



Research article

A comparative clinical study of khakhasa beeja lepa and nimba patra churna lepa in the management of darunaka (dandruff)

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ABSTRACT

Dandruff, a scalp disorder, affects the population of worldwide which is although not a transmitted disease but caused a social or self-esteem problem. Itching and flakiness are the common causes of dandruff which can also affect the facial skin if not treated in time. As per Ayurveda texts, dandruff can be correlated with Darunaka and vata and kapha doshas might be responsible for its development. This study used a paste of khakasa beeja (*Papaver somniferum*) and godugdha (cow milk) to treat dandruff which is also mentioned in Ayurvedic Samhitas for the treatment of darunaka condition. A total of 60 patients have been enrolled for this study in which 30 patients were given above treatment while the rest of the 30 patients were treated with neem paste. The study suggested that the khakasa beej and godugdha paste has the potential to treat dandruff.

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INTRODUCTION

Nowadays, dandruff is a common skin disease of scalp and more than 60% people have dandruff problem. In day to day life, people find that dandruff can cause social or self-esteem problems. Dandruff is a skin condition that causes flakes of dead skin from the scalp to appear in the hair. A typical feature of this condition is a sensation of itchiness in areas of the scalp (Borda and Wikramanayake, 2015). The good thing with dandruff is that it is not contagious or infectious. No long-term harm has been reported of dandruff. It is characterized by fine loosely adherent white or grey flakes that occur either diffusely or in localized patches on the bearing portion of the scalp (Elewski, 2005). It is normal for the skin to shed dead skin cells as new ones form but this usually happens gradually and is not noticeable. However, in the case of dandruff, this process is accelerated and visible deposits of the dead cells start to form. The exact causes of dandruff are not understood but a condition called seborrheic dermatitis which causes oily skin has been suggested as a cause. Seborrheic dermatitis affects sebaceous-rich areas of the skin such as the scalp, face and torso and is thought to be caused by an inflammatory reaction to the yeast called *Malassezia* (Berk and Scheinfeld, 2010).

Some factors that can make dandruff worse include the over-use of hairspray and hair gel, the winter season, and emotional stress (Mandal, 2019). Dandruff symptoms range from mild to severe and the condition affects most of the people. It usually develops after puberty and is commonly found among in adult people after the age of 20. It is observed that dandruff develops more commonly in men than in women.

In Ayurveda, it is correlated with Darunaka, classified as one among the shiro kapalagata roga in shalakyatantra by Acharya Vaghbata (Garde, 2019). This condition is manifested due to vitiation of vata and kapha doshas which result in dryness and itching in the scalp which further leads to scaling (Shrikant Murthy, 1991). In modern medicine, the treatment is available for this problem but that is expensive. However, many remedies are described for darunaka in Ayurveda and khakasa beeja is one of them. It is described in Sharangadhara samhita. Khakasa Beeja lepa is easy for external application and easily available in the market.

MATERIALS AND METHODS

In the present clinical study, a total of 60 patients of darunaka were selected randomly from OPD and IPD of Shalaky Department of Ashwini

Ayurveda Medical College and Hospital, Tumkuru. The criteria for the diagnosis of darunaka were based on the sign and symptoms as described in Samhita. Out of 60 patients, 30 patients treated with khakasa beeja lepa while another 30 patients were treated with nimba patra churna lepa twice a week for 14 days. The study was conducted in 2019 for six months. The follow-up was decided at D7 and D14.

Drug preparation and administration

The study group was given a lepe of khakhasa beeja (*Papaver somniferum*) with Godugdha (cow milk) whereas the control group was given a lape of Nimba Patra churna (*Azadiracta indica*) with lukewarm water. Lepa was prepared by taking Shodhita khakasa beeja (20 g) and godugdha as per requirement. The drug was soaked in milk for 2 h and then made a fine paste with some milk as liquid media for grinding. This lepa was applied on the scalp gently with three fingers and left it for 30 min, and then washed the hairs with lukewarm

water. This lepa was applied for twice a week for two weeks.

Inclusion and exclusion criteria

The patients of either sex with 15 to 50 years of age irrespective of their economic status were included in the study having classical signs and symptoms of darunaka like twaka sphutan (scaling of scalp), kandu (itching), kesha chyuti (loss of hair) and pitika on the scalp. However, the patients of below 15 and above 50 years with the secondary infected scalp, psoriatic scalp or any other skin disease related to the scalp were excluded from the present clinical study.

Criteria for assessment

A grading system was developed to assess the symptoms i.e. scaling, itching, hair fall and skin eruption. The criteria followed for the assessment is given in Table 1.

Table 1. Grading criteria for the assessment of symptoms

Grade	Twaka sphutan (scaling)	Kandu (itching)	Kesh chyuti (hair fall)	Pitika (skin eruption)
3	Scaling seen at the time of combing and also at other time.	Itching continuous during the day.	Hair fall at any time also on touch (Numerous)	>7
2	Scaling seen only at the time of combing.	Intermittent itching for more than 5 times a day.	Hair fall during the combing of hairs (20-30)	4-6
1	Scaling absent during combing of hairs but seen over the scalp only after a thorough examination of hairs.	Itching only once or twice a day.	Hair fall after washing hairs (10-20)	1-3
0	No scaling	No itching	No hair fall	No eruption

RESULTS AND DISCUSSION

The results from the present study revealed that both Khakasa Beeja lepa and Nimba patra churna lepa were effective in treating dandruff by improving the status of selected symptoms (Table 2). The results were found statistically significant when analysed using Chi-square test (Table 3).

The evaluation of the efficacy of Khakasa beeja lepa in Darunaka was studied in the present study by reducing the symptoms like scaling, itching, hair fall and pitika. These are the cardinal symptoms of Darunaka as mentioned in Samhitas (Shastri, 2001; Joshi, 2003). Every patient was examined on first day and the follow-up on the seventh and fourteenth day.

Statistical analysis of the efficacy of the study group Khakasa beeja lepa and control group Nimba patra churna lepa in Darunaka was done by applying Chi-square test. The qualitative data subjected to chi-square test was compared the efficacy of Khakasa beeja lepa with that of Nimba patra churna lepa. All the patients of the study

group and control group showed improvement in symptoms of Darunaka. The calculated Chi-square values of the 14th day were found to be greater than table values, hence, rejecting the H₀ (Null Hypothesis), there was a highly significant difference in scaling and itching in the study group. The reduction in hair fall and pitika was found to be significant on day fourteenth.

Khakasa beeja with its laghu, sookshma, vyavayi guna and ushna virya and godugdha with madhur ras, madhur vipak and snigdha properties cause vata shamana. Due to this, it helps to reduce scaling and dryness whereas, with its tikta kashaya ras, katu vipak, as well as grahi and shoshana and shoshana karma, it does kapha pitta shaman that helps in reducing itching, hair fall and pitika. Besides, both have krumighna property and the karmukata of khakasa beeja is balya. This action strengthens the kesha bhumi as well as kesha moola. Godugdha gives snigdhatva to the scalp which helps to reduce rukshata. The combination of all these drugs helps to break down the pathology of the disease. According to

modern science, poppy seed (khakasa beeja) has antimicrobial, antioxidant, antimicrobial, anti-helminthic, healing and analgesic action, and also strengthens the immunity. The cow milk gives

smoothness, hence reduces dryness. Because of these properties, the encouraging results were obtained in Darunaka (dandruff) with Khakasa beeja lepa.

Table 2. Effect of Khakasa beeja lepa and Nimba patra churna lepa in different symptoms of dandruff

Grade	Group A			Group B		
	D0	D7	D14	D0	D7	D14
Scaling						
0	0	5	20	0	0	1
1	6	14	10	0	8	21
2	11	11	0	14	17	8
3	13	0	0	16	5	0
Itching						
0	0	4	14	0	0	4
1	10	15	13	0	10	18
2	15	11	3	17	17	8
3	5	0	0	13	3	0
Hair fall						
0	3	8	12	0	2	4
1	6	12	17	7	12	18
2	14	10	1	19	13	8
3	7	0	0	4	3	0
Skin eruption						
0	5	11	19	0	3	10
1	7	12	10	12	22	18
2	12	7	1	16	5	2
3	6	0	0	2	0	0

Table 3. Level (5%) of significance in group A and group B

Day	Cal. value of χ^2	Df	Table value of χ^2	Relation	Result
Scaling					
D7	10.8	2	5.9	Cal. value > Table value	Significant
D14	26.7	2	5.9	Cal. value > Table value	Significant
Itching					
D7	9.2	2	5.9	Cal. value > Table value	Significant
D14	8.9	2	5.9	Cal. value > Table value	Significant
Hair fall					
D7	7.1	2	5.9	Cal. value > Table value	Significant
D14	11.0	2	5.9	Cal. value > Table value	Significant
Skin eruption					
D7	5.1	2	5.9	Cal. value > Table value	Significant
D14	6.4	1	3.8	Cal. value > Table value	Significant

CONCLUSION

From the present study, it can be concluded that both Khakasa beeja Lepa and Nimba patra churna lepa are effective in reducing the symptoms like scaling, itching, hair fall and skin eruption. However, khakasa beeja lepa showed better results than nimba patra churna lepa in reducing dandruff.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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