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COMPARISON OF THREE KABASURA KUDINEER CHURNA PRODUCTS AVAILABE IN THE INDIAN MARKET – PHYSICAL EVALUATION AND CHROMATOGRAPHY

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ABSTRACT

Standardization of herbal implementation is certain in order to estimate the characteristic of drugs for healing value. The movement work is an aim to standardization of kabasura kudineer", a poly herbal siddha formulation, used in hack, delirium and other communicable diseases etc. The complimentary preparation and the dispense drug have been standardization on the basis of physiochemical evaluation, chromatographic technique. Mostly herbal drugs are fortunate but due to taint and shortage of standardization, the success of the herbal drug is lower. In the standardization of the herbal drugs that assure the quality, purity and safety of herbal drugs. The exceeding by product are useful in disparity of three consequence in the process of standardization of kabasura kudineer preparation.

Key Words: Kabasura Kudineer Churna, Standardization, Tlc, Physic-Chemical Analysis.

INTRODUCTION

India having a rich estate of conventional medicine constituting with its non –identical component like ayruveda, siddha and unani. In india around 20,000 medicinal herbs department have been enter lately, but more than 500 conventional groups use about 800 plant species for heal different diseases. The subject of herbal drug standardization is considerably wide and deep.

For the design of inspection work on standardization of herbal formulation and nutritious food an high knowledge of the important herbs. India needs to valuation the medicinally major plants.

There has been a continued increase indicate for Ayurvedic medicinal conceive for the use of various type human sickness. Herbal medicine has become a situate form of healthcare. Standardization of herbal formulation is required in order to conclude the quality drugs, chemical, phytochemical and Standardization, In-vitro and In-vivo limitations.

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Siddha and ayurvedic formulations own rich strength for the development of antiviral drugs.

Siddha medicine is the predictable medical system that is widely practiced in India. Siddha reports states the environmental debase and pollution, air, season, place and water are involved in establish various outbreak and rife such as Covid-19. Siddha medicine is a conventional medicine originating in south India. It is one of the oldest system of medicine in India. It is altogether linked with Tamil lifestyle and civilization.

The term 'AYURVEDA' is derived from two Sanskrit words, Ayur and veda.

Ayur => life. Veda => knowledge (or) science.

"Kabasura kudinner choornam" is poly herbal siddha and ayurvedic medicine used as croak respiratory infections and boosts immunity. This study reports on the standardization of kabasura kudineer churna based on physic-chemical evaluation and chromatography techniques.

CHROMATOGRAPHY:

Chromatography is the science which studies the separation of molecules based on differences in their

structure and/or composition. In general, chromatography involves moving a preparation of the materials to be separated, the "test preparation", over a stationary support. The molecules in the test preparation will have different interactions with the stationary support leading to separation of similar molecules.

Chromatographic separations can be carried out using a variety of supports, including immobilized silica on glass plates (thin layer chromatography), very sensitive High Performance Thin Layer Chromatography (HPTLC), volatile gases (gas chromatography), paper (paper chromatography), and liquids which may incorporate hydrophilic, insoluble molecules (liquid chromatography).

MATERIALS AND METHODS:

PLANT MATERIAL:

Kabasura kudineer churna consists of 15 ingredients. Viz.,

1. Ginger (chukka)
2. Piper longum (pippali),
3. Clove (lavangam),
4. Dusparsha (cirukancori ver),
5. Akarakarabha,
6. Kokilakasha (mulli ver),
7. Haritaki (kadukkaithol),
8. Malavar nut (adathaodai elai),
9. Ajwain (karpoora valli),
10. Kusta (kostam),
11. Guduchi (seenthil thandu),
12. Bharangi (siruththekku),
13. Kalamegha (siruththekku),
14. Rajapata (vathathiruppi),
15. Musta (korai kizhangu).

All this ingredients were procured from local market of SKM SIDDHA AND AYRUVEDHA COMPANY (INDIA) PRIVATE LIMITED, Saminathapuram, Modakkurichi, Erode, Tamil Nadu, India.

PREPARATION OF KABASURA KUDINEER CHURNA:

The churna was prepared as per the plan of action given in ayurvedic formulary of India. The dried individual basic materials were powdered separately and proceed through strainer number 80 to obtain powders.

They were mixed in equal quantity to obtain an equivalent mixture and load in air-tight containers.

METHODOLOGY:

In this study, kabasura kudineer churna was evaluated by 2 methods.

a) Physical evaluation.
b) Chromatography technique.

PHYSICAL EVALUATION:

Physical constants are sometimes taken into consideration to evaluate certain drugs. These includes , ash values, acid insoluble ash, water insoluble ash, alcohol soluble extractive, Water soluble extractive, determination of PH. All these physical properties are useful in identification and detection of constituents present in product.

EVALUATION PARAMETER OF HERBAL DRUGS:

- Total ash
- Acid insoluble ash.
- Water soluble ash.
- Alcohol soluble extractive.
- Water soluble extractive.
- Determination of PH.

Total ash:

Incinerate about 100g accurately weighed of the ground drug in a tared platinum or silica dish at a temperature not exceeding 450° until free from carbon, cool and weighed. If a carbon free ash cannot be obtained in the way, exhaust the charred mass with hot water, collect the residue on an ash less filter paper, incinerate the residue and filter paper, add filtrate, evaporate to dryness and ignite at the temperature not exceeding 450°. Calculate the percentage of ash with reference of refer to the air dried drug.

$$\text{Percentage of ash} = \frac{\text{Weight of ash sample}}{\text{Weight of sample taken}} \times 100$$

Acid insoluble ash:

The ash, obtained as described in total ash, was boiled for 5 minutes. With 25 ml of 2M Hcl and filtered. The insoluble material collected on an ashless filter paper was washed with hot water, ignited, cooled up to room temperature in a desiccator and weighed accurately. The percentage of acid insoluble ash with reference to the dried choornam was calculated.

$$\text{Percentage of insoluble ash} = \frac{\text{Weight of soluble ash}}{\text{Total weight of ash}} \times 100$$

Water soluble ash:

Boil the ash for 5 minutes with 25 ml of water collect the insoluble matter in a crucible wash and ignited for 15 minutes at the temperature not exceeding 450°c. The difference in weight of insoluble matter and the weight of total ash represents the water soluble ash. The percentage of water soluble ash with reference to the air dried drug was calculated.The soluble ash value was calculated by the following formula.

$$\text{Percentage of soluble ash} = \frac{\text{Weight of soluble ash}}{\text{Total weight of ash}} \times 100$$

Alcohol soluble extractive:

Macerate 5 g of air dried drug, coarsely powdered, with 100 ml of alcohol and specified strength in the closed flask for 24hrs, shake them frequently during 6 hrs and allowing standing for 18 hrs. Filter rapidly, taking precautions against loss on solvent, evaporate 25 ml of the filtrate to dryness in the tared flat bottomed shallow dish

and dry at 105° to constant weight and weigh. Calculate the percentage of alcohol- soluble extractive with reference to the air dried drug.

Percentage of soluble extract = Weight of extract × 100
Weight of sample taken

Water soluble extractive:

4 g of sample was taken in a glass Stoppard flask with 100 ml of distilled water and shaken occasionally for 6 hrs. It was allowed to stand for 18 hours and filtered. 25 ml of filtrate was pipetted out into a pre weighed 100 ml beaker and evaporate to dryness on the water bath it was further dried in a hot air oven at 105°c for 6 hours cooled in a desiccator and weighed. The percentage of water soluble extractive was calculated with the reference to the weight of air dried drug.

Percentage of soluble extract = Weight of extract × 100
Weight of sample taken

Determination of PH:

The PH of the aqueous solution of the sample was determined with the help of PH meter and glass electrode system at laboratory temperature.

CHROMATOGRAPHIC TECHNIQUES:

Preparation of extract of the drug for chromatographic analysis:

Extract the drug was prepared by soaking 4 g of the choornam overnight in 40 ml chloroform then boil for 10 minutes on water bath, cooled and filtered. The filtrate was concentrated to 10 ml. This extract was used for chromatographic studies.

TLC (THIN LAYER CHROMATOGRAPHY):

TLC is the most common adoptable method of choice for herbal analysis and instrumental chromatography methods like Gas chromatography and High performance liquid chromatography were also used. TLC is still normally used conventionally used for the analysis of herbal medicine since various pharmacopeias such as Indian herbal pharmacopeia, Ayurvedic pharmacopeia, American herbal pharmacopeia (AHP), Chinese drug monograph and analysis, pharmacopeia of the people's Republic of China.

TLC is used as a classically method of primary screening with a semi quantitative evaluation together with other chromatographic techniques as there is corresponding less change in the simple TLC separation, an herbal medicine than with instrumental chromatography.TLC is a system in which a solute undergo distribution between two phases, a stationary phase acting through adsorption and a mobile phase in the form of liquid.

- **ANALYSIS**- Identification
- **PLATE MATERIAL**-Silica gel
- **SOLVENT**- Toluene: Acetic acid
- **DEVELOPMENT MODE**- Ascending.

TABLE 1: PHYSIO CHEMICAL EVALUATION

S.NO	PHYSIO CHEMICAL ANALYSIS	SAMPLE A	SAMPLE B	SAMPLE C
1.	Total ash value	8.06 %	9.11 %	9.88 %
2	Acid insoluble ash	2.15 %	3.21 %	2.82 %
3	Water soluble ash	3.86 %	2.91 %	1.18 %
4	Acid soluble extract	0.62 %	1.02 %	0.99 %
5	Water soluble extract	1.210 %	1.288 %	1.320 %
6	pH	5.79	5.81	5.63

TLC ANALYSIS OF KABASURA KUDINEER CHOORNAM

Figure a) TLC chromatogram of Andrographis paniculata BRS Showed 3 bands at 366nm (Rf values 0.17, 0.34, 0.65)

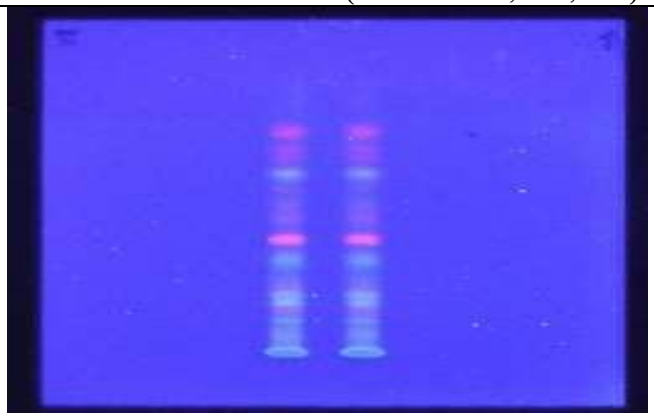


Figure b) TLC chromatogram of Andrographis paniculata BRS Showed 3 bands at 366nm (Rf values 0.17, 0.44, 0.61)

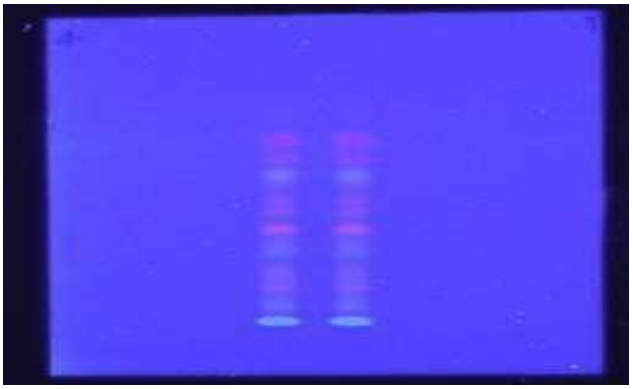
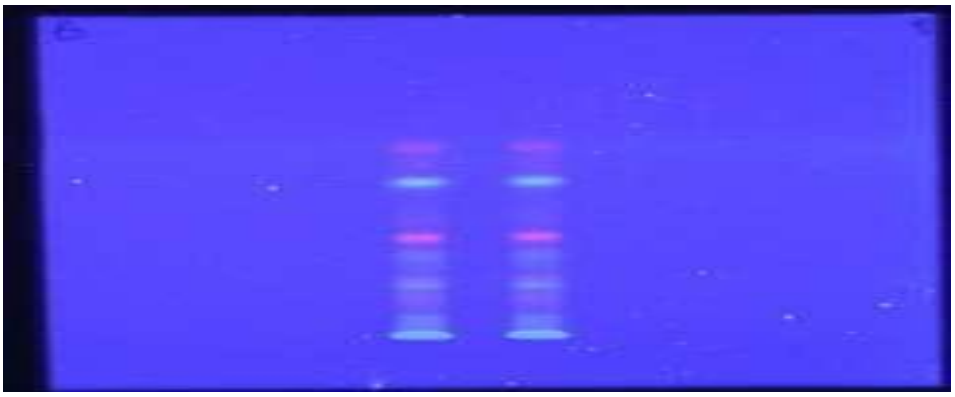


Figure c) TLC chromatogram of Andrographis paniculata BRS Showed 3 bands at 366nm (Rf values 0.17, 0.44, 0.61).



CONCLUSION:

For the assurance of quality, safety and effectiveness of the herbal product, standardization is essential. The physical and Analytical evaluation of kabasura kudineer churna product from the three different brands available in the India market was carried out. The ash value of sample A was less than sample B and C. It indicates the sample A is less contaminated than sample B and C. From the results of TLC, Sample A was better than sample B and C .Because of high Rf value. From the observation of physical and Analytical evaluation, sample A was better than sample B and C. Therefore **Sample A** was deliberate as superlative.

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