

TO STUDY ETIOLOGICAL FACTORS OF PREMATURE GRAYING OF HAIRS (PALITYA)

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ABSTRACT

The Hair becomes gray when color-producing cells (melanocytes) stop producing pigment (melanin). Gray hair is a conspicuous sign of ageing. It is known to usually occur in the fourth decade regardless of gender but now days we can see some people experience graying of hair beginning as early as their 20s. Premature graying is an important cause of low self-esteem, often interfering with socio-cultural adjustment. However, scientists have not been fully able to explain the exact causes of this change in color of the hair. Hence to study the exact causes of premature graying of hair and to provide preventive methodology this topic has been selected for study. **Aim & Objective:** 1. To study etiological factors of premature graying of hairs. 2. To study prevalence of premature graying of hairs. 3. To study etiological factors of early ageing. **Plan Of Work:** This is an open, retrospective study. 100 subjects with gray hairs were selected for study. History of all patients have been taken thoroughly, with the help of special case format. **Conclusion:** Genetics is not only the cause of premature gray hairs, but also there are other listed cause like excessive intake of spicy & salty food, tea, lack of sleep & exercise, stress etc.

Key Words: Premature gray hair, *Palitya*, etiological factor, pathogenesis

INTRODUCTION

Premature graying of hair, also called as 'premature canities' refers to diffuse loss of hair color, especially of scalp hair, at an age earlier than that generally accepted as physiologic, before the age of 20 years in whites and 30 years in Blacks.¹ This occurs due to reduction in the activity of melanocytes in the hair follicles (poor sustenance of melanocyte stem cell).¹ Premature graying of hair probably has a genetic basis² and occasionally occurs as an isolated autosomal dominant condition.³ Premature graying has been associated with various au-

toimmune diseases, genodermatoses, hormonal dysfunction and metabolic disorders.¹ Acquired reversible diffuse hypopigmentation results from various nutritional deficiencies like vitaminB12⁴, copper, iron, protein energy malnutrition.⁵ There is some evidence for chronic stress causing premature achromotrichia⁶ But occasionally, premature graying may occur in the apparent absence of any dermatologic or systemic disease.

Palitya is the term used in *Ayurveda* for Gray hair. Detail etiopathogenesis of *Palitya* (gray hairs) is explained in *Ayurvedic*

Samhita.⁷ *Palitya* occurs due to deformity in *Rasavaha* (lymph) & *Asthivaha* (bone) *srotasa*. Detail etiopathogenesis & symptomatology of *Rasavaha*^{8, 9} & *Asthivaha srotasa*^{10,11} are explained. Excessive intake of Salt may cause excess of hair loss, premature graying of hair & ageing (early wrinkles formation).¹²

Gray hair is a conspicuous sign of ageing. Based on the strong association between ageing and hair graying, it has been asked whether gray hair is a manifestation of the general ageing process of individual and whether people that appear to be old for age have a shorter life span. However, scientists have not been fully able to explain the exact causes of this change in color of the hair.

Hence to study the exact causes of premature graying of hair and to provide preventive methodology this topic has been selected for study.

MATERIALS & METHODOLOGY

Type of study:

This is an open, retrospective study.

Place of work :

Dr. D. Y. Patil College of Ayurved & research institute Nerul, Navi Mumbai

Sample size:

100 subjects with gray hairs have been selected randomly for study.

Sampling method

Simple random sampling.

Duration of study:

1 year 2 months

Inclusion criteria:

- Subjects with gray hairs are selected randomly irrespective of their sex, socio-economic status.
- Age between 18-30 yrs

Diagnostic criteria:

Presence of gray hairs:

- Grade 1 (less than 20% of total hair)
- Grade 2 (20~40%)
- Grade 3 (40~60%)
- Grade 4 (60~80%)
- Grade 5 (more than 80%).

Exclusion criteria:

Subjects suffering from albinism, vitiligo¹³, thyroid disorder & other major illness.

(Subjects are excluded on the basis of history & clinical examination. No investigations were done.)

WORK PLAN:

1. 100 Subjects with gray hairs have been selected for study
2. History of all patients have been taken thoroughly, with the help of special case format.

RESULT/ OBSERVATION

Table 1: Showing sex wise distribution of 100 subjects.

Sex	NO OF CASES %
Male	27
Female	73

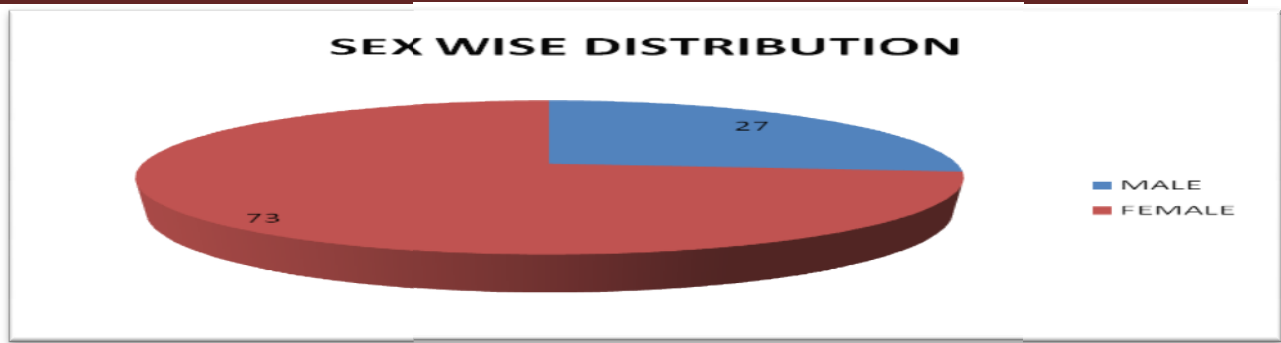
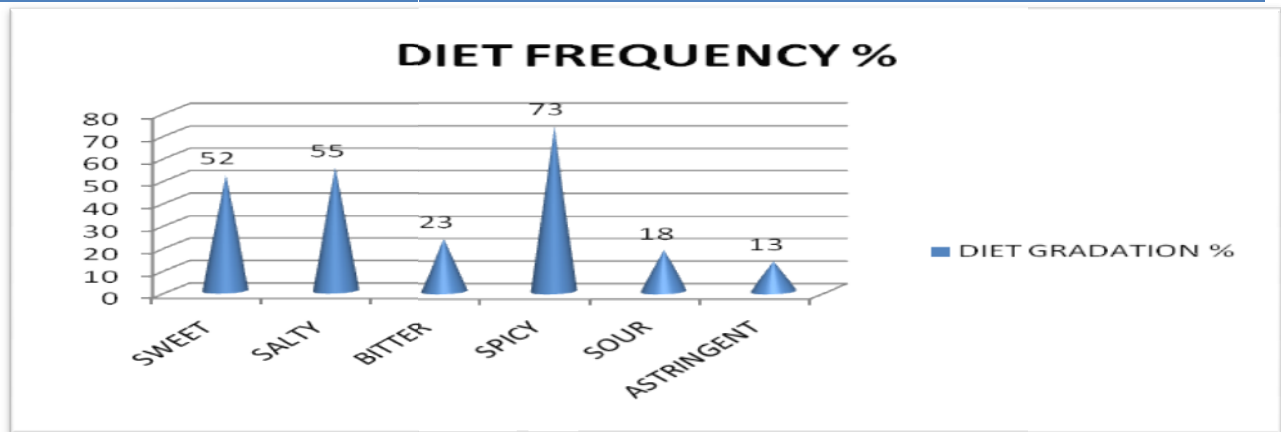


Table 2: Showing Diet wise distribution of 100 subjects

Diet	Sweet	Salty	Bitter	Spicy	Sour	Astringent
Frequency %	52	55	23	73	18	13

Diet	Fer- ment ed Food	Bakery Items	Oily Food	Excessive Cold	Milk Product	Excessive Water	Junk Food
Frequency %	42	57	47	35	28	32	45

Diet	Pic kle	Excessive Hot	Hote- ling	Chinese Food	Te a	Ksha r	Less Intake Of Food
Frequency %	38	38	37	35	62	40	3



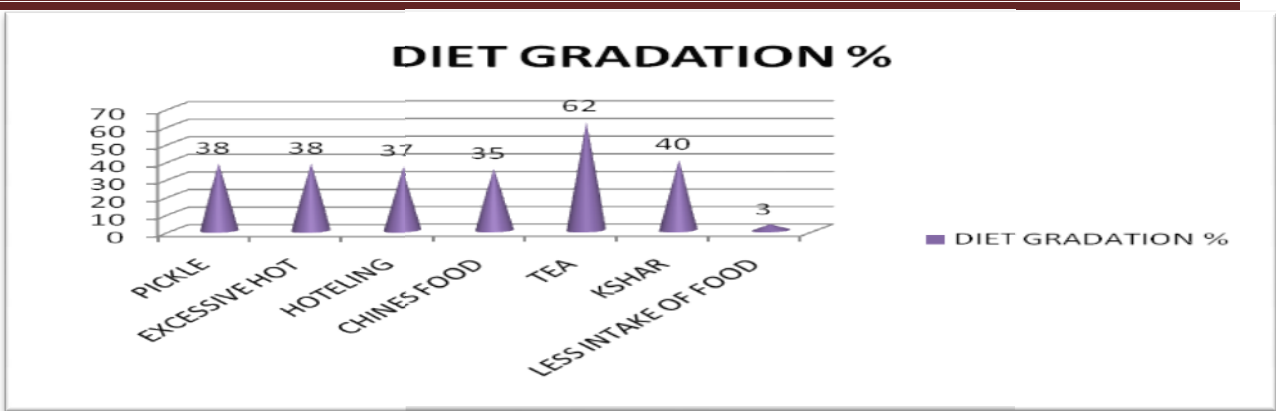


Table 3: Showing Daily regimen of 100 subjects

Daily Regimen	Exercise	Daytime Sleep	Late Night Sleep	Control Of Natural Urge
Frequency %	10	23	58	30

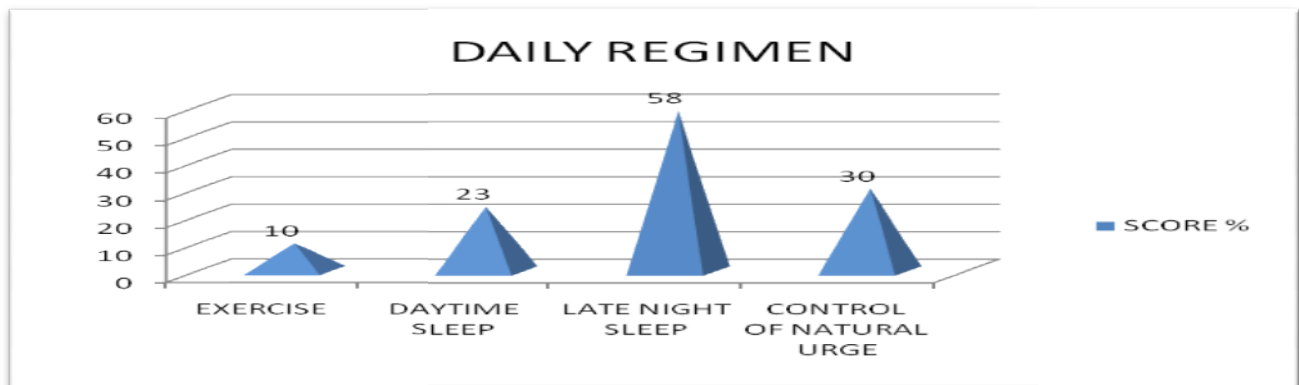


Table 4: Showing Psychological factor wise distribution of 100 subjects

Psychological Factor	Stress	Excessive Thinking	Anger	Anxiety	Depression
Frequency %	73	82	50	47	48

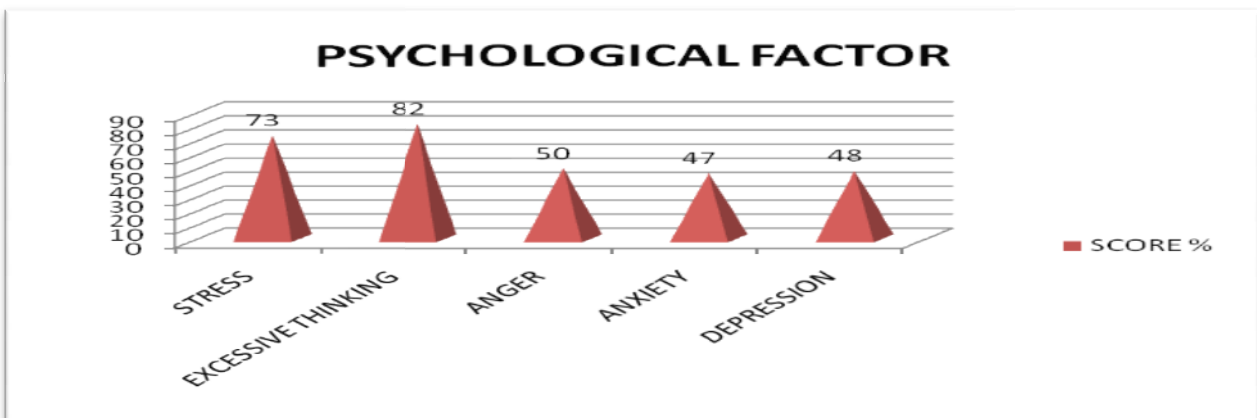
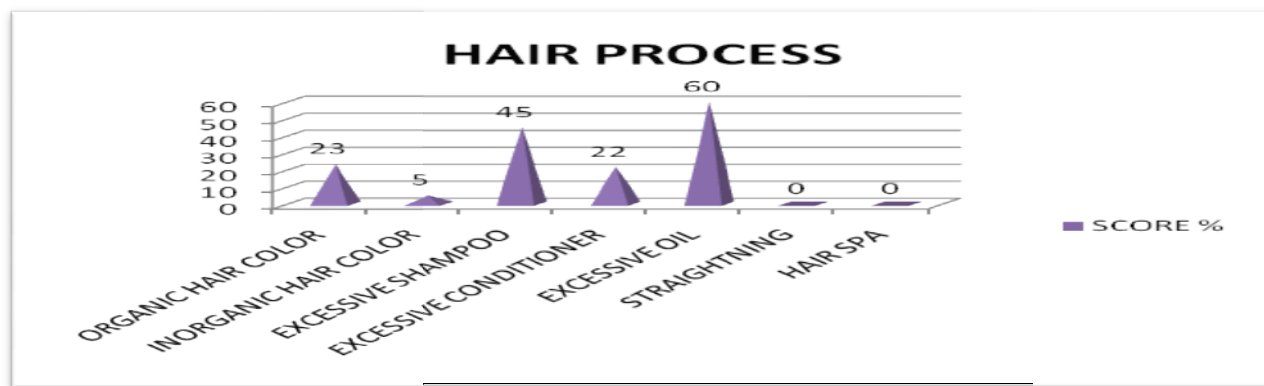


Table 5: Showing effect of hair process on premature graying of hair of 100 subjects

Hair Process	Hair Color	Excessive Use Of	Straightning & Other
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	ORGAN- IC	INOR- GANIC	SHAM- POO	CONDI- TIONER	OI L	
Frequency	23	5	45	22	60	0
%						



DISCUSSION: The present dissertation is the study of the etiological factors of premature graying of hair. An attempt has been made to find out association of these etiological factors with the premature graying of hair.

The obtained data was analyzed as follows:

1) Age: From the obtained data, it has been observed that maximum number of subjects were found in the age group 26-30 yrs (50%) while 27% are from age group 18-20 yrs, and 23% are from age group 21-25yrs respectively.

According to Ayurveda up to 16 yrs peoples are in *Balyaavasta* there is predominance of *Kaphadosha*. Between 16 to 30yrs peoples are in *Tarunyaavastha* there is predominance of *pitta dosha*. Vitiation of *Pitta dosha* is causative factor for *Palitya* (premature gray hairs). So premature graying is seen after 16yrs. The diet, unhealthy life style, stress & anxiety are the chronic factors for early graying of hair.

2) Sex: The total no of females subjects suffering from premature gray hairs were 73% and males were 23%. Females are more

emotional. The worry, fear, anxiety develops a psychological pressure. Psychological factors (*Chintyanamch ati chintanat*) causes' vitiation *rasa dhatu* which may leads in to premature graying of hair (*palitya*). Females are more prone to use of synthetic product & processed for hair, which are harmful for the scalp, can be a cause of canities.

3) Gradation of gray hairs: Maximum subjects, which is 50% showing Grade 2 (20 to 40%) gray hairs, 33% possess Grade 1 (less than 20%) gray hairs, 17% possess Grade 3 (40 to 60%). No one showing more than 60% gray hairs. Graying of hairs is prolonged process. Age group of study is less than 30 yrs. So maximum subjects showing less than grade 2 gray hairs.

4) Presence of complaints related to Rasavahasrotas : 87% subjects having complaints related *Rasa dushti* like loss of appetite, indigestion nausea, wrinkles etc. 13% subjects don't have complain related *Rasa-vaha*. Stress, excessive thinking are major causes of vitiation *rasa*.

5) Presence of complaints related to Asthivahasrotas: Hairs are waste product of *Asthi* (bones). So deformity in *asthidhatu*

may cause hair deformity. Subject possessing gray hairs may have some complain related *Asthi* like joint pain, toothache, discoloration of hair nails. 37% subjects having complaint related *Asthivaha* & 63% subjects don't have any complaint related *Asthidush-ti*. *Ashti* is very strong element of our body. For vitiation of *Asthidhatu* chronicity of intake of causative factor is required. Subjects' age is less than 30 yrs so there is lack of abnormality in *asthi* (bone).

6) Family history: The age at which graying begins seems almost entirely due to genetics.

37% subjects showing family history of premature graying of hairs but 63% subjects don't show family history of premature graying. Genes is one factor for premature gray hairs. Diet plays major role in development of any disorder. Maximum subjects are showing that genetics is not only the cause of premature gray hair.

7) Etiological factor:

A) Diet: Maximum no of subjects i.e. 60% were taking mix diet while 40% subjects were taking only veg. diet. Frequency of spicy food were 73%, Salty 55%, Sweet 51%, Bitter 23%, Sour 18% & Astringent 13%. Spicy food may increases oxidation process in body. This leads to the increase of free radicals of oxygen that may cause early aging & discoloration of hair. According to *Ayurveda* spicy food causes vitiation of *Pitta dosha* & *Rasa dhatu*. Vitiating *Pitta* & *Rasa* causes *Palitya* (premature gray hairs). Salt & sweets also major cause of premature gray hairs. It causes graying due to lack of nourishment of hairs by obstructing pathway (*Abhishyandi Guna*). Frequency of Bakery items were 57%, Oily food 47%, Junk food 45%, Fermented food 42%, Excessive cold 35%, Excessive water 32% & Milk product

28%. These cause vitiation of *Kaphadosha* which obstruct nourishment pathway of hairs. Due to lack of nourishment hairs becomes gray.

Frequency of Tea is 62%, Kshar (e.g Papad, Chinese sauses) 40%, Pickle & Excessive hot 38%, Hotelling 37%, Chinese food 35%. These food may increases oxidation process in body. These food items cause vitiation of *Pitta dosha* & lead in to premature gray hairs. Over all study shows that Spicy food, Tea, Salt & bakery items were major cause for gray hair.

B) Daily Regimen: Also daily regimen of subjects were observed, 58% follows late night sleep which increases stress. Late night sleep is also cause of vitiation of *Pitta*. 10% subjects do exercise and almost 90% having lack of exercise. The lack of exercise is cause of vitiation of *Asthidhatu*. 23% subjects were taking day time sleep which may cause obstruction in nourishment pathway of hairs.

Late night sleep & lack of exercise are major cause of gray hairs.

C) Addition: In the present study, only 02% patients were having alcohol addiction and 98% patients were not having any kind of addiction. Alcohol hampered function of liver & vitiating *pitta dosha*, smoking increases level of CO₂. This leads to the increase of free radicals of oxygen that may cause discoloration of hair. Increase intake of this kind of product may cause premature gray hairs & ageing.

D) Psychological factor: Psychological factors plays major role in premature graying of hairs. In this study frequency of Excessive thinking is 82% which causes vitiation of *Rasa dhatu*. Frequency of taking Stress were 73%, Anger 50%, Anxiety 47% & Depression 48%. There is some evidence for

chronic stress causing premature achromotrichia. These factor causes vitiation of *Pitta* & *Rasa* & leads into premature gray hairs.

F) Use of hair processes: In this study, frequency of use of hair product as oiling 60%, shampoo 45%, conditioning 22%, organic hair color 23% & inorganic color 5%. Excess use of oiling may cause obstruction in nourishment pathway (*due to abhishyandi guna*) of hairs which may lead into gray hairs. Hair products contain harmful product for hairs & their excess use may cause gray hair. Frequency of hair process like spa, straightening, curling, highlighter etc. were 0%. During these process some unnatural process were done which may harm to the hairs.

CONCLUSION

- Premature graying of hair mostly seen after age 25yrs
- Females are more prone to develop premature gray hairs.
- All types of socio-economic groups are affected by premature gray hairs.
- Not only malnourished subjects are suffered from premature gray hairs. All types (BMI) of subjects are suffering from premature gray hairs.
- Most of subjects showing grade 2 (20-40%) gray hair.
- Genetics is not only the cause of premature gray hair, there are other listed causes like excessive intake of spicy & salty food, tea, lack of sleep & exercise etc. are the causes of premature gray hair.
- Psychological factors like stress, excessive thinking plays major role in premature graying of hairs.
- *Rasa dhatu* is more affected than *Asthi* in premature graying of hair

- Vitiation of *Pitta* & *Rasa* leads into premature gray hairs.

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