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## Research Article



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## Bio-chemical analysis of Thasadeepakkini Chooranam - A Siddha herbal formulation

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### Abstract

Siddha system describes Anaemia as Paandu or Veluppunoi, which means paleness. Siddha Medicine provides patient-friendly medication to overcome the Anaemic condition. As per siddha literature, a Siddha formulation Thasadeepakkini Chooranam(TDC) plays a vital role in the management of Anaemia. To enlighten the scientific basis for the use of Thasadeepakkini Chooranam(TDC) in Anaemia this study was done to characterize its Bio-chemical properties.

**Keywords:** Thasadeepakkini Chooranam, TDC, Siddha, Paandu, Anaemia

### Introduction

Siddha system of medicine is one of the ancient medical systems in india which reflects the life style and culture of the people. Siddhars, the founders of siddha medicine had designed the health practices including seasonal discipline and food regulation. Siddha system relays on the concept of “Food is Medicine”. Thus system prepares therapeutic drugs from green herbals. The herbal formulations serve as both drug and nutrient supplements.

### Materials and Methods

#### Ingredients

Perungayam (*Ferula asafoetida*), Vasambu (*Acorus calamus*), Vaivilangam (*Embelia ribes*),

Indhuppu (Rock salt), Omam (*Carum copticum*), Kadukkaithol (*Terminalia chebula*), Chithiramoolaverpattai (Root of *Plumpago zeylanica*), Kostum (*Costus speciosus*), Thippili (*Piper longum*), Seeragam (*Cuminum cyminum*). The preparation was made as per text.

#### Preparation of the extract

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

## Qualitative analysis

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	A white precipitate is formed	Indicates the presence 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 effervescence 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 presence of starch
6.	<b>Test For Ferric Iron</b> The extract is acidified with Glacial acetic acid and potassium ferro cyanide.	No blue colour is formed	Absence of Ferric iron
7.	<b>Test Of 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> The extract is treated with ferric chloride.	Blue black precipitate is formed	Indicates the presence of Tannic acid
11.	<b>Test For Unsaturation</b> Potassium permanganate solution is added to the extract	It gets decolourised.	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.	Colour change occurs	Indicates 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 well.	Violet colour is formed	Indicates the presence of Amino acid
14.	<b>Test For Zinc</b> The extract is treated with Potassium Ferrocyanide.	No white precipitate is formed	Absence of Zinc.

## Results

S.No	Tests	Result
1.	Calcium	+
2.	Sulphate	+
3.	Chloride	+
4.	Carbonate	-
5.	Starch	+
6.	Ferric Iron	
7.	Ferrous Iron	+
8.	Phosphate	-
9.	Albumin	-
10.	Tannic Acid	+
11.	Unsaturation compound	+
12.	The Reducing Sugar	+
13.	Amino Acid	+
14.	Zinc	-

The extract prepared from the sample **Thasadeepakkini Chooranam** contains calcium, sulphate, chloride, starch, ferrous iron, tannic acid, reducing sugar and amino acid, unsaturated compound.

## Discussion and Conclusion

The results of Biochemical analysis of “Thasadeepakkini Chooranam” shows that it contains Tannic acid, ferrous iron, chloride, calcium, sulphate, starch, reducing sugar, amino acid & unsaturated compound.

Thus the above study concludes that the presence of ferrous iron in Thasadeepakkini Chooranam may help in management of Anaemia.

Further in detail Pharmacological studies have to be done to evaluate the therapeutic efficacy of drug.

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