the destruction of pancreatic 2-cells. It is a condition that primarily affects children and young people and requires lifelong insulin therapy.

2. Diabetes mellitus type two:

Insulin resistance and relative insulin insufficiency are the hallmarks of type 2 diabetes, the most common kind. It has to do with lifestyle factors like poor diet, obesity, and family history. Lifestyle modifications, oral hypoglycemic medications, and occasionally insulin are used in treatment.

3. GDM or gestational diabetes mellitus

Pregnancy-related hormonal changes that impact insulin function cause this kind of diabetes. increases the chance of acquiring Type 2 diabetes later in life and often goes away after delivery.

NOVELTY OF STUDY:

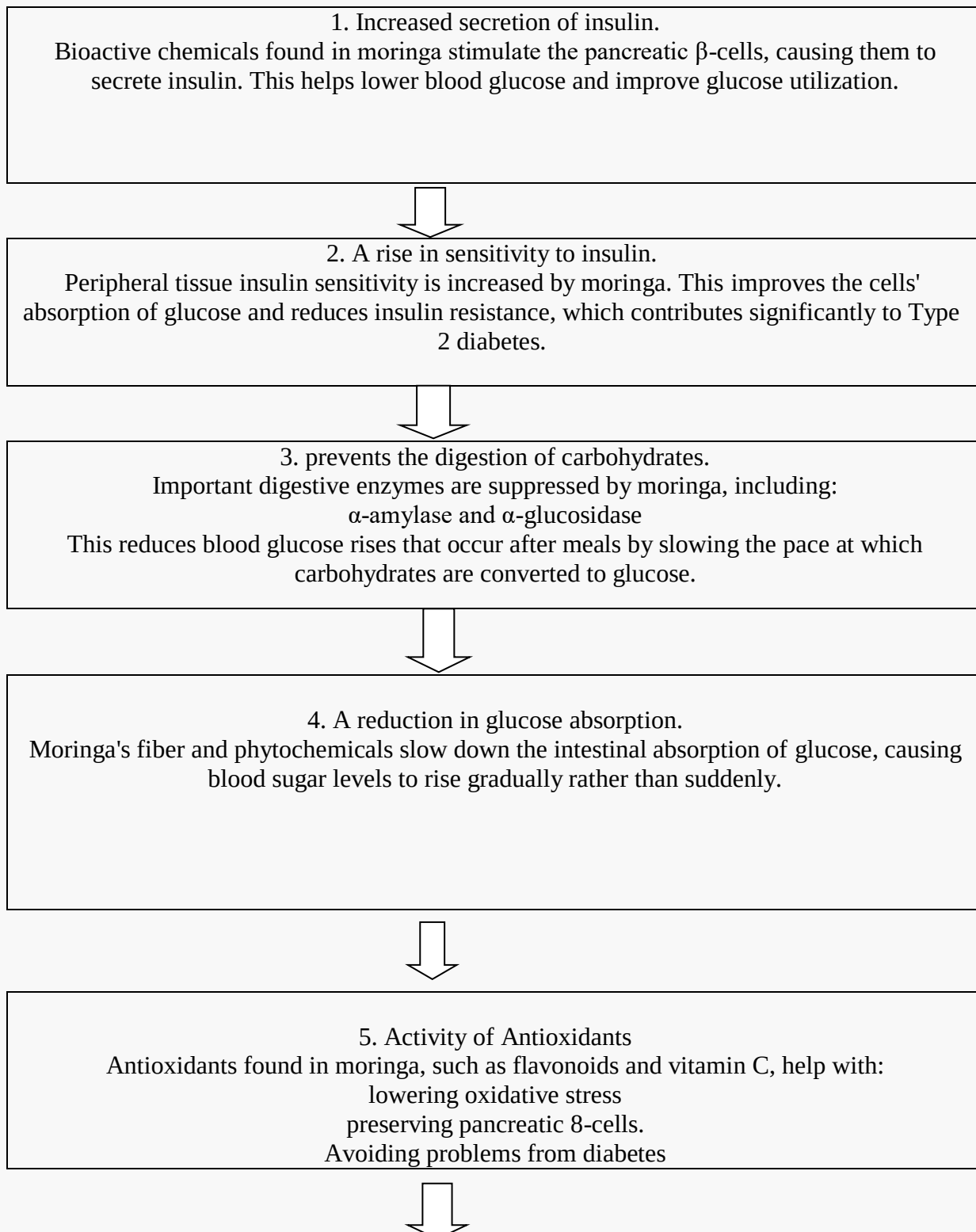
Moringa oleifera has been studied extensively for its ability to lower blood sugar level. The several herbal gummies formulation have been reported, but there are few studies that combine *Moringa oleifera* extract with monk fruit (*Siraitia grosvenorii*) as a natural zero calorie sweetener in a gummy formulation. The study looks at this combination to create sugar free, chewable product aim at people with diabetes who need better taste without using regular sugar.

Three formulations (F1, F2, F3) were created by changing the concentration of *moringa oleifera* extract while keeping other ingredients the same. The different formulations were compared based on there

physical and chemical properties ,drug content, moisture content,how quickly they dissolve and how they taste and stability to find the best option .

Using monk fruit extract serves two function : It adds sweetness and decrease the need for sugar which make the formulation more exceptable to diabetic patient. This study also shows the potential of mixing a medicinal plant with the natural calorie free sweetner in a gummy form that patient might find more acceptable and appealing.This research helps in creating plant based nutritional productthat could increase compialance over traditional herbal forms like powders,tablets and capsules.

MECHANISM OF ACTION OF MORINGA OLEIFERA IN DIABETES MANAGEMENT:



6. Hepatic Production of Glucose.

Moringa helps lower gluconeogenesis, or the liver's manufacture of glucose, which lowers blood glucose levels when fasting.

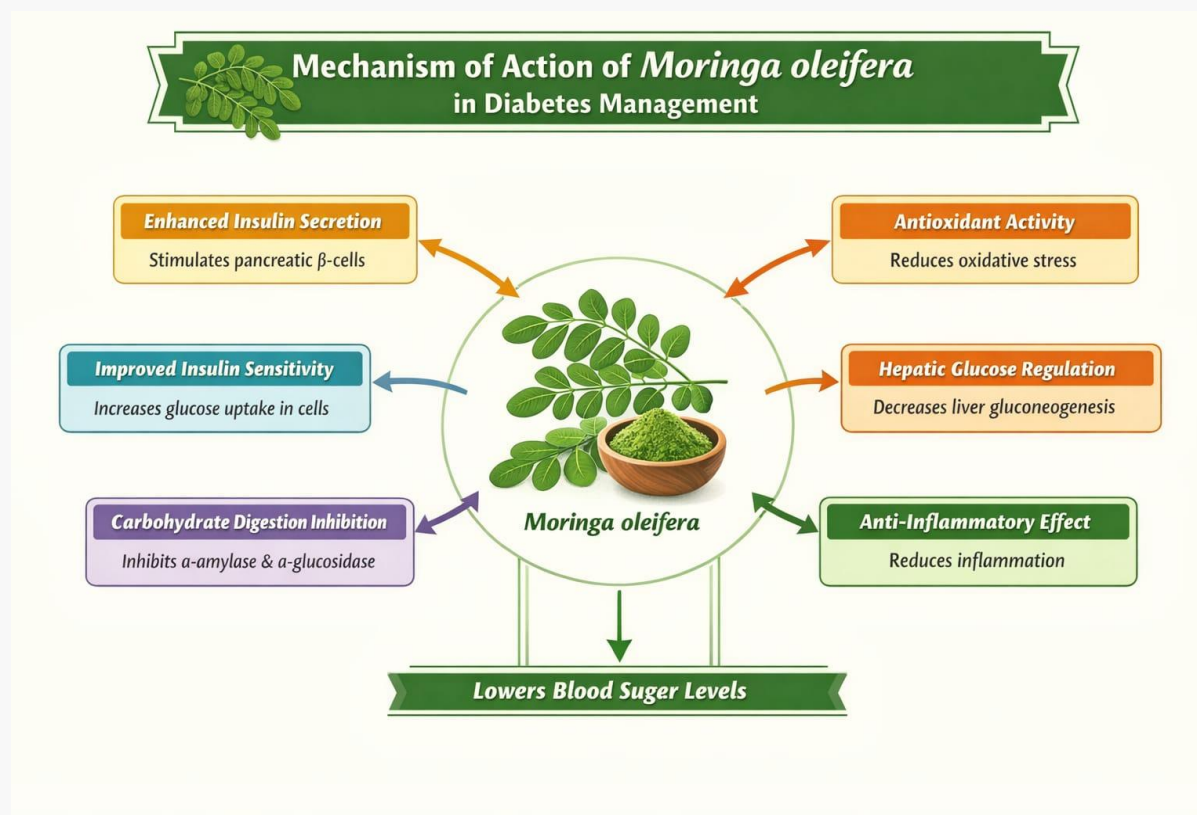


Fig: Mechanism Of Action Of Moringa Oleifera In Diabetes Management

ADVANTAGES OF ANTIDIABETIC GUMMIES:

1. Chewing and swallowing gummies is simple.
2. Ideal for individuals who have trouble swallowing pills or capsules.
3. The pleasant taste enhance frequent use.
4. More suitable for adult and senior patients.
5. Monk fruit naturally sweetens food without raising blood sugar levels.

LIMITATIONS OF ANTIDIABETIC GUMMIES.

1. Gummies are able to take moisture in air and become sticky or soft can deform.
2. Must be stored in an airtight container or deteriorate when exposed to air.
3. When exposed to heat, light, or humidity, herbal components might deteriorate over time.
4. Difficulties with Dose Uniformity
5. To get an equal amount in each gummy, the moringa extract has to be carefully blended.
6. Possible Microbial Growth in the event of inadequate preservatives or inadequate storage, microbial contamination can take place.
7. Temperature Sensitivity
8. Gummies can be softened or suffer deformation when subjected to elevated temperatures.
9. The quality of herbal raw materials can be different, based on the source and processing.
10. Taste Acceptance Could be different Some people might still detect slight herbal after taste.

NEED OF INVESTIGATION:**1. Diabetes is becoming more common.**

The number of diabetes cases worldwide is rising quickly.

a higher chance of problems.

2. The drawbacks of conventional therapy.

side effects of synthetic drugs.

costly and persistent reliance.

Inadequate patient compliance

3. Improved Patient Adherence

swallowing tablets or capsules with difficulty.

Herbal medications have a bad flavor.

4. A palatable dosage form is required.

want a chewable, delicious composition.

applicable to both elderly and pediatric patients.

5. Use monk fruit as a sweetener.

Natural sweetener without calories

has no influence on blood glucose level.

PLAN OF WORK:

- Literature Survey
- Selection Of Drug
- Preformulation Test
- Formulation Of Gummies
- Evaluation OF gummies
- Result
- Conclusion

LITERATURE SURVEY :**1.Karina C. Rani et al., 2022:-**

utilizing pectin and Na-alginate as carriers, moringa extract chewable gummy tablets were created. Physical characteristics like texture, chewability, swelling ratio, and stability were assessed at various gelling agent concentrations. Moringa may be successfully added to gummy dose forms, as demonstrated by the improved formulation's acceptable consistency, agreeable flavor, and high patient compliance.

2. Nabilaberty Prisma Gemilang et al., 2023:-

Kappa and Iota carrageenan are combined to create chewable gummy tablets containing Moringa oleifera leaf extract. The hardness, elasticity, and stability of various gelling agent ratios were investigated. The ideal gummy texture and storage stability were demonstrated by the improved recipe. .

4. Nabila Salwa et al., 2025:-

Described the creation of gummy candy enhanced with moringa and assessed its sensory qualities, iron content, and vitamin C levels. According to the study, adding moringa greatly increased nutritional content while preserving a palatable flavor and texture, which supports its usage in functional gummy goods.

5. Mohsineen Wazir et al., 2025:-

This formulation describe the use of monk fruit sweetener in diabetic-friendly food items as a natural,calorie-free sugar alternative. Monk fruit showed minimal glycemic impact, high sweetness intensity, and suitable for formulations with less calories.

6. Chen et al., 2024:-

Review on overview of monk fruit's active sweet components, mogrosides. The study emphasized monk fruit's safety profile, sweetness potency, antioxidant activity, and use in sugar-free and diabetic goods.

7. Patel et al., 2025:-

The formulation and evaluation of gelatin-based medicinal candies. Weight variation, pH, medication content, friability, and solubility were among the parameters that were assessed. Gummies are a practical and patient-friendly oral dose form, according to the study.

DRUG PROFILE:**MORINGA**

Fig:moringa leaves

Description:

Moringa oleifera (*Moringa*) commonly known as “drumstick tree” is a fast-growing tree. It is a medicinal plant which is widely used in traditional medicine due to its nutritional and pharmacological properties.

BiologicalSource:The drumstick is obtain from dried leaves of *Moringa oleifera* Lam.

Family:Moringaceae

Origin:India,Arabia,andtheEastindia.itsnowwidelycultivatedintropicalandsubtropicalregionsoftheworld.

ChemicalConstituent:Leaves:Rich in carotenoids (lutein, -carotene), and contain also other bioactive compounds: phenolic acids, tannins, saponins, phytol.

Seeds contain considerable amounts of high in oil (up to 76% oleic acid) as well as glucosinolates (niazimicin) and sothiocyanates.

Bark/Roots: Contains alkaloids like moringinine.

Rich in Protein (approx. 25%), essential amino acids and minerals such as Iron, Potassium and Zinc.

Medicinal Uses:

1. Nutritional Supplement: To combat malnutrition with high nutrient density, particularly in leaves.
2. Pharmacological: Indyo-Supreme Antioxidant and Anti-Inflammatory Properties: Helps to counteract oxidative stress and can modulate chronic diseases' pathways.
3. Hepatoprotective & Cardioprotective: Protects liver and heart tissues.
4. Antidiabetic & Antihypertensive: Good for blood sugar control and blood pressure.

MONKFRUIT:



Fig:monkfruitsweetener

Description: This sweetener extract is a 100% natural non-caloric sweetener made from *Siraitia grosvenorii* fruit (the Monk Fruit) and is used in a variety of applications. Monk fruit sweetness is appropriate for use in diabetic products because it has a zero glycemic index.

Biological Source: The monkfruit powder is obtained from dried fruit extract of *Siraitia grosvenorii*

Family: Cucurbitaceae

Origin: Native to southern China (Guangxi, Guizhou, southern Hunan, Guangdong, and Jiangxi).

Chemical Constituents: *P. emblica* contains a wide array of compounds, that together are the source of both the taste and healing properties of the fruit.

Mogrosides (Major Active Component): Mogrosides are cucurbitane-type triterpene glycosides (saponins). The total mogroside content is approximately 3.8% of the fruit.

Mogroside V: The most abundant mogroside accounting for up to 425 times the sweetness of sucrose.

Siamenoside Mogrosides are the sweetest of the mogrosides with 563 times sweetness equal to 5% sucrose solution.

Other compounds: Mogroside V, Mogroside VI, 11-oxomogroside V, Neomogroside

Medicinal and Therapeutic Uses

1. This is traditionally used to moisten the lungs, clear heat and relieve coughs, sore throats, and phlegm.
2. Health Benefits of Mogrosides for Diabetes and Blood Sugar Management - Mogrosides can help lower Fasting Blood Sugar and improve insulin sensitivity without increasing blood sugar.
3. Anti-obesity: Mogrol prevents differentiation of pre-adipocytes to adipocytes.

4. Antioxidant & Anti-inflammatory: Helps neutralize free radicals and decrease oxidative stress.
5. Anti-cancerous: Research has indicated that Curcuma may have an anti-carcinogenic effect on growth of certain types of tumour cells, specifically pancreatic and colorectal cancer cells.
6. Hepatoprotective: Protects the liver from damage.

GELATIN:

Description:

Collagen is partially hydrolyzed to produce gelatin, a protein-based gelling agent. It is frequently used to provide chewiness, flexibility, and structure to gummy compositions. It creates a thermoreversible gel in antidiabetic candies that ensures even dispersion of active components including monk fruit sweetener and moringa extract.

Family:

Protein (Biopolymer)

Biological Source:

The gelatine is derived from collagen obtained from animal tissues such as pig skin (porcine), bovine bones, and connective tissues.

Geographical Source:

Produced globally, with major manufacturing in the United States, Europe, China, and India, depending on raw material availability.

Chemical Composition:

Nature: A combination of collagen-derived proteins and peptide

Structure: mostly made up of amino acids that form a polypeptide chain, including glycine, proline, and hydroxyproline.

Properties: Odorless, yellowish to colorless solid; swells in cold water and dissolves in hot water; forms a gel upon cooling (thermoreversible); insoluble in cold water but soluble in hot water

CITRIC ACID:

Description:

Citric acid is a weak organic acid widely used in pharmaceutical and food formulations as an **acidulant, flavoring agent, and pH adjuster**. In antidiabetic gummies containing moringa and monk fruit, it enhances taste by imparting a pleasant sour flavor, improves stability by maintaining an acidic pH, and supports preservative action. It also contributes to overall product acceptability.

Family:

Organic acids (Tricarboxylic acid)

Biological Source:

Naturally present in citrus fruits such as lemons and oranges; commercially produced by fermentation using *Aspergillus niger*.

Geographical Source:

Produced globally, especially in countries like China, the United States, and India through industrial fermentation.

Chemical Composition:**Chemical Formula:** $C_6H_8O_7$ **Structure:** Contains three carboxylic acid groups ($-COOH$) and one hydroxyl group ($-OH$).**Properties:** White crystalline powder, highly soluble in water, sour taste, stable under normal conditions.**SODIUM BENZOATE:****Description:**

Sodium benzoate is a widely used **antimicrobial preservative** in pharmaceutical and food products. In antidiabetic gummies, it prevents the growth of bacteria, yeast, and fungi, thereby extending shelf life. It is most effective in acidic conditions, making it suitable for formulations containing citric acid.

Family:

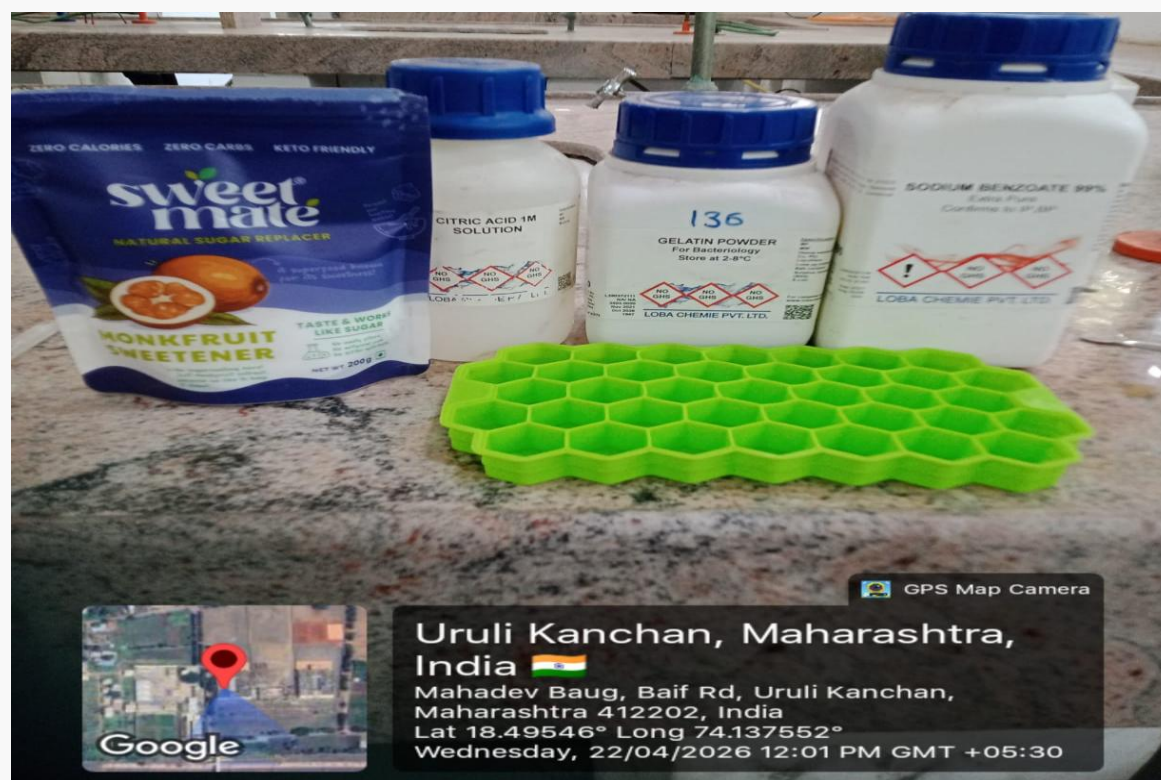
Benzoic acid derivatives (Preservatives)

Biological Source:

Synthetic; however, benzoic acid (its parent compound) occurs naturally in some fruits like berries.

Geographical Source:

Manufactured worldwide, including in the United States, Europe, India, and China.

Chemical Composition:**Chemical Formula:** $C_7H_5NaO_2$ **Structure:** Sodium salt of benzoic acid consisting of a benzene ring attached to a carboxylate group ($-COO^-Na^+$).**Properties:** White crystalline powder or granules, highly soluble in water, odorless or faint odor, more effective at $pH < 4.5$.**METHOD AND MATERIAL:**

PROCEDURE:**1. Herb Extraction :**

the moringa is extracted by maceration method. take 5gm moringa powder in that add 30ml water heat for 10 to 15 min filter it and take the extract o20ml of active ingredient moringa properly into gelatin mixture.



Fig: Herb Extraction

2. Preparation of Gelatin Base:

First Accurately weight the 5gm of gelatin using weighing balance Add measured 5gm of gelatin to clean beaker to that add 30ml of distilled water slowly. Allow the gelatin in water for 10–15 minutes till soak the water at room temperature Heat the swollen gelatin on a water bath (60–70°C) with continuous stirring Ensure it should not have lumps and should be clear, lump-free.

3. Drug incorporation:

Weight accurately 350gm of monk fruit powder and add slowly into the warm gelatin solution while stirring continuously.

4. Addition of excipients :

Add citric acid 2.5ml and sodium benzoate 1.5ml while Stirring properly. This solution helps in pH adjustment and preservation of gummies and also prevent microbial growth and After that add flavouring agent (Mango flavour) and water slowly to make total 100ml volume after that mix it properly to obtain a homogeneous gummy mass .

5. Heating and Removing Air Bubble:

Continue to heat gently (not exceeding temperature 70°C) Stir the mixture continuously to maintain uniform consistency And to avoid formation of air bubbles by taping the beaker gently.

6. Molding Of Gummies:

Then pour the prepared gummy mixture mass into pre-lubricated molds Fill molds uniformly to ensure dose accuracy.

7. Cooling and Solidification:

Then allow the molds to cool at room temperature for 30–60 minutes (or keep it in refrigerator Gummies get solidify into desired shape and texture.



Fig: solidification of gummies

8. Demolding And Drying:

First check the gummies carefully before removing gummies from molds And air-dry at room temperature for 12–24 hours This can improves the texture and stability of gummies.

9.Packaging and Storage :

Store gummies in airtight containers to avoid contamination Keep in a cool and dry place away from moisture Avoid direct sunlight.



Fig: Diabetic gummies

Table No. 1

FORMULATION TABLE:

Sr.No.	Ingredients	F1	F2	F3	Role
1	Moringa Oleiferaextract	15ml	20ml	25ml	Activeantidiabeticagent
2	Monkfruitpowder	300mg	350mg	400mg	Naturalsweetener
3	Gelatin	5000mg (5gm)	5000mg (5gm)	5000mg (5gm)	GellingAgent
4	Citricacid	2.5ml	2.5ml	2.5ml	PHmodifier
5	SodiumBenzoate	1.5ml	1.5ml	1.5ml	Preservative
6	Mango And raspberry	1ml	1ml	1ml	FlavouringAgent
7	Yellow colour	2drops	2drops	2drops	Enhance apperance
8	Distilled water	q.s to100ml	q.s to100ml	q.s to100ml	Vehicle

Table No. 2

LIST OF APPARATUS

Apparatus	Purpose
Beaker	Usedtoholdandmixliquids,solvents,andothercomponentsduringpreparation.
MeasuringCylinder	Measuresprecisevolumesofliquidslikepurifiedwater,citricacid.
WeighingBalance	Accuratelyweighssolidandsemisolidngredients(e.g.,gellingagents,preservatives).
GlassRod	Facilitatesmanualstirringandmixingofsmallquantitiesorviscousmaterials

Spatula	Spatula Used to transfer and mix solid ingredients like moringa powder, monk fruit powder or preservatives.
pH Meter	Measure the pH of the gummi solution to ensure compatibility
Thermometer	Monitor temperature during preparation and storage to ensure stability.
Water Bath	Provides controlled heating for swelling of gelling agents or dissolving components.
Airtight Containers	Store the final gummies product, protecting it from light, air, and contamination.
Gummy Molds (Silicone molds)	For shaping gummies the tray is used

Table No. 3

PRELIMINARY PHYTOCHEMICAL TEST FOR MORINGA EXTRACT

Class of Compound	Test Performed	Observation	Result	Pharmacological Relevance
Alkaloid	Dragendorff's reagent	Orange to reddish brown precipitate	present	Antidiabetic, antimicrobial, neuroprotective
Flavonoids	Shinoda test	Pink to red colour	Present	Antioxidant, anti-inflammatory, antidiabetic
Tannin	Ferric chloride test	Greenish black colour	present	Antioxidant
Glycosides	Keller–Killiani test	Brown ring at junction	present	Cardioprotective, antidiabetic potential
Protein	Biuret test	Violet colour	present	Nutritional value, tissue repair Carbohydrates
Saponin test	Froth test	Persist froth layer formation	Present	Hypoglycemic, immunomodulatory

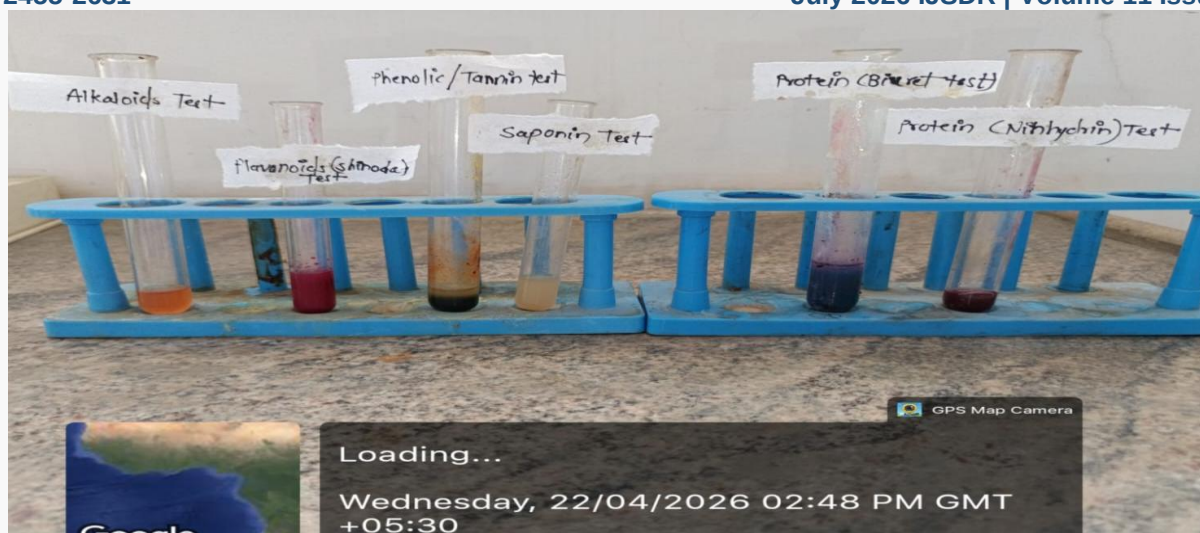


Fig: phytochemical tests

EVALUATION TESTS :

1. Physical Appearance

Purpose: Evaluate the color, shape, clarity, texture, and uniformity of gummies.

Procedure: Visual inspection of gummies in good light to have uniform color, smooth surface, no bubbles, sticky or crystallized.

2. Weight Variation

Purpose: Be sure of consistency of dosage form and size.

Procedure: Take 10 gummies randomly, weigh each, and average the weights. Compare weight of each gummy to the average weight and compare them.

3. pH Measurement

Purpose: Develop a stable, oral-consumable gummies.

Procedure: Add 1 g of gummy (n 10 mL) in distilled water and pH was measured with a calibrated pH meter (acceptable range 5.0-7.0)

4. Firmness Tester (texture)

Purpose: Assess chewiness of the gummies and consumer acceptability.

Procedure: Measure hardness with a texture analyzer such as the hardness tester or evaluate the firmness by hand through the application of force and measuring the deformation.

5. Moisture Content

Purpose: To identify the water content in gummies and whether it influences stability and shelf life.

Procedure: Dry a known mass of gummies in a hot air oven at 105deg C until a constant weight has been achieved and compute percentage moisture loss.

6. Friability Test

Purpose: To test the mechanical strength and breaking resistance.

Procedure: Rotate a gummies in a friabilator and determine the percentage weight loss after a set number of rotations.

7. Drug Content

Purpose: To make sure that the active phytoconstituents are uniformly distributed of moringa
Procedure: Crush gummies, dissolve in appropriate solvent (e.g., ethanol/water), filter, and measure key phytochemicals (using UV spectrophotometer) how much active components in gummies are available.

8. In Vitro Dissolution Study

Purpose: Determine active constituents release rate.

Procedure: USP Dissolution Apparatus Type I (Paddle) at 37 ± 0.5 C and with appropriate dissolution medium. Take samples at intervals and examine using spectrophotometrically.

9. Disintegration Time

Purpose: To identify how long it takes the gummies to decompose.

Procedure: Put gummies in distilled water in 37 ± 0.5 C and time when they fully break up.

10. Taste and Palatability

Purpose: Sweetness, flavor, and general acceptability.

Procedure: Sensory testing of Parameters:

Sweetness, Aftertaste, Mouthfeels

11. Stickiness Test

Purpose: To assess the handling and packaging appropriateness.

Procedure: Gummies should be kept at a high temperature.

Observe surface for stickiness or deformation

Table No. 4

RESULT AND DISCUSSION:

Evaluation Parameter	Batch No	Observation
Physical Observation	F1	Gives least yellow colour have herbal bitter taste
	F2	These shows Moderate yellow Mild herbal odor with pleasant mango aroma
	F3	Shows Dark yellow and have bitter taste
Weight Variation	F1	3.06g shows uniform weight
	F2	3.18g shows uniform weight
	F3	3.30g shows uniform weight
pH Measurment	F1	4.17
	F2	4.06
	F3	3.95
Taste And Palatability	F1	Mild sweetness, slight herbal aftertaste
	F2	Pleasant taste, best masking
	F3	Slight bitterness
Drug Content Test :	F1	95.5%
	F2	98.2%
	F3	96.6%
Hardness	F1	Soft
	F2	Moderate firmness, chewy
	F3	Firm
InVitro Dissolution Test	F1	84.5%
	F2	92.8%
	F3	88.3%
Friability Test	F1	0.87%
	F2	0.578%
	F3	0.72%

Moisture Content	F1	13.1%
	F2	11.6%
	F3	12.3%

Stability Study (20 Days at Room Temperature)	F1	Slight softening
	F2	Stable, no change
	F3	Slight firmness increase

CONCLUSION:

As a novel oral herbal dosage form for managing diabetes, the antidiabetic gummy formulations of (F1, F2, and F3) made using Moringa oleifera extract and monk fruit sweetener shown encouraging results. Physical examination made sure that every formulation had the proper chewable texture, was attractive, well-shaped, and smooth on the surface. It also made sure that the flavors of the mango and monk fruit could balance out the inherent bitterness of the herbs. Each formulation's pH was found to stay within the ideal acidic range for gum texture. There is good dosage homogeneity across all batches, according to the weight variation research.

Analysis of taste and texture showed that F2 was the most palatable and chewable. All batches displayed good consistency, according to the drug content study, with F2 having the greatest drug content (98.2%), demonstrating the successful incorporation and distribution of moringa powder. All of the formulations demonstrated good mechanical strength and break resistance during handling, with friability values less than 1%. Stability tests at room temperature shown that all formulations maintained their physical, color, odor, and texture throughout the research period. The moisture content test indicated that F2 (11.6%) had the proper moisture level. However, since no alterations were seen, F2 was the most stable batch. based on the most promising formulation and optimized overall assessment criteria. Thus, the present study shows that moringa powder antidiabetic gummies with monk fruit sweetener provide patients convenient, sugar-free, herbal, and traditional antidiabetic dose forms.

EXPECTED OUTCOME:

The goal of this study is to effectively create a herbal gummy formulation with monk fruit as a natural sugar-free sweetener and moringa as the active component. It is expected that the gummies would have acceptable physicochemical properties, including consistent weight, a smooth appearance, a pleasant flavor, a soft chewable texture, and good stability over time. Because moringa powder contains nutrients, vitamins, and minerals, it is predicted to have antidiabetic, antioxidant, and beneficial effects. Monk fruit has a zero glycemic index and is effective at maintaining blood glucose levels without increasing glycemic load. The prepared gummies are also expected to show uniform of weight, exceptable Ph , good moisture balance and firmness overall study is expected to provide patient friendly herbal dosage form with natural sugar which is safer alternative for the diabetic patient who is having sweetness craving. The formulation serve promising nutraceutical supplement for diabetes patient.

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