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A Research on Formulation and evaluation of herabal tablet of giloy effective management of Jaundice using tinospora cordifolia.

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Abstract: *Giloy, or Tinospora cordifolia, is a significant medicinal plant that is frequently used in Ayurveda to treat a variety of illnesses. Its hepatoprotective, antioxidant, anti-inflammatory, immunomodulatory, and antibacterial qualities are widely recognized. It is particularly helpful in the supportive treatment of jaundice, a disorder linked to liver malfunction and elevated bilirubin levels, due to its hepatoprotective impact. Giloy is regarded as a promising herbal medication for pharmaceutical formulations due to its therapeutic efficacy and natural nature.*

The present study was aimed to formulate and evaluate a herbal tablet of Tinospora cordifolia (Giloy) for the effective management of jaundice. In this study, the aqueous extract of Tinospora cordifolia stem was prepared by decoction method using distilled water. The stem material was properly cleaned, dried, powdered, and boiled in distilled water for extraction of active constituents. The obtained extract was then filtered, concentrated, and dried to obtain a suitable extract for tablet formulation.

Herbal tablets were made using the dried extract and the wet granulation process. To guarantee appropriate granule formation and tablet quality, suitable pharmaceutical excipients were added, including lactose as diluent, polyvinyl pyrrolidone (PVP) as binder, sodium starch glycolate as disintegrant, talc as glidant, and magnesium stearate as lubricant. Using conventional pharmaceutical methods, the granules were dried and compacted into tablets.

Several pre-compression and post-compression characteristics were used to assess the manufactured formulation. Angle of repose and bulk density were used in pre-compression investigations to ascertain granule flow characteristics. The quality, stability, and performance of tablets were evaluated post-compression using weight variation, hardness, friability, thickness, and disintegration time. Within standard bounds, the produced herbal tablets displayed acceptable tablet characteristics and satisfactory physicochemical qualities.

Important phytoconstituents like alkaloids, flavonoids, glycosides, tannins, phenolic compounds, proteins, amino acids, and carbohydrates were found in the aqueous extract, according to preliminary phytochemical screening. According to reports, these bioactive components have hepatoprotective and antioxidant properties that may help shield liver cells from harm and promote healthy liver function. The formulation may be helpful in the supportive care of jaundice based on phytochemical screening, antioxidant potential, and hepatoprotective investigations supported by literature.

Keywords: Tinospora cordifolia, Giloy, Herbal Tablet, Jaundice, Hepatoprotective Activity, Aqueous Extract, Wet Granulation, Phytochemical Screening, Antioxidant Activity, Liver Protection, Herbal Formulation, Ayurvedic Medicine, Alkaloids, Flavonoids, Glycosides, Tannins, Phenolic Compounds,

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Immunomodulatory Activity, Antibacterial Activity, Tablet Evaluation, Pharmaceutical Excipients.

I. INTRODUCTION

Tinospora cordifolia, commonly known as Giloy or Guduchi, is a well-known medicinal plant widely used in Ayurveda and other traditional systems of medicine. It belongs to the family Menispermaceae and is recognized for its various therapeutic properties, including antipyretic, anti-inflammatory, antioxidant, immunomodulatory, antidiabetic, and hepatoprotective activities. Due to these medicinal properties, Giloy has gained significant importance in herbal drug formulation and pharmaceutical research.

Because they offer precise dosing, simple administration, increased patient compliance, a longer shelf life, and easy transportation, herbal tablets are regarded as one of the most practical and reliable dosage forms. Giloy extract is used in the formulation of herbal tablets to assist deliver the active phytoconstituents in a consistent and efficient way. Due to their medicinal advantages and relatively lower side effects than synthetic medications, the demand for herbal and plant-based medicines has grown in recent years.

In order to effectively treat ailments like fever, diabetes, immunological diseases, and general weakness, the current study focuses on the development and assessment of herbal tablets containing Tinospora cordifolia extract. To obtain the required hardness, friability, disintegration time, and drug release characteristics, the tablets are made using the appropriate pharmaceutical excipients, such as binders, diluents, lubricants, and disintegrants.

To ensure the quality, safety, and effectiveness of the prepared tablets, evaluation is a crucial stage. Pharmacopoeial standards are followed for a number of pre-compression and post-compression parameters, including angle of repose, bulk density, tapped density, hardness, thickness, friability, weight fluctuation, disintegration time, and dissolving tests.

Thus, employing Giloy to formulate herbal tablets is a potential method for creating herbal medicines that are safe, efficient, and affordable for use in therapeutic settings.

Figure 1: ***Tinosporaccordifolia***

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II. REVIEW OF LITERATURE

- **According to (WHO, 2021**), jaundice is a clinical condition characterized by yellow discoloration of the skin and eyes due to elevated bilirubin levels in the blood. Liver dysfunction, hepatitis, alcohol consumption, and bile duct obstruction are common causes of jaundice.
- **According to (Sharma et al., 2018**), liver diseases remain a major global health problem and herbal medicines are widely used for supportive liver protection because of their safety and therapeutic value.
- **According to (Kumar & Singh, 2016),**Tinospora cordifolia is an important medicinal plant commonly known as Giloy and belongs to the family Menispermaceae. The plant is widely used in Ayurveda for the treatment of fever, jaundice, diabetes, and liver disorders.
- **According to (Patel et al., 2017),** the stem of Tinospora cordifolia contains several phytoconstituents such as alkaloids, glycosides, flavonoids, diterpenoid lactones, steroids, and phenolic compounds which contribute to its medicinal properties.
- **According to (Gupta et al., 2019),** flavonoids and phenolic compounds present in Giloy exhibit strong antioxidant activity and help in reducing oxidative stress in liver tissues.
- **According to (Verma et al., 2015),** the hepatoprotective activity of Tinospora cordifolia was evaluated in experimental animal models and the study showed significant protection against chemically induced liver damage.
- **According to (Joshi et al., 2020),** aqueous extract of Giloy demonstrated improvement in liver enzyme levels and bilirubin concentration, indicating its beneficial role in supportive management of jaundice.
- **According to (Singh & Rao, 2014),** herbal formulations prepared from Tinospora cordifolia are considered safer and produce fewer side effects compared to synthetic drugs used for long-term liver disorders.
- **According to (Meena et al., 2018),**Giloy possesses immunomodulatory and anti-inflammatory properties which help in improving overall liver function and body immunity.
- **According to (Pandey et al., 2016),** phytochemical screening of Tinospora cordifolia confirmed the presence of alkaloids, tannins, saponins, terpenoids, and glycosides responsible for various pharmacological activities.
- **According to (Khandelwal et al., 2017),** wet granulation method is one of the most suitable techniques for the preparation of herbal tablets because it improves flow property, compressibility, and uniformity of granules.
- **According to (Rathore et al., 2019)**, excipients such as lactose, starch, magnesium stearate, and talc are commonly used in herbal tablet formulation to improve tablet stability and compression characteristics.
- **According to (Agarwal et al., 2021),** evaluation parameters like hardness, friability, disintegration time, and weight variation are essential for determining the quality and stability of herbal tablet formulations.
- **According to (Tripathi et al., 2020),** herbal tablets prepared from medicinal plant extracts showed acceptable physicochemical properties and satisfactory drug release profile during dissolution studies.
- **According to (Chaudhary et al., 2022),**Tinospora cordifolia has significant potential for development into herbal hepatoprotective formulations for supportive treatment of jaundice and liver disorders.

III. PLANT PROFILE

Introduction

One of the most significant medicinal plants utilized in the old Indian medical system, particularly Ayurveda, is Tinospora cordifolia, sometimes referred to as Giloy or Guduchi. It is widely distributed throughout India's tropical regions and is a member of the Menispermaceae family. The plant is well-known for its exceptional medicinal qualities, which include hepatoprotective, immunomodulatory, antipyretic, anti-inflammatory, and antioxidant effects. Due to it's medicinal importance Nearly every part of the plant, including the stem, roots, and leaves, is employed in herbal compositions because of its therapeutic value. Alkaloids, glycosides, diterpenoid lactones, steroids, and flavonoids are among the active phytoconstituents found in the stem of Giloy that contribute to its pharmacological effects. Giloy's revitalizing and disease-preventing qualities make it "Amrita," or nectar of immortality, according to Ayurveda. These

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days, this plant is widely used in the pharmaceutical and medicinal sectors to make pills, syrups, powders, and herbal supplements.

Figure2:*Tinospora cordifolia*

Synonyms :

1. Guduchi
2. Amrita
3. Giloy
4. Chinnaruha
5. Heart-leaved Moonseed
6. Tinosporamalabarica

Himachal Pradesh, Uttar Pradesh, Madhya Pradesh, Maharashtra, and South India are among the tropical and subtropical areas of India where Tinospora cordifolia is frequently found. Although several species of Tinospora are used medicinally, Tinospora cordifolia is thought to be the most significant species.

Vernacular Names:

Language	**Name**
Hindi	Giloy
Sanskrit	Guduchi, Amrita
English	Heart-leaved Moonseed
Punjabi	Gilo
Tamil	Shindilkodi
Telugu	Tippa Teega
Marathi	Gulvel

Taxonomical Classification:

Kingdom	*Plantae*
Sub kingdom	*Tracheobionta*
Super division	*Spermatophyta*
Division	*Magnoliophyta*
Class	*Magnoliopsida*
Order	*Ranunculales*
Family	*Menispermaceae*
Genus	*Tinospora*
Species	*Tinospora cordifolia*

Table 1: *Taxonomical classification.*

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Morphological Characters:

Habbit	Large climbing shrub(perennial climber)succulent and extensively spreading
Root	Aerial roots and long thread-like roots arising from nodes
Stem	Green to greyish-green, fleshy, cylindrical, with warty surface and longitudinal lenticels
Leaves	Simple, alternate, heart-shaped (cordate), long petioled, smooth surface with reticulate venation
Flower	Small, yellowish-green, unisexual flowers arranged in clusters
Cylax	Small, sepals in two whorls, greenish
Fruit	Red to orange drupe, fleshy, pea-sized
Seed	Curved, hard, endospermic
Colour	Leaves: green; Flowers: yellowish-green
Odor	Characteristic, faint or odorless

Table 2: *Morphological Classification.*

Botanical Description of Tinospora cordifolia:

The huge deciduous climbing shrub Tinospora cordifolia has long aerial roots that resemble threads that emerge from its branches. The stem is cylindrical, succulent, green, and covered in warts. The bark of mature stems has lenticels and ranges from pale grey to creamy white. The leaves have long petioles and are simple, alternating, widely oval or heart-shaped. The tiny, unisexual flowers have a yellowish-green hue. Female flowers are often solitary, but male blooms are found in bunches. Fruits are tiny, meaty drupes with curving seeds that turn crimson or orange when ripe. While fruits mature in the winter, flowers often appear in the summer.

Geographical Distribution:

In India's tropical and subtropical climates, Tinospora cordifolia is widely dispersed. From the Himalayan region to South India, it is frequently found in bushes, hedges, and forests. States like Himachal Pradesh, Uttar Pradesh, Madhya Pradesh, Maharashtra, Gujarat, Assam, and Tamil Nadu have large populations of the plant. It can also be found in China, Myanmar, and Sri Lanka. The plant thrives in warm climes and can withstand a variety of climatic circumstances, particularly in dry and deciduous woodlands.

Therapeutic Uses:

Ayurveda and traditional medicine make considerable use of Tinospora cordifolia to treat a wide range of illnesses. The leaves, roots, and stem all have important therapeutic qualities.

Medicinal Uses:

- Used as an immunity booster
- Helpful in fever and chronic infections
- Used in diabetes management
- Effective in arthritis and rheumatism
- Useful in skin diseases and allergies
- Helps in digestive disorders and indigestion
- Possesses anti-inflammatory and antioxidant properties
- Used in liver disorders and jaundice
- Beneficial in respiratory disorders such as asthma and cough
- Used in urinary disorders and general weakness

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Because of its immunomodulatory and adaptogenic properties, the plant is also regarded in Ayurveda as a revitalizing tonic. For medicinal uses, giloy formulations are frequently made as tablets, syrups, powders, and decoctions.

Pharmacological Properties:

Tinospora cordifolia, commonly known as Giloy,Tinospora cordifolia, is a significant medicinal herb that is frequently utilized in the Ayurvedic medical system. Because it contains active phytoconstituents such alkaloids, flavonoids, glycosides, diterpenoid lactones, and steroids, it has a number of pharmacological characteristics. These components support its medicinal potential for the treatment of liver conditions, such as jaundice.

1. **Hepatoprotective Activity**

Giloy shielding liver cells from harmful chemicals and oxidative damage, giloy has strong hepatoprotective action. It promotes the regeneration of injured hepatic tissue and aids in preserving normal liver function. Because of this characteristic, it can help with liver conditions including jaundice.

2. **Antioxidant Activity**

Natural antioxidants found in the plant aid in scavenging free radicals and lowering oxidative stress in the body. Antioxidant activity is crucial for protecting liver cells and enhancing liver function in general.

3. **Anti-inflammatory Activity**

The anti-inflammatory qualities of Tinospora cordifolia aid in lowering inflammation in the tissues of the liver. This exercise enhances physiological functioning and aids in the healing of liver damage.

4. **Immunomodulatory Activity**

Giloy boosting immune cells and strengthening defenses against infections, giloy strengthens the body's immunological response. This characteristic helps promote better health maintenance and a quicker recovery

5. **Antipyretic Activity**

Traditionally, the plant has been used to lower fever. During infections and inflammatory circumstances, its antipyretic activity aids in regulating body temperature.

6. **Antimicrobial Activity**

Giloy exhibits antibacterial properties against specific microbes. This characteristic may aid in preventing infections linked to impaired liver function and decreased immunity.

7. **Detoxifying Property**

Tinospora cordifolia promotes detoxification processes, particularly in the liver, and aids in the removal of toxins from the body. Hepatic and metabolic function are enhanced as a result

IV. AIM AND OBJECTIVE:

AIM:

To Formulation and evaluation of herabal tablet of giloy effective management of jaundice using tinospora cordifolia.

Objectives:

- To manufacture and standardize Tinosporacordifolia's aqueous extract.
- To create a stable herbal tablet with the suitable excipients.
- To maximize the formulation's binder and disintegrant concentrations.
- To assess the tablets' pre- and post-compression characteristics.
- To test Tinospora cordifolia extract for phytochemicals.
- To evaluate the herbal pills' hepatoprotective properties for the supportive treatment of jaundice.
- To investigate the prepared herbal tablet formulation's stability.

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Plan of Work:

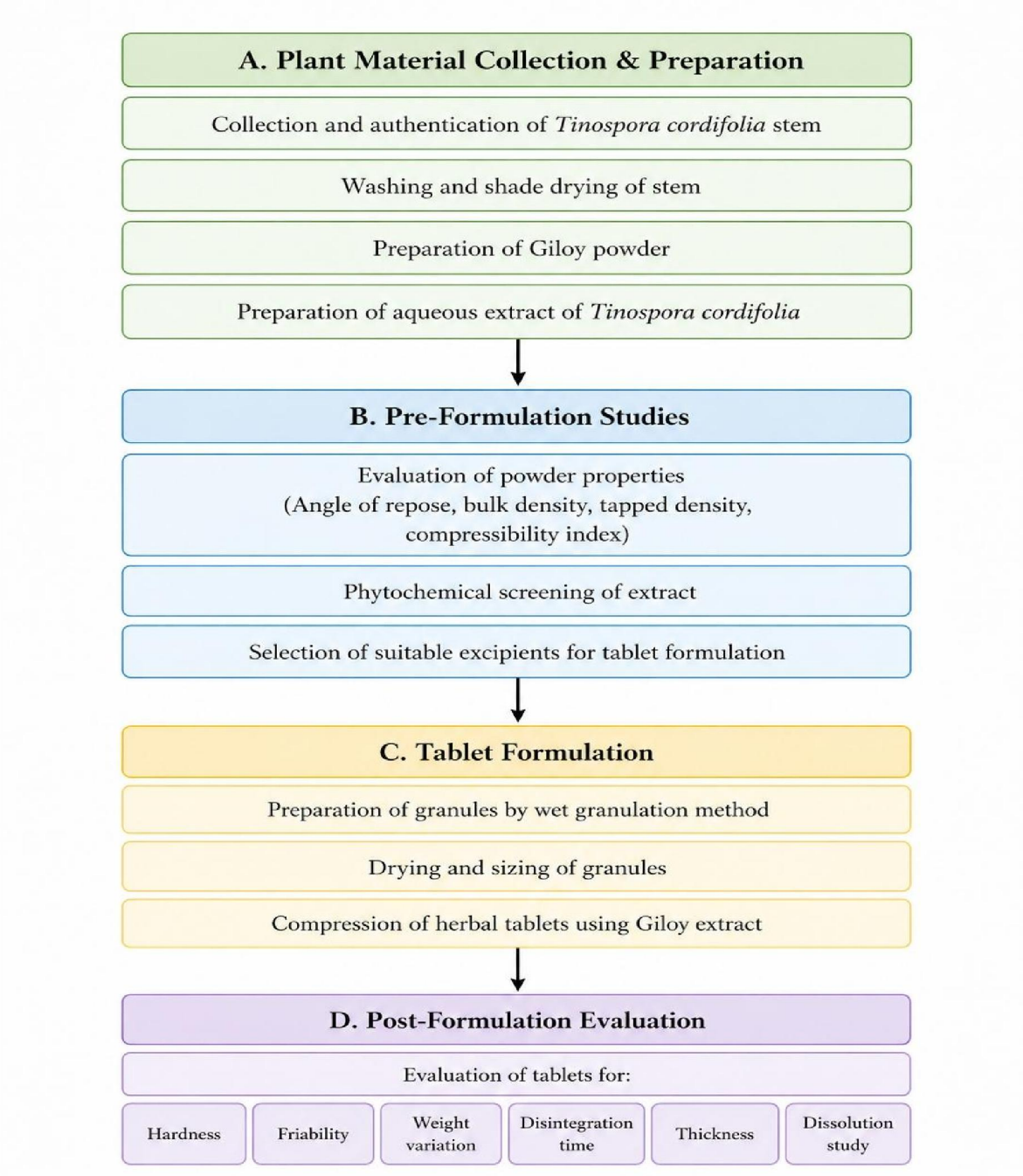

Figure 3: *Plan of work.*

V. MATERIAL AND METHODOLOGY:

Collection:

Fresh stem of Tinospora Cordifolia were collected from Bilaspur, Himachal pradesh, India on 3/March/2026.

Drying:

The gathered stems were cleaned with water and allowed to dry in the shade at room temperature until they reached a consistent weight.

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Size Reduction:

The dried plant material was reduced to a coarse form using manual mortar pestle.[23]

Figure 4: *Size Reduction.*

Method of Extraction:

1. The dried powder of Tinospora cordifolia stem was accurately weighed and transferred into a clean conical flask.
2. About 70% ethanol was added as extraction solvent.
3. The ratio of plant material to solvent was maintained at 1:10.

Figure 5: *Extraction Process.*

4. The flask was tightly closed and kept at room temperature for 48–72 hours for maceration.
5. The mixture was shaken occasionally to improve the extraction of phytoconstituents.
6. After completion of extraction, the mixture was filtered using Whatman filter paper to separate the marc from the filtrate.

Figure 6: *Filtration Process.*

The filtrate was concentrated using a water bath at 40–50°C until a thick semisolid extract was obtained.

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The concentrated extract was dried and stored in an airtight container for further formulation of herbal tablets for supportive management of Jaundice.

Figure 7: *Obtained Extract.*

VI. PHYTOCHEMICAL STUDIES:

Tinospora cordifolia contains numerous physiologically active phytoconstituents, including alkaloids, flavonoids, glycosides, saponins, tannins, phenolic compounds, terpenoids, carbohydrates, and proteins, are found in Tinospora cordifolia. Important pharmacological actions, including as hepatoprotective, antioxidant, anti-inflammatory, and immunomodulatory properties, are caused by these natural components. The therapeutic usefulness of Tinospora cordifolia in herbal formulations used for supportive management of jaundice is supported by the presence of these compounds.

S. No.	Phytoconstituent	Test performed	Result
1	Carbohydrates	Molisch's Test	+
2	Amino Acids	Ninhydrin Test	+
3	Proteins	Biuret Test	+
4	Steroids	Salkowski Test	+
5	Flavanoids	Shinoda Test	+
6	Glycosides	Foam Test	+
7	Phenolics&Tannins	Ferric chloride Test	+
8	Alkaloids	Mayer's Test	+

Table 3: Phytochemical screening

Phytochemical Studies

1. Carbohydrates (Molisch's Test)

For the detection of carbohydrates, 2 mL of aqueous extract of Tinospora cordifolia stem was taken in a test tube and 2–3 drops of Molisch's reagent were added. Concentrated sulfuric acid was then added carefully along the side of the test tube. Formation of a violet ring at the junction confirmed the presence of carbohydrates.

2. Amino Acids (Ninhydrin Test)

For amino acid detection, 2 mL of extract was treated with a few drops of Ninhydrin reagent and heated gently for 1–2 minutes. Development of purple or blue color indicated the presence of amino acids.

3. Proteins (Biuret Test)

To detect proteins, 2 mL of extract was mixed with sodium hydroxide solution followed by a few drops of copper sulfate solution. Appearance of violet color confirmed the presence of proteins.

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4. Steroids (Salkowski Test)

For steroid detection, 2 mL of extract was mixed with chloroform and concentrated sulfuric acid was added carefully along the side of the test tube. Formation of a reddish-brown ring at the interface indicated the presence of steroids.

5. Flavonoids (Shined Test)

For flavonoid detection, 2 mL of extract was treated with magnesium turnings followed by 2–3 drops of concentrated hydrochloric acid. Appearance of pink to reddish color confirmed the presence of flavonoids.

6. Glycosides (Foam Test)

For glycoside detection, 2 mL of extract was mixed with 5 mL of distilled water and shaken vigorously for one minute. Persistent foam formation indicated the presence of glycosides.

7. Phenolics and Tannins (Ferric Chloride Test)

To detect phenolic compounds and tannins, 2 mL of extract was treated with a few drops of ferric chloride solution. Development of green to bluish-black color confirmed their presence.

8. Alkaloids (Mayer's Test)

For alkaloid detection, 2 mL of extract was mixed with a few drops of Mayer's reagent. Formation of cream or yellow colored precipitate indicated the presence of alkaloids.

VII. PREPARATION OF GILOY HERBAL TABLETS:

Ingredients and Quantity:

Sr. No.	***Ingredient***	***Quantity***
	Tinospora cordifolia extract	400mg
	Lactose	50mg
	PVP K30	25mg
	Croscarmellose Sodium	10mg
	Starch	20mg
	Magnesium sterate	5mg
	Talc	5mg
	Distilled water	q.s.10-15ml

Procedure:

Steps in Tablet Formulation:

1. To achieve equal particle size, the dried extract of Tinospora cordifolia and lactose were separately sieved after being precisely weighed. The extract was triturated with lactose to create a dry combination because of its hygroscopic nature.
2. To make a translucent starch paste that was used as a granulating binder, starch was precisely weighed and combined with the necessary amount of distilled water.
3. To create a wet coherent mass, the produced starch paste was completely combined with the Tinospora cordifolia extract and croscarmellose sodium.
4. To prepare granules, the wet bulk was run through sieve number 10. The produced granules were dried at 40–45°C in a hot air oven until they were completely dry.
5. The granules were run through screen number 22 after drying.
6. The dried granules were then mixed uniformly with talc and magnesium stearate.

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7. Finally, the granules were compressed into round-shaped tablets using a single punch tablet compression machine.

Figure 8:Tablets

VIII. EVALUATION PARAMETER:

Pre-compression Parameter:

Parameter	Result	Interpretation
Angle of repose	27.8°	Good flow property
Bulk density	0.43gm/cm³	Acceptable
Tapped density	0.49gm/cm³	Accaptable
Carr's index	12.2%	Good compressibility

Table3: *pre-compression parameter.*

Post compression parameter:

a) Physical Appearance

Color: Greenish brown
Odor: Characteristic herbal odor
Taste: Slightly bitter
Shape: Round biconvex uncoated tablets
Surface Texture: Smooth and uniform

b) Weight Variation

Herbal tablets weighed an average of 495 mg. Within pharmacopoeial bounds, the tablets' weight variance was permitted.

c) Friability

The friability of the tablets was found to be 0.58%, indicating good mechanical strength and resistance to breakage during handling and transportation.

d) Hardness

The hardness of the tablets was found to be 4.2 kg/cm², showing adequate strength for uncoated herbal tablets.

e) Disintegration Time

The disintegration time of the tablets was found to be 11.40 minutes, which indicates proper breakdown of tablets for drug release.

f) Thickness

The average thickness of the tablets was found to be 4.1 mm, indicating uniform compression of tablets.

IX. CONCLUSION:

The present research work successfully focused on the formulation and evaluation of uncoated herbal tablets containing Tinospora cordifolia (Giloy) extract for the supportive management of jaundice. The aqueous extract of Giloy was prepared and evaluated for its suitability in tablet formulation. Pre-formulation studies showed satisfactory flow properties and compressibility of the powder blend, indicating its suitability for wet granulation method.

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The formulated tablets exhibited acceptable post-compression parameters such as hardness, friability, weight variation, thickness, and disintegration time within permissible limits. Phytochemical screening confirmed the presence of important bioactive constituents such as alkaloids, glycosides, flavonoids, tannins, and saponins, which are responsible for the hepatoprotective and antioxidant activities of Tinospora cordifolia.

The study concluded that the prepared herbal tablets were stable, uniform, and pharmaceutically acceptable. Therefore, Tinospora cordifolia herbal tablets may serve as a promising natural formulation for supportive liver care and management of jaundice with minimal side effects.

REFERENCES

1. World Health Organization. WHO global report on traditional and complementary medicine. Who.int. 2021.
2. Anonymous. The Ayurvedic Pharmacopoeia of India. Part I, Vol. I. Government of India, Ministry of AYUSH; 2019.
3. Kokate CK, Purohit AP, Gokhale SB. Pharmacognosy. 56th ed. Pune: Nirali Prakashan; 2021.
4. Khandelwal KR. Practical Pharmacognosy: Techniques and Experiments. 25th ed. Pune: Nirali Prakashan; 2017.
5. Trease GE, Evans WC. Trease and Evans Pharmacognosy. 16th ed. Elsevier; 2009.
6. Harborne JB. Phytochemical Methods: A Guide to Modern Techniques of Plant Analysis. 3rd ed. Springer Nature; 1998.
7. Wagner H, Bladt S. Plant Drug Analysis. 2nd ed. Springer Nature; 2009.
8. Indian Pharmacopoeia Commission. Indian Pharmacopoeia. Ipc.gov.in.2022.
9. National Medicinal Plants Board. Nmpb.nic.in.
10. Ministry of AYUSH. Medicinal plants database. Ayush.gov.in.
11. Singh SS, Pandey SC, Srivastava S, Gupta VS, Patro B, Ghosh AC. Chemistry and medicinal properties of Tinospora cordifolia. Indian Journal of Pharmacology. 2003;35(2):83–91.
12. Upadhyay AK, Kumar K, Kumar A, Mishra HS. Tinospora cordifolia: pharmacological review. Journal of Ethnopharmacology. 2010;128(3):495–505.
13. Saha S, Ghosh S. Tinospora cordifolia: one plant, many roles. Ancient Science of Life. 2012;31(4):151–159.
14. Sharma U, Bala M, Kumar N. Immunomodulatory active compounds from Tinospora cordifolia. Journal of Ethnopharmacology. 2012;141(3):918–926.
15. Tiwari P, Kumar B, Kaur M. Phytochemical screening and extraction methods. International Pharmaceutica Sciencia. 2011;1(1):98–106.
16. Yadav NP, Dixit VK. Hepatoprotective medicinal plants: a review. Pharmacognosy Reviews. 2008;2(3):123–128.
17. Kapoor LD. Handbook of Ayurvedic Medicinal Plants. CRC Press; 2001.
18. Nadkarni KM. Indian Materia Medica. Popular Prakashan; 2007.
19. Chatterjee A, Pakrashi SC. The Treatise on Indian Medicinal Plants. New Delhi; 1997.
20. Sharma PV. Dravyaguna Vijnana. Chaukhambha Bharati Academy; 2003.
21. Anonymous. Quality Standards of Indian Medicinal Plants. ICMR; 2005.
22. Gupta AK, Tandon N. Medicinal Plants of India. Indian Council of Medical Research.
23. Kirtikar KR, Basu BD. Indian Medicinal Plants. International Book Distributors.
24. Patel DK, Patel K, Dhanabal SP. Phytochemical standardization of Tinospora cordifolia. International Journal of Pharmaceutical Sciences Review and Research. 2012;13(2):45–49.
25. Sharma V, Pandey D. Protective role of medicinal plants in liver disorders. Asian Journal of Pharmaceutical and Clinical Research. 2010;3(2):15–20.
26. Bhalerao SA, Sharma AS. Antioxidant potential of Tinospora cordifolia. Pharmacognosy Journal. 2014;6(5):18–22.

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27. Kaur G, Meena C. Herbal medicines for jaundice management. International Journal of Research in Ayurveda and Pharmacy. 2015;6(4):447–452.
28. Jain S, Kaur H. Standardization of herbal dosage forms. International Journal of Pharmacy and Pharmaceutical Sciences. 2016;8(9):12–19.
29. Lachman L, Lieberman HA, Kanig JL. The Theory and Practice of Industrial Pharmacy. CBS Publishers.
30. Aulton ME. Aulton's Pharmaceutics: The Design and Manufacture of Medicines. Elsevier.
31. Banker GS, Anderson NR. Tablets. In: The Theory and Practice of Industrial Pharmacy.
32. Ansel HC. Pharmaceutical Dosage Forms and Drug Delivery Systems.
33. Tripathi KD. Essentials of Medical Pharmacology. 8th ed. Jaypee Brothers Medical Publishers.
34. Indian Council of Medical Research. Medicinal plant monographs.
35. Ayurvedic Formulary of India. Government of India.
36. Meena AK, Rao MM. Pharmacognostic evaluation of Tinospora cordifolia. Journal of Pharmacognosy and Phytochemistry. 2013;2(3):45–49.
37. Kumar N, Singh S. Review on pharmacognostic and phytochemical profile of Giloy. Journal of Medicinal Plants Studies. 2016;4(5):120–124.
38. Verma S, Chaudhary P. Hepatoprotective activity of Tinospora cordifolia stem extract. Pharmacognosy Research. 2015;7(2):150–156.
39. Joshi R, Thakur V. Evaluation of aqueous extract of Giloy in liver disorders. International Journal of Pharmaceutical Research. 2020;12(3):541–547.
40. Rawat AKS. Medicinal Plants and Herbal Drug Industry. CSIR Publications; 2017.
41. Bhattacharya SK, Satyan KS. Experimental evaluation of Tinospora cordifolia for immunomodulatory activity. Journal of Ethnopharmacology. 1997;57(1):13–20.
42. Rege NN, Dahanukar SA, Karandikar SM. Immunotherapeutic modification by Tinospora cordifolia. Indian Journal of Pharmacology. 1993;25:141–143.
43. Prince PSM, Menon VP. Antioxidant action of Tinospora cordifolia in experimental animals. Phytotherapy Research. 2001;15(3):213–218.
44. Mathew S, Kuttan G. Antioxidant and free radical scavenging activity of Tinospora cordifolia. Fitoterapia. 1999;70(1):35–43.
45. Nayampalli SS, Ainapure SS, Samant BD. Hepatoprotective activity of Tinospora cordifolia. Indian Drugs. 1988;25(10):539–542.
46. World Health Organization. Quality Control Methods for Herbal Materials. Geneva: WHO; 2011.
47. United States Pharmacopeia. USP-NF General Chapters on Tablet Evaluation. Rockville, MD: USP Convention; 2023.
48. British Pharmacopoeia Commission. British Pharmacopoeia. London: The Stationery Office; 2023.
49. Jain NK. Pharmaceutical Product Development. CBS Publishers & Distributors; 2018.
50. Allen LV. Remington: The Science and Practice of Pharmacy. 23rd ed. Pharmaceutical Press; 2020.
51. Mukherjee PK. Quality Control and Evaluation of Herbal Drugs. Business Horizons Pharmaceutical Publishers; 2019.
52. OECD. Guidelines for Stability Testing of Pharmaceutical Products. Paris: OECD Publications; 2021.
53. ICH Harmonised Guideline Q1A(R2). Stability Testing of New Drug Substances and Products. Geneva: International Council for Harmonisation; 2003.