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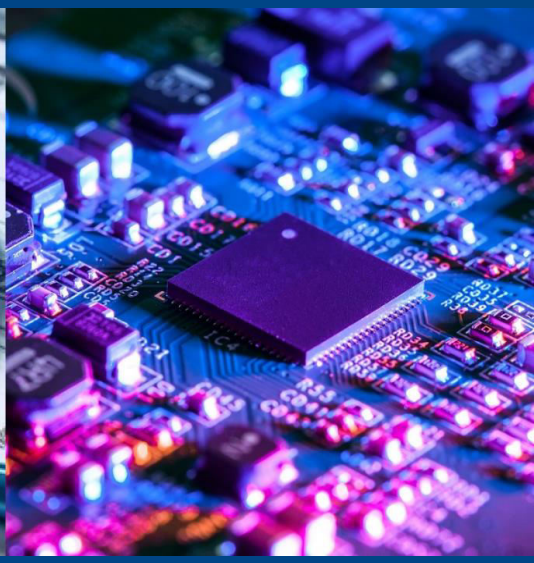

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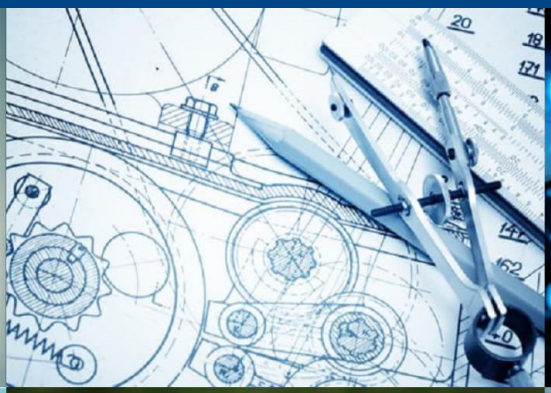

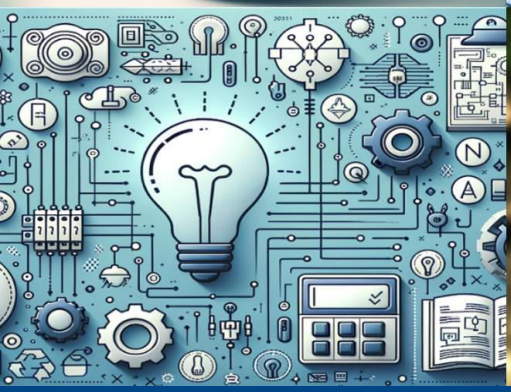

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Formulation and Evaluation of Polyherbal Powder for the Management of Obesity

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ABSTRACT: The polyherbal powder was prepared using standard procedures and evaluated for various parameters including physical characteristics, organoleptic properties, particle size, bulk density, and flow properties. Additionally, the formulation was assessed for its potential anti-obesity activity based on its known pharmacological effects such as fat metabolism enhancement and appetite suppression.

The results indicated that the prepared formulation possesses good physicochemical properties and may be effective in managing obesity. Being herbal in nature, it is expected to have fewer side effects compared to synthetic drugs. Thus, the polyherbal powder can be considered a safe and effective alternative for obesity management.

KEYWORDS: Polyherbal powder, Obesity management, Herbal formulation, Triphala, Ginger, Vidanga, Gurmar, Guduchi, Anti-obesity activity, Physicochemical evaluation, Natural medicine, Weight management

I. INTRODUCTION

Obesity is a growing global health problem characterized by excessive accumulation of body fat that may impair health. It is commonly caused by an imbalance between energy intake and energy expenditure, along with factors such as sedentary lifestyle, genetic predisposition, and unhealthy dietary habits. Obesity is closely associated with several chronic conditions, including type 2 diabetes, hypertension, cardiovascular diseases, and metabolic disorders, making its management a major public health concern.

In recent years, there has been increasing interest in the use of herbal medicines for the management of obesity due to their safety, effectiveness, and minimal side effects. Polyherbal formulations, which combine multiple medicinal plants, are considered more beneficial as they provide a synergistic effect and enhance therapeutic efficacy. Various herbs like Triphala, Ginger, Vidanga, Gurmar, and Guduchi have been traditionally used for their properties such as improving metabolism, reducing fat accumulation, detoxification, and appetite control .

II. MATERIAL & METHOD

The present study was carried out to formulate and evaluate a polyherbal powder for the management of obesity. The selected herbal ingredients, namely Triphala, Ginger (Zingiber officinale), Vidanga (Embelia ribes), Gurmar (Gymnema sylvestre), and Guduchi (Tinospora cordifolia), were procured from a reliable local supplier and authenticated based on standard pharmacognostic characteristics. All raw materials were cleaned, shade-dried to remove moisture content, and then powdered separately using a mechanical grinder. The powders were passed through a suitable sieve to obtain uniform particle size and were stored in airtight containers until further use. The individual powdered drugs were then weighed accurately and mixed in appropriate proportions to prepare the polyherbal formulation.

III. METHOD OF PREPARATION

1.All crude drugs such as Triphala, Vidanga, Gurmar, Ginger and Guduchi are collected and cleaned properly to remove dust and impurities.
2.The plant materials are dried under shade to remove moisture.
3.After drying, all drugs are ground separately with the help of a grinder to obtain fine powder.
4.The powders are passed through a sieve to get uniform particle size.
5.Required quantities of each powder are weighed accurately.
6.All the weighed powders are mixed thoroughly in a mortar and pestle to obtain a uniform polyherbal powder mixture.

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7.The prepared polyherbal powder is stored in an airtight container and kept in a cool and dry place

S No	Formulation	Triphala	Ginger	Vidanga	Gurmar	Guduchi
1	F1	10gm	10gm	10gm	10gm	10gm
2	F2	15gm	10gm	7gm	10gm	8gm
3	F3	10gm	12gm	10gm	10gm	8gm

Evaluation Parameters

Angle of Repose

S No	Formulation	Angle of Repose
1	F1	31 °
2	F2	34°
3	F3	35.5°

Bulk Density

S No	Formulation	Bulk Density
1	F1	0.33gm
2	F2	0.33gm
3	F3	0.41gm

Tapped Density

S No	Formulation	Tapped Density
1	F1	0.4gm
2	F2	0.4gm
3	F3	0.5gm

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Ash value

S No	Formulation	Ash value
1	F1	15 %
2	F2	13%
3	F3	17%

Moisture content

S No	Formulation	Moisture content
1	F1	12%
2	F2	9%
3	F3	7%

PH Determination

S No	Formulation	PH value
1	F1	Slightly acidic
2	F2	Slightly acidic
3	F3	Slightly acidic

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Solubility

S No	Formulation	Soluble
1	F1	Partially soluble
2	F2	Partially soluble
3	F3	Partially soluble

Organolepic Properties

S No	Formulation	Colour	Odoure	Tast
1	F1	Light brown	Characteristic aromatic	Bitter & Slightly pungent
2	F2	Brownish	Characteristic herbal	Bitter
3	F3	Brown to dark brown	Strong herbal	Bitter

IV. RESULT AND DISCUSSION

The formulated polyherbal powder was evaluated using various physicochemical and organoleptic parameters to ensure its quality, effectiveness, and stability. The results obtained from the evaluation studies indicated that the formulation met acceptable standards. The organoleptic properties such as color, odor, and taste were found to be satisfactory. The powder exhibited a characteristic herbal odor, brownish color, and slightly bitter taste, which confirms the presence of herbal constituents like Triphala, Ginger, Vidanga, Gurmar, and Guduchi. The physicochemical parameters including bulk density, tapped density, angle of repose, and Carr's index showed good flow properties of the powder, indicating ease of handling, packaging, and uniform dosing. The moisture content was found to be within permissible limits, which ensures stability and prevents microbial growth.

V. CONCLUSION

The present study successfully focused on the formulation and evaluation of a polyherbal powder intended for the management of obesity. The selected herbal ingredients, including Triphala, Ginger, Vidanga, Gurmar, and Guduchi, are well-known for their therapeutic benefits in weight management and metabolic regulation. The formulation process was carried out using suitable methods to ensure uniform mixing and consistency of the powder. All evaluation parameters such as organoleptic properties, physicochemical characteristics, and flow properties were found to be within acceptable limits, indicating good quality and stability of the prepared formulation.

Based on the results obtained, it can be concluded that the developed polyherbal powder is safe, effective, and suitable for use as a natural remedy for obesity management. The synergistic effect of the herbal components may help in

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improving metabolism, reducing fat accumulation, and promoting overall health with minimal side effects. Therefore, this formulation holds significant potential as an alternative to synthetic drugs, and further clinical studies can be conducted to establish its efficacy on a larger scale.

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