



STANDARDIZATION OF ERUMAI KOMBU KALNAR PARPAM BY FTIR STUDY

Vikesh B.^{1*}, Thanikaiselvi S.² and Thiruthani M.³

¹PG Scholar, Post Graduate Department of Nanju Noolum Maruthuva Neethi Noolum (Siddha Toxicology), Government Siddha Medical College, Palayamkottai, Tamilnadu, India.

²PG Scholar, Post Graduate Department of Gunapadam (Siddha Pharmacology), Government Siddha Medical College, Palayamkottai, Tamilnadu, India.

³Head of the Department of Nanju Noolum Maruthuva Neethi Noolum (Siddha Toxicology), Government Siddha Medical College, Palayamkottai, Tamilnadu, India.

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*Corresponding Author

Dr. Vikesh B.

PG Scholar, Post Graduate
Department of Nanju
Noolum Maruthuva Neethi
Noolum (Siddha
Toxicology), Government
Siddha Medical College,
Palayamkottai, Tamilnadu,
India.

ABSTRACT

Siddha medicine is a unique one as it is not only a curative but also preventive and to achieve the healthy body and mind. Erumai kombu kalnar parpam is a classical Siddha medicine used in the treatment of Weight loss, Leucorrhoea, Burning Micturition, Dysuria, etc. The aim of the present study was to standardize the Siddha herbomineral drug formulation of Erumai kombu kalnar parpam by Fourier Transform Infrared Spectroscopy (FTIR) and the result was noted. The instrumental analysis of FTIR study for erumai kombu kalnar parpam shows the presence of functional groups such as alcohol, amine salt, aldehyde, amine, nitro compound, primary alcohol, alkene and halo compound which responsible for its biological activity. These functional groups are responsible for the therapeutic effect of the drug. This evidence based data provide valuable information is helpful to standardization of erumai kombu kalnar parpam for the treatment of

Weight loss, Leucorrhoea, Burning Micturition, Dysuria, etc.

KEYWORDS: Erumai kombu kalnar parpam, FTIR, Standardization, siddha.

INTRODUCTION

Siddha medicine is a unique one as it is not only a curative but also preventive and to achieve the healthy body and mind. The Siddha system of medicine was foundation by our siddhars.

Siddhars were spiritual adepts who possessed the ashta Siddhis, or the eight supernatural powers. It is assumed that when the normal equilibrium of the three humors – Vaadham, Pittham, and Kapam – is disturbed, the disease will occur. The factors assumed to affect this equilibrium are environment, climatic conditions, diet, physical activities, and stress. Though it is considered that the herbal formulations are always safe, scientific validation is essential nowadays because of our changing environmental condition. In siddha system erumai kombu kalnar parpam used in the treatment of Weight loss, Leucorrhoea, Burning Micturition, Dysuria, etc. Some modern analytical equipment's are helpful to get knowledge regarding the traditional medicine compound formulations. FTIR standardization was done in this herbomineral Siddha formulation Erumai kombu kalnar parpam to evaluate the functional group identification.

MATERIALS AND METHODS

The herbomineral preparation Erumai kombu kalnar parpam is selected from the Siddha literature Padhartha Guna Vilakam Thathu jeeva vargam.

Ingredients

Erumai kombu kalnar, kadukkai kudineer and cow's milk.

Preparation of Drug

This drug was prepared as per Siddha literature Padhartha Guna Vilakam Thathu jeeva vargam.

FTIR Analysis

FTIR is an important and more advanced technique to identify the functional group. The spectrum that appears denotes the molecular absorption and transmission. It forms the molecular fingerprint of the sample. It is recorded as the wave length and the peaks seen in the spectrum indicates the amount of material present. The IR Tracker-100 –The new Fourier Transform Infrared Spectrophotometer for high sensitivity, High – resolution and high speed applications was used to derive FTIR spectra of Erumai kombu kalnar parpam.

RESULTS

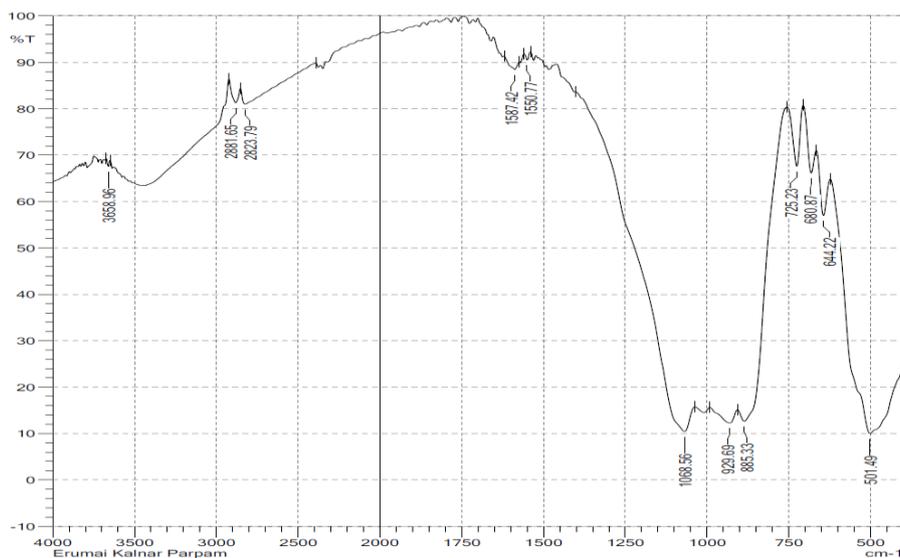


Fig 1: Image of FTIR spectrum.

Table 1: FTIR data interpretation of Erumai kombu kalnar parpam.

PEAK VALUES(Cm ⁻¹)	Vibrational modes of KC in IR region	Functional groups
3658.96 (M)	O-H Sharp,stretch	Alcohol
2881.65 (S)	N -H broad stretch	Amine salt
2823.79 (M)	C-H stretch	Aldehyde
1587.42 (M)	N-H bend	Amine
1550.77 (S)	N-O stretch	Nitro compound
1068.56 (S)	C-O Stretch	Primary alcohol
885.33 (S)	C=C Bend	Alkene
725.23 (S)	C=C Bend	Alkene
680.87 (S)	C=C Bend	Alkene
644.22 (S)	C-Br Stretch	Halo compound
501.49 (S)	C-I Stretch	Halo compound

DISCUSSION

FTIR instrumental analysis was done through IR Tracer 100. The tested drug was identified to have 12 peaks values. They are the functional groups present in the erumai kombu kalnar parpam. The table 1 and the figure 1 shows the presence of alcohol, amine salt, aldehyde, amine, nitro compound, primary alcohol, alkene and halo compound are the functional groups which represents the peak values. It is the functional group and determines the amount of compounds present in the sample. These functional groups are responsible for the therapeutic effect of the drug.

CONCLUSION

The instrumental analysis of FTIR study for Erumai kombu kalnar parpam shows the presence of functional groups such as alcohol, amine salt, aldehyde, amine, nitro compound, primary alcohol, alkene and halo compound which responsible for its biological activity. This evidence based data provide valuable information is helpful for further studies to standardize its efficacy and safety through proper procedure for its potency.

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