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Design and evaluation of herbal tablet formulation (HTF) of leaves of *Carica papaya linn*, *Moringa oleifera linn* and fruit of *Carrissa carandus lam*

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ABSTRACT

The objective of the research paper to design and development of herbal tablet formulation (HTF) of leaves of *Carica Papaya Linn* (LCPL) *& Moringao leiferaLinn* (LMOL) and fruit part of *Carrissa CarandusLam* (FCCL).Powdered leaves of *Carica Papaya Linn & Moringao leifera Linn* and fruit part of *Carrissa Carandus Lam* was macerated in 80% hydro-ethanolic solution for 72 hours .To identify the active constituents, phyto-chemical screening was performed. The extracts were evaluated for the flavonoid and phenolic content by qualitative and quantitative measurement. The Leaves of LCPL& *LMOL* and fruit of FCCL was extracted by maceration process. Preliminary phytochemical screening was performed. The LCPL showed the presence of flavonoids, phenol, proteins, glycosides, and alkaloids. The LMOL has shown the presence of phenolic compounds, flavonoids, carbohydrates, proteins, amino acids, terpenoids and tannins. The FCCL has shown the presence of phenolic compounds, flavonoids, carbohydrates, terpenoids, glycosides, alkaloids and tannins. Total flavonoid content and phenolic content was present as gallic acid and Iso-quercetin respectively. The herbal tablet formulation was prepared by wet granulation method utilizing the different proportion of the plant extract. The evaluation of Herbal tablet formulation stated that HTF-3 formulation has shown the best result in pre-compression and post-compression parameters. The hydro ethanolic extract of LCPL, LMOL and FCCL show the presence of different flavonoid and phenolic content i.e., Iso-quercetin, gallic acid. The Three different batches of HTF were prepared and result data indicates that developed formulation has been approved, suitable for oral administration and pharmacological evaluation.

Keywords: Herbal tablet, *Carica Papaya* Linn, *Moringa oleifera* Linn, *Carrissa Carandus* Lam, Gallic acid, Iso-quercetin.

INTRODUCTION

The medicinal plant plays a key role in the human health care. About 80 % of the world population relies on the use of traditional medicine which is predominantly based on plant materials [1]. Traditional medicine is an all-encompassing term that refers to a wide range of natural healthcare philosophies, including Ayurveda, Siddha, and Unani, as well as folk and tribal practices. These traditional medicinal practices have been in use since ancient times and have relied primarily on practical experience rather than drawing parallels to contemporary scientific theories [2].

According to estimates, approximately 7,500 plants are used in local traditional health practices in rural and tribal villages of India. However, the medicinal value of over 4,000 of these plants is either little known or unknown to mainstream populations. The classical systems of medicine such as Ayurveda, Siddha, Unani, and Tibetan use about 1,200 plants. Plant-based therapeutics for liver diseases have been used in India for a long time and have been popularized worldwide by leading pharmaceuticals. Despite their popularity, several plant medicines in general and for liver diseases in particular are still unacceptable treatment modalities for liver disease.[3].

The usage of many herbs in a tablet is known as herbal tablet formulation (HTF). The idea that different herbs may be utilized in a certain ratio to treat illness is prevalent in ancient medicinal systems like ayurveda and others. Numerous disorders, including diabetes, are treated

with it in these systems [4]. Regarding the Ayurvedic literature, it is true that the Sarangdhar Samhita, written in 1300 AD, has brought attention to the idea of poly-herbalism in this old-fashioned medical system. Plant combinations and mixed extracts are preferred over single ones in the ancient Indian medical system1. It is also well known that ayurvedic herbs are prepared in a variety of dosage forms, the majority of which are herbal formulations. Because of their synergistic effects, polyherbal preparations offer several advantages that are not present in single herbal preparations [5].

The administration of drug by oral route is the important route for systemic delivery. It is probable that at least 90% drugs were delivered by oral route to produce systemic effects. Compressed tablet is generally used pharmaceutical dosage forms having patient compliance, portable, and economically inexpensive than other oral dosage forms. They deliver a precise dose with a high degree of accuracy. Tablets can be produced in a wide range of sizes and forms, only being constrained by the creativity of the tool and die manufacturer. These shapes include round, oval, capsule-shaped, square, and triangular.

Compressed tablets are defined as solid-unit dosage forms made by compression the drug with excipients, selected to aid in the processing and properties of the drug product. Various forms of tablets designed for specific uses or functions. These include tablets to be swallowed, per se; chewable tablets formulated to be chewed rather than swallowed, such as some antacid and vitamin tablets; buccal tablets designed to dissolve slowly in the buccal pouch; and sublingual tablets for rapid dissolution under the tongue. Effervescent caused by the interaction of citric acid with sodium bicarbonate or some other effervescent combination that produces effervescence in water. Suppositories can be made by compression of formulation using a specially designed die to produce the proper shape [6].

The enormous number of unique chemical components present in the various medicinal plants makes the production of a stable polyherbal formulation a difficult challenge. Since the quality of the bulk of them is still unregulated, the overall herbal medication or herbal drug preparation is considered to be an active drug substance, even if its ingredients lack established therapeutic activity. A great deal of research has been carried out to evaluate scientific basis for the claimed hepato protective activity of herbal agents as in the form of polyherbal formulation

Three plants utilized on the basis of their active constituents. The hydro alcoholic extract of plant was contain Gallic and Iso-quercetin well known for its hepato protective effects in both acute chemically induced liver injury and chronic liver fibrosis and cirrhosis. The herbal tablet formulation was prepared by the extraction of three plants i.e., leaves of *Carica Papaya Linn & Moringa oleifera Linn* and fruit part of *Carrissa Carandus Lam.*

The aim of this study is to develop herbal tablet formulations using Ayurvedic principles where the herbal components present in plants are known to cure and treat medical conditions.

MATERIALS AND METHODS

Plant material collection and authentication

The Leaves of *Carica Papaya* (CP) *Linn, Leaves of Moringa oleifera* (MO) *Linn* and fruit of *CarrissaCarandus* (CC) *Lam* was collected in summer season from Bhopal, Madhya Pradesh, India. The specimens were submitted and identified as *Leaves of Carica Papaya Linn, Leaves of Moringa oleifera Linn*, fruit of *Carrissa Carandus Lam* and authenticated by Dr. Ziaul Hassan, Department of Botany, Saifia Science college, Bhopal. The Voucher Specimen number is Bot/saifia/2023/231, Bot/saifia/2023/232, and Bot/saifia/2023/ 233 simultaneously for *Leaves of Carica Papaya Linn*, *Leaves of Moringa oleifera Linn*, fruit of *Carrissa Carandus Lam* and sample has been preserved for future identification. The samples were shade dried so as to protect its chemical constituents not to get degrade at high temp.

Extraction by maceration process

The leaves of *CaricaPapaya* were washed under a continuous stream of tap water for 5 min. and then dried aerobically. Dried powder (25 gm) used and it dissolved in 250 ml of 75% ethanol and left for 72 hours. The suspension was filtered with filter paper through a Whatman No. 41, The filtrate was concentrated in a rotary evaporator at 45°C under reduced pressure. The procedure adopted as reported by the Al-Seadi HL*et al.*, 2021with modification [7]. The leaves of *Moringa Oleifera Linn* were collected from mature plants and dried with warm air at 40°C for two days. Extraction of bioactive compounds from dried leaves was carried out using extraction method. 25 g of grounded plant material was dissolved with ethanol (80% v/v) for 72 hours at ambient temperature with intermittent shaking to obtain the extract. The drying of extract containing solvent was done by rota-vacuum evaporator. The material was stored in the dark at 4°C for further analysis. The procedure adopted as reported by the Lin X*et al.*, 2020 with some modification [8]. The fruit of *CarrissaCarandus Lam* were cleaned, cut in small flesh pieces and dried at and under 40-45°C. Dried flesh were grinded and grounded powder (25 g) was extracted with 95% ethanol by maceration (72 hours.) and three-time repeated in same solvent. Solvent was removed from extract by rotary evaporator and powder sample was stored in an airtight container in refrigerator for further experimental studies. The procedure adopted as reported by the Singh S *et al.*, 2022 with some modification [9].

Qualitative analysis

Dried extracts were taken for the chemical test for detection of the phyto constituents like alkaloids, flavonoid, tannins, sterols, phenolic compounds, terpenoids, carbohydrates etc. In order to detect the various constituents, present in the different extracts of LCPL, LMOL and FCCL. Those were subjected for identification and chemical test.

Quantitative phytochemical Analysis

Determination of total phenolic content

The content of total phenolic compounds was determined using Folin-Ciocalteu procedure (Vongsak B et al., 2013)[10]. Each sample (1000g/ml), 20 ml was mixed with 50 ml of the Folin-Ciocalteu reagent (diluted 1:10 with deionized water) and 80 ml of sodium bicarbonate solution (7.5%, w/v). The mixture was allowed to stand at room temperature for 30 min with intermittent shaking. A standard gallic acid curve was constructed by preparing the dilutions of (5, 10, 15, 20, 25, 30, 35, 40, 45 and 50 µg/ml) in ethanol from standard solution of gallic acid. The absorbance was measured at 765 nm using a UV–Visible (UV–VIS) spectrophotometer (PerkinElmer, USA). The content of total phenolic compounds was calculated as mean ± SD (n = 3) and expressed as grams of gallic acid equivalents (GAE) in 100 g of the extract and dried powder. All experimental measurements were carried out in duplicate and are expressed as average of two analyses. The magnitude of correlation between variables was done using a Microsoft excel.

Determination of Total Flavonoid Content (TFC)

Iso-Quercetin was used as standard and flavonoid content was determined as Iso-quercetin equivalent. Total flavonoids were analysed using aluminium chloride colorimetric method (Pothitiratet al., 2009)[11]. Sample (1000 g/mL) of 50 ml was mixed with 50 ml of 2% aluminium chloride solution. A calibration curve for Iso-quercetin was drawn for this purpose. From the standard quercetin solution, the dilutions of (10, 20, 30, 40, 50, 60 and 70µg/ml) concentrations were prepared in ethanol. The mixture was allowed to stand at room temperature for 10 min with intermittent shaking. The absorbance of the mixture was measured at 415 nm against a blank sample without aluminum chloride using UV–VIS spectrophotometer. The content of total flavonoids was calculated as mean ± SD (n = 3) and expressed as grams of Iso-quercetin equivalents (IQE) in 100 g of the extract dried powder**.** The same procedure was repeated with the extracts and total flavonoid content was calculated as Iso-quercetin equivalents (mgIQE/g).

Formulation development and evaluation of herbal tablet formulation (HTF)

Preparation of herbal tablet of plant extracts

The three plants extract was characterized for the active constituents and phytochemical screening. The extract of the plant utilized for formulation development of herbal tablets. Herbal tablet formulations (HTF) contain the crude extract of Leaves of Carica Papaya Linn, Leaves of Moringa oleifera Linn and fruit of Carrissa Carandus Lam and was prepared by wet granulation method[12] using suitable excipients i.e., microcrystalline cellulose, starch, Cros-povidone, aerosol, vanillin and magnesium stearate.

Evaluation of Formulation

Evaluation Parameters of Granules (Pre-compression evaluation parameters)

The Herbal tablet formulation was evaluated for the Pre-compression evaluation parameters i.e., Angle of Repose, Bulk Density, Tapped Density, Carr's Index (Percent Compressibility), Hausner's Ratio.

Evaluation Parameters of tablets (Post compression evaluation parameters)

The Herbal tablet formulation was evaluated for the Pre-compression evaluation parameters Organoleptic properties, Weight variation, Hardness, Friability test, Disintegration test and stability study.

RESULTS AND DISCUSSION

Phytochemical screening

Preliminary phytochemical screening was performed for each hydroethanolic extract of leaves of CaricaPapayaLinn (LCPL), leavesof Moringa oleifera Linn (LMOL) and fruit of CarrissaCarandus Lam (FCCL). The LCPL showed the presence of flavonoids, phenolic compounds, carbohydrates, proteins, amino acid, glycosides, and alkaloids. The LMOL has shown the presence of phenolic compounds, flavonoids, carbohydrates, proteins, amino acids, terpenoids, glycosides, alkaloids and tannins. The FCCL has shown the presence of phenolic compounds, Flavonoids, carbohydrates, proteins, amino acids, terpenoids, glycosides, alkaloids and tannins.

Quantitative analysis

Determination of Total Phenolic Content (TPC)

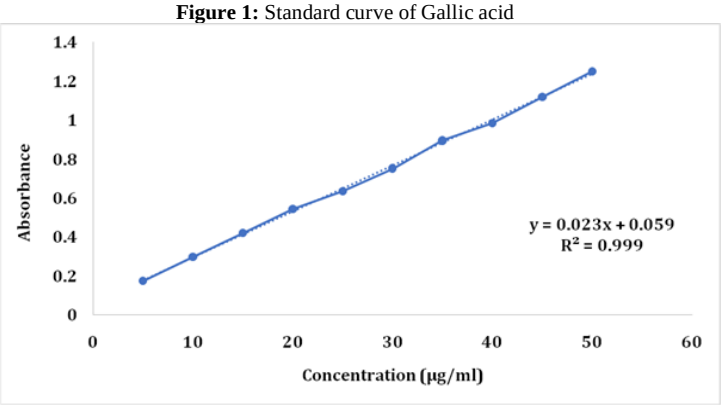
The concentration of total phenols in various plant extracts was determined using spectrophotometric method with Folin-Ciocalteu reagent. The content of total phenols was expressed in terms of gallic acid equivalent (the standard curve equation ($y = 0.0236x + 0.0597$; $R^2 = 0.999$), mgGAE/g of extract. The λ_{max} for the determination is 380 nm. The total phenolic compound determined by the following formula using equation:

Total phenolic compounds = cV/M ……..(1)

Where c= Concentration of extract (mg/ml); V= Volume of extract taken (ml); M= Mass ofextract in 100 gm. Different concentrations (50, 100 and 150µg/ml) have been taken to calculate the total phenolic content in different extracts obtained from three plant individually. The volume of the extract was utilized is 5 ml.

The amounts of the compounds were assayed from the calibration curves of gallic acid ($y= 0.0236x + 0.0597$; $R^2 = 0.999$) and Iso-Quercetin ($y = 0.0089x - 0.0049$; $R^2 = 0.9988$).

Figure 1: Standard curve of Gallic acid



The hydro-ethanolic extract of LCPL has shown highest amount of total phenolic content (49.64 mgGAE/g) as compared to LMOL (45.48 mgGAE/g) and FCCL (41.58 mgGAE/g).Concentration dependent total phenolic content variation was found by the spectroscopic method and total phenolic content was increased with increase in concentration of extracts. The total phenolic content was significantly more in the hydro-ethanolic extract of LCPL as compared to LCPL and LMOL. Figure 1 shows the standard Gallic acid curve and regression equation used for the calculation of total phenolic content of the extract.

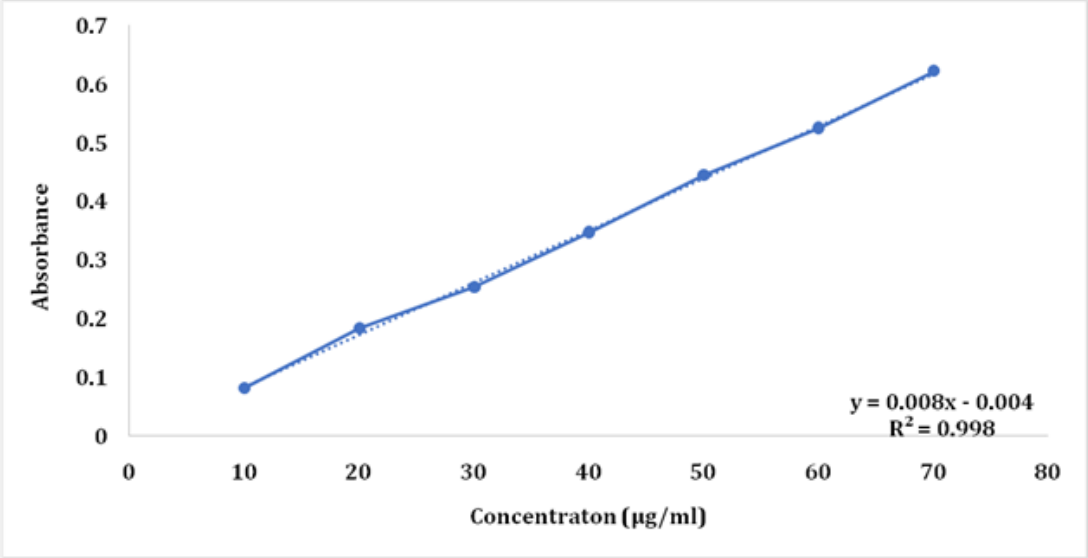
Determination of Total Flavonoid Content

The concentration of flavonoids in various plant extracts was determined using UV/ visible spectrophotometric method with aluminum chloride. The 5 mg extract of different plant parts used for the total flavonoid content. The Total flavonoid content Iso-quercetin equivalents (mgIQE/g; mg/g) can be calculated using following equation:

C=X*V/N…… (2)

Where: V=volume of extract taken in mL: N=weight of plant extract in g, X is the concentration of Standard from calibration curve. The content of flavonoids was expressed in terms of Iso-quercetin equivalent (mgIQE/g) (the standard curve equation: y = 0.0089x - 0.0049; R^2 = 0.9988), mg of QE/g of extract.

Figure 2: Standard Curve of Iso-quercetin



The hydroethanolic extract Leaves of *CaricaPapayaLinn* (LCPL), Leavesof *Moringa oleifera Linn* (LMOL) and Fruit of *CarrissaCarandus Lam* (FCCL) has shown highest amount of total flavonoid content (mgQE/g) as compared to others. The flavonoid content of different concentrations (50, 100 and 150 µg/ml) have been taken to calculate the total flavonoid content in different extracts obtained from different plant. Figure 2 shows the standard Iso-quercetin curve and regression equation used for the calculation of total flavonoid content of the extract. Concentration dependent flavonoid content variation has validated the analytical methodology e.g., UV/Visible spectroscopy. The total flavonoid content was more in the hydroethanolic extract (FCCL; 37.50 mgQE/g) when compared to other concentrations (LMOL 32.11 and LCPL 24.73 mgQE/g).

Total Phenolic and Flavonoid Content of C. carandas Extracts

The yields of C. Carandas fruit extracts have found to be 22.50%. Hydro-ethanolic extracts was obtained as solid powder. The extract of C. Carandas fruit part had a dark brown color. Hydro-ethanolic extracts showed the significantly highest yields. Hydro-ethanolic extracts yielded the significantly highest phenolic and flavonoid content was due to its hydro philicity. Ethanol was used in the present study and suggested that it is safe and low cost. Additionally, ethanol has been reported to extract more flavonoids comparing to methanol and acetone. The fruit part of C. Carandas extract has quantify as 41.58 mg gallic acid/gm and 37.50 mg Iso-quercetin/gm. The other constituents present are lupeol, β-sitosterol, 16 β-hydroxybetulinic acid, α-amyrin, carisone, carindone, stigmasterol, carinol, carissin, linalool, β-caryophyllene, carissol. Among ethanolic extracts from C. carandas fruit parts triterpenoid, phenolics, and flavonoids were also detected, especially vanillic acid in fruit parts.

In the hydro-ethanolic *Carica Papaya* content of polyphenolic compounds and phenolic acids obtained by extraction method. The extraction produced the highest extract yield, total phenolic and flavonoid contents (49.64 mg GAE/g and 24.73 mg QE/g respectively). The most abundant phenolic acid extracted was gallic acid, caffeic acid. The most abundant flavonoid was rutin and Iso-Quercetin. In addition, high contents of catechin, naringenin, chlorogenic and syringic acids also identified. The phenolic and flavanoid content obtained by the HPLC in *Carica papaya* leaves (80% ethanol extracts) are Gallic acid, Chlorogenic acid, Catechin, Methyl-gallate, Caffeic acid, Syringic acid, Pyro catechol, Rutin, Ellagic acid, p-Coumaric acid, Vanillic acid,

Ferulic acid, Naringenin, Taxifolin, Cinnamic acid, Kaempferol, Quercetin, Apigenin, Luteolin.

The M. oleifera is a rich source of phenolic and flavonoid compounds, in this work an attempt was made to determine total phenolic content (TPC) and total flavonoid content (TFC). In the hydro-ethanolic of *Moringa Oleifera* Lam content of phenolic compounds and flavonoids compounds obtained by extraction method. The extraction produced the highest extract yield, total phenolic and flavonoid contents (45.48 mg GAE/g and 32.11 mg QE/g respectively). The obtained results show that the highest amounts of phenols and flavonoids was characterized by 20:80 (v/v; aqueous/ethanol) extract. The analysis of *Moringa Oleifera* hydro-alcoholic extract revealed the presence of flavonoids and phenolic acids were the principal compounds. The observed flavonoids were quercetin and kaempferol derivatives, while phenolic acids were gallic, caffeic, quinic, and chlorogenic. The other content found to be Quinic acid, chlorogenic acid, coumaroyl-quinic acid, Kaempferol-3-o-glucoside, apigenin-glucoside, rutin, quercetin, quercetin-acetyl glucoside, quercetin Malonyl Hexoside, Iso-quercetin, Kaempferol-acetyl-glucoside.

Evaluation of Herbal tablet of extracts of different plant parts

Preparation of Herbal tablet formulation

The polyherbal tablets were prepared by wet granulation method.Herbal tablet formulations (HTF) contain crude extract of leaves of *CaricaPapayaLinn*, leavesof *Moringa oleifera Linn* and fruit of *CarrissaCarandus Lam* prepared by wet granulation method using suitable excipients like microcrystalline cellulose, starch, Cros-povidone, aerosol, vanillin and magnesium stearate. magnesium stearate. The three batches of herbal tablets (HTF-1, HTF-2 and HTF-3) were prepared and evaluated for the pre and post compression parameters. The composition of tablet formulations is shown in Table 1.

Table 1: Composition of Herbal Tablet

Ingredients	Quantity (mg/tablet)		
	HTF-1	HTF-2	HTF-3
Hydro-ethanolic fraction of Leaves of *Carica PapayaL*	15	20	25
Hydro-ethanolic fraction of Leaves of *Moringa Oleifera L*	10	35	60
Hydro-ethanolic fraction of Fruit of *Carrissa Carandus L*	25	45	65
Microcrystalline cellulose	320	270	220
Starch	50	50	50
Crospovidone	20	20	20
Distilled water	q.s.	q.s.	q.s.
Pre-lubrication			
Starch	25	25	25
Aerosil	10	10	10
Talc	10	10	10
Vanillin	10	10	10
Magnesium stearate	5	5	5
Total tablet weight (mg)	**500**	**500**	**500**

Assessment of powder and Herbal tablet formulation

Prior to punching tablets, micro meritic investigations (angle of repose, bulk density, tapped density, Carr's Index, Hausner's Ratio, and Compressibility Index) were assessed. Herbal tablets evaluated for thickness, diameter, hardness, disintegration time, Avg. weight (weight variation) and percent friability. Organoleptic profile also evaluated for patient compatibility.

Pre-compression of evaluation of Herbal tablet formulations

Angle of Repose (˚)

The angle of repose is a relatively simple technique for estimation of the flow property of powder.The angle of repose was found to be for formulation HTF-1 (29.3˚±1.53), HTF-2 (28.7˚±1.32) and HTF-3 (29.3˚±0.86). The three of the herbal formulation in under the acceptance criteria.

Bulk Density (g/cm^3)

Bulk density represents the volume or mass of tablet. The bulk density was found to be for formulation HTF-1 (0.427±0.003), HTF-2 (0.442±0.005) and HTF-3 (0.450±0.002)

Tapped density (g/cm^3)

Tapped density represent the random dense packing. Tapped density was found to be for formulation HTF-1 (0.515 ± 0.005), HTF-2 (0.523 ± 0.005) and HTF-3 (0.520 ± 0.004).

Carr's Index

Carr's Index represent the as an indication of the compressibility of a powder and was found to be 18.9 ± 0.04 for HTF-1, 19.2 ± 0.05 for HTF-2 and 18.5 ± 0.02 for HTF-3

Hausner Ratio

The Hausner ratio is an indirect measure of the property of a bulk material to reduce its volume under mechanical influence. It is also a measure of the ability to compress and of the interaction between the particles. The Hausner ratio was found to be 1.234 ± 0.02 for HTF-1, 1.207± 0.01 for HTF-2 and 1.205± 0.02 for HTF-3.

Compressibility Index

The compressibility index has been proposed as an indirect measure of bulk density, size and shape, surface area, moisture content, and cohesiveness of materials. The compressibility Index was found to be 17.15±0.16 for HTF-1, 19.25±0.21 for HTF-2 and 15.30±0.18for HTF-3.

Post-compression evaluation of tablets

Organoleptic properties

The colour of tablet is brownish green, having characteristics odour and circular biconvex tablet shape and characteristics taste.

Thickness

Tablet thickness should be controlled within a ± 5% variation of standard value and was found to be 5.8 ± 0.02 for HTF-1, 5.6 ± 0.02 for HTF-2 and 5.4 ± 0.02 for HTF-3.

Diameter

The thickness of a tablet is critical to its therapeutic efficacy since thickness impacts on disintegration and dissolution behaviour. The thickness of tablets was found to be for HTF-1 (11.2±0.04), for HTF-2 (11.6±0.05) and for HTF-3 (11.1±0.02) respectively.

Hardness (kg/cm^3)

Tablet hardness testing is a laboratory technique used by the pharmaceutical industry to determine the breaking point and structural integrity of a tablet and find out how it changes under conditions of storage, transportation, packaging and handling before usage. The hardness was found to be 3.5±0.19 for HTF-1, 3.1±0.12 for HTF-2 and 3.3 ± 0.15 for HTF-3 respectively.

Disintegrationtime (min)

Disintegration testing measures the ability of a tablet to break down into smaller particles or granules to allow the active drug to be absorbed into the body. The disintegration time (min) for HTF-1, HTF-2 and HTF-3 was found to be 2.12 ± 0.42, 2.80 ± 0.32 and 2.35 ± 0.36 simultaneously.

Average weight (mg)

The average weight (mg) for HTF-1, HTF-2 and HTF-3 was found to be 500.6±0.23, 502.6±0.16 and 501.6±0.23 respectively.

Friability (%)

A maximum weight loss of no more than 1% is considered acceptable for most tablets. The friability for HTF-1 was found to be 0.32±0.23%, for HTF-2 was found to be 0.25±0.16% and for HTF-3 was found to be 0.28±0.32%

Stability studies

Selected herbal tablet formulations HTF-3 was found to be stable when subjected to stability studies at 25˚C/60% RH and 40˚C/75% RH for a time period of 30 days. There was no significant change in the physicochemical properties of tablets i.e., appearance, disintegration time and hardness of the tablets. The results are shown in Table 2.

Table 2: Stability studies data for HTF-3 formulation

Parameter	0 days	10 days	20 days	30 days
Stability studies data for HTF-3 formulation at 25˚C/60% RH				
Appearance	Light greenish color	Light greenish color	Light greenish color	Light greenish color
Hardness (kg/cm^3)	3.3±0.15	3.4±0.15	3.6±0.11	3.8±0.14
Disintegration time (min)	2.35±0.42	2.36±0.44	2.37±0.42	2.40±0.42
Stability studies data for HTF-3 formulation at 40˚C/75% RH				
Appearance	Light greenish color	Light greenish color	Light greenish color with dark greenish spot	Light greenish color with dark greenish spot
Hardness (kg/cm^3)	3.3±0.15	3.6±0.21	3.8±0.19	4.0±0.19
Disintegration time (min)	2.35±0.42	2.40±0.42	2.46±0.42	2.54±0.42

CONCLUSION

The three herbal Tablet formulation was prepared by wet granulation method by utilizing the extracts of three plant i.e., Leaves of *Carica Papaya Linn*, Leaves of *Moringa oleifera Linn* and fruit of *Carrissa Carandus Lam.* The result of evaluation of Herbal tablet formulation stated that HTF-3 formulation has shown the best result in pre-compression and post-compression parameters and suitable for the oral administration and pharmacological efficacy. The all three formulation HTF-1, HTF-2, and HTF-3 have shown standard values and are in acceptable limit. The result data indicates that developed formulation has been suitable for oral administration and pharmacological evaluation.

CONFLICT OF INTREST

The authors declare that they have no known competingfinancial interests or personal relationships

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