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Research article



# Biochemical analysis of Siddha monoherbal Drug Kadukkai Karpam

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#### ABSTRACT

Siddha system is one of the ancient and spirituality enriched traditional medical system of India. Kaya karpam means (kayam-body, karpam-able competent to make our body competent and youthful. The kalpa medicines are those which prevent graying wrinkling of skin, aging, senile changes and other disease for promoting longevity with complete freedom from illness.Kaya karpam provides both mental and physical wellness. Among vadha diseases thandagavatham is the most common type of vadha diseases mentioned in yugivaithiyacinthamani which may correlate with lumbarspondylosis.

The aim of the study was to evaluate the biochemical analysis of the trial drug Kadukkaikarpam and it indicates the presence of calcium, sulphate, chloride, starch, tannic acid, unsaturated compounds, reducing sugar, amino acid which revealed the effectiveness of therapeutic action in vadha diseases especially in thandagavatham (lumbarspondylosis).

#### **Keywords:**

Thandagavatham,lumbarspondylosis, biochemical analysis, kaya karpam, kadukkaikarpam. Address for correspondence:

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# **INTRODUCTION**

In siddha system yugimunivar classified vadha disease into 80 types. The disease thandagavadham can be correlated to lumbar spondylosis. The symptoms are pain in the lower back region, spasm, numbness, radiating pain to both legs.

According to it, lumbar spondylosis is defined as degenerative condition which affects the lower spine. In lumbar spondylosis the spine compromised by a narrowing of the space between the vertebrae, causing a variety of health problems ranging from back pain to neurological issues. This condition is usually caused by trauma, obesity, spine undergoes changes as people grow older and many of these changes contribute to degeneration of the vertebrae.

Lumbar spondylosis or degenerative arthritis is common lumbar spine due to excessive mobility in that area of spine. In otherworld it is a manifestation of the wear and tear process. Other predisposing factors can be old age, injury to the spine or any previous diseases.

In Theraiyarsegarappa Text, kadukkai karpam has been indicated for vatha diseases

# **MATERIALS AND METHODS**

DRUGS	BOTANICAL	PART USED
	NAME	
KADUKKAI	Terminalia chebula	fruit pulp

# Source of Drug Ingredients:

The drugs are purified as per the evidence mentioned in the sarakkusuthimuraigal and anubogavaithyabrammaragasiyam. The drugs are authenticated by The Faculty / Expert members of Medicinal Botany and Gunapadam department at GSMCH-Palayamkottai.

#### **Methods of Purification and Preparations:**

All the ingredients have 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 kadukkaikarpam to identify the Biochemical properties present in the ingredient.

# Chemicals and drugs:

The chemicals used in this study were of analytical grade obtained from Department of Biochemistry, Government Siddha Medical College& Hospital, 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 up to 100ml with distilled water. This fluid was taken for analysis.

S.no	Experiment	Observation	Inference
01	<b>Test for calcium</b> 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 pres- ence of calcium
02	<b>Test for sulphate</b> 2ml of the extract is added to 5% barium chloride solu- tion.	A white precipitate is formed	Indicates the pres- ence of sulphate
03	<b>Test for chloride</b> The extract is treated with silver nitrate solution	A white precipitate is formed	Indicates the pres- ence of chloride
04	<b>Test for carbonate</b> The substance is treated with concentrated hcl.	No brisk effervessence is formed	Absence of car- bonate

#### Table. 1 Qualitative analysis

S.no	Experiment	Observation	Inference
05	Test for starch The extract is added with weak iodine solution	Blue colour is formed	Indicates the pres- ence of starch
06	Test for ferric iron The extract is acidified with glacial acetic acid and potas- sium ferro cyanide.	No blue colour is formed	Absence of ferric iron
07	Test for ferrous iron The extract is treated with concentrated nitric acid and ammonium thiocyanate solution	No Blood red colour is formed	Indicates the ab- sence of ferrous iron
08	Test for phosphate The extract is treated with ammonium molybdate and concentrated nitric acid	No yellow precipitate is formed	Absence of phos- phate
09	<b>Test for albumin</b> The extract is treated with esbach's reagent	No yellow precipitate is formed	Absence of albumin
10	<b>Test for tannic acid</b> The extract is treated with ferric chloride.	blue black precipitate is formed	presence of tannic acid
11	<b>Test for unsaturation</b> Potassium permanganate solution is added to the extract	It gets decolourised	Indicates the pres- ence of unsaturated compound
12	<b>Test for the reducing sugar</b> 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	Indicate the presence of reducing sugar
13	<b>Test for amino acid</b> One or two drops of the extract is placed on a filter paper and dried well. After drying, 1% ninhydrin is sprayed over the same and dried it well.	Violet colour is formed	Indicates the pres- ence of amino acid
14	<b>Test for zinc</b> 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 Chukku karpam was tabulated above in table. The trial drug , Chukku karpam contains,

1.Calcium

2.Sulphate & Tannic acid

3.Starch & 4.Chloride

5.Unsaturated compounds

6. Amino acids & reducing sugar

7.amino acid

# CONCLUSION

Mode of action of the trial drug kadukkaikarpam which brings about the Bone mineralisation, Osteoblastic and Osteoclastic activity in body. May be due to the presence of calcium, sulphate, chloride and amino acid in it. Can be used to treat Thandagavatham (lumbarspondylosis)

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- Anonymous Sarakkusuthimuraigal, First Edition, Siddha maruthuvaNoolveliyitapirivu Indian medicine and Homeopathy Department (2008)
- 2. Taxonomy of Angiosperm.
- 3. Davidson text book of Modern medicine
- MurugesaMudaliyarK.S.Text book of materia medica (Gunapadam)mooligai,Department of Indian medicine and Homeopathy (2008)