



ORIGINAL RESEARCH PAPER

Siddha

BIOCHEMICAL ANALYSIS OF SIDDHA POLYHERBAL DRUG KALINGA HATHIRAI

KEY WORDS:

Osteoarthritis, Biochemical Analysis, Siddha Medicine, Kalinga Mathirai.

Deepika. C

PG Scholar, Department of Sirappu Maruthuvam, Government Siddha Medical College, Palayamkottai, Tirunelveli

Navin kumar. M*

PG Scholar, Department of Sirappu Maruthuvam, Government Siddha Medical College, Palayamkottai, Tirunelveli *Corresponding Author

Poongodi kandhemathi. A.S

Head of the Department, Department of Sirappu Maruthuvam, Government Siddha Medical College, Palayamkottai, Tirunelveli

ABSTRACT

Siddha Medicine is one of the most ancient Medical System of India, which says that there are 4448 diseases affecting humans. The Siddha system is a treasure house of secret science. In human body Joints are the important structure which helpful for normal stability, movement and activity. Siddha system deals the different type of arthritis with a wide range of drugs. Among arthritis "AZHAL KEEL VAYU" (osreoarthritis) is most common type of arthritis. The aim of the study was qualitative analysis of Kalinga Mathirai a Siddha drug taken from a Siddha Literature. The Biochemical analysis of the trial drug indicates the presence of Calcium, Sulphate Chloride, Starch ferrous iron, unsaturation, compound, amino acid revealed the enhancement of therapeutic action in arthritis.

INTRODUCTION:

Siddha system is one of the India's ancient traditional Medicine which help for long life and better health. Siddha system is differ from the other system of medicine by giving physical mental and social well being of an individual by its various tools like medicine, meditation, yoga, varma and manage. Commonly herbs, minerals, metals and animal products were used to prepare medicines in treating lot of medical ailments. Nowadays scientific evaluation is needed to validate the preciousness of Siddha drugs. It help to ensure safety to the public and effective traditional treatment for diseases. On the basis of our Siddha text osteoarthritis is inter correlated with keelvayu and more often keel vayu comes under 80 types of vadha diseases in 'Yugi Vaithiya Chithamani-60 one among them is "AZHEL KEEL VAYU"'. The drug from Siddha literature (Gunapadam Mooligai) Kalinga Mathirai is analysed for the biochemical composition.

MATERIALS AND METHODS

Kalinga Mathirai.

INGREDIENTS

Table: 1

S.No.	Drug Name	Botanical Name
1	Aattru Thumattiver	Citrullus Colocynthis
2	Thippili	Piper longum

Collection, Identification and Authentication of the Drug:

The required raw drugs were purchased from a well reputed country shop. They were Government Siddha Medical Botanist of Government Siddha Medical College, Palayamkottai.

Purification of the Drug:

All the ingredients of this herbal formulation were purified according to the proper produce methods described in Siddha Classical Literature.

Preparation of the drug:

The ingredients were fried, powdered and filtered in a cloth (Vastrakayam) and water grind and the powder and make it as pills.

Biochemical analysis:

Screening the drug Kalinga Mathirai to identify the Biochemical properties present in the ingredient.

Chemicals and drugs:

An the chemicals used in this study were of analytical grade obtain from Department of Biochemistry, Government Siddha

Medical College, Palayamkottai.

Methodology:

5 grams of the drug was weighed accurately and placed in a 250ml clean beaker. Then 50ml of distilled water added to it and dissolved well. Then it was boiled well for about 10 minutes. It was cooled and filtered in a 100ml volumetric flask and then it is made upto 100ml with distilled water. This fluid was taken for analysis.

QUALITATIVE ANALYSIS

S.No.	EXPERIMENT	OBSERVATION	INFERENCE
1	TEST FOR CALCIUM 2ml of the above prepared extract is taken in a clean test tube. To this add 2ml of 4% Ammonium oxalate solution.	A white precipitate is formed	Indicates the presence of calcium.
2	TEST FOR SULPHATE 2ml of the extract is added to 5% Barium Chloride solution	A white precipitate is formed	Indicates the presence of sulphate
3	TEST FOR CHLORIDE The extract is treated with silver nitrate solution.	A white precipitate is formed	Indicates the presence of chloride.
4	TEST FOR CARBONATE The substance is treated with concentrated Hcl.	No brisk effect vessece is formed	Absence of Carbonate
5	TEST FOR STARCH The extract is added with weak iodine solution	Blue Colour is formed.	Indicates the present of Starch
6	TEST FOR FERRIC IRON The extract is acidified with Glacial acetic acid and potassium ferro cyanide.	No blue color is formed.	Absence of ferric iron
7	TEST FOR FERROUS IRON The extract is treated with concentrated Nitric acid and Ammonium thiocyanate solution.	Blood red colour is formed.	Indicates the presence of ferrous Iron.

8	TEST FOR PHOSPHATE The extract is treated with Ammonium Molybdate and concentrated nitric acid	No yellow precipitate is formed	Absence of Phosphate
9	TEST FOR ALBUMIN The extract is treated with Esbach's reagent	No yellow precipitate is formed.	Absence of Albumin.
10	TEST FOR TANNIC ACID This extract is treated with ferric chloride.	No blue back precipitate is formed	Absence of galvanic acid.
11	TEST FOR UNSATURATION Potassium permanganate solution is added to the extract.	It gets decolorized	Indicates the presence of unsaturated compound
12	TEST FOR THE REDUCING SUGAR 5ml of Benedict's qualitative solution is taken in a test tube and allowed to boil for 2 minutes and add 8-10 drops of the extract and again boil it for 2 minutes	Colour change occurs	Indicates the presence of reducing sugar
13	TEST FOR AMINO ACID One or two drops of the extract is placed on a filter paper and dried well. After drying 1% Ninydrin is sprayed over the same and dried it well.	violet colour is formed.	Indicates the presence of Amino Acid.
14	TEST FOR ZINC The extract is treated with Potassium Ferro cyanide.	No white precipitate is formed.	Absence of Zinc.

RESULTS AND DISCUSSION:

The Bio chemical analysis of the trial drug kalinga Mathirai was tabulated above in table 2.

The trial drug Kalinga Mathirai contains.

1. Calcium
2. Sulphate
3. Chloride
4. Starch
5. Ferrous Iron
6. Unsaturated compound
7. Reducing sugar
8. Amino Acid.

The mode of action of the trial drug Kalinga Mathirai which brings about the Bone Mineralisation osteoblastic and osteoclastic activity in body. May be due to the presence of calcium Sulphate, Chloride, Amino acid, Starch, Ferrous Iron in it.

CONCLUSION:

Kalinga Mathirai is a Siddha Drug taken from a Siddha literature used in the treatent of osteoarthritis. The drug is screened for its bio chemical properties. Further, comprehensive pharmacological analysis are needed to evaluate its potency and the drug has its own potency to undergo further research.

ACKNOWLEDGEMENT

The author wish to acknowledge our hearty thanks to Dr. A. S. Poongodi Kanthimathi Head of the Department, Department of Sirappu Maruthuvam, Government Siddha Medical College Palayamkottai and thanks to Department of

Biochemistry Government Siddha Medical College Palayamkottai

REFERENCES:

1. Murugesu Mudaliar K.S. Text book of Materia Medica (Gunapadam) Mooligai, Department of Indian Medicine and Homeopathy (2008).
2. Pharmacy and Pharmaceutics of Siddha Medicine National Institute of Siddha (2016)
3. Mayil Vahanan Natarjan, Text book of Orthopaedics and Traumatology Eight Edition (2018)
4. Padmapriya.M, world Journal of Pharmacy and Paramacaucal Sciences (2017)
5. Anonymous Sarakku Suthi Muraigal, First Edition, Siddha Maruthuva Nool Veliyita Pirivu Indian Medicine and Homeopathy Department (2008)/
6. Indian systems of medicine, Government of Kerala. <http://www.ism.kerala.gov.in/index.php/about-siddha.html>.