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Research article

Preliminary Phytochemical analysis of Sugantha Malli Chooranam – polyherbal formulae in Siddha

Ruba K [1*], Vibushanan G[1], Shyamala K[2]

[1*] PG Scholars, Department of Kuzhandhai Maruthuvam, Government Siddha Medical College and Hospital, Palayamkottai.

[2]Reader, Department of Kuzhandhai Maruthuvam, Government Siddha Medical College and Hospital, Palayamkottai.

ABSTRACT

In traditional system of medicine we are using single plant or mixture of plants rather than isolated compounds, due to synergism. The active phytochemical constituents of individual plants are inadequate and do not give desirable therapeutic effects, when polyherbal and herbo-mineral formulations combining the multiple herbs in peticulous ratio, it will give an enhanced therapeutic effect and decrease the toxicity. *Sugantha Malli Chooranam (SMC)* is a polyherbal formula in siddha is used to treat *Lasuna thabitham* (Tonsillitis) in children. This paper describes the qualitative analysis of *Sugantha Malli Chooranam (SMC)*. The phytochemical analysis of *SMC* indicates the presence of calcium, sulphate, chloride, starch, ferrous iron, reducing sugar and amino acid revealed the enhancement of therapeutic action in *Lasuna thabitham* (Tonsillitis).

Keywords:

Sugantha Malli Chooranam, Lasuna thabitham (Tonsillitis), Siddha system, Phytochemical analysis .

Address for correspondence:

Ruba K

PG Scholar,

Department of Kuzhandhai Maruthuvam

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INTRODUCTION

The Siddhars are supreme human beings, the immortal masters of meditation and also founders of the Indian traditional alchemical system of medicine namely "The Siddha System". In siddha, the Paediatrics is called as, *Kuzhanthai Maruthuvam, Balavagadam* and *Pillaipini Maruthuvam.* "The healthy children are the backbone of a healthy society". But they were suffered from lot of viral and bacterial infection. *Lasuna thabitham* (Tonsillitis) is one of them which is caused by viral or bacterial infection such as Influenza, Para influenza, Adeno virus, Rhino virus, Group A β hemolytic Streptococci, Staphylococcus aureus, Pneumococcus. In siddha, *Lasuna thabitham* (Tonsillitis) is defined as inflammation of the tonsils due to elevation of *pitta* and *kapha dosha* in our body which leads to redness, swelling, pain in throat and fever also. Majority of people recover completely without medication in three days by to be follow their oral hygienic methods, some of them need a medication which is depends upon their illness. Lethargically we are not treated it may leads to high risk of developing Rheumatic fever, Post streptococcal glomerulonephritis and Lemierre's syndrome. So I decide to choosen *Sugantha Malli Chooranam (SMC)* - a polyherbal formula is taken from the text book of *Nam Nattu Vaithiyam* to treat *Lasuna thabitham* (Tonsillitis) in children.

METHODS AND MATERIALS

Table.1 (Ingredients of *Sugantha Malli Chooranam*)

S. No.	Drug Name	Botanical Name
1	*Parangichakkai*	*Smilax china*
2	*Elam*	*Ellettaria cardamom*
3	*Athimathuram*	*Glycyrrhiza glabra*
4	*Channalavangapattai*	*Cinnamomum verum*
5	*Karunjeeragam*	*Nigella sativa*
6	*Kirambu*	*Syzygium aromaticum*
7	*Thiratchai*	*Vitis vinifera*
8	*Seeragam*	*Cuminum cyminum*
9	*Pilappuseeragam*	*Carum bulbocastanum*
10	*Kothamallivithai*	*Coriandrum sativum*
11	*Karkandu*	*Borossus flabellifer*

Collection, Identification and Authentication of the Drug:

The required raw drugs were purchased from a well reputed country shop. They were 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 drug:

The above drugs (1to8) are taken in 35 gram each. Purify all and fry all the drugs in golden brown colour. 315 gram of coriander seeds are taken and dried in the sunlight. Then powder all the 9 drugs and sieve by sieving cloth. Now add 630 gram of powdered sugar and mix all together.

Phytochemical analysis:

Screening the drug *Sugantha Malli Chooranam* to identify the Phytochemical properties present in the ingredients.

Chemicals and drugs:

All 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 Phytochemical analysis of the trial drug *Sugantha Malli Chooranam* was tabulated above in table 2.

The trial drug *Sugantha Malli Chooranam* contains.

- Calcium
- Sulphate
- Chloride
- Starch
- Ferrous Iron
- Reducing sugar
- Amino Acid

Table.2 QUALITATIVE ANALYSIS OF *SUGANTHA MALLI CHOORANAM*

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.	A white precipitate is formed	Indicates the presence 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 of chloride.
4	**TEST FOR CARBONATE** The substance is treated with concentrated Hcl.	No brisk effect essence is formed	Absence of Carbonate
5	**TEST FOR STARCH** The extract is added with weak iodine solution	Blue Colour is formed.	Indicates the Presence of Starch
6	**TEST FOR FERRIC IRON** The extract is acidified with Glacial acetic acid and potassium ferro cyanide.	No blue color is formed.	Absence of ferric iron
7	**TEST FOR FERROUS IRON** The extract is treated with concentrated Nitric acid and Ammonium thiocyanate solution.	Blood red colour is formed.	Indicates the 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's reagent	No yellow precipitate is formed.	Absence of Albumin.
10	**TEST FOR TANNIC ACID** This extract is treated with ferric chloride.	No blue back precipitate is formed	Absence of tannic acid.
11	**TEST FOR UNSATURATION** Potassium permanganate solution is added to the extract.	It doesnot get decolorized	Absence of unsaturated compound
12	**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 changes occurs	Indicates the presence of reducing sugar
13	**TEST FOR AMINO ACID** 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	**TEST FOR ZINC** The extract is treated with Potassium Ferro cyanide.	No white precipitate is formed.	Absence of Zinc.

The mode of action of the trial drug *Sugantha Malli Chooranam* which brings about the therapeutic action in bone mineralization, electrolyte balance, muscle growth, enhancement of haemoglobin level, kills the pathogen like virus and bacteria, wound healing activity and regulate immune system in body, may be due to the presence of Calcium, Sulphate, Chloride, Ferrous iron, Amino Acid compounds in it.

CONCLUSION

Sugantha Malli Chooranam (SMC) - a polyherbal formula in siddha is taken from the text book of *Nam Nattu Vaithiyam* to treat *Lasuna thabitham* (Tonsillitis) in children. The drug is screened for its phytochemical properties. Further, comprehensive pharmacological analysis are needed to evaluate its potency and the drug has its own potency to undergo further research.

FINANCIAL SUPPORTS

Nil

CONFLICTS OF INTEREST

None declared.

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