INTERNATIONAL JOURNAL OF CURRENT RESEARCH IN CHEMISTRY AND PHARMACEUTICAL SCIENCES
(p-ISSN: 2348-5213: e-ISSN: 2348-5221)
www.ijcrcps.com
DOI: 10.22192/ijcrcps Coden: IJCROO(USA) Volume 5, Issue 6 - 2018

Research Article

DOI: http://dx.doi.org/10.22192/ijcrcps.2018.05.06.014

Qualitative phytochemical analysis of classical siddha medicine Amirthathi Kuligai

Seethalakshmi G[1], Praveena . R[2], Vanitha A[3], Muthukumar. N. J[4], Banumathi V[5]

[1]Resident medical officer, National Institute of Siddha, Chennai
[2]Yoga expert, National Institute of Siddha, Chennai
[3]Resident medical officer, National Institute of Siddha, Chennai
[4]HOD, Sirappu Maruthuvam Dept, National Institute of Siddha, Chennai
[5]Director, National Institute of Siddha, Chennai

Abstract

The Siddha system of medicine is one of the oldest system of medicine that is practiced in southern India. Siddhars are the father of the Siddha medicine. They wrote their extensive medicinal knowledge in palm leaf manuscripts . Amirthathikuligai a Siddha medicinal preparation is used for treating gastro intestinal and respiratory diseases. This scientific paper was carried to validate the phyto chemical analysis of amirthathikuligai.

Keywords: Siddhars, Amirthathikuligai, phyto chemical analysis.

Introduction

The Siddha medicine is gaining popularity all over India, because of its low toxicity and varied uses. According to Siddhars, each body is a unique combination of five elements. Keeping this combination in balance is the key to health. External disturbances like excess heat or cold or improper diet etc can cause disharmony inside the body, which inturn can cause diseases. Siddhars have mentioned numerous preparation for treating various diseases.

Materials and Methods

Standard operating procedure of trial drug:

Ingredients:

Athimaduram
Koshtam
Ellam
Korosanai
Sathirabedhi
Senbaga poo
Masikkai
Lavangam – each ¼ balam

Purification of trail drug:

All the above mentioned drugs are purified as per the methods described in Siddha literature.

Preparation of trail drug:

The drugs are powdered and grinded with the juice of vettiver, masipathiri ver, karunthulasi and vilamichuver for 24hours and then made into 130mg sized pill.
Materials and Methods:

Aim and objective:

The aim of this study to do qualitative phytochemical screening.

Phyto chemical analysis

Test for Carbohydrates - Benedict's test (Brain & Turner, 1975):

To 0.5 ml of test drug about 0.5 ml of Benedict's reagent is added. The mixture is heated on a boiling water bath for 2 minutes. A characteristic coloured precipitate indicates the presence of sugar.

Brain KR, Turner TD. The Practical Evaluation of Phytopharmaceuticals. Bristol:Wright- Scientechnica; 1975; 36-45

Reducing sugar (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.

Kokate, C. K. 1994. Practical Pharmacognosy, 4th edition, Vallabh Prakashan, New Delhi. 4 - 29.

Glycosides (Ansari, 2006):

Keller-Killiani Test: To 2 ml of the extract, glacial acetic acid, one drop 5% FeCl3 and conc. H2SO4 was added. Reddish brown colour appeared at junction of two liquid layers and upper layer turned bluish green indicating the presence of glycosides.

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

Steroids (IP, 1996):

Salkowski Test: To 2 ml of extract, 2 ml of chloroform and 2 ml of conc. H2SO4 was added. The solution was shaken well. As a result chloroform layer turned red and acid layer showed greenish yellow fluorescence.

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.

Alkaloids (Ansari, 2006):

The extract was evaporated in a test tube. To the residue dilute HCL was added, shaken well and filtered.

Mayer's Test: To the 2-3 ml of filtrate Mayer's reagent was added. Formation of yellow precipitate showed the presence of alkaloids.

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

Flavanoids (Kokate, 1994):

Shinoda Test:

To 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.

Kokate, C. K. 1994. Practical Pharmacognosy, 4th edition, Vallabh Prakashan, New Delhi. 4 - 29.

Tannins (Mukherjee, 2002):

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

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

Saponin (Ansari, 2006):

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

Protein (Ansari, 2006):

Biuret test: With 3 ml of test solution, few drops of 4% NaOH and 1% CuSO4 solution were added. The tubes were observed for violet or pink colour formation.

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

Phenol (Mukherjee, 2002):

Ferric chloride test :The extract was diluted to 5 ml with distilled water. To that a few drop of neutral 5% ferric chloride solution was added. A dark green color indicates the presences of phenolic compounds.

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

Test for Glycosides (Horbone, 1984):

0.5 mg of extract was dissolved in 1 ml of water and then aqueous NaOH solution was added. Formation of yellow color indicates the presence of glycosides.

Horbone, J.B., In: Phytochemical methods, 2nd edition. Chapman and Hall, New York,1984.

Test for Triterepnoids (Horbone, 1984):

To the test solution 2ml chloroform was added with few drops of conc. Sulphuric acid (3ml) at the side of the test tube. An interface with a reddish brown coloration is formed if terpenoids constituent is present.

Horbone, J.B., In: Phytochemical methods, 2nd edition. Chapman and Hall, New York,1984.

Test of Coumarins (Brain & Turner, 1975):

1 ml of extract, 1 ml of 10% sodium hydroxide was added. The presence of coumarins is indicated by the formation of yellow color. Test for Quinones The test samples were treated separately with Alc. KOH solution. Appearance of colors ranging from red to blue indicates the presence of Quinones.
Brain KR, Turner TD. The Practical Evaluation of Phytopharmaceuticals. Bristol:Wright- Scientechnica; 1975; 36-45

Test for Anthocyanin (Brain & Turner, 1975):

About 0.2 ml of the extract was weighed in separate test tube, 1ml of 2N Sodium hydroxide was added, and heated for 5 minutes at 100 ± 2°C. Observed for the formation of bluish green color which indicates the presence of anthocyanin.

Brain KR, Turner TD. The Practical Evaluation of Phytopharmaceuticals. Bristol:Wright- Scientechnica; 1975; 36-45

Test for Betacyanin (Brain & Turner, 1975):

To 2 ml of the test sample, 1 ml of 2N sodium hydroxide was added and heated for 5 min at 1000C. Formation of yellow colour indicates the presence of betacyanin.

Brain KR, Turner TD. The Practical Evaluation of Phytopharmaceuticals. Bristol:Wright- Scientechnica; 1975; 36-45

Results

Table 1 Phytochemical analysis of siddha medicine Amirthathi Kuligai

Test	Results
Reducing Sugar	Absent
Carbohydrate	Present
Protein	Absent
Alkaloid	Present
Flavanoid	Present
Glycoside	Absent
Steroid	Absent
Saponin	Absent
Triterpenoid	Absent
Phenol	Absent
Tannin	Absent
Coumarins	Absent
Quinones	Absent
Anthocyanin	Absent
Betacyanin	Absent

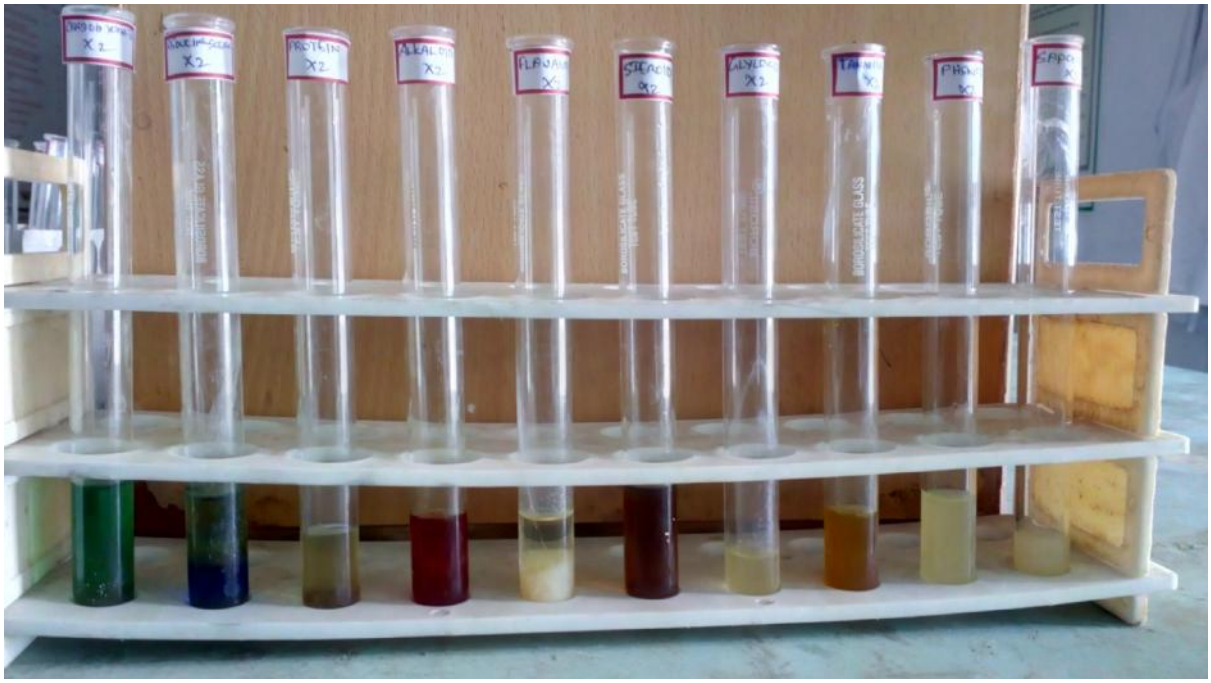

Figure 1 Phytochemical analysis of siddha medicine Amirthathi Kuligai

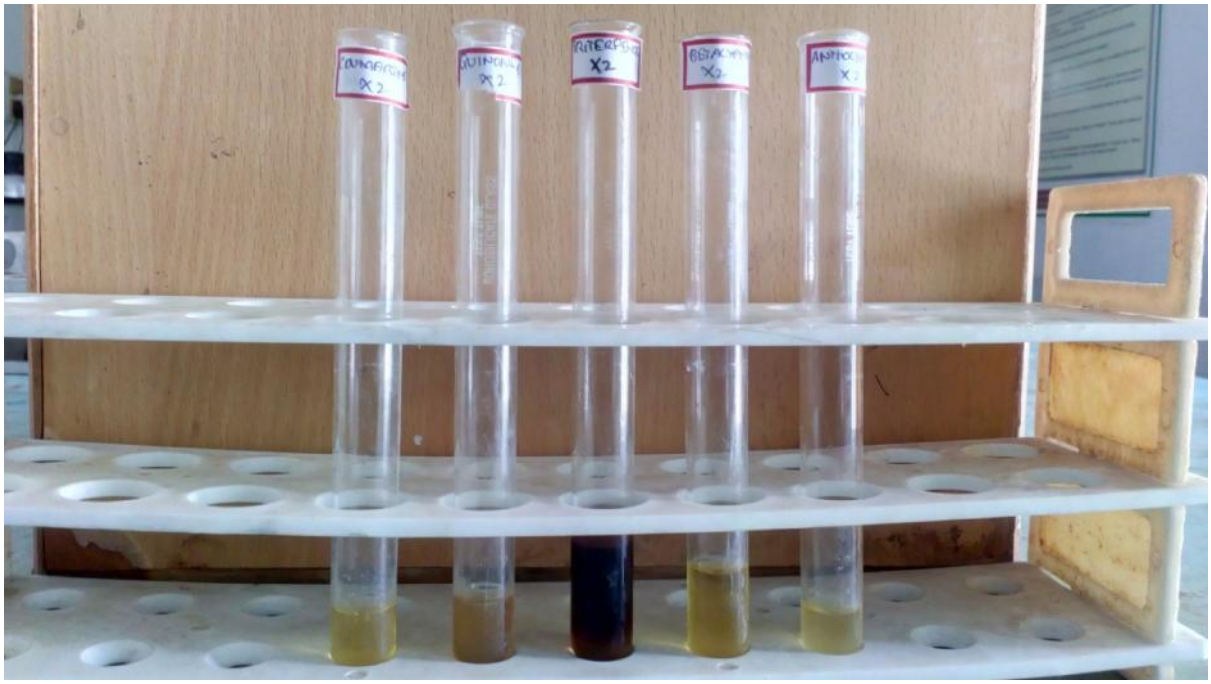

Figure 1 Phytochemical analysis of siddha medicine Amirthathi Kuligai

Conclusion

The preliminary phytochemical study of Amirthathi Kuligai revealed the presence of phyto chemicals like Carbohydrates, Alkaloids and Flavanoids.

References

1. Dr. K. S. Uthamarayan H.P.I.M- Siddha vaithiyathiratu- Indian medicine and homeopathy dept Chennai-106.
2. Dr. Murugesa Muthaliyar, siddha Materia Medica (vegetable section), volume 1, fourth edition1988, publisher; Tamilnadu siddha medical council, Chennai.
3. Dr.K.M.Nadkarani, Indian Materia Medica vol: 1Publisher: popular prakash, Mumbai, India.
4. Vanitha A, *In vitro* antibacterial activity of Pachai Karpoora Mathirai, International Journal of Comprehensive Research in Biological Sciences, Volome 5, Issue1 Jan 2018

Access this Article in Online	
	Website: www.ijcrcps.com
Quick Response Code	Subject: Siddha Medicine
DOI: 10.22192/ijcrcps.2018.05.06.014	

How to cite this article:
Seethalakshmi G, Praveena . R, Vanitha A, Muthukumar . N. J, Banumathi V. (2018). Qualitative phytochemical analysis of classical siddha medicine Amirthathi Kuligai. Int. J. Curr. Res. Chem. Pharm. Sci. 5(6): 80-84.
DOI: http://dx.doi.org/10.22192/ijcrcps.2018.05.06.014