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DEVELOPMENT AND EVALUATION OF A POLYHERBAL FORMULATION: SARASWAT GHRITA

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ABSTRACT

A large number of ayurvedic medicinal plants have been widely studied and data generated provide scientific basis to the traditional claims. But in majority of herbal formulations, preformulations and post formulation studies are lacking. Ghrita is ayurvedic formulation that contains ghee as base to incorporate active ingredients. Present study was mainly focus on formulation and standardization of Saraswat ghrita which is proved to be having very good antiepileptic and memory enhancer. The Saraswat ghrita was prepared as per the standard procedure mentioned in Bhaishajya-Kalpana-vidnayan. The formulation was then subjected for various standardization parameters such as organoleptic characters, physicochemical parameters, phytochemical test, TLC, pathogen and total microbial count, determination of acid value, saponification value and ester value, etc. The formulation was prepared by using generally approved procedure mentioned in Bhaishajya-Kalpana-vidnayan and was found to have a good elegance and appearance.

From the results obtained it was found that the prepared ghrita was satisfying all the evaluation parameter. The standardization of ghrita formulation indicated that all values are within the standard ranges. Also the prepared formulation does not show any microbial or fungal growth. Thus the present preparation module of both formulation and standardization of Saraswat ghrita and the data generated can may be considered as the standard parameters for the formulation. A details further scientific study is needed for the validation and scientific establishment of the data.

INTRODUCTION:

A number of medicinal plants have been widely studied and data generated provide scientific basis to traditional claims. The acceptability of traditional preparations is increasing because of less toxicity, better therapeutic effect, patient compliance and cost effectiveness. But in majority of herbal formulations, preformulations and post formulation studies are lacking.

Ghrita is ayurvedic formulation that contains ghee as base to incorporate active ingredients. Present study was aimed to formulate and standardize Saraswat ghrita which is proved good antiepileptic and memory enhancer. This work reports on characteristics, phytochemical, physicochemical methods for ensuring the Identity, Purity, and Safety of Saraswat ghrita.

EXPERIMENTAL METHODS:

Materials:

Authentic ingredients used for preparation of Saraswat ghrita were obtained from local market of Islampur while go-ghrita (cow's ghee) of Amul brand was purchased from local market.

Analysis of raw material:

All ingredients were authenticated by employing various related parameters, like organoleptic characteristics and physico-chemical analysis.

Formulation of Ghrita:

Accurately weighed required quantities of ingredients such as ajaksira (3.07 gm), harad (24 g), kallimirch (24 gm), pippali (24 gm), patha (24 gm), urga (24 gm), shobhanjan (24 gm), water (3.07 ml), sarpi (7.68 gm), saindhav (24 gm), sunthi (24 gm) were taken

in a beaker and mixed to form a homogenous mass. Ghrita was prepared on mild heat as per the classical reference (Bhaishajya-Kalpana-vidnayan). The cow ghee was heated and stirred until uniform mass is obtained and then the above ingredients were incorporated in the ghee. The obtained ghrita was cooled and stored in a closed container.

Standardization of ghrita:

Organoleptic characteristics: Colour, odour, taste were observed.

Physico-chemical analysis

Loss on drying at 110°C, ash value, acid insoluble ash, pH value, specific gravity at 40°C, total solid content, water soluble extractives, alcohol soluble extractives, hexane soluble extractives were carried out. Acid value, Saponification value and ester value were also estimated

Phytochemical test:

Phytochemical analysis was done using specific chemical test given in reference books.

Thin layer chromatography :

TLC plates were prepared as per procedure described by Sthal .4%hexane extract of the samples were prepared by soaking them for 18hrs in absolute hexane extract, Hexane extract were filtered and concentrated.

Respective concentrations of hexane extract were prepared and redissolved in toluene ethyl acetate [93:7]and about 100`ul loaded on TLC plates and eluted in toluene ethyl acetate[93:7] solvent system. The plates were sprayed with vanillin sulphuric acid reagent and the spots were after at 110⁰c for 30min. R.F. value of each spots is calculated.

Microbial overload :

Bacterial growth study was carried out on Mac conkey agar and soyabean casein agar, no growth were observed.

RESULTS AND DISCUSSION:

The analysis of the raw materials indicated that it does not contain any type of adulterants. The formulation was prepared by using generally approved procedure mentioned in Bhaishajya-

Kalpana-vidnayan and was found to have a good elegance and appearance. The results for the standardization of ghrita were given in table 1 and 2. The standardization of ghrita formulation indicated that all values are within the standard ranges. The prepared formulation does not show any microbial growth.

Table 1 .Organoleptic characters and Physiochemical parameters

Organoleptic characters		
Sr. No.	Parameter	Observations
1.	Colour	Yellowish green
2.	Odour	Characteristic
3.	Texture	Smooth
4.	Touch	Smooth
5.	Taste	Astringent

Table 2. Physicochemical parameters

1.	pH	Acidic
2.	Sp. Gravity	0.889
3.	Density	0.888
4.	Ash value	0.01-0.03
5.	Acid insoluble ash (% w/w)	0.002-0.005
6.	Alcohol soluble extractive	16.4 % w/w
7.	Hexane soluble extractives	76% w/w
8.	Acid value	2.8
9.	Saponification value	51.89
10.	Ester value	49.09
11.	Refractive Index	1.542

Table 3 Phytochemical test

Sr. No.	Parameter	Values (%w/w)
1.	Alkaloids	+
2.	Glycosides	+
3.	Flavanoids	-
4.	Tannin	+
5.	Saponin	-
6.	Phenols	-
7.	Steroids	+
8.	Resins	-

Table 4 :Data of TLC study of ghrita

Sr no.	Rf Value	Colour
1	0.112	Violet blue
2	0.455	Light violet
3	0.806	Light brownish violet

CONCLUSION:

The present preparation module of both formulation and standardization of Saraswat ghrita and the data generated can may be considered as the viable parameters for the formulation, which will go a longway for prescribing a dependable standard to these preparation. A details further scientific study is needed for the validation and scientific establishment of the data

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