VALIDATION OF ASHWAGANDHA CHURNAM

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ABSTRACT: Ashwagandha churnam is an important Ayurvedic medicine obtained from dried roots and stems of withania somnifer (family:- Solanaceae) used as a tonic for emaciation of children, debility from old age, rheumatism, hypertension, ulcer, tumor, sedative etc. In the present study a validation of Ashwagandha churnam by organoleptic, microscopic characteristics, extractive values total ash, acid insoluble ash, and qualitative analysis of different organic constituents has been done TLC analysis to standardize the churnam has been performed. These studies will help in future of fixing standards for this churnam.

INTRODUCTION:

In the global perspective, there is a shift towards the use of medicine of herbal origin to prevent the side effects and to obtain permanent cure. World health organization in a number of resolution shad emphasized the need to ensure the quality control of herbal and herbal formulations by using modern techniques, to prevent the adulteration. Ashwagandha churnam (Bhavaprakasa Nikandu) has the following names ashwagandha (Bengali), Asgand punir (Hindi) Ashwaganda (Sanskrit), Asuvagandhi (Tamil). The plant is found throughout the drier parts of India, Ceylon, Afghanistan, Baluchistan and Sind. The plant is a shurb, with ovate leaves, greenish (or) lurid yellow flower, Roots occur in small pieces 16-17.5 cm long and 6-12 mm in diameter, uniform in appearance, smooth tapering light brown in colour externally, cream colour internally. It contains various alkaloids, phytosterol, fatty oil, essential oil ipuranol etc, ashwagandha aurveda, sidha herbal medicine and it has immense value. Systematic protocols to find out this churnam is not available, hence it was decided to standardize this product scientifically.

MATERIALS AND METHODS:

Ashwagandha churnam was brought from manufacturers Mangalam herbal products, V.P Koil street, Thanjavur, Tamil Nadu. All other chemicals used were of analytical reagent grade, obtained commercially and used as such without further purification.

Ashwagandha churnam was light buff, creamy, pale yellow smooth fine powder with characteristic odour, slightly bitter and acrid taste. Cork, Phellodgen Phelloderm, fibres starch calcium oxalate crystals was found by powder microscopy.

Ashwagandha churnam was analysed for loss on drying at 110°C (%aw/w), Ash values, water insoluble, as value acid insoluble as value, ash content. Extractive values of this churnam was performed by using alcohol, CHC13m water, petroleum ether etc. as described by Indian Pharmacopoeia.
The churnam was extracted with ethanol in a soxhlet apparatus and water by hot percolation process. The extracts were collected and evaporated to dryness, under vacuum and cooled in a desicator and the residue were subjected to photochemical analysis.

The alcoholic extract was treated with tartaric acid and neutralised with ammonia and extract with chloroform. The chloroform extract was evaporated to dryness under vacuum. The residue was dissolved in Methyl Alcohol and were spotted over silica gel film, the chromato plates were developed by using the following solvent systems:

1. Chloroform: Methyl alcohol (6:4)
2. Benzene: Ethyl Alcohol (8:2)
3. Benzene: Ethyl acetate (6:4)
4. Methyl alcohol: Water (6:4)
5. Benzene: Chloroform (6:4)
6. Chloroform: Water: Methyl alcohol (6:1:3)
7. Chloroform: Water (5:5)
8. Benzene: Water (6:4)
9. Benzene: Methyl alcohol (5:5)
10. Benzene: Chloroform: Ethyl Alcohol (5:3:2)

The developed chromatograms were sprayed with dragendorff’s reagent sulphuric acid in H2O (1:1) and iodine in chloroform. The Rf value of the developed zones (or) spots are given in Table 2.

### Table 1
**Physico-Chemical Parameters of Ashwaganda churnam**

| PARAMETER                | VALUE                          |
|--------------------------|--------------------------------|
| 1. Organoleptic Characters | Pale Yellow
  Colour                  | Characteristics
  Smell                    | Smooth fine powder
  Touch                    | Slightly Bitter & Acrid
| 2. Analytical Date       | % (w/w)                        |
  Ash Content              | 6.7%                           |
  Total Ash Value          | 1.2%                           |
  Acid insoluble as        | 5.3%                           |
  Water insoluble ash      | 5.3%                           |
| 3. Extractive Values     |                                |
  Alcohol                  | 8.1%                           |
  Water                    | 83%                            |
  Chloroform               | 5.2%                           |
  Petroleum Ether          | 0.81%                          |

### Table 2
**TLC Slides of Ashwaganda Churnam**

| S.No | Solvent Systems               | Rf Value |
|------|-------------------------------|----------|
| 1.   | Chloroform: Methyl alcohol    | 0.78     |
| 2.   | Benzene: Ethyl Alcohol        | 0.88     |
### RESULTS AND DISCUSSION:

Ashwagandha churnam was light buff, cream, Pale yellow in colour with a smooth, bitter and acrid taste with characteristic odour and fine powder.

Cork, phellogen, Phelloderm, fibres, starch grain and calcium oxalate crystals were identified as powder microscopic characters.

The Physico-chemical parameters of the sample are summarized in Table 1. The alcohol extract of ashwagandha Churnam was subjected to qualitative analysis which indicated the presence of alkaloids, phytosterols, carbohydrates, protein as the major constituents.

The TLC of Ashwagandha Churnam showed a single and distinct spot using different solvent system and the Rf value was measured and presented in the table -2.

### CONCLUSION:

The physico-chemical parameters and the TLC of Ashwaganda Churnam has been studied. The therapeutic activity of the might be due to the presence of alkaloids, phytosterol and other components identified by chemical test. The analytical data along wit the TLC pattern can be used for fixing standards to this churnam.

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