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Processing and utilization of ashwagandha for preparation of herbal laddu

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Abstract

The scientific name of ashwagandha is *Withania Somnifera*. Generally roots and leaves are used as a medicine. Active chemical constituents of ashwagandha root powder are large number of alkaloids, with oils, choline, tropanol, and cuscoygerms. Hence attempt was made to utilize ashwagandha root powder for preparation of herbal laddu. Ashwagandha root were processed to prepare powder. Herbal laddu using ashwagandha powder with 3%, 5%, 7% amount by weight of whole material were developed and evaluated on the basis of sensory analysis. Herbal laddu using ashwagandha powder with 5% amount was found most acceptable and with all parameters, shelf life of herbal laddu was found 30 days.

Keywords: Ashwagandha, *Withania Somnifera*, alkaloids.

Introduction

Human health is the important issue in modern time. No one can safe without eating functional food. The demand of functional food is increasing day by day. Laddu is round shape product that is placed in sweet's category. There is several type of material that is used for preparation of laddu. Nutritional and medicinal qualities of laddu can be enriched by addition of ingredients such as medicinal plant extract or powder (Reddy *et al*, 2005). Herbal inclusion not only gives medicinal qualities but can also give new flavor to the product. Ashwagandha is a valued herb in ayurveda medicine and such was used and cultivated for centuries in India. It possess therapeutic value against a large number of ailments such as mental diseases, asthma, inflammation, arthritis rheumatism, tuberculosis, infections, fever, male sexual disorders and variety of other diseases including cancer. Ashwagandha root powder was incorporated directly as powder after sieving. Banana flower is usually considered as a byproduct of banana cultivation. Banana flower grow from end of the bunch of banana and has a dark purple red blossom. It is helpful in curing the infection, overcoming diabetes and anemia, improve lactation, menstrual problems and weight loss. It reduces anxiety and boosts mood and also has anti-aging power.

Material and method

- **Raw material collection:** Ashwagandha roots were obtained from open market. The roots were washed, dries and then grounded in electric grinder. Banana flower was obtained from banana's tree and washed, dried in hot air oven. Dried flower was grounded in electric grinder. Wheat flour, jaggery and ghee were purchased from local market of Gwalior.
- **Preliminary trials:** The preliminary trials were completed with 3 levels of Ashwagandha powder. Ashwagandha powder is added 3%, 5%, 7% by weight of whole material. 5% Ashwagandha powder gives suitable test. High amount of Ashwagandha powder gives bitter taste.
- **Details of treatment:** Different ratio of trial formulation, percentage of wheat flour, jaggery, ghee will be same only change with ashwagandha powder. As per previous trial these formulation is acceptable T₁, T₂, and T₃.

Table 1: Sample Trial formulation

S.No.	Ingredient	Trial 1	Trial 2	Trial 3
1	Wheat flour	40gm	40gm	40gm
2	Jaggery	35gm	35gm	35gm
3	Ghee	15gm	15gm	15gm
4	Ashwagandha	3gm	5gm	7gm
5	Banana flower	5gm	5gm	5gm

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Table 2: Sensory Analysis Summary

Sample	Sensory Evaluation of Herbal Laddu					
	Appearance	Color	Taste	After Taste	Mouth Feel	Over Acceptability
Control sample	9	9	9	9	9	9
Trial T ₁	7	7	7	6	7	7
Trial T ₂	8	8	8	8	8	8
Trial T ₃	7	7	6	6	7	7

Result and discussion

The data pertaining of effects of incorporation of various levels of supplements (ashwagandha) on sensory attributes of herbal laddu variants has been shown in Table 2. Herbal laddu were evaluated for sensory attributes viz. Appearance, Color, Taste, after taste, Mouth feel, and Overall acceptability. Mean score for Appearance, Color, Taste, Aftertaste, mouth feel, and overall acceptability of control sample were 9 in each attributes. No significant change in mean score of various sensory attributes was noticed with incorporation of ashwagandha powder up to 5%. However the mean score for sensory attributes viz. Appearance, Color, Taste, After taste, Mouth feel, Overall acceptability of herbal laddu containing 7% ashwagandha powder, respectively was significantly lower than control. Over all acceptability scores indicate that herbal laddu containing 7% ashwagandha powder low acceptable because it gives light bitter taste. Thus, formulation containing 5% ashwagandha powder was selected for preparation of herbal laddu.

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