



Research Article

AN OBSERVATIONAL STUDY OF *KHALITYA* WITH THE HELP OF HAMILTON NORWOOD SCALE IN RELATION EXCESSIVE *LAVANA* IN DAILY DIET IN SAURASTRA REGION

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ABSTRACT

Now a day the entire world is optimistically looking in the direction of the Ayurveda for its eternal principles so we will have to prove our principles in modern era. In continuation this study is carried out. Excessive consumption of salt is becoming a leading habit in people in now days; which is disturbing the health of the people progressively. *Acharya Charaka* had described that if people are consuming excessive salt for long duration, absolutely they will influence with baldness (*Khalitya*). According to him salt is related with hot and sharp properties. However it is responsible for the accumulation of *Doshas* if not used properly. Due to hot, sharp and accumulation of *Doshas* properties it becomes harmful for hairs and causes baldness. To examine and prove the Ayurvedic principle the study was conducted in 30 volunteers having baldness (*Khalitya*) and salt consumption by them. Baldness was identified with the help of Hamilton Norwood Scale in the volunteers. According to questionnaire approximate salt consumption was assessed of the same volunteers and observed the comparison of baldness grade according to salt consumption. It was observed that the severity of baldness was found greater in higher consumption volunteers rather than normal consumption volunteers less than 5gms/day. According to Hamilton Norwood Baldness grading system severely affected from baldness were consuming excess salt having 80%; and only 20% volunteers are consuming in limits. Which shows that high salt intake is a major risk factor related to baldness. It proves the statement of *Acharya Charaka* related excess consumption of salt and baldness.

KEYWORDS: *Lavana* (salt), *Rasa*, *Khalitya* (Hair loss), *Vata Prakriti*, *Pitta Prakriti*, *Kapha Prakriti*, *Deha Prakriti* & *Doshas*.

INTRODUCTION

Salt (*Lavana*) is an important element in our diet. People consume the salt normally in two ways hidden and straightway. A little salt is essential to good health. World Health Organization had recommended that dietary salt intake should be less than 5gms/day. [1] Healthy persons should consume salt and water to replace the amount lost daily through sweat and to achieve a diet that provides sufficient amounts of other essential nutrients. Low salt intake improves blood pressure and can lower the risk of heart diseases and stroke. Salt consumption varies not only country to country but also state to state. Prevalence of salt consumption in India varies state to state from 8.5gm/day/person to 42.3 gm/day/person. Though the consumption of dietary salt in Indians is seen minimum 8.5 gm/day. [2] According to the Nutrition Committee of the American Heart Association, normal daily salt intake is 1.6 to 3 teaspoons of sodium chloride (NaCl) in USA. This is equivalent to 7.6-10 g of NaCl. The current U.S. mean level of daily salt (NaCl) consumption is almost 9 g and an urban India investigation reported a mean dietary salt intake of 8.5 g/day. [3]

Excessive consumption of salt is becoming a foremost habit among people in now days. This is affecting the health of the people not immediately but steadily. In *Charak samhita*, *Acharya Charaka* had described the "*Ati-upayunjit Lakshana*" of "*Lavana Rasa*". [4] *Acharya* says that if people are consuming excessive salt for long duration, definitely they will affect with baldness (*Khalitya*). According to *Acharya Charaka* salt is associated with hot and sharp properties. It is neither very heavy nor very greasy. It is deliquescent and is capable of producing laxative effect. It makes food delicious. When properly used, it produces good results. It is however responsible for the accumulation of *Doshas* if not used properly. It is used as an appetizer, digestive, deliquescent and laxative. When excessively used, it produces fatigueness etc. People of *Bhalka*, *Saurashtra* and *Sindh* take salt even with milk. In a small dose, salt can even be used continuously in the preparations of food articles but such continuous use in large dose is harmful. According to *Acharya Vagbhata* salt used in excess, it causes increase of '*Asra*' (blood) and '*Pavana*' (*Vata*), causes

baldness, graying of hair, wrinkles of the skin, thirst, leprosy(skin diseases), poison effect and diminution of strength of the body.^[5]

So it is a need to explore the effect of excessive consumption of salty food in relation *Khalitya*. Hence the present study is selected.

MATERIAL AND METHODS

1. Identification of *Khalitya*

Identification of baldness was done with the help of Hamilton Norwood Scale in the volunteers.

2. Measurement of approximate salt consumption

In present study according to questionnaire approximate salt consumption was measured which was made extended form of four simple questions can give an approximation on high salt intake in an individual.^[6]

3. Parameters

The parameters of *Khalitya* (baldness) were as per below (Stages are the stages of Hamilton Norwood Scale)

1. Parameter for no hair loss or mild hair loss

Stage -1, 2 & will be counted as no hair loss or as mild hair loss.

2. Parameter for moderate hair loss

Stage- 2A, 3, 3A, 3V, & 4 will consider as moderate hair loss.

3. Parameter for severe hair loss

Stage- 4A to 7 will consider as severe baldness.

4. **Statistics:** On the basis of percent.

OBSERVATION

In present study subject was 30, the study reveals that the Parameters of hair Loss (*Khalitya*) were found as below graphs.

Graph no. 01, and table no. 01 Parameters of hair loss

Graph no. 02, and table no. 02 Parameters Consumption of salt

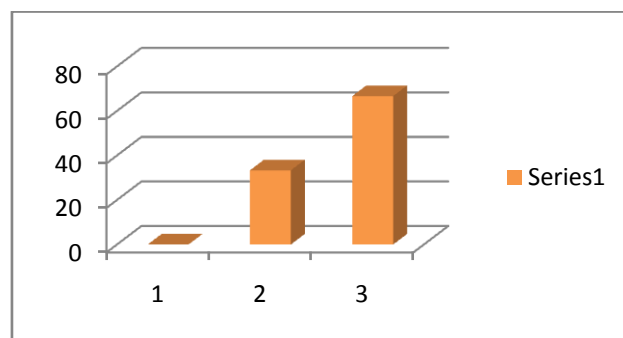
Graph no. 03, and table no. 03 Salt consuming and severe of hair loss

Graph no. 04, and table no. 04 Salt consuming and moderate of hair loss

Table 1: Parameters of hair loss

S. No	Parameter	Volunteers	Percentage
1	Mild	0	00
2	Moderate	10	33.333
3	Severe	20	66.666
Total		30	100

Graph 1: Parameters of hair loss

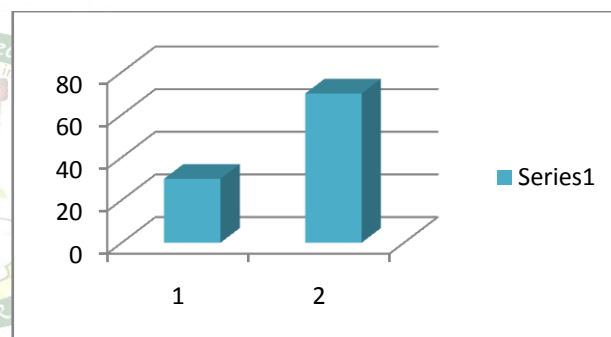


(In graph no.01, 1. Indicates- mild, 2 for moderate & 3 for Severe)

Table 2: Percentage Consumption of salt

S. No	Salt consumption	Volunteers	Percentage
1	Consuming 5 grams and below it	09	30
2	Consuming 6 grams and above	21	70
Total		30	100

Graph 2: Parameters Consumption of salt

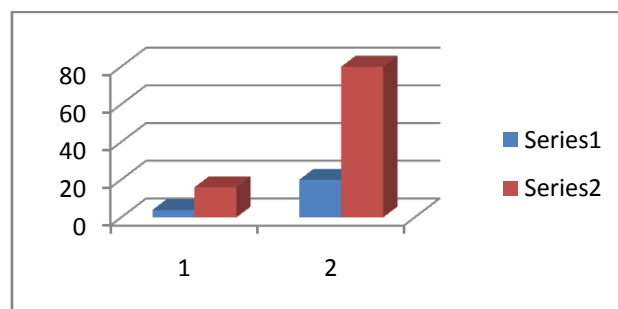


(In graph no.2, 1 indicates for consuming 5 grams and below it & 2 for Consuming 6 grams and above)

Table 3: Salt consuming and severe hair loss

S. No	Salt consumption	Severe	Percentage
1	Consuming 5 grams and below it	04	20
2	Consuming 6 grams and above	16	80
Total		20	100

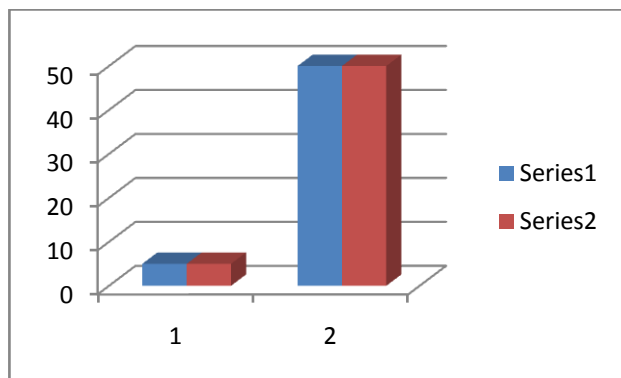
Graph 3: Salt consuming and severe hair loss



[In graph no.3, Series 1 for volunteers (Severe) & 2 for their respective percentages]

Table 4: Salt consuming and moderate hair loss

S. No	Salt consumption	Moderate	Percentage
1	Consuming 5 grams and below it	05	50
2	Consuming 6 grams and above	05	50
Total		10	100

Graph4: Salt consuming and moderate hair loss

[In graph 4, Series 1 for volunteers (Moderate) & 2 for their respective percentages]

DISCUSSION

Graph no. 1 and table no. 1 shows that parameters of hair loss were found moderate 10 and severe 20 volunteers out of 30 with 33.33 and 66.67 respectively.

Graph no. 2 and table no. 2 indicates that 9 volunteers are consuming 5 grams and below it, where as 21 volunteers are consuming 6 grams and above with 30% and 70% respectively.

Graph no. 3, series 1 and table no. 3, shows that volunteers consuming 5 grams and below it were found severely affected 4 volunteers with 20 % while in series 2 consuming 6 grams and above were found severely affected 16 volunteers with 80 %.

Graph no. 4, series 1 and table no. 4 shows that volunteers consuming 5 grams and below it were found moderately affected 5 with 50% and in series 2 volunteers consuming 6 grams and above were also 5 with 50%.

RESULTS

We found that volunteers taking excess salt amount as recommended salt 5grams/ day were found 21 volunteers being 70% against who are taking in limits were 9 volunteers as 30 %. Who are severely affected among them 80% is consuming excess salt than physiological limits and only 20% volunteers are consuming in limits. It explores the effect of excessive consumption of salty food in relation Baldness (*Khalitya*) severity. The same ratio was found in volunteers who were taking salt in limits and in excess, which were affected from baldness as moderately.

CONCLUSION

Ayurveda being an eternal science states that persons who take salt in excess amount; they are more affected with baldness. In above scenario the study was carried out and it concludes the same, on the basis of its results that salt consumption was found higher in severely bald persons.

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