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Research Article

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Phytochemical screening of Siruganpeelai Chooranam

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Abstract

Most of the Indian classical system of medicine are effective especially siddha but they are lack of standardization. so there is a need to develop a standardization. Central council of Indian medicine has given preliminary guidelines for standardizing these conventional formulations. Here attempt has been made to evaluate Siruganpeelai chooranam. The preliminary phytochemical screening of siruganpeelai chooranam shows Reducing sugar 102mg/ml, Amino acids 36 µg/ ml . Biological significance is also widely discussed in this presentation.

Keywords: Siddha system, Siruganpeelai chooranam, Phytochemical, Biological significance.

Introduction

Siddha science is an ancient medical system for mankind. Siddha medical system is based on amazing principles such as theory of Arusuvai. theory of unave marundhu marundhe unavu. Depends on these types of specialized principles siddha medicine was formulated to treat various diseases. Though it is consider that the herbal formulations are alltime safe, but it needs scientific proof because of our changing environment and public nowadays. In this situation used some modern equipment to qualify the siruganpeelai chooranam to standardize this medicinal formulation.

Indication;

- Dysuria
- Kidney stone
- Thiridhosa
- Menorrahagia
- Anemia

Action;

- Diuretics
- Anthelmintic
- Lithotropic
- Demulcent

Materials and Methods

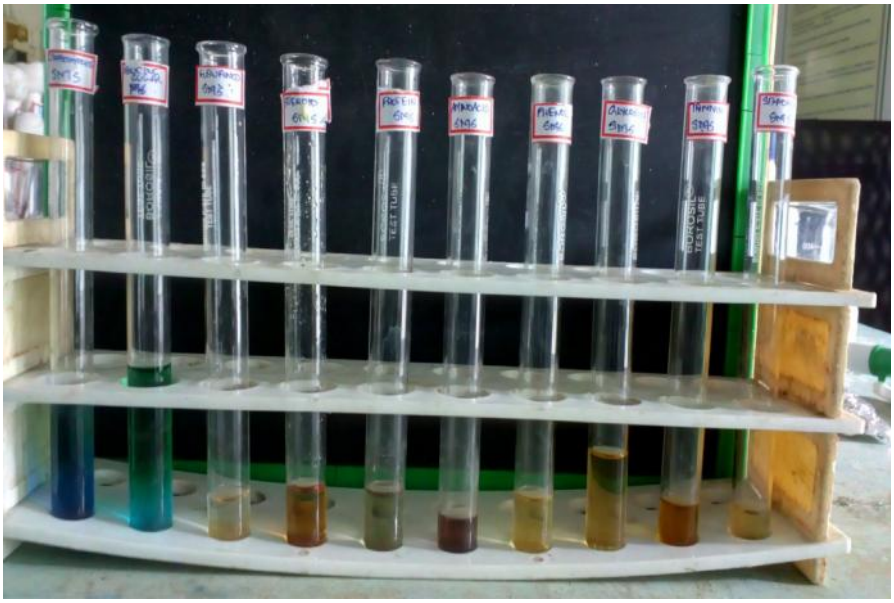
Preparation of Siruganpeelai Chooranam

Content; Siruganpeelan peelai
Botanical Name- *Aerva lanata*
Family- Amaranthaceae

The selected particles let to dry under sunlight until them get fully dried, then make it powder form and collect in air tight container.

Procedure;

Qualitative analysis



Carbohydrates (Kokate, 1994**)**

Fehling's Test: 1 ml Fehling's A solution and 1 ml of Fehling's B solution were mixed and boiled for one minute. Then the equal volume of test solution (extract) was added to the above mixture. The solution was heated in boiling water bath for 5-10 minutes. Colour changed from yellow to brick red.

Proteins (Ansari, 2006)

Xanthoproteic Test: To the small quantity of extract, 1ml of conc. H_2SO_4 was added, resulted in the formation of white precipitate which on boiling turned yellow. On addition of NH_4OH, yellow precipitate turned orange.

Glycosides (Ansari, 2006)

Keller-Killiani Test: To 2 ml of the extract, glacial acetic acid, one drop 5% $FeCl_3$ and conc. H_2SO_4 was added. Reddish brown colour appeared at junction of two liquid layers and upper layer turned bluish green indicating the presence of glycosides.

Steroids (IP, 1996)

Salkowski Test: To 2 ml of extract, 2 ml of chloroform and 2 ml of conc. H_2SO_4 was added. The solution was shaken well. As a result chloroform layer turned red and acid layer showed greenish yellow fluorescence.

Flavanoids (Kokate, 19940)

Shinoda Test: T o the extract, 5 ml of 95% ethanol and few drops of concentrated hydrochloric acid was added. To this solution 0.5 gm of magnesium turnings were added. Pink colouration indicated the presence of flavanoids.

Tannins (Mukherjee, 2002)

Lead Acetate Test: On addition of lead acetate solution to the extract white precipitate appeared.

Saponin (Ansari, 2006)

Foam Test: Drug extract was shaken vigorously with water. No persistent foam was formed.

Reducing sugar test

Benedict's Test: Equal volume (2ml each) of Benedict's solution and extracts were mixed in a test tube and heated in boiling water bath for 10min the changes in colour to yellow, green and red indicates the presence of reducing sugars.

Phenol test

Ferric chloride Test (Mukherjee, 2002)

To 3 ml of extract, 3 ml of 5% w/v ferric chloride solution was added. The blue – black colour indicates the presence of phenol.

Quantitative procedure

Estimation of carbohy drate (Miller, 1972)

100 mg of sample was weighed and sugars were extracted with hot 80% alcohol twice (5 ml each time). The supernatant was collected and evaporated on water bath and makeup the volume with 3 ml of water. 3 ml of Dinitrosalicylic acid (DNS) reagent was mixed with sample and heated for 5 minutes in a boiling water bath. After the colour development 1ml of 40% Rochelle salt (sodium-potassium tartarate) was added. The tubes were cooled under running tap water and measure the absorbance at 510 nm. The standard graph was plotted for working standard glucose solution (0 to 100µg/µl).

Estimation of flavanoids (Kariyon*et al.,* 1953)

Total flavanoids content was determined by aluminium chloride method using catechin as a standard. 1ml of test sample and 4 ml of water were added to a volumetric flask (10 ml volume). After 5 minutes 0.3 ml of 5% sodium nitrite, 0.3 ml of 10% aluminium chloride was added. After 6 minutes incubation at room temperature, 2 ml of 1 M sodium hydroxide was added to the reaction mixture. Immediately the final volume was made up to 10 ml with distilled water. The absorbance of the reaction mixture was measured at 510 nm spectrophotometrically. Results were expressed as catechin equivalents (mg catechin/ g dried extract).

Estimation of tannins (Robert, 1971)

1 ml extract was mixed with 5 ml of vanillin hydrochloride reagent (mix equal volumes of 8% HCL in methanol and 4% vanillin in methanol). The mixture was allowed to stand for 20 minutes and measure the absorbance at 500nm. The standard graph was plotted for working standard catechin solution (0 to 250 µg/µl).

Quantitative Estimation of Reducing Sugars by Dinitro Salicylic Acid Method: (Miller, G.L. 1972. Anal. Chem.:426.)

100mg of the sample was weighed and sugars were extracted with hot 80% alcohol twice(5ml each time). The supernatant was collected and evapouated on water bath and makeup the volume with 3ml of water. 3ml of Dinitrosalicyclic acid (DNS) reagent was mixed and heated for 5mins in a boiling water bath. After the colour development 1ml of 40% Rochelle salt (sodium-potassium tartarate) was added. The tubes were cooled under running tap water and measure the absorbance at 510nm using reagent balnk adjusted to zero. The standard graph was plotted for working standard glucose solution (0 to 100µg/µl).

Quantitative Estimation of Amino acid

Total free amino acid content of freshly collected frozen tissues of algae was estimated by ninhydrin method (Moore and Stein, 1948). To suitable aliquots of the algal extract, water was added to make the total volume to 4.0 mL. To this, 1.0 mL of ninhydrin reagent was added, mixed and kept in a boiling water bath for 15 minutes. The tubes were then removed, cooled and 1.0 mL of 50% ethanol was added. The pink color developed was measured at 550 nm.

Results

Qualitative result

Test	Result
Carbohydrate	Absent
Reducing sugar	Present
Protein	Absent
Aminoacid	Present
Tannin	Absent
Steroids	Absent
Saponins	Absent
Glycosides	Absent
Flavanoids	Absent
Phenols	Absent

Quantitative result

Test	Result
Reducing sugar (mg/ ml)	**102 mg/ ml**
Amino acid (µg/ ml)	**36 µg/ ml**

Discussion

In phytochemical analysis, the sample of siruganpeelai chooranam exhibits presence of Reducing Sugar and Amino acid, also it reveals the absence of Carbohydrate, Protein, Tannin, Steroids, Saponins, Glycosides, Flavonoids, Phenols. These result indicates therapeutic function of Siruganpeelai Chooranam.

Conclusion

Traditional medicines are always promotess higher therapeutic use without causing any harmful effects. Scientific validation of traditional medicines through standardization will provide the knowledge regarding the mechanism of action of drugs.phytochemical screening on Siruganpeelai Chooranam the siddha drug creates the fingerprint s to standardize this drug.

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References

1.**K.N,Kuppusamy Mudhaliar, 1951,** Gunapadam Muligai Vaguppu, Indian Medicine &homeopathy, p-687.

2.**T.V.Sambasivam Pillai, 2006,**Siddha Medical Dicionary vol-4 part-2.Dept of Indian Medicine & Homeopathy. Chennai-600 10.

3.**Kokate, C. K. 1994.** Practical Pharmacognosy, 4th edition, VallabhPrakashan, New Delhi. 4 – 29

4.**Ansari, S. H. 2006.** Essentials of pharnacognosy, 1st edition, Birla publications, New Delhi. pp. 357-359, 588-590.

5.**Indian Pharmacopoeia (IP). 1996.** Govt. of India, Ministry of Health and Family Welfare Published by the Controller of Publications, New Delhi, A-47, A-53, A-54.

6.**Mukherjee, P. K. 2002.** Quality control of herbal drugs, business horizons pharmaceutical publishers, New Delhi. 356 - 358.

7.**Miller, G. L. 1972.** Use of DNS reagent for the determination of glucose. Anal. Chem. 31: 426 - 428.

8.**Kariyon, T., Hashimoto, Y** and **Kimura, M. 1953**. Microbial studies of plant components. IX. Distribution of flavanoids in plants by paper chromatography. J. Pharma. Soc. (Japan). 7: 253 – 256.

9.**Robert, E. B. 1971.** Method for estimation of tannin in *Grain sorghum*. Agro. J. 63 : 510 – 511.

10. ***Moore*, *S., and Stein*, *W. H.***: Photometric Ninhydrin Method *for* Use in Chromatography of Amino Acids , *J BiolChem 176*:*367-388* ((Oct.)) 1948.

11.

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