



Received on 10 August 2021; received in revised form, 17 September 2021; accepted 19 September 2021; published 30 September 2021

## DRUG STANDARDIZATION OF HOBIBATUL KATAN MURAKKAB (GRANULES OF FLAXSEEDS COMPOUND)

Zehra Zaidi \*, Do Ain Uzun Anaf and Halaq Wa Asnan

School of Unani Medical Education & Research, Jamia Hamdard - 110062, New Delhi, India.

### Keywords:

Katan Murakkab, Unani Medicine, Compound Formulation, standardization

### Correspondence to Author:

Mr. Zehra Zaidi

School of Unani Medical Education & Research, Jamia Hamdard - 110062, New Delhi, India.

E-mail: zehra.zaidi@jamiyahamdard.ac.in

**ABSTRACT:** Herbal medicines have attracted the researcher's attention nowadays as scientific evidence is regularly coming on their safety and efficacy. The present study of Hobibatul Katan Murakkab (Granules of Flaxseeds Compound) was undertaken to standardize the classical clinically proved effective Unani compound formulation "Hobibatul Katan Murakkab (Granules of Flaxseeds Compound)". The study revealed the presence of Alkaloids, Glycosides, Tannins and Fats. The presence of phytochemical compounds shows the potential of the compound in the field of medicine as has been claimed by the Unani Physicians centuries ago. Preliminary phytochemical screening of the compound formulation has been done on a small scale. The formulation may be standardized on full parameters of compound herbal formulations prescribed by Unani Pharmacopoeia of India (UPI-II).

**INTRODUCTION:** Herbal medicines have attracted the researcher's attention nowadays as scientific evidence is regularly coming on their safety and efficacy. There is a need to standardize the single and compound formulations of Unani medicine for better clinical results. Ministry of AYUSH GOI had published the Unani Pharmacopoeia of India Part-I, II in many volumes, and it is an ongoing process. The present study was undertaken as part of a single-blind, randomized control trial of an Unani compound formulation in Iltehab Tajaweefe Anaf Muzmin (CRS). Unani physicians have been treating Iltehab Tajaweefe Anaf Muzmin for many centuries and have mentioned various Unani drugs (single as well as compound) in classical Unani literature for this disease.

A well-known Unani formulation from classical literature with composition: Katan (*Linum usitatissimum* Linn.), Filfil Siyah (*Piper nigrum* Linn.) and Honey with Inkebab of Kalonji (*Nigella sativa* Linn.) in the treatment of Chronic Rhinosinusitis was selected for clinical study<sup>1</sup>. This compound formulation with its ingredients and Kalonji has been standardized for quality purposes. This formulation has been named as Hobibatul Katan Murakkab. This oral formulation, along with in kebab of Kalonji has been proved very effective in CRS in clinical trial<sup>2</sup>.

**MATERIAL AND METHODS:** All the herbs were procured from the local market. The drugs were identified in the Pharmacognosy lab, Department of Botany, Jamia Hamdard, New Delhi. The granules dosage form was prepared as per the method prescribed in classical Unani literature. The single drugs were standardized on the following parameters.

**Moisture Contents:** The moisture contents of the drug were evaluated with the loss of weight on

	<p><b>QUICK RESPONSE CODE</b></p>
	<p><b>DOI:</b> 10.13040/IJPSR.0975-8232.IJP.8(9).408-11</p>
<p>The article can be accessed online on <a href="http://www.ijpjournal.com">www.ijpjournal.com</a></p>	
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drying at 105 degrees Celsius according to Anonymous<sup>3</sup>.

**Ash Values:** The percentage of total ash, acid insoluble ash and water-soluble ash values were determined according to Anonymous<sup>3</sup>.

**Extractive Values:** The successive extraction of drug was evaluated with the help of Soxhlet's apparatus in different organic solvents *i.e.*, petroleum ether, chloroform, methanol and water, according to Anonymous<sup>4</sup>.

**Chemical Analysis:** The following procedures carried out the qualitative and quantitative chemical analysis of the test drug.

**Qualitative Tests:** The qualitative tests of alkaloids, Saponins, Phenolics, Resins and Tannins with Dragendorff's test, Froth test, Ferric Chloride

test, Acetic anhydride test, Lead Acetate test, Pot. Dichromate tests were performed<sup>5</sup>.

**Quantitative Tests:** The quantitative estimation of different phytochemical compounds in compound formulation *i.e.*, total alkaloids, glycosides, total tannins, and fats, were performed with methods described by Anonymous<sup>6</sup>.

## RESULTS:

### Standardization of Single Drugs:

#### Standardization of *Katan Linum Usitatissimum* Linn

##### Physico-chemical Analysis:

Moisture Contents	:	6.6%
Total Ash	:	2.8%
Acid Insoluble Ash	:	7.40%
Water Soluble Ash	:	0.6%

##### Extractive Values:

TABLE 1: COLD EXTRACTIVE VALUES OF KATAN IN DIFFERENT SOLVENTS

S. no.	Extractive	Wt. of Petri dish	Wt. of Petri dish + drug	Wt. of Extract	% of Extract
1.	Pet. Ether	40.270 gm	40.770 gm	0.500 mg	02.0 %
2.	Chloroform	35.980 gm	36.300 gm	0.320 mg	01.280 %
3.	Methanol	41.300 gm	44.570 gm	03.270 gm	13.080 %
4.	Water	44.570 gm	50.590 gm	24.080 gm	24.080 %

### Phytochemical Analysis:

#### Qualitative Analyses:

Alkaloids	:	Dragendorff's Test +Ve
Saponins	:	Froth Test Strongly +Ve
Phenolics	:	Ferric Chloride Test +Ve
Resins	:	Acetic anhydride Test +Ve
Tannins	:	Lead Acetate Test +Ve, Pot. Dichromate Test +Ve

### Standardization of *Filfil Siyah Piper nigrum* Linn:

#### Physico-chemical Analysis:

##### Moisture Contents: 6.86%:

##### Ash Value:

Total Ash	:	4.80%
Acid Insoluble Ash	:	1.4%
Water Soluble Ash	:	7.6%

TABLE 2: COLD EXTRACTIVE VALUES OF FILFIL SIYAH IN DIFFERENT SOLVENTS

S. no	Extractive	Wt. of Beaker	Wt. of Beaker + Extractive matter	Wt. of Extract	% of Extract
1.	Pet. Ether	45.35 gm	45.38 gm	0.03 mg	6.6 %
2.	Chloroform	53.77 gm	53.72 gm	0.05 mg	1.0 %
3.	Methanol	45.37 gm	45.44 gm	0.07 gm	1.4 %
4.	Water	43.93 gm	44.11 gm	0.18 mg	3.6 %

### Phytochemical Analysis:

#### Qualitative Analyses:

Alkaloids	:	Dragendorff's Test +Ve
Saponins	:	Froth Test Strongly +Ve
Phenolics	:	Ferric Chloride Test +Ve
Resins	:	Acetic anhydride Test +Ve
Tannins	:	Lead Acetate Test +Ve, Pot. Dichromate Test +Ve

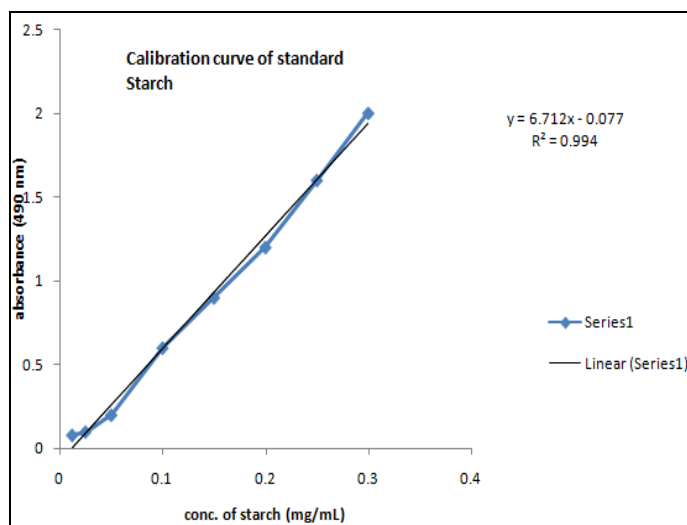
Alkaloids have known antibacterial action and analgesic action<sup>7</sup>. Total Alkaloid content in 5 gm

of the test, the drug formulation is 0.400%

### Phytochemical Quantitative Analysis:

**Starch Estimation:** The calibration curve for a standard starch solution at different concentrations was obtained as follows;

### Standardization of Compound Formulation *Hobibatul Katan Murakkab Granules of Flaxseeds Compound:*

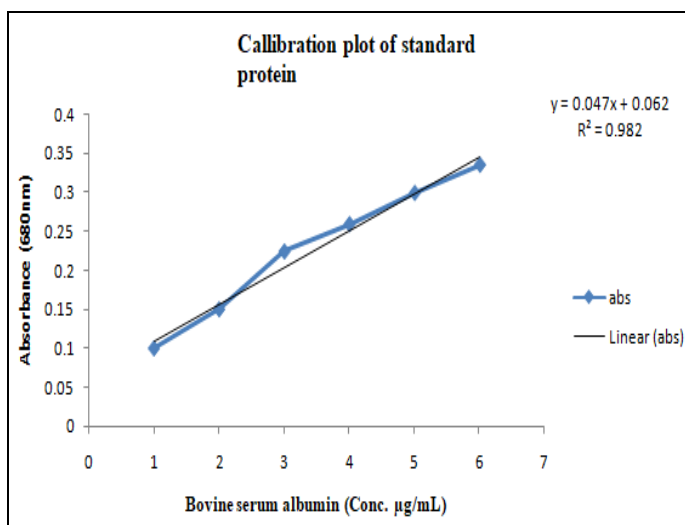


**GRAPH 1: CALIBRATION CURVE OF STANDARD STARCH**

Thus in 0.1 mL of an aliquot of 5gm test formulation at 20% dilution, absorbance reading was 1.620.

Thus in 5gm of test formulation, the starch at 20% dilution is 0.356 mg/L.

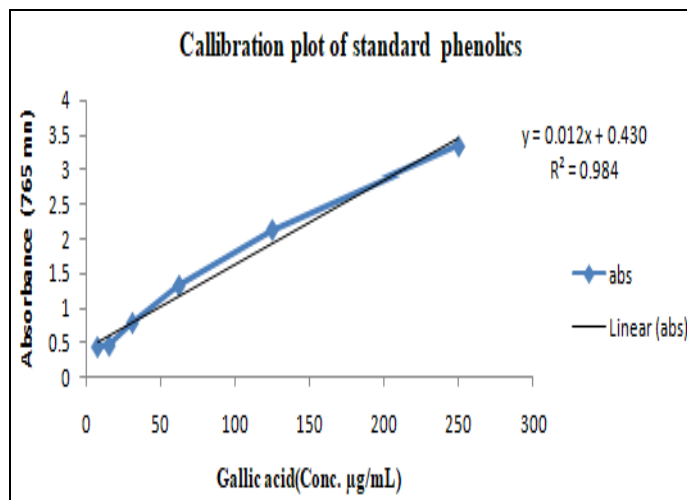
**Protein Estimation:** The calibration for standard protein (bovine serum albumin) is as follows.



**GRAPH 2: CALIBRATION CURVE OF STANDARD PROTEIN**

Thus 5gm of test formulation has **5.1987** mg Protein which is very significant.

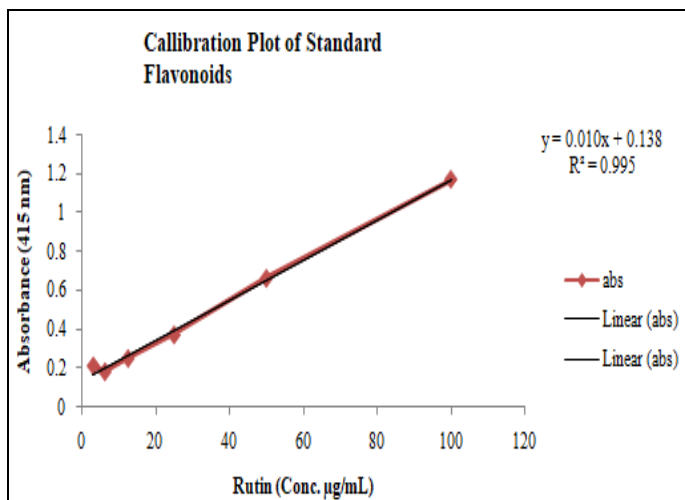
**Phenolics Estimation:** Phenolics compounds are known for antioxidant properties, which are free radical terminators<sup>8</sup>. Total phenolic content expressed as gallic acid equivalent. The calibration curve plotted follows.



**GRAPH 3: CALIBRATION CURVE OF STANDARD PHENOLICS**

Thus total phenolics content at a concentration of 100 µg/mL is 51.69 gallic acid equivalents.

**Estimation of Total Flavonoids Content:** Flavonoids have anti-allergic anti-inflammatory and anti-microbial actions<sup>9</sup>. The total Flavonoids in 5gm of test drug at concentration of 50 µg/mL are 41.1165 µg. The standard calibration curve of Rutin standard flavonoids is given below.



**GRAPH 4: CALIBRATION CURVE OF STANDARD FLAVONOIDS**

**Quantitative Analysis:**

Alkaloids	:	0.400%
Glycosides	:	8.480%
Tannins	:	6.353%
Fats	:	2.20%

**Standardization of Kalonji (Nigella sativa Linn):**  
**Physico-chemical Analysis:**

Moisture Content : 6.8%

**Extractive Values:****TABLE 3: COLD EXTRACTIVE VALUES IN DIFFERENT SOLVENTS**

S. no	Extractive	Wt. of Beaker	Wt. of Beaker + Extractive matter	Wt. Of Extract	% Of Extract
1.	Pet. Ether	46.79 gm	46.85 gm	0.06 mg	1.2 %
2.	Chloroform	46.14 gm	46.02 gm	0.12 mg	2.4 %
3.	Methanol	51.99 gm	51.91 gm	0.08 gm	1.6 %
4.	Water	45.88 gm	46.11 gm	0.23 mg	4.6 %

**Ash Value:**

<b>Total Ash</b>	:	6.2%
<b>Acid Insoluble Ash</b>	:	1.2%
<b>Water Soluble Ash</b>	:	1.4%

**Qualitative Analyses:**

<b>Alkaloids</b>	:	Dragendorff's Test +Ve
<b>Saponins</b>	:	Froth Test Strongly +Ve
<b>Phenolics</b>	:	Ferric Chloride Test +Ve
<b>Resins</b>	:	Acetic anhydride Test +Ve
<b>Tannins</b>	:	Lead Acetate Test +Ve, Pot. Dichromate Test +Ve

**DISCUSSION:** Single drugs of Unani Medicine like Katan, Filfil Siyah, and Kalonji has already been standardized by CCRUM<sup>10</sup>. This part has been repeated in brief for quality purposes and proper identification of the drugs before the clinical study. Preliminary phytochemical screening of the compound formulation revealed the presence of Alkaloids, Saponins, Phenolics, Resins and Tannins. The quantitative estimation of Starch, Protein, Phenolics, and Flavonoids has been determined. The presence of phytochemical compounds shows the potential of the compound in the field of medicine as has been claimed by the Unani Physicians centuries ago.

**CONCLUSION:** Preliminary phytochemical screening of the compound formulation has been done on a small scale. The quality parameters described in the study will help the researchers in the future. The formulation may be standardized on a full parameters of compound herbal formulations prescribed by Unani Pharmacopoeia of India (UPI-II).

**How to cite this article:**

Zaidi Z, Anaf DAU and Asnan HW: Drug standardization of hobibatul katan murakkab (granules of flaxseeds compound). Int J pharmacognosy 2021; 8(9): 408-11. doi link: [http://dx.doi.org/10.13040/IJPSR.0975-8232.IJP.8\(9\).408-11](http://dx.doi.org/10.13040/IJPSR.0975-8232.IJP.8(9).408-11).

**ACKNOWLEDGMENT:** I am thankful to Jamia Hamdard University for granting me the financial assistance to carry out this study as part of my MD thesis. I am also grateful to all the staff of Ilmul Adviya Lab for their moral and physical support during the standardization work.

**CONFLICTS OF INTEREST: Nil****REFERENCES:**

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