



EVALUATION OF YASTIMADHUADI LIPBALM FOR ITS EFFECT ON OSTHASPHTANA

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ABSTRACT

Background: Beauty is of major concern in the present era and cosmetics plays a significant role in it. Natural and herbal cosmetics are mostly preferred nowadays due to its absence from numerous harmful chemicals.

This study focuses on the *varnya*, *vranahara* and *kandughna* properties of drugs viz *yastimadhu* (*Glycyrrhiza glabra*), *manjistha* (*Rubia cordifolia*), and *raktachandana* (*Pterocarpus santalinus*). These drugs were used in the form of balm using *ghritha* and *siktha* (Bee wax) as a base. It is a form of *sthanik chikitsa* to relieve *sthanik lakshana*. Lip balms are formulations applied onto lips to prevent drying and protect against adverse environmental factors.

Methods: *Yastimadhuadi* lip balm was prepared by using *yastimadhu*, *manjistha* and *rakta chandana* for *kashaya* and *kalka*. They were added to *ghritha* and *sneha kalpana* was done till *sneha siddhi lakshana* were obtained. 1part of melted *siktha* was added to 5parts of filtered *ghrita*. After cooling honey was added 5% of total quantity of the product.

Result: Prepared lipbalm were given to 30 volunteers having *osthasphutana* and result was analyzed by questionnaire method.

Conclusion: From the feedback of volunteers, it was shown that *yastimadhuadi* lipbalm is beneficial in *osthasphutana*. Thus, *yastimadhuadi* lipbalm can be prepared and used as herbal lipbalm.

Keywords: *Yastimadhuadi* lipbalm, *osthasphutana*, *varnya*, *vranahara*, *kandhughana*

INTRODUCTION:

Cosmetic plays a significant role in today's life style¹. Natural products have been used for folk medicine purposes throughout the world for thousands of years². Herbal cosmetic products include various formulations.

Lip balms are formulations applied onto the lips to prevent drying and protect against adverse environmental factors³. Numerous lip balms of chemical origin are currently available in the market are having side effects⁴.

Osthasphutana is cracking of lips associated with fissuring and peeling of skin of lips which gives pain and discomfort. Cracking leads to bleeding, soreness, inflammation and tenderness of the lips, and a burning sensation. Severely cracked lips that bleed and are not treated can become infected.

Many drugs like *yastimadhu* (*Glycyrrhiza glabra*), *manjistha* (*Rubia cordifolia*) and *rakta chandana* (*Pterocarpus santalinus*) are mentioned in ayurvedic classical having *varnya*, *varnahara*, *kandugna* properties.

So, using these drugs with addition ghritha and *madhu* lip balm will be prepared. These drugs don't have *ushna*, *tikshna guna*^{5,6,7} so can be used for all age groups.

Market available lip balms contain chemicals like petrolatum, Butylated hydroxy anisole, Butylated hydroxytoluene, parabens, phthalates, oxybenzene, salicylic acid, nickel, chromium. Research suggests that usage of these chemicals for long term may cause breast cancer, respiratory disorders, endocrine disorders, drying of lips etc⁸. Thus, there is a huge demand for herbal cosmetics. So, this study is undertaken to manufacture herbal lip balm.

MATERIALS AND METHODS

Yastimadhuadi lipbalm was prepared in department of Rasashastra and Bhaishajya Kalpana, SDM College of Ayurveda and Hospital, Hassan.

Drug collection and authentication

Drugs required were collected from SDM pharmacy and herbal drugs were authenticated from the experts of Dravya guna.

Table 1: Showing the ingredients of *yastimadhuadi* lip balm with proportion

S. No.	Name of the drug	Latin/English name	Part used	Quantity
1.	<i>Yastimadhu</i>	<i>Glycyrrhiza glabra</i>	Root	160 gm
2.	<i>Manjistha</i>	<i>Rubia cordifolia</i>	Root	160 gm
3.	<i>Rakta Chandana</i>	<i>Pterocarpus santalinus</i>	Heart wood	160 gm
4.	<i>Siktha</i>	<i>Bee wax</i>	-	25g
5.	<i>Madhu</i>	Honey	-	100ml
6.	<i>Ghritha</i>	Ghee	-	240ml
7.	Water	Water	-	7680 ml

Method of preparation of yastimadhuadi lipbalm

- All the ingredients were taken 160gm each and converted into coarse powder.
- Kwatha* was prepared by adding 7680ml of water (16 times) and reduced to 960 ml (1/8th).
- Kwatha* was filtered through clean cloth.
- Fine powders of 7gm of each drug (total-27gm) was taken and to this powderwater was added to prepare *kalka*. Each 20 gm and total 60 gm of *kalka* was prepared.
- 240 ml of *ghritha* was taken. Thus, ratio of *kalka*: *ghritha*: *Kashaya* was 1(60gm):4(240ml):16(960ml)
- Ghritha* was processed with *kalka* and *kashayatill sneha siddhi lakshana* were observed. 240 ml *ghrita* obtained as final *sneha kalpana*.
- Various trials were done by varying the ratio of *siktha* and *ghritha* as (1:1,1:3,1:5,1:6,1:8)
- Among these trials, the 3rd trial (1:5) was feasible considering the consistency.
- 48 grams of *siktha* was melted and added into *ghrita* by filtering through the cloth resulting the product to 280 grams.
- After cooling of the *ghritha* 5 % of total product i.e., 14 gm of honey was added and mixed.
- This was packed into 30 bottles each of 8 grams.
- A total of 15 volunteers were given with *yastimadhuadi* lip balm for application who suffered from *osthasphutana*.

Table 2: Proportion of *siktha* and *ghritha*

S. No.	<i>Ghritha</i>	<i>Siktha</i>	Ratio
1	40 gm	40 gm	1:1
2	40 gm	13.3gm	1:3
3	40 gm	8gm	1:5
4	40 gm	6.66gm	1:6
5	40 gm	5gm	1:8

Table 3: Showing the remark of obtained consistency with varied *siktha* proportion

S. No.	Ratio of <i>siktha</i> and <i>ghritha</i>	Remark
1	1:1	Very hard
2	1:3	Soft but brittle
3	1:5	Smooth and fine
4	1:6	Very smooth easily smudgeable
5	1:8	Liquid consistency

Selection of patients

The study was conducted in 30 volunteers having *osthasphutna*. Each were provided with 8 grams

pack of each. They applied it 3 times per day and were asked to submit their feedback based on their experience.

Selection criteria

Individuals of either sex within the age group of 15 to 50 years suffering from *osthasphutana* were selected.

Exclusion criteria

- Individuals below 15 years and above 50 years.
- Patient associated with other major systemic or psychiatric diseases.

Observation and results

To evaluate efficacy of *yastimadhuadi* lipbalm, preliminary clinical study was conducted with permission of institutional ethical committee (SDM/IEC/73/2019). Prepared *yastimadhuadi* lipbalm was provided to 30 volunteers for external application on lips.

Result of *yastimadhuadi* lipbalm

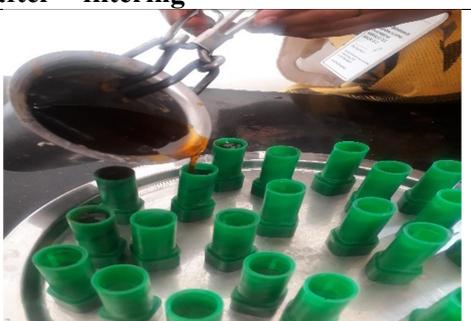
1. Out of 30 volunteers 76.7% do not feel the sense of dryness at all after using *yastimadhuadi* lip balm.

2. 80% reported complete absence of fissuring / cracking.
3. 66.7% reported absence of scaling of lips.
4. 96.7% reported absence of any kind of irritation of lips.
5. 53.3% mentioned markedly improvement in smoothness whereas 40% mentioned improvement and 6.7% mentioned slight improvement.
6. 43.3% mentioned marked improvement, 36.6% mentioned improvement whereas 16.7% mentioned slight improvement in visual grading of condition of lips.
7. 93.3% claimed as no necessity of using any other moisturizing agent on lips after use of *yastimadhuadi* lip balm.

Result of analytical tests for *yastimadhuadi* lip balm

S. No.	Test name	Result
1	Spread ability	Intermediate
2	pH	6.93
3	Total solid content	78 brix
4	Refractive index	1.47
5	Loss on drying	1%

Preparation of <i>Yastimadhuadi</i> lip balm	
	
Drugs for <i>Kashaya</i> preparation	Water added to make <i>kashaya</i>
	
<i>Kashaya</i> reduction	<i>Kalka</i> prepared
	
<i>Ghritha</i> added for <i>sneha kalpana</i>	<i>Kashaya</i> added to <i>sneha</i>
	
Addition of <i>kalka</i> to the <i>sneha</i> and <i>kashaya</i>	<i>Siddhi lakshana</i> of the <i>sneha kalpana</i>

Preparation of <i>yastimadhuadi</i> lip balm	
	
Filtering after the process	Collected <i>ghritha</i> after the process
	
Indirect heating of <i>siktha</i> to melt	Addition of melted <i>siktha</i> to <i>ghritha</i> after filtering
	
Addition of 5 % of honey	Filling the lip balm into the bottles
	
Lip balm being set into bottles	<i>Yastimadhuadi</i> lip balm samples ready to distribute

DISCUSSION:

Honey helps to enhance the moisture content of the lip balm and lighten up the dark lips. Honey has antioxidants along with bleaching action that help to remove the darkness and repair daily UV damage of the lip skin. Essential fatty acids of ghee help in conditioning and nourishing of dry, chapped lips. Beeswax is a natural emulsifier often used in cosmetics, particularly lip balm. It is very creaming with pleasant smell and will help to protect the lips from the harmful rays of the sun⁹.

Based on texture, formulations with ratios of *siktha* to *ghritha*, 1:2, 1:3 have higher values of hardness as compared to the other ratios. The visual remark by bare eyes shows that the data for ratios of *siktha* to *ghritha*, 1:2, 1:3 seen to have very thick semi-solid texture. In contrast, the other ratios 1:5, 1:6, 1:8, have a cream-like touch due to the high amount of *ghritha* used and make the lip balm feel a bit hefty on the lips. It can be inferred that the higher amount of beeswax in the formulation, the higher the hardness value is. These situations occur due to the addition of herbal drugs powder to the formulation, make the formulation harder or softer and affect the value of lip balm hardness.

Lip balm was found to have Intermediate spreadability- Uniform; leaves few fragments; appropriate application; little

deformation of the lip balm. pH of lip balm was near to neutral pH i.e.; 6.9 this would not cause any irritation to lips.

Osthasphutana is one of commonest problem nowadays. Adverse climatic conditions, any sort of infection or dehydration are commonest cause for it. Balm is a form of *lepa* which pacifies vitiated dosha and cures the condition. *Yastimadhuadi* lipbalm consists of drugs having high potency for *vranahara* and *varnya* action which relieves cracks and restores natural pigmentation of lips.

CONCLUSION

Honey used in the formulation was helpful in enhancement the moisture content of the lip balm. Drugs like *manjista*, *rakta chandana* were given colour along with their therapeutical properties. *Ghritha* was helpful in maintaining slipperiness of lip balm. Bee wax was helped in thickness of lip balm. The results shown that *yastimadhuadi* lip balm was effective in *osthasphutana* property. Analyzing the volunteer's feedback, it can be concluded that lip balm formulation was beneficial for overall problems of lips. So, *yastimadhuadi* lip balm can be prepared which will continue the usage of traditional practice.

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