



AMERICAN JOURNAL OF PHARMTECH RESEARCH

Journal home page: <http://www.ajptr.com/>

Formulation and Evaluation of *Hyptis suaveolens* Herbal Syrup

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ABSTRACT

The objective of the present study was to formulate and evaluate herbal cough syrup. Potential anticough herbs were used for formulating herbal syrup. Decoction of plant *Hyptis suaveolens*, Leaves of Adulsa (*Adhathoda vasika*), stems of mulethi (*Glycyrrhiza glabra*), fruits of golmirch (*Piper nigrum*) and plant of pudina (*Mentha piperita*) was prepared. One part of decoction was mixed with five parts of simple syrup IP (1:5) to prepare formulation. The formulations were evaluated by morphological characters, physical parameters like PH, density, viscosity, Specific gravity, etc. Herbal syrup was also subjected for the accelerated stability testing (AST) for the period of 72hours at accelerated temperature conditions. No marked changes were noticed in all the evaluated parameters during AST. The laboratory scale preparation of herbal Syrup may be used as a stable, liquid dosage form and the work done in stability testing may help in the progress of shelf-life determination studies. The present study includes preparation and evaluation of *Hyptis suaveolens* herbal syrup first time.

Keywords: *Hyptis suaveolens*, Cough, organoleptic, qualitative,

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Received 05 December 2019, Accepted 22 December 2019

INTRODUCTION

A drug administered in solution is immediately available for absorption, and in most cases, is more rapidly and efficiently absorbed than the same amount of drug administered in a tablet or capsule¹. Designing of oral herbal formulations (solutions) is a challenge in modern pharmaceutics till date. However the final preparation must satisfy the requirements of pharmaceutical elegance with regard to taste, appearance and viscosity.

Hyptis suaveolens belongs to the Lamiaceae family, as an aromatic plant. It is common plant found in wasteland of North East India, Andaman and Nicobar Island, Deccan Peninsula. The plant traditionally used as a carminative, sudorific, galactagogue, stimulant, infection of uterus, antiseptic, antispasmodic, antirheumatic, headaches and for treatment of cancer^{2,3}. As the plant is very potential in pharmacological uses the hypothesis were made that its herbal cough preparation may prepared and evaluated along with Adulsa, mulethi, golmirch and pudina.

MATERIALS AND METHOD

Procurement of Plant Material

Whole plant of *Hyptis suaveolens* was collected from 'Yeola' region, Maharashtra, India, in the month of Aug–Oct 2018. Botanical identification was carried out and voucher specimen of the plant material has been deposited at Institute level.

Preparation of Plant Material

Fresh plant of *Hyptis suaveolens* are shade dried and powdered was prepared by passing through sieve # 40, and kept in air tight polythene bags for further study.

Chemicals and Instruments

Solvents and reagents were procured from Research Lab-Fine Chem Industries, Mumbai, India. Some apparatus and other common glassware and instruments used for the study. Brookfield's viscometer, Specific gravity bottle

Method of preparation of decoction

150 g powder of *Hyptis suaveolens*, 100g powder of Adulsa, 100 g powder of Mulethi, 50 g powder of Golmirch and 50 g powder of Pudina were taken. All the powders were mixed with 3000 ml of water. The mixture was boiled until total volume become one fourth of the initial volume. Then the decoction was cooled and filtered. Filtrate was taken to prepare final herbal syrup⁵.

Method of preparation of final herbal syrup

One part of decoction was mixed with five parts of simple syrup IP (1:5). Required quantity of methyl paraben was added as preservative, to the above mixture. Solubility was checked by observing the clarity of solution visually. The final herbal syrup was then subjected for evaluation⁵.

Evaluation of herbal syrup

Physicochemical parameters

Herbal syrup was evaluated for various physicochemical parameters such as physical appearance, pH, Specific Gravity and viscosity. For determination of pH 10%v/v solution prepared and specific gravity determined by specific gravity bottle. For determination of viscosity Ostwald's viscometer used.

Accelerated Stability Testing (AST)

Stability testing of the prepared poly herbal syrup was performed on keeping the samples at accelerated temperature conditions. Nine portions of the final syrup (S₁, S₂, S₃, S₄, S₅, S₆, S₇, S₈ and S₉), were taken in amber colored glass bottles and were kept at accelerated temperature at 4⁰C, Room temperature and 47⁰C respectively. The samples were tested for all the physicochemical parameters, turbidity and homogeneity at the interval of 24 hr, 48 hr and 72 hr to observe any change.

RESULTS AND DISCUSSION

The prepared poly herbal syrup was evaluated immediately after preparation and all the tested parameter along with turbidity/homogeneity were compared with the changes in accelerated stability testing. The final syrup found to have pH 4.5 and specific gravity 1.1610 g/ml (Table 1). The results of stability study of the final syrup (Table-2) reveal that no changes were noticed in all the tested physicochemical parameter as well as turbidity/homogeneity during 24, 48 hr and 72 hr.

Table 1: Physicochemical Parameters of *Hyptis suaveolens* Herbal Syrup.

Parameter	Inference
Color	Reddish
Odor	Pleasant
Taste	Sweet
pH	5.1
Specific Gravity	1.1610g/ml
Viscosity	0.09 poise

Table 2: AST of *Hyptis suaveolens* Herbal Syrup

Hours	24hrs			48hrs			72hrs		
Sample	S1	S2	S3	S4	S5	S6	S7	S8	S9
Temperature	4 ⁰ C	RT	47 ⁰ C	4 ⁰ C	RT	47 ⁰ C	4 ⁰ C	RT	47 ⁰ C
Color	RC	RC	RC	RC	RC	RC	RC	RC	RC

Odor	RC	RC	RC	RC	RC	RC	RC	RC	RC
Taste	RC	RC	RC	RC	RC	RC	RC	RC	RC
pH	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Specific Gravity (g/ml)	1.1570	1.1570	1.1590	1.1570	1.1570	1.1590	1.1570	1.1570	1.1590
Viscosity (poise)	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09

RT- Room Temperature; RC-Remain Constant

CONCLUSION

In conclusion, the expectorant herbal syrup of *Hyptis suaveolens* prepared in the laboratory scale may be used as a liquid dosage form which is stable and the results of the AST may make some progress in shelf-life degradation studies of herbal syrup helping Ayurvedic pharmaceuticals in near future.

REFERENCES

1. Lachman L, Lieberman HA, Kanig JL. The Theory and Practice of Industrial Pharmacy. 3rd ed., Bombay; Varghese Publishing House: 1987.
2. Chopra RN, Nayar SL, Chopra IC, Glossary of Indian Medicinal Plants, CSIR, New Delhi, 1986, 46-46.
3. Rastogi R, Malhotra BN, Compendium of Indian Medicinal Plants, Vol. 5, Reprint ed., CDRI, Lucknow, 2001, 201-205.
4. Dr. G. Prabhakara Rao. A text book of Bhaisajya Kalpana Vijnanam. Chaukhambha Publications, New Delhi, Edition 1st, 2008: 180-182.
5. Kumar SP, Nayak DP. Development and evaluation of poly herbal syrup from some herbs used as expectorant. World Journal of Pharmacy and Pharmaceutical Sciences, Vol 2 (5), 3848-3853.
6. Khandelwal KR. Practical Pharmacognosy techniques and experiments. Nirali Prakashan, Pune, Edition 13, 2005:130-149.
7. Kokate CK. Handbook of Practical Pharmacognosy. Vallabh Prakashan, New Delhi, Edition 4, 1994:58-136.

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