

**BIOCHEMICAL ANALYSIS OF SIDDHA POLYHERBAL DRUG POOVARASU ENNAI**

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Received on: 29/04/2019  
Revised on: 19/05/2019  
Accepted on: 09/06/2019

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**ABSTRACT**

Siddha system of medicine is the most popular traditional system of medicine followed by the people of Tamil Nadu nowadays. Today's children are the future citizens of a nation. To have a better nation, healthy citizens can contribute a lot. The text book dealing with pediatrics in Siddha system is called *Balavagadam*. In *Balavagadam* the *Akkaram* is one of the *Agakkarana noi*. *Ull Akkaram* is one of the type of *Akkaram*. In Siddha system the disease *Ull Akkaram* due to excess heat production in *moolam* and affect the oral cavity to induced ulceration. The aim of the study was qualitative analysis of *Poovarasu Ennai* a Siddha drug taken from a Siddha literature. The biochemical analysis of the trial drug indicates the presence of Sulphate, Chloride, Starch, Ferrous Iron, Unsaturated Compound, Amino Acid revealed the enhancement of therapeutic action in oral ulceration.

**KEYWORDS:** Siddha system, *Ull Akkaram*, oral ulceration, *Poovarasu Ennai*, Biochemical analysis.

**INTRODUCTION**

Siddha system of medicine is the most popular traditional system of medicine followed by the people of Tamil Nadu nowadays. Gradually, the system is spreading its benefits to the people of surrounding states also. Siddha system is guiding us to lead a perfect living in this world, starting from the first day of birth to the last day of death. Not only that, the system takes care even before the conception itself. Today's children are the future citizens of a nation. To have a better nation,

healthy citizens can contribute a lot. The text book dealing with pediatrics in Siddha system is called *Balavagadam*. In *Balavagadam* "*Akkaram*" is one of the *agakkarana noi* which is classified into mainly 8 types. *Ull Akkaram* is one of the type of *Akkaram*. In Siddha system the diseases *Ull Akkaram* due to excess heat production in *moolam* and affect the oral cavity to induced ulceration. The drug from Siddha literature (*Pillai pini Maruthuvam-part 1*) *Poovarasu Ennai* is analysed for the biochemical composition.

**MATERIALS AND METHODS**

*Poovarasu ennai*

**Ingredients**

**Table 1:**

S. No.	Drug Name	Botanical Name
1	<i>Poovarasu Leaf</i>	<i>Thespesia populnea</i>
2	<i>Poovarasu Flower</i>	<i>Thespesia populnea</i>
3	<i>Poovarasu Fruit</i>	<i>Thespesia populnea</i>
4	<i>Sathikkai</i>	<i>Myristica fragrans</i>
5	<i>Sathipathiri</i>	<i>Myristica fragrans</i>
6	<i>Elam</i>	<i>Elettaria cardamomum</i>
7	<i>Chitramanaku Nei</i>	<i>Ricinus communis</i>

**Collection, Identification and Authentication of the Drug**

The required herbal drugs were purchased from Siddha Medical College Campus. 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**

Make a paste of herbal drug, and make a cake of it. Mix the cake with the gaster oil and boil it. Remove the floating cake, and add the Raw drug powder. Mix it

**Biochemical analysis**

Screening the drug *Poovarasu Ennai* 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****Table 2:**

S. No.	EXPERIMENT	OBSERVATION	INFERENCE
1	<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.	No white precipitate is formed	Absence of calcium.
2	<b>TEST FOR SULPHATE</b> 2ml of the extract is added to 5% Barium Chloride solution	A white precipitate is formed	Indicates the presence of sulphate
3	<b>TEST FOR CHLORIDE</b> The extract is treated with silver nitrate solution.	A white precipitate is formed	Indicates the Presence of chloride.
4	<b>TEST FOR CARBONATE</b> The substance is treated with concentrated Hcl.	No brisk effect vessence is formed	Absence of Carbonate
5	<b>TEST FOR STARCH</b> The extract is added with weak iodine solution	Blue Colour is formed.	Indicates the present of Starch
6	<b>TEST FOR FERRIC IRON</b> The extract is acidified with Glacial acetic acid and potassium ferro cyanide.	No blue color is formed.	Absence of ferric iron
7	<b>TEST FOR FERROUS IRON</b> The extract is treated with concentrated Nitric acid and Ammonium thiocyanate solution.	Blood red colour is formed.	Indicates the presence of ferrous Iron.
8	<b>TEST FOR PHOSPHATE</b> The extract is treated with Ammonium Molybdate and concentrated nitric acid	No yellow precipitate is formed	Absence of Phosphate
9	<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> This extract is treated with ferric chloride.	No blue back precipitate is formed	Absence of tannic acid.
11	<b>TEST FOR UNSATURATION</b> Potassium permanganate solution is added to the extract.	It gets decolorized	Indicates the presence 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	No Colour change occurs	Absence 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% Ninydrin is sprayed over the same and dried it well.	Violet colour is formed.	Indicates the presence 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 *Poovarasu Ennai* was tabulated above in table 2.

**The trial drug *Poovarasu Ennai* contains.**

1. Sulphate

2. Chloride
3. Starch
4. Ferrous Iron
5. Unsaturated Compound
6. Amino Acid

The mode of action of the trial drug *Poovarasu Ennai* which brings about the ulcer healing activity in body, may be due to the presence of Sulphate, Chloride, Amino Acid in it.

## CONCLUSION

*Poovarasu Ennai* is a Siddha Drug taken from a Siddha literature used in the treatment of *Ull Akkaram*. 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.D.K. Soundararajan, Head of the Department, Department of Kuzhanthai Maruthuvam, Government Siddha Medical College, Palayamkottai and thanks to Department of Biochemistry, Government Siddha Medical College, Palayamkottai.

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