



Biochemical analysis of Siddha Kalpa Medicine Vilam Pazha Karpam

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ABSTRACT

Siddha system is a traditional system of medicine practicing in southern part of the India. *Kaya karpam* means (kaayam-body, karpam-able competent) to make our body competent and youthful. The karpam or 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. Vilam pazha karpam from theraiyar kapiyam is indicated for Pitha vatham. It is correlated to Hypertension which is also known as high blood pressure. High blood pressure is classified as primary hypertension and secondary hypertension. 95% of cases are primary hypertension. As high blood pressure due to non specific life style and genetic factor.

The aim of the study was to evaluate the biochemical analysis of the siddha karpam 'vilam pazha karpam and it indicate the presence of calcium, sulphate, chloride, ferrous iron, unsaturated compound, reducing sugar which revealed the enhancement of therapeutic action in hypertension.

Keywords:

high blood pressure, primary hypertension, kaya karpam, biochemical analysis, Limonia acidissima

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INTRODUCTION

Hypertension is the most common cardiovascular disease and is a major public health issue in developed as well as developing countries. Although it is common and readily detectable, it can often lead to lethal complications, if left untreated. Primary Hypertension is the most common type of hypertension, affecting 95% of hypertensive patients. It has no identifiable cause. It is the primary cause of stroke, coronary artery disease and sudden cardiac death. Approximately 20% of the world's adults are estimated to have hypertension, when hypertension is defined as Blood pressure in excess of 140/90 mm Hg. The prevalence dramatically increases in patients older than 60 year. Persons of primary hypertension are having Giddiness, Dizziness, Palpitations, Dyspnoea, Insomnia and Fatigue.

Vilam pazham (limonia acidissima) has common names in English are wood apple and elephant apple. The fruit contains fruit acids, vitamins and minerals. The fruit is also astringent and cardiac tonic.

MATERIALS AND METHODS

Collection, Identification and Authentication of the Drug:

The required raw drugs were purchased from a well reputed country shop. They were identified and authenticated by 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 Medicine:

The purified raw drugs are coarsely powdered and mixed in of each equal quantity. The decoction is made out from the above mixture as per the method available in Siddha literatures.

Biochemical analysis:

Screening the drug *Naaval pazha karpam* to 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 *Vilam pazha karpam* was tabulated above in table 2. The trial drug, *Vilam pazha karpam* it contains, Sulphate, Chloride, Starch, Calcium, Ferrous ion, Unsaturated compound, Amino acid, Ferrous iron, Reducing sugar. The mode of action of the trial drug *Vilam pazha karpam* 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 Vilam pazha karpam

Drugs	Common name	Tamil synonym	Botanical Name/ Family	Action	Dose	Part Used
Vilam Pazham	Wood apple	Kapitham, Kadipagai, Vilavu, Vellil	Limonia acidissima/ Rutaceae	Aromatic, Refrigerant	1-2gm	Fruit

Table 2. Biochemical analysis of Vilam Pazha Karpam

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	Presence of chloride
TEST FOR CARBONATE The substance is treated with concentrated Hcl.	No brisk effervescence 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

CONCLUSION

Vilam pazha karpam is a Siddha medicine taken from a Siddha literature used for the treatment of hypertension (vadha pitham). The drug is screened for its biochemical properties. Further, comprehensive pharmacological analysis are needed to evaluate its potency and the drug has its own potency to undergo further research.

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