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Research Article

Standardization of Imporal, Vivati and Teerankottai Lehyams

P. Devi[1], **R. Meera**[2]*, P. Rajasoundarapandian[2], Madhavanmallayasamy[2]
[1]Department of pharmacognosy, K.M.College of pharmacy,
[2]Researcher, Radianz, Healthcare private Limited,
Madurai, Tamil Nadu, India.
*meeraharsa23@gmail.com

ABSTRACT

Objective: Imporal, Vivati and Teerankottai Lehyams were prepared by ayurvedic formulary and were analysed.

Materials and Methods: Lehyams conjunction with ingredients such as kadukkai, tetrankottai, chebula, impural, verpatti, pacum pal, panankarkantu, catipattiri, valmilaku,catikkay, terrankottai, tipple, milakucukku, kadukkai, tanrikkay, cirrarakottai, nellikkay, cirakam, carkkarai, honey and ghee in different proportions.

Results: The Loss on drying, Total ash, Acid insoluble ash, Alcohol soluble extractive, Water soluble extractive, Saponification value and Sugar content were determined respectively. The preliminary phyto chemical investigation shows the presence of alkaloids, carbohydrates, glycosides, saponin, tannins and flavonoids.

Conclusion: Increase the medicinal properties against appetizer, cough and tuberculosis by preparing like this herbal products.

Keywords: Lehyams, Phyto chemical investigation, Standardization

INTRODUCTION

Lehyas are medicated products forming a group of drugs in Ayurveda system of medicine. The principle is to extract the therapeutic content into paste form. Lehyas are easily absorbable. The method of preparation requires heating of the compound with prescribed kasayas and powdered drugs according to the formula. The Lehyas have the colour, odour and taste of the drug used and also have the consistency of the compound [1-8].

Imporal, Vivati and Teerankottai Lehyams were prepared by ayurvedic formulary and were analyzed.

Hence an attempt has been made to develop a herbal and nutraceutical product, Lehyams conjunction with ingredients such as kadukkai, tetrankottai, chebula, impural, verpatti, pacum pal, panankarkantu, catipattiri, valmilaku,catikkay, terrankottai, tipple, milakucukku, kadukkai, tanrikkay, cirrarakottai, nellikkay, cirakam, carkkarai, honey and ghee in different proportions, with a view to increase the medicinal properties against appetizer, cough and tuberculosis.

MATERIALS AND METHODS [9-14]

IMPORAL ILAKAM

1. IMPURAL VER PATTI	-350 Gms
2. PACUM PAL	-Sufficient quantity
3. PANANKARKANTU	-700 Gms
4. CATIPATTIRI	-35 Gms
5. VAL MILAKU	-35 Gms
6. CATIKKAY	-35Gms
7. PACU NEY	-700 Gms

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METHOD OF PREPARATION

Grind item I with some quantity of item 2 in to a very fine paste and filter. Add item 3 to it and dissolve. Filter again. Heat the filtrate to attain syrupy consistency and mix in the fine powders of 4,5 and 6 by stirring. Finally add item 7 and mix it well.

DOSE

10-20 Gms

IMPORTANT THERAPEUTIC USAGE

Kurutiirumal, kurutivanti, kurutikkaliccal

VILVATI ILAKAM

1. VILVA VER	-11.2 K.Gms
2. TANNIR	-89.600 Lits
3. PAL	-22.400 Lits
4. PANAI VELLAM	-13.440 K.Gms
5. KIRAMPU	-600 Gms
6. ILLAVANKAP PATTAI	-600 Gms
7. CATIKKAY	-600 Gms
8. CIRUNAKKAPPAN	-600 Gms
9. CUKKU	-600 Gms
10. TALICAP PATTIRI	-600 Gms
11. TIPPILI	-600 Gms
12. MILAKU	-600 Gms
13. ELAKKAY	-600 Gms
14.TEN	-2.800 Gms

METHOD OF PREPARATION

Gently fry items 5-12 and make fine powder.Cut item 1 in to small pieces,boil with item 2 and concentrate decoction,add items 3 and 4 dissolve and filter through a cloth.Boil this solution to make syrup. When the syrup stage is reached add the powdered drugs and mix .Then remove from the oven at the appropriate stage and add item 14.Mix thoroughly and store.

DOSE

5 to 10 gms. Twice a day.

IMPORTANT THERAPEUTIC USAGE:

Alalkunmam, alalerivu, alalvanti, paciyinmai. This is an anabolic.

TEERAN KOTTAI ILAKAM

1. TERRAN KOTTAI	-175 Gms
2. TIPPILI	-17.5 Gms
3. MILAKU	-17.5 Gms
4. CUKKU	-17.5 Gms
5. KATTUKKAY	-17.5 Gms
6. TANRIKKAY	-17.5 Gms
7. CIRRARAKOTTAI	-17.5 Gms
8. NELLIKKAY	-17.5 Gms
9. CIRAKAM	-17.5 Gms
10. CARKKARAI	-140 Gms
11. AVIN PAL	-1400 m.lits
12. PACU NEY	-1400 m.lits
13. TEN	-700 m.lits

METHOD OF PREPARATION

Make fine powder of drugs 1 to 9.Boil items 10 and 11 and prepare syrup. Then sprinkle the drug powders and mix. Add item 2 also and mix. Remove from oven and add item 13 mix to homogeneity.

DOSE

5 Gms

IMPORTANT THERAPEUTIC USAGE

Enpurkukkinoy, Enpucuram, vali, pacimantam. In eruvaymulainoy give this medicine with 30 mg. Nakaparpam, twice daily for 20 days.

STANDARDIZATION PARAMETERS [15]

Ash values

Procedure

Total ash

Weighed accurately 2 g of the air dried crude drug in tarred silica dish and incinerated at a temperature not exceeding 450°C until free from carbon then cooled and weighed. This was repeated till the constant weight was obtained. The percentage of ash with reference to the air-dried drug was calculated.(Table 1)

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Water soluble ash

The ash obtained in the total ash was boiled with 25 ml of water for 5 minutes .The insoluble ash was collected on ash less filter paper and washed with hot water. The insoluble ash was transferred to a tarred silica crucible incinerated at the temperature 450°C until free from carbon. The crucible was cooled and weighed. The entire procedure was repeated till a constant weigh is observed. The percentage of the water soluble ash was calculated with reference to the weight of the air dried drug. (Table 1)

Acid insoluble ash and sulphated ash

The ash obtained in the total ash was boiled with 25 ml of dil. HCL for 5 minutes. The insoluble ash was collected on ash less filter paper and washed with hot water. The insoluble ash was transferred to a tarred silica crucible incinerated at the temperature 450°C until free from carbon. The crucible was cooled and weighed. The entire procedure was repeated till a constant weigh is observed. The percentage of the acid insoluble ash was calculated with reference to the weight of the air dried drug. The similar treatment with dil H_2SO_4 results in sulphated ash. (Table 1)

Extractive values

This method determines the amount of active constituents extracted with solvents from a given amount of medicinal plant material. It is employed for materials for which as yet no suitable chemical or biological assay exists. The extraction method involves, hot extraction and cold maceration. Different solvents like water, alcohol and ether were used. This technique determines the amount of active constituents in a drug when extracted with solvents. The extraction of any crude drug with a particular solvent yields a solution containing different phyto constituents. The composition of these phyto constituents in that particular solvent depends upon the nature of the drug and solvent used

Types of extractive values

Water soluble extractive
Alcohol soluble extractive

Procedure

Water soluble extractive value

5 g of the air dried coarse powdered drug was taken in a stoppered flask and macerated with 100 ml of water for 24 hours, shaking frequently during every six hours and allowed to stand for 24 hours. It was then filtered rapidly taking precaution against loss of the solvent. 25 ml of filtrate was evaporated to dryness in a tarred flat bottom dish and dried at 105°C to constant weight and weighed. The percentage of the water-soluble extractive was calculated with reference to the air dried drug. (Table 1)

Ethanol soluble extractive value

5 g of the air dried coarse powdered drug was taken in a stoppered flask and macerated with 100 ml of ethanol of the specified strength, in a closed flask for 24 hours, shaking frequently during every six hours and allowed to stand for 24 hours. It was then filtered rapidly taking precaution against loss of the solvent. 25 ml of filtrate was evaporated to dryness in a tarred flat bottom dish and dried at 105°C to constant weight and weighed. The percentage of the ethanol soluble extractive was calculated with reference to the air-dried drug. (Table 1)

Solvent hexane soluble extractive

Extract completely about 2g of the powered drug, accurately weighedby subjecting into the action of solvent hexane in a continuous extraction apparatus for 20 hours .transfer the hexane solution to tared porcelain and allow it to evaporate spontaneously. Then dry it over phosphorus pent oxide for 18 hours. And weigh

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calculate the percentage of this extractive from the weight of drug taken. (Table 1)

Estimation of sugar content

The estimation of sugar was carried out by titrimetric analysis which is based on reducing properties of sugar. The Fehling reagent (10 ml) was titrated against test solution is similar way as with standard invert sugar solution above and the end point were noted at constant readings of test solution. The sugar content was calculated by following formula.

% Total sugar = 250 x S x100
H x M
Where, S-strength of Fehling reagent.
H-volume of sample required for titration.
M-Weight of the sample taken (Mann F R et al 1975) (Table 1)

Estimation of total sapogenin content

Drug powder was extracted with petroleum ether by refluxing for half an hour. Marc obtained, was again refluxed with 90% methanol for half an hour. The methanol extract was distilled off under reduced pressure to obtain semi solid residue. Then the extract was partitioned between distilled water and n-butanol. Aqueous fraction was again partitioned with n-butanol 3times. Combined n-butanol fraction was then evaporated. For hydrolysis of saponin the semi solid mass was then refluxed with 2N HCl for 8 hr. After cooling the content was partitioned for 3 times with chloroform. Combined chloroform was evaporated and dried to constant weight and total saponin content was calculated. (Table 1)

Preliminary phyto chemical investigation [16-18]

The phyto chemical investigation indicates the presence of alkaloids, carbohydrates, glycosides, saponin, tannins and flavonoids.(Table 2)

RESULT

The values like colour, smell, touch, loss on drying, ash values etc were determined in three Lehyams. The acid insoluble ash, alcohol soluble extractive, water soluble extractive and Saponification value and sugar content are also determined. The phyto chemical investigation indicates the presence of alkaloids, carbohydrates, glycosides, saponin, tannins and flavonoids.

CONCLUSION

Although Ayurveda advocates the use of quality control tests to make sure that the prepared medicines adhere to the standards mentioned in Ayurveda, most of the tests described appear to be based on observation and seem subjective without valid scientific backing. Hence, standardization and development of reliable quality protocols for Ayurveda formulations using modern techniques of analysis is extremely important. [19]. Lehyams developed by using different combinations of various herbs / shrubs is one of the forms of traditional medicines in practice, developed mainly during Vedic period; be tracing back to more than 5000 years. Lehyams are also recognized as Avalehyas. Each of the Lehyams has its own independent qualities and effectiveness. In the present study a standardized natural herbal product viz., Lehyam has been developed using various medicinal plants. Further this product was more acceptable to the people of older age groups.

Table 1
Standardisation of Imporal, Vivati and Teerankottailehyam

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Lehyam	Imporal	Vilvati	Teerankottai
Description	A blackish brown, semisolid paste with spicy pleasant odour and bitter astringent taste	A blackish brown, semisolid paste with spicy pleasant odour and bitter astringent taste	A blackish brown, granules with spicy pleasant odour and bitter astringent taste
Loss on drying	101.73	93.76	104.37
Total ash	4.1	4	4.4
Acid-insoluble ash	2.2	2	2
Alcohol soluble Extractive	3.3	3	2.5
Water-soluble extractive	4	4.5	4.5
Saponification value	17.2 mg/g	20.2 mg/g	15.1 mg/g
Sugar content	130.31 mg/g	98 mg/g	110 mg/g

Table 2
DATA SHOWING THE PRELIMINARY PHYTOCHEMICAL SCREENING OF THE LEHYAMS

Consituents	Imporal	Vilvati	TeeranKottai
Carbohydrates	+	+	+
Glycosides	+	+	+
Alkaloids	+	+	+
Phytosterols	-	-	-
Saponins	+	+	+
Fixed oils & fat	-	-	-
Tannins	+	+	+
Protein & Amino Acids	-	-	-
Flavonoids	+	+	+

+ - Indicate positive test results .
- Indicate negative test results.

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