

EVALUATION OF IN VITRO ANTIBACTERIAL ACTIVITY OF TOPICAL SIDDHA MEDICINE THUVARAI VER KUZHI THAILAM BY DISC DIFFUSION METHOD

¹Kopika S, ²Kanagavalli K, ³ShanmugaPriya C, ⁴Manju Hemamalini N

¹PG Scholar, ²Head of the Department, ^{3,4}Lecturer

Department of Kuzhanthai Maruthuvam

Government Siddha Medical College

Chennai-106 .

Abstract- The primary traditional medicine that is highly well-liked in south India is the Siddha system of medicine. In this approach, herbal remedies are primarily employed to prepare medications and treat illnesses. Because they contain a variety of phyto components, all parts of the herbs can be used to treat a wide range of disorders. An attempt was made to evaluate the anti bacterial activity of topical siddha medicine Thuvarai ver kuzhi thailam which is prepared from the root of *Cajanus cajan* . The antibacterial activity of the Siddha medicine Thuvarai ver kuzhi thailam was assayed by the disc diffusion method. This study has justified the traditional use of this drug for the treatment for skin disease. Finally this study concluded that the high dose of Thuvarai ver kuzhi thailam can be used as an anti bacterial agent.

Keywords: Antibacterial activity, Siddha medicine ,Thuvarai ver kuzhi thailam, Disc diffusion method.

INTRODUCTION

Siddha medicine is a distinctive and excellent form of prospective treatment for a number of chronic illness. Treatment and medication act in the body as well as the mind . It enhances in regulating the deranged vitals like mukkutram, udal thathukkal, udal kattugal, and body secretions (envagai theruvugal). In Siddha, medications are divided into 32 different types and categorised as either Aga marunthu (internal) or Pura marunthu (external). Topical ulcers, skin conditions like eczema, vitiligo, psoriasis, and fungal infections respond well to external treatments.

According to the Siddha system of medicine, one of the external medicine Thuvarai ver kuzhi Thailam. Root of Thuvarai(*Cajanus cajan*) are the only 'drug content' used in the preparation of Thuvarai ver kuzhi Thailam. It is a very effective medicine for Vitiligo(Venpulli). Vitiligo is an acquired macular depigmentation disorder associated with the destruction of melanocytes. This disorder represents a clinical end point resulting from a complex interaction of environmental, genetic and immunologic factors⁽¹⁾. As per the Siddha practitioners it is applied on the skin for treatment of Vitiligo . Apply the oil on the affected area. The treatment is followed by daily application over the affected area, it becomes alright in about 2 or 3 weeks.

AIM AND OBJECTIVE

The objective of this study was therefore to evaluate the Anti bacterial activity of Thuvarai ver kuzhi thailam traditionally used Siddha drug for skin ailments.

MATERIALS AND METHODS

TEST DRUG

THUVARAI VER KUZHI THAILAM (EXTERNAL)⁽²⁾:

REFERENCE : THE PHARMACOPOEIA OF SIDDHA RESEARCH MEDICINE, Dr.M.Shanmugavelu & Dr.G.D.Nayudu.



INGREDIENTS:THUVARAI VER –*Cajanus cajan*

SOURCE OF RAW DRUG:

The required raw drugs will be procured from a well reputed indigenous drug shop. And it will be authenticated by the concerned BOTANIST of GSMC,Chennai.

PREPARATION**KUZHI THAILAM METHOD**

THUVARAI VER KUZHI THAILAM

Thuvurai ver kuzhi thailam is prepared through the 'Kuzhi Thalia' method. Under this method, thin wires are inserted into a clay pot through small circular holes. These thin wires are pulled out of holes on the bottom of the pot and tied into a knot so that it holds firm. After that, the upper ends of the pot are filled with pure, well dried Thuvurai ver (Root of *Cajanus cajan*) cut with an agal, seven layers of clay cloth are applied to the margin. Once the pot is sealed, the sides and top of the pot are covered by cow dung cakes, which are then burnt. The resultant heat produces medicinal oil from the pieces inside the pot. Then collect the oil through the 'destructive distillation method' by placing a vessel below the pot's bottom hole. This oil is secured and preserved.

Disc-diffusion method:

The antibacterial activity of test sample was carried out by disc diffusion method. The target microorganism were cultured in Nutrient broth and incubated for 24 hrs. The petri dishes containing Nutrient agar (NA) medium were cultured with diluted bacterial strain. The prepared discs were placed on the culture medium. Test sample (500 μg , 1000 μg , 2000 μg) was injected to the sterile disc. Standard drug Streptomycin (20 μg) was used as a positive reference standard to determine the sensitivity of microbial species tested. Then the inoculated plates were incubated at 37 °C for 24 h. The diameter of the clear zone around the disc was measured and expressed in millimeters as its antibacterial activity.

**DISC DIFFUSION METHOD**



Result:

The different concentration of Thuvarai ver kuzhi thailam (500 μ g, 1000 μ g, 2000 μ g) were tested against bacterial strain. The higher concentration of Thuvarai ver kuzhi thailam had inhibitory effects towards the bacterial strain. The results of anti bacterial activity of Thuvarai ver kuzhi thailam showed concentration dependent activities against tested organism.

Zone of Inhibition in mm				
CODE	500 μ g	1000 μ g	2000 μ g	Std Streptomycin (20 μ g)
TMK/EC <i>E. coli</i>	6	10	14	24
TMK/SA <i>S. aureus</i>	7	9	12	16
TMK/BS <i>B. subtilis</i>	5	7	9	18
TMK/PA <i>P. aeruginosa</i>	3	6	8	27

CONCLUSION

The Siddha medicine Thuvurai ver kuzhi thailam is one of the important traditional herbal formulation in Siddha system of treatment which is very effective for Vitiligo(Venpulli).The highest zone of inhibition against E.coli,S.aureus.The nature of Thuvurai ver kuzhi thailam reveals that the single ingredient provides a significant effect against bacterial strains.

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