



BIOCHEMICAL EVALUATION OF SIDDHA FORMULATION *PITHA KARAPPANCHOORANAM*

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ABSTRACT

Background: *Pitha Karappan* can correlated with the modern term of Atopic dermatitis treating by siddha herbal formulation *Pitha Karappan Chooranam* is mentioned in the book of *Sarabenthirar Vaithiya Muraigal (Virana Karapan Roga Sikitchai)* as internal medicine. **Aim & Objective:** The aim of this study is to evaluate the Biochemical analysis of *Pitha Karappan Chooranam*. **Methodology:** The Biochemical analysis of *Pitha Karappan Chooranam* is carried out using standard procedures on January 2023 at Central Council for Research in Siddha unit (CCRS), Govt/Siddha College and Hospital, Palayamkottai, Tirunelveli, India. **Results:** Preliminary Biochemical screening found, the presence of Sulphate, Chloride, Starch, Tannic acid, Ferrous ion, Unsaturated compound and Aminoacid. **Discussion:**

Sulphate- are a type of cleansing agent known as an anionic surfactant. surfactants bind with dirt, oil, and other impurities on the hair or skin, making them easier to wash away, Chloride- will help to exfoliate the top layers of skin, removing excess oil, dirt, and other impurities that may have accumulated during the day, Starch- helps buff away dead skin cells by gently exfoliating the skin. Dead skin cells tend to clog pores, which can eventually result in acne breakouts and leave scars. Starch can help remove these dead skin cells, thus rejuvenating the skin, Tannic acid- Tannins have natural antimicrobial properties that help reduce acne breakouts and blemishes. Tannins contain anti-inflammatory properties that can help

minimize redness and inflammation, reduce cell damage, tannins act as an antioxidant against free radicals, Ferrous ion- helps with optimizing the skin's wound healing function and minimizing the appearance of bruises. increasing iron will often make the itchiness go away, Unsaturated compound - control symptoms related to inflammation, Aminoacid- help restore cracked, flaky, or dry skin and maintain overall skin health. **Conclusion:** This study is an effort to explore the different Biochemical compounds of *Pitha Karappan Chooranam* effective in the management of *Pitha Karappan* (Atopic Dermatitis).

KEYWORDS: Biochemical, Atopic dermatitis, *Pitha Karappan Chooranam*, *Pitha Karappan*.

INTRODUCTION

Siddha text book of “*Balavakadam*” describes “**PITHA KARAPPAN**” is a disease characterised by headache (*thalai noi*), fever (*suram*), itching (*arippu*), *Erythema* (*udal sivathaludan erithal*), heat (*suudu*), Vomitting (*vaanthi*), constipation (*malachikal*). These symptoms are probably similar to “**ATOPIC DERMATITIS**” (**Atopic Eczema**) mentioned in contemporary literature. Approximately 50% of children experience symptoms in the 1st year of life, and an additional 30% are diagnosed between 1 and 5 year of age. Intense pruritis and cutaneous reactivity are the cardinal features. scratching and excoriation cause increased skin inflammation that contributes to the development of more pronounced eczematous skin lesions.

The conservative management for *Pitha karappan* includes anti inflammatory, anti histamine and anti microbial treatment followed by symptomatic management. Though this is not provides a significant cure. However, as per the siddha texts, treatment of *pitha karappan* can be effectively done by using various traditional Siddha formulation. So this study was designed to have a complete contemporary understanding of Siddha formulation *PITHA KARAPPAN CHOORANAM* (oral administration) in the management of *PITHA KARAPPAN*.

Pitha Karappan (it is one type of *Karappan*), According to the Siddha texts it is characterized by skin Rashes, Papules, Vesicles, Pustules, Fissures, Oozing, Ulceration, Swelling, Itching, Hyperpigmentation lesion.

Majority of signs and symptoms of *Pitha Karappan* can be correlated with the modern term

of Atopic dermatitis treating by siddha herbal formulation *Pitha Karappan Chooranam* is mentioned in the book of *Sarabenthirar Vaithiya Muraigal (Virana Karapan Roga Sikitchai)* as internal medicine Eczema is a term for several different types of skin swelling. Eczema is also called dermatitis. Most types cause dry, itchy skin and rashes on the face, inside the elbows and behind the knees, and on the hands and feet. Scratching the skin can cause it to turn red, and to swell and itch even more.

Eczema is not contagious. The cause of eczema is unknown. It is likely caused by both genetic and environmental factors. Eczema may get better or worse over time, but it is often a long-lasting disease. People who have it may also develop hay fever and asthma.

The most common type of eczema is atopic dermatitis. It is most common in babies and children, but adults can have it too. As children who have atopic dermatitis grow older, this problem may get better or go away. But sometimes the skin may stay dry and get irritated easily.

Pitha Karappan Chooranam relieves the Symptoms of the *Pitha Karappan* (Atopic dermatitis).

MATERIALS AND METHODS

DRUG COLLECTION AND PURIFICATION

- ❑ Required raw drugs were collected from in and around Tirunelveli. It was identified and authenticated by the Medicinal botanists at GSMC, Palayamkottai.
- ❑ The ingredient of the Trial drug is purified according to the proper procedures that are mentioned in Siddha classical literature. The drug will be labelled as *Pitha Karappan Chooranam*.

BIOCHEMICAL ANALYSIS OF “PITHA KARAPPAN CHOORANAM”:

INGREDIENTS “PITHA KARAPPAN CHOORANAM”- *Sarabenthira vaiththiya muraigal (Virana Karappan roga sikitchai)*

Ingredients.

S.NO	NAME	BOTANICAL NAME	QUANTITY
1.	SUKKU	<i>Zingiber officinalae</i>	1 palam- 35g
2.	MILAKU	<i>Piper nigrum</i>	1 palam- 35g
3.	THIPPILI	<i>Piper longum</i>	1 palam- 35g
4.	KARUNGEERAKAM	<i>Nigella sativa</i>	1 palam- 35g
5.	SUTHITHA-KUKKIL	<i>Vateria indica</i>	5 palam- 175g

6.	VELLARUKU	<i>Enicostemma axillare</i>	3 palam- 105g
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All the ingredients are purified and grinded into fine particles.

PREPARATION OF THE EXTRACT

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

BIOCHEMICAL ANALYSIS

S.NO	EXPERIMENT	OBSERVATION	INFERENCE
1	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	No white precipitate is formed	Absence of calcium
2	TEST FOR SULPHATE: 2ml of the extract is added to 5% Barium chloride solution.	A white precipitate is formed	Indicates the presence of Sulphate
3	TEST FOR CHLORIDE: The extract is treated with silver nitrate solution	A white precipitate is formed	Indicates the presence of Chloride
4	TEST FOR CARBONATE: The substance is treated with concentrated HCL	No brisk effervescence is formed	Absence of Carbonate
5	TEST FOR STARCH: The extract is added with weak iodine solution.	Blue colour is formed	Presence of Starch
6	TEST FOR FERRIC IRON: The extract is acidified with Glacial acetic acid and potassium ferrocyanide.	No blue colour is formed	Absence of Ferric iron
7	TEST FOR FERROUS : The extract is treated with concentrated nitric acid and ammonium thiocyanate solution.	Blood red colour is formed	Presence of Ferrous iron
8	TEST FOR PHOSPHATE: The extract is treated with Ammonium molybdate and concentrated nitric acid.	No yellow precipitate is formed	Absence of Phosphate
9	TEST FOR ALBUMIN: The extract is treated with esbach reagent.	No yellow precipitate is formed	Absence of Albumin
10	TEST FOR TANNIC ACID: The extract is treated with ferric chloride.	Blue black precipitate is formed	Presence of Tannic acid
11	TEST FOR UNSATURATION: Bayer's test-potassium permanganate solution is added to the extract.	It gets decolourised	Presence of unsaturated compound
12	TEST FOR THE REDUCING SUGAR: 5 ml of the 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	TEST FOR AMINO ACID: one or two drops of the extract is placed on filter paper and dried well. After drying, 1% ninhydrin is sprayed over the paper and gain dried.	Violet colour is formed	Presence of Amino acid
14	TEST FOR ZINC: The extract is treated with pottasium ferrocyanide.	No white precipitate is formed	Absence of Zinc

RESULT AND DISCUSSION

S.NO	EXPERIMENT	INFERENCE
1	TEST FOR CALCIUM	Absence of calcium
2	TEST FOR SULPHATE	Indicates the presence of Sulphate
3	TEST FOR CHLORIDE	Indicates the presence of Chloride
4	TEST FOR CARBONATE	Absence of Carbonate
5	TEST FOR STARCH	Presence of Starch
6	TEST FOR FERRIC IRON	Absence of Ferric iron
7	TEST FOR FERROUS	Presence of Ferrous iron
8	TEST FOR PHOSPHATE	Absence of Phosphate
9	TEST FOR ALBUMIN	Absence of Albumin
10	TEST FOR TANNIC ACID	Presence of Tannic acid
11	TEST FOR UNSATURATION	Presence of unsaturated compound
12	TEST FOR THE REDUCING SUGAR	Absence of Reducing sugar
13	TEST FOR AMINO ACID	Presence of Amino acid
14	TEST FOR ZINC	Absence of Zinc

Preliminary Biochemical screening found, the presence of Sulphate, Chloride, Starch, Tannic acid, Ferrous ion, Unsaturated compound and Amino acid.

1. Sulphate- are a type of cleansing agent known as an anionic surfactant. surfactants bind with dirt, oil, and other impurities on the hair or skin, making them easier to wash away
2. Chloride- will help to exfoliate the top layers of skin, removing excess oil, dirt, and other impurities that may have accumulated during the day.
3. Starch- helps buff away dead skin cells by gently exfoliating the skin. Dead skin cells tend to clog pores, which can eventually result in acne breakouts and leave scars. Potatoes can help remove these dead skin cells, thus rejuvenating your face
4. Tannic acid- Tannins have natural antimicrobial properties that help reduce acne breakouts and blemishes. Tannins contain anti-inflammatory properties that can help minimize redness and inflammation, reduce cell damage, tannins act as an antioxidant against free radicals
5. Ferrous ion- helps with optimizing the skin's wound healing function and minimizing the

appearance of bruises. increasing iron will often make the itchiness go away.

6. Unsaturated compound - control symptoms related to inflammation
7. Aminoacid- help restore cracked, flaky, or dry skin and maintain overall skin health.

The Biochemical constituents present in Pitha Karappan Chooranam relieves the Symptoms of the Pitha Karappan (Atopic Dermatitis).

CONCLUSION

The obtained results from the studies confirm the validity of the use of drug *Pitha Karappan Chooranam* as a internal medicine for *Pitha Karappan* (Atopic Dermatitis).

It can be concluded that the therapeutic properties of this preparation is due to presence of these biochemical components. The above study can be useful for further physicochemical, clinical studies and drug standardization. The periodic assessment is essential for Quality assurance and safer use of the herbal drugs.

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