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Research article

Biochemical analysis of Siddha Polyherbal drug Keelvayunivarana Chooranam

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ABSTRACT

Siddha, traditional system of medicine widely being practiced in tamilnadu and the concept pertaining to drug ingredients are from plant (mooligai) / mineral (thathu) , metals and animal origin. There is growing importance in traditional health systems in providing healthcare for a wider population across the globe, especially in the developing countries. WHO currently encourages,recommends and promotes traditional as well asnatural remedies in national healthcare programmes,as they are easily available at low cost, comparatively safe, and are culturally acceptable. Since time immemorial, Siddha System of Medicine, the heritage of the family practice of South India, is a special,scientific, significant, most respectable and of high order one. In Bogar Nikandu, about 4,448 diseases are described and various herbs are indicated for these diseases Herbs, minerals and products of animal origin are basic raw materials of the Siddha system. Siddha System of Medicine caters a totality of herbs, and is unique in exhibiting fewer side effects. Secondly, Siddha medicine has a better answer for curing refractive diseases like arthritis, cancer, Bromchial asthma.

Keywords:

Osteo arthritis, Keelvayu nivarana chooranam, Biochemical Analysis, siddha system.

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INTRODUCTION

Osteoarthritis (OA) also called osteoarthrosis or degenerative joint disease, common form of chronic disorder of synovial joints. It is characterized by progressive degenerative changes in the articular cartilages over the years, particularly in weight bearing joints. Primary osteoarthritis occurs in the elderly, more commonly in women than in men. The process begins by the end of 4th decade and then progressively and steadily increases producing clinical symptoms. Probably, wear and tear with repeated hereditary, obesity, aging, all contribute to focal degenerative changes in the articular cartilage of the joints.

in Siddha System there are 80 types of arthritis have been reported in name of vali /vadha noikal. Aging, inflammations, wounds, over strain, improper physiological activities are the leading causes for the arthritis. Some types of vali noikal are hereditary in nature. In the present scenario, number of pharmacological studies is carried out to check the therapeutically uses of the medicinal plants used for arthritis. In The Pharmacopoeia Of Siddha Research Medicines text, Keelvayu nivarana chooranam is indicated for vatha diseases.

MATERIALS AND METHODS

Source Of Drug Ingredients:

The required raw drugs for preparations of Keelvayu Nivarana Chooranam are purchased from a well reputed country shop. The purchased drugs are authenticated by The Faculty / Expert members of Medicinal Botany and Gunapadam department at GSMCH- Palayamkottai.

Methods Of Purification And Preprations:

All the ingredients has been completely purified as per the siddha literature in the presence knowledge of Guide / Faculty members. Then the trail drug is prepared from the ingredients.

Biochemical analysis:

Screening the drug Keelvayu nivarana chooranamto identify the Biochemical properties present in the ingredient.

Chemicals and drugs:

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.

RESULTS AND DISCUSSION

The Bio chemical analysis of the trial drug Keelvayu nivarana chooranam was tabulated above in table 2. The trial drug it contains, Sulphate, Starch, Calcium, Amino acid, Reducing sugar and tannic acid. The mode of action of the trial drug Keelvayu nivarana chooranam which brings about the Bone Mineralization, osteoblastic and osteoclastic activity in body which may be due to the presence of Sulphate, Amino acid, Ferrous Iron in it.

Table 1. Ingredients of Keelvayu Nivarana Chooranam

DRUG NAME	BOTANICAL NAME	FAMILY	PARTS USED	QUANTITY
Nannari Ver Pattai	*Hemidesmus indicus*	*ASCLEPIADACEAE*	Root bark	2 PARTS
Parangi Pattai	*Smilax china*	*LILLIACEAE*	Root	2 PARTS
Seemai Amukkara	*Withania somnifera*	*SOLANACEAE*	Root	2 PARTS
Citharathai	*Alpinia galanga*	*ZINGIBERACEAE*	Rhizome	1 PART

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Table 2. Biochemical analysis of Keelvayu nivarana chooranam

EXPERIMENT	OBSERVATION	INFERENCE
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
TEST FOR SULPHATE 2ml of the extract is added to 5% Barium chloride solution.	A white precipitate is formed	Indicates the presence of sulphate
TEST FOR CHLORIDE The extract is treated with Silver nitrate solution.	No white precipitate is formed	Absence of chloride
TEST FOR CARBONATE The substance is treated with concentrated Hcl.	No brisk effervessence is formed	Absence of carbonate
TEST FOR STARCH The extract is added with weak iodine solution.	Blue colour is formed	Indicates the Absence of starch
TEST FOR FERRIC IRON The extract is acidified with Glacial acetic acid and Potassium ferrocyanide.	No blue colour is formed	Absence of ferric iron
TEST FOR FERROUS IRON The extract is treated with Concentrated Nitric acid and Ammonium thiocyanate solution.	No red blood colour is formed	Presence of ferrous iron
TEST FOR PHOSPHATE The extract is treated with Ammonium molybdate and concentrated nitric acid.	No yellow precipitate is formed	Absence of phosphate
TEST FOR ALBUMIN The extract is treated with Esbach reagent.	No yellow precipitate is formed	Absence of albumin
TEST FOR TANNIC ACID The extract is treated with Ferric chloride.	Blue black precipitate is formed	Indicates the absence of tannic acid
TEST FOR UNSATURATION Baeyer's Test- Potassium permanganate solution is added to the extract.	Its gets decolourised	Indicates the presence of unsaturated compound
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 occur	Indicates the presence of reducing sugar
TEST FOR ZINC The extract is treated with Potassium Ferrocyanide.	No white precipitate is formed	Absence of zinc
TEST FOR AMINO ACID The extract is treated with 1% ninhydrin	Voilet colour formed	Presence of Amino acid

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CONCLUSION

Keelvayu nivarana chooranam is a Siddha Drug taken from a Siddha varmam literature used in the treatent of spondylosis. 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.

CONFLICT OF INTEREST: **None declared**

SOURCE OF FUNDING: **Nil**

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