FORMULATION AND EVALUATION OF POLYHERBAL HAIR CARE POWDERS

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ABSTRACT: *The formulation of polyherbal hair care powders was attempted in our laboratories. There formulation (A-C) were found to be ideal and evaluation of these formulations is reported here.*

INTRODUCTION

Herbs have long been associated with hair care and are often ingredients of conditioners, shampoos and rinses. The most highly regarded herb for hair care includes, rosemary reputed to be good general conditioner, chamomile believed to brighten hair, sage prized a darkener and conditioner, melleins gold followers intensify blond hair, parsley thickens hair, southernwood increased hair growth burdockwood controls dandruff and lavender leaves hair with a delightful scent. Hair care powders invariably incorporate saponin containing plants like *Acacia concinna* and *Sapindus mukorossi*.

The selection of active ingredients for hair care powder is often based on the ability of the ingredient to prevent damage to the skin as well as to improve the quality of the skin by way of cleansing, nourishing and protecting the skin, in the paper, we report the development and evaluation of polyherbal hair care powders.

MATERIALS AND METHODS

Collection of dried herbs was done from the local market. The authenticity of these herbs was confirmed by studying their morphological and microscopical characters and comparing these characters whit the authenticated samples stored in the pharmacognosy museum of the college.

The herbs were powdered individually and passed through 120 mesh different proportions of each ingredient powder were mixed in planatory mixer and thus various formulations were prepared. For evaluation work we selected ten human volunteers for each formulation and their responses were registered. In setting the parameters for evaluation work we considered the main factors like removal of oil and dust, nature of hair and fragrance after wash, and irritation in eye. Based on the responses of volunteers collected three formulations (A-C, Table 1) were found to be ideal. Results of the evaluation work for formulations A to C are Summarized in Table 2.

The determination of total ash, acid insoluble ash and water soluble extractive for each ingredient (Table 1) and for all the three formulations (A-C, Table 3) was done as per the standard procedure1. Evaluation of foam power2 and detergency3 was carried out for formulation A to C and results are summarized in Table 3.

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Evaluation of corneal irritation for formulations A to C was done using the method described by Draize et. al 4.0 1ml of 5% aqueous suspension was used for this purpose and observations were after 1 h, again after 2h and then daily for 35 days. Results are given in Table 3.

DISCUSSION

All the three formulations contain the saponin- containing *Acacia concinna, Sapindus trifoliate*, *Dodonea Viscose, Albizzia amara* and *Trigonella foenum graecum* as a major base, but all the formulations were devoid of forming a dense foam and lathers even though the cleaning property was good. All the three formulation showed anti dandruff property and it was best observed in individuals who used the formulation A and C for there weeks. The formulation as such did no have any disagreeable odour and after bath it left an aromatic agreeable fragrance. The total ash values of each formulations indicated that the mixing of the ingredients was proper which is reflected in three consecutive values (Table 3).

Table 1
COMPOSITION OF POLYHERBAL HAIR CARE POWDERS

Ingredients		Total ash value	Acid insoluble ash value	Water soluble extractive value	Category	Formulations (Quantity in gm)		
						A	B	C
1	*Acacia concinna*	4.50	0.18	10.20	Detergent	10	10	10
2	*Albizzia amara*	3.10	0.32	12.50	Foaming cooling	10	10	10
3	*Dodonia viscose*	2.09	0.24	10.50	Foaming cooling	10	10	10
4	*Sapindus trifoliatus*	3.60	0.25	15.60	Detergent antidandruff	10	10	10
5	*Trigonella foenum graecum*	3.25	0.05	11.75	Cooling prevents hair fall	10	10	10
6	*Lippia nodiflora*	5.20	0.25	8.30	Growth of hair	10	5	5
7	*Rosmarinus officinalis*	2.10	0.70	11.50	Shiny hair	5	5	5
8	*Cicer arietinum*	3.80	0.35	10.12	Darkening cooling	5	-	-
9	*Citrus limoni*	4.20	0.11	4.00	Antidandruff	5	-	5
10	*Phyllanthus emblica*	7.10	0.60	5.30	Antidandruff, darkening	5	-	5
11	*Phaseoulus munga*	2.90	0.17	9.17	Cooling growth of hair	-	5	-
12	*Vetiveria zizanioides*	4.0	0.30	10.10	Fragrance growth of hair	3	3	-
13	*Rosa domascena*	2.30	0.07	8.10	Fragrance	3	-	-
14	*Hibisucus rosea petals*	5.33	1.34	14.35	Cooling	-	3	3
15	*Saponaria calabrica*	1.40	0.09	15.10	foaming	-	-	3

						A	B	C
16	*Hemidesmus indicus*	3.56	0.60	18.70	Fragrance	-	3	3
17	*Lawsonia inermic*	4.75	0.21	8.70	Growth of hair	-	3	-
18	*Glycyrrhiza glabra*	5.00	0.80	12.50	Growth of hair	3	-	-
19	*Psoralia corylifolia*	4.11	0.42	7.80	Blackening	3	-	-
20	*Ocimum anctum*	2.70	0.19	9.30	Antifungal, antibacterial, deodorant	3	3	3
21	*Circima zeodaria*	0.06	0.80	2.30	Fragrance	2	2	2
22	*Azadirachta indica*	1.70	0.10	10.50	Antibacterial	2	-	-
23	*Santalum album*	2.50	0.22	8.80	Cooling fragrance	2	-	-
24	*Curcuma aromatica*	6.00	0.90	2.60	Antibacterial	2	2	2
25	*Acorus calamus*	3.15	0.40	15.20	Anti-lice	-	2	-
26	*Thymus vulgaris*	3.10	0.07	9.75	Fragrance Preservative	-	2	-
27	*Murraya kownigi*	10.29	0.30	13.08	Antibacterial	-	-	3
28	*Embelia ribes*	3.50	0.45	8.42	Anti-infective	-	-	2
29	*Carvum cumini*	6.10	0.70	2.60	Cooling	-	-	2
30	*Dolichos biflorus*	3.30	0.22	8.20	detergent	-	-	5

Table 2
SUBJECTIVE EVALUATION OF FORMULATIONS A TO C

	Test Performed	A	B	C
1	Removal of oil and dust	Easy (8)*	Easy (9)	Easy (8)
2	Nature of hair after wash	Soft, manageable (7)	Soft, manageable (9)	Soft, manageable (9)
3	Fragrance after wash	Pleasant (9)	Pleasant (9)	Pleasant (8)
4	Irritation in eye	No (10)	No (10)	No (9)
* The number in parentheses show the number out of ten volunteers giving the response				

Table 3
EVALUATION OF FORMULATIONS A TO C

	Determination of values	A	B	C
1	Total ash value	3.60	3.37	3.41
2	Acid insoluble ash value	0.31	0.27	0.25

3	Water soluble extractive value	12.05	12.58	13.03
4	Irritant potential*	0.00	0.00	1.00
5	Foam height (in mm) (a) Hard water (b) Soft water (c) Warm water (d) Cool water	12 15 16 15	12 15 16 15	14 17 20 17
*Different scores were given ranging from 0-10.				

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