

**STUDY ON KESHA SHAREERA W.S.R TO KHALITYA (MALE PATTERN BALDNESS) IN RELATION WITH DAIHIKA PRAKRUTI.**

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**ABSTRACT**

Ayurveda is one of the oldest scientific medical systems in the world with strong evidence of experiencing good life. However, it is not only the system of medicine in the congenital sense of curing diseases. It is also a way of life that teaches us how to maintain and protect our own health and lead a healthy life, Hence, it is sincerely a holistic and fundamental medical system.

According to *Acharya Sushruta*, the *Kesha* is one of the *Pitruja Bhava*. He has mentioned in *Nidanasthana* that under the heading explained *Indralupta*, *Khalitya*, and *Ruhya* are the same. *Pitta* along with *Vata* by involving the roots of hair (*Romakoopa*) causes the falling of hair and then after *Shleshma* along with *Shonita* obstructs the channel of *Romakoopa* leading to the degeneration of the hairs. Ayurveda is based on the concepts of *Prakruti* inherited at the time of *Shukra Shonita Samyoga*, prior to birth defined as *Prakruti*. As the *Prakruti* of a person remains stable throughout the life of an individual, it is helpful in predicting a particular disease, the prognosis of that illness, and the selection of therapy. The *Kesha* and *Prakruti* are interrelated, people of different *Prakruti* have different types of *Kesha*. Here for the assessment of male pattern baldness, the Hamilton Norwood scale is used. In the present Westernized culture, other dietary habits, and different hair care products like chemical-based oils, shampoos, conditioners, soaps, etc, have made hair either get premature or to falling of hair. So, the individ-

ual develops an inferiority complex, having a latent impact on one's psychological behavior. So, our intention is to know which *Prakruti* person will get earlier *Khalitya* and the same will be studied here.

**Keywords:** *Kesha*, *Khalitya*, *Prakruti*, Hamilton Norwood scale.

## INTRODUCTION

*Ayurveda* is tantra that aims at preserving the health of an individual and treating the illness of a patient. The structure and function of bodily entities vary in health and disease conditions accordingly. Hair care is million -a million-dollar business in the modern era and the market today has a wide range of preparations in varied forms like oils, gels, and conditioners to remember different dyes and colors exclusively for Hair. Hence, it is worth a discussion on whether all those medicines and cosmetic preparations under the guise of drugs are good for Hair. Equally worth is the question about the possible complications and nuances the individual faces in case of their inadvertent usage of harmful preparation. *Kesha* is a very important structure in the body, not only because of its significant role in approaching a patient due to its role in health but also because of its impact on the psychology of a person. The study of *Kesha* in detail helps a physician to understand the overall health of a person. It acts as an indicator of health and disease and also because of its prognostic value in certain disease conditions. According to *Acharya Dalhana* and *Videha*, *Khalitya* mainly occurs in males rather than females, because females are *Sukumar/Komal* in nature and are not involve in exertion work, which helps in the maintenance of *Vata* and *Pitta* (whereas in men, exertion leads to aggravation of *Vata* and *Pitta*) and also females undergo *Raja Srava* every month due to which *Sroto Shodana* takes place thus females' area not prone to *Khalitya* as like that of men.<sup>1</sup>

*Acharya Charaka* has mentioned *Vimana sthana's* excessive use of various salts and alkali as an etiological factor of *Khalitya*<sup>2</sup>. He emphasizes *Samprapti* as vitiated *Vata dosha* when it reaches the scalp, which results in *Khalitya*, where *Tejas* denotes *Deha Ushma* as well as *Pitta Dosha*.<sup>3</sup> *Acharya Sharngadhara* has mentioned *Kesha* as *Mala* of *Shukra* and *Upadhatu* of

*Majja*.<sup>4</sup> *Ayurveda*, the science of life has its different principles in each ground, and in the case of hair, it has set certain principles and vision, one of which is *Prakruti*. It is an individual's constitutional behavior, which incorporates physical and psychological traits referred to under the caption of *Dosha Prakruti*. The *Prakruti* of the person largely depends upon the dosha predominance at the fertilization of the dosha predominance at the time of fertilization of the germinative factors called in *Ayurveda Shukra* and *Shonita Prakruti* is a unique concept of *ayurveda*. Here, for the assessment of male pattern baldness, the Hamilton Norwood scale is used. It was introduced by Dr. James Hamilton in 1950 and later revised and updated by Dr. Otar Norwood in 1970. With the help of this method, we can study which pattern of hair loss is there on the scalp.<sup>4</sup> Beauty is always associated with hair despite age. So, everyone is extra conscious about it and is in Research of better remedy for their crowning glory. But, to keep healthy hair in a healthy state is entirely the duty of human beings. In this fast world today, there are races for cosmetics, changed lifestyles or more specifically, westernized culture, different dietary habits have made hairs either Gray or prematurely fall down. Other types of oil (chemical oils), shampoos, Soaps, and Pharmaceutical Propaganda in the name of "*Soundarya Prasadhanam*" to promote hair growth have worsened the condition. Everyone should know about his *Prakruti* & accordingly the pattern of his hair & course which style or treatment suits their hair. Different diseases can occur in different *Deha Prakruti* due to various causative factors. Taking into further consideration of predominance, we can change the view of treatment. This was the honest attempt to Study *Kesha* . i.e. Hair in different *Doshaja Prakruti* to prevent hair diseases easily, keeping in mind the *Prakruti* of the person.

## AIMS AND OBJECTIVES

- 1) To study *Kesha Shareera* in detail.
- 2) To assess the *Khalitya* (male pattern baldness) about modern contemporary science.
- 3) To evaluate the relationship between *Khalitya* and *Daihika Prakruti*,

## RESEARCH METHODOLOGY

### METHODOLOGY

#### STUDY DESIGN

An observational study.

One hundred subjects who fulfilled the inclusion criteria were selected for the study.

Proforma was designed to assess *Khalitya* by using the Hamilton-Norwood scale and its physical signs and symptoms as mentioned in our classics and allied sciences.

Informed consent was taken.

Data was collected by using questionnaires.

The data collected was documented, analyzed, and interpreted.

#### METHOD OF COLLECTION OF DATA

For this purpose, relevant information was collected from classical and modern textbooks, National and International journals, magazines, conferences, internet material, previous work done, and presented papers.

#### *Prakruti* observations

#### INCIDENCE OF AGE:

Out of 100 volunteers, the 21-25 years age group consists of 43 volunteers (43 %), the 26-30 years age group consists of 50 volunteers (50%), the 31-35 years age group consists of 07 volunteers (07%).

AGE GROUP	NO OF VOLUNTEERS	PERCENTAGE
21-23 Years	43	43%
26-30 Years	50	50%
31-35 Years	07	07%

100 Male volunteers of *Khalitya* will be selected from OPD AND IPD attached to N.K. Jabshetty Ayurvedic Medical College and P.G Centre, Shri Siddharoodh Charitable Hospital, and around Bidar.

#### SOURCES OF DATA.

The literary study was undertaken from *Brihatraye*, *Laghutraye*, and texts including journals, papers presented, previous work done and collected from modern textbooks, and authenticated websites which were reviewed and documented for the study.

#### INCLUSION CRITERIA

Subjects of age between 21-45 years.

Male gender was included.

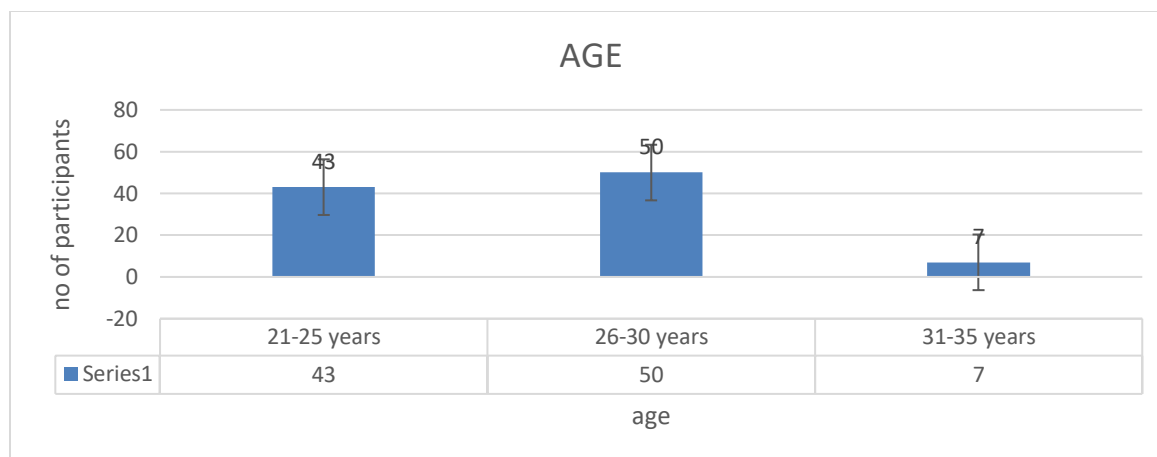
Subjects willing to give consent to participate in this study were taken.

#### EXCLUSION CRITERIA.

- 1) Females
- 2) The subject underwent Chemotherapy and radiation therapy.
- 3) The subject underwent for Trophological treatments.
- 4) Subjects under medications.

#### OBSERVATIONS

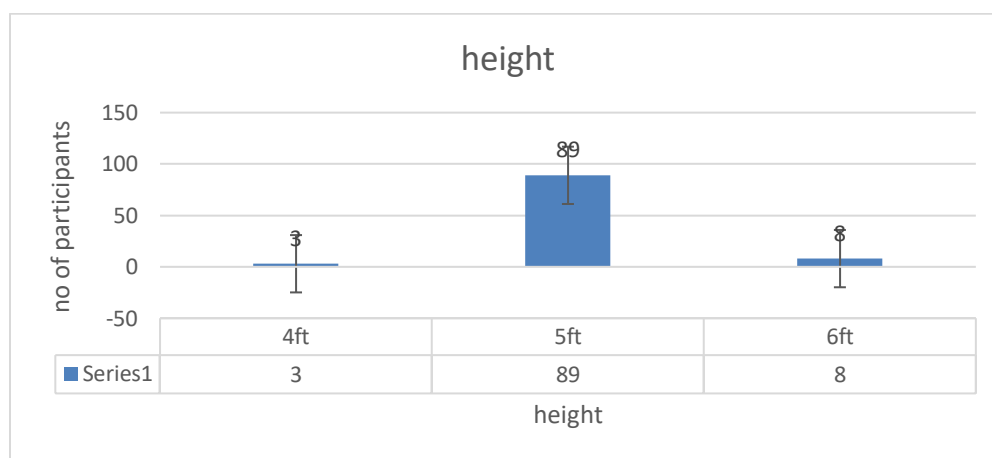
Observation is made using *Prakruti* analysis with references to *Khalitya*.



## 2) INCIDENCE OF RELIGION

Out of 100 volunteers, the 4ft height group consists of 3 volunteers (3%), 5ft height group consist of 89 volunteers (89%), 6ft height group consist of 8 volunteers (8%).

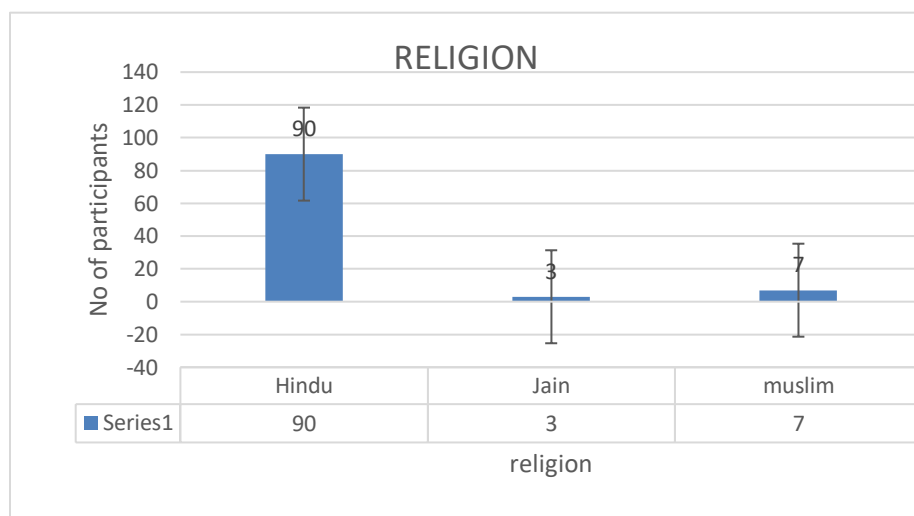
HEIGHT	NO OF VOLUNTEERS	PERCENTAGE
4FT	3	3%
5FT	89	89%
6FT	8	8%



## 3) INCIDENSE OF RELIGION

Out of 100 volunteers, Hindu group consist of 90 volunteers (90%), Jain group consist of 03 volunteers (3%), Muslim group consist of 07 volunteers (07%)

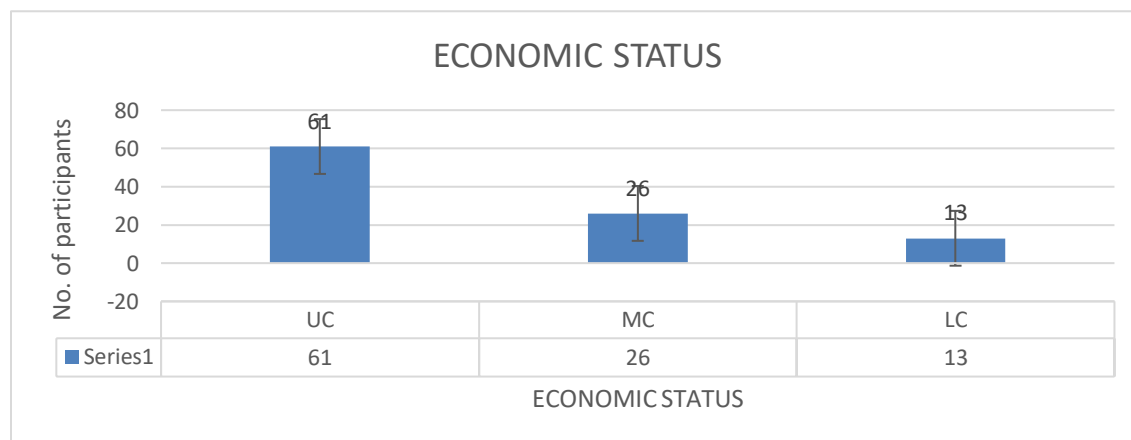
RELIGION	NO OF VOLUNTEERS	PERCENTAGE
HINDU	90	90%
JAIN	3	3%
MUSLIM	7	7%



#### 4) INCIDENSE OF SOCIOECONOMIC STATUS

Out of 100 volunteers, Upper class group consist of 61 volunteers (61 %), Middle class group consist of 26 volunteers (26 %), Lower class group consist of 13 volunteers (13 %)

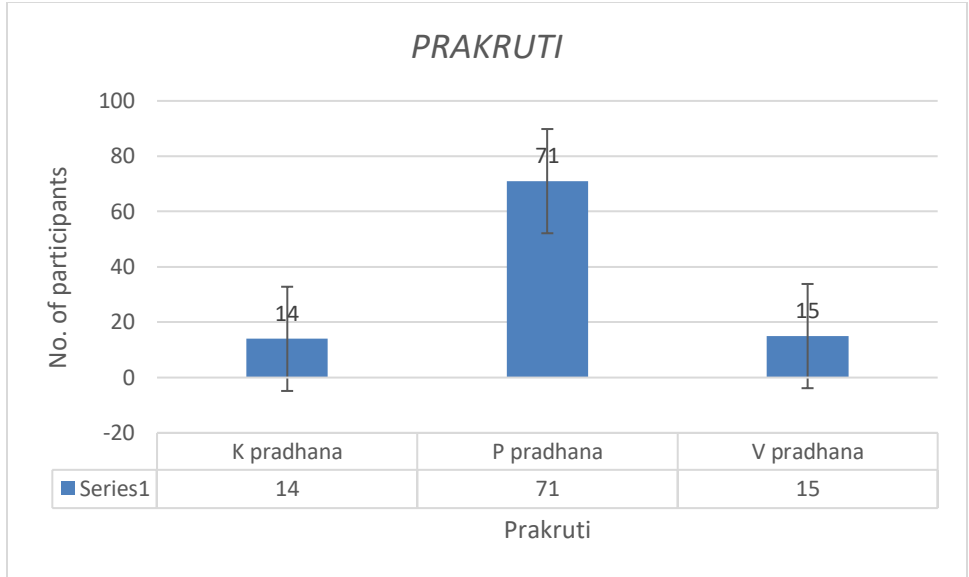
ECONOMIC STATUS	NO OF VOLUNTEERS	PERCENTAGE
UPPER CLASS	61	61%
MIDDLE CLASS	26	26%
LOWER CLASS	13	13%



#### 4) INCIDENCE OF PRAKRUTI :

Out of 100 volunteers, *Kapha Prakruti* group consists of 14 volunteers (14 %), *Pitta prakruti* group consists of 71 volunteers (71 %), *Vata prakruti* group consists of 15 volunteers (15 %).

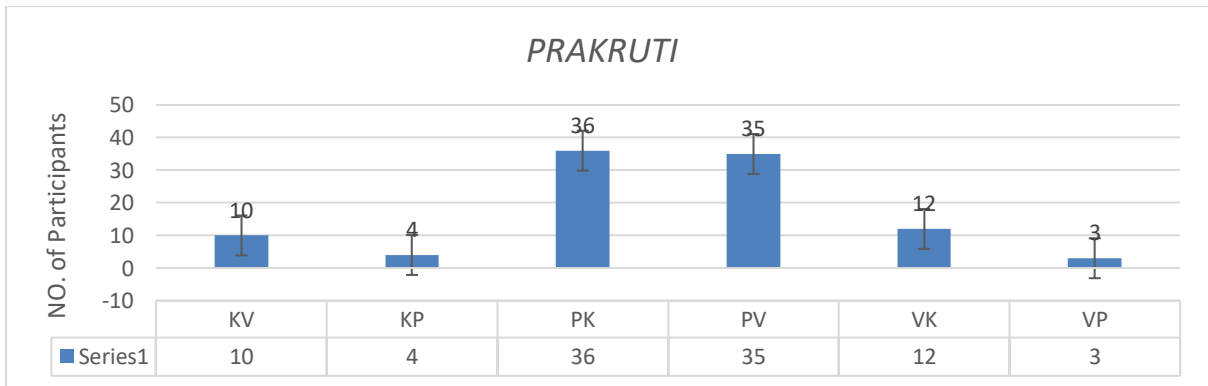
PRAKRUTI	NO OF VOLUNTEERS	PERCENTAGE
K-Pradhana	14	14%
P- Pradhana	71	71%
V- Pradhana	15	15%



**5) INCIDENSE OF PRAKRUTI :**

Out of 100 volunteers, *Kapha prakṛuti* group consist of 14 volunteers (14 %), among them 10 are *KV Prakṛuti*, 4 are *KP prakṛuti*, *Pitta prakṛuti* group consist of 71 volunteers (71 %),36 is *PK prakṛuti*, 35 are *PV prakṛuti*, *Vata prakṛuti* group consist of 15 volunteers (15 %), among them 12 are *VK Prakṛuti*, 3 are *VP Prakṛuti*.

PRAKRUTI	NO OF VOLUNTEERS	PERCENTAGE
<b>KV</b>	10	10%
<b>KP</b>	4	4%
<b>PK</b>	36	36%
<b>PV</b>	35	35%
<b>VK</b>	12	12%
<b>VP</b>	3	3%

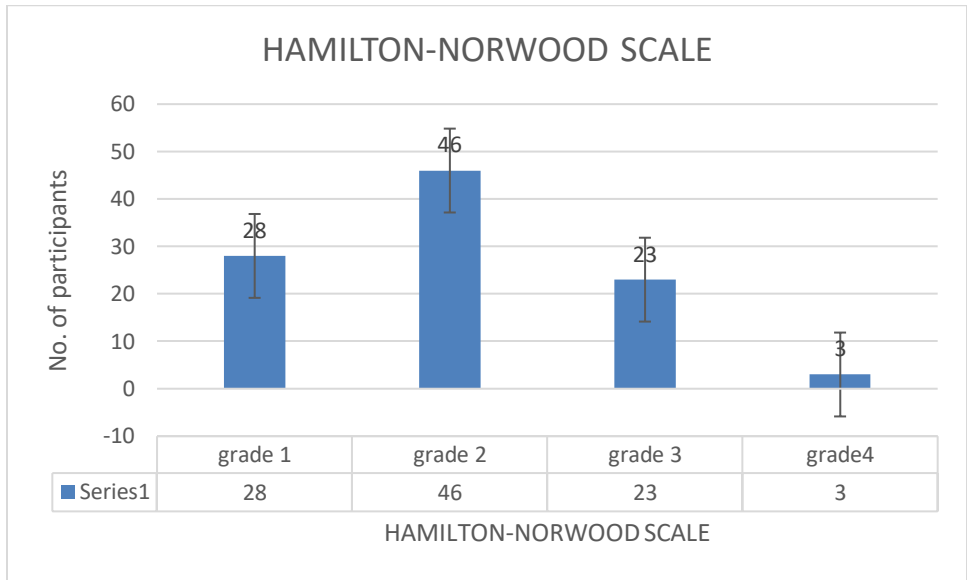


**6) INCIDENCE OF HAMILTON -NORWOOD SCALE:**

Out of 100 volunteers, grade 1 consists of 28 volunteers (28%), grade 2 consists of 46 volunteers (46 %), grade 3 consists of 23 volunteers (23%), and grade 4 consists of 3 volunteers (3%).

HAMILTON-NORWOOD SCALE	NO OF VOLUNTEERS	PERCENTAGE
<b>TYPE -1</b>	28	28%
<b>TYPE – 2</b>	46	46%
<b>TYPE – 3</b>	23	23%

TYPE – 4	3	2%
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## DISCUSSION

### DISCUSSION ON TITLE

The present research work was carried out as an observational survey study. Here data was collected by conducting a survey using questionnaire, the *Dahika Prakruti*, *Khalitya*, *Kesha shareera* and Hamilton - Norwood Scale were derived from the required references from the classical text and modern literature.

*Shareera Prakruti* is the stable factor which is formed at the time of *Shukra shonita samyoga* and remains stable till the death of the person without causing any harmful effect on *Shareera*. In the classical text *Acharya Charaka* and *Sushruta* explain seven types of *Prakruti* with each characteristic. According to classics *Pitta Prakruti* people are generally prone to *Khalitya*.

Here, above facts are considered, and an attempt is made to observe the relation between *Khalitya* in different *Shareera Prakruti*. The survey was conducted with help of self-assessment *Prakruti* questionnaire, Hamilton-Norwood scale.

### DISCUSSION ON KESHA SHAREERA

The term *Kesha* Categorically specifies hairs on the scalp whereas *Roma* and *Loma* stand for body hairs. The synonyms like *Shiraisja*, *Shiroruha*, *Uttmangaja* for *Kesha* and *Charmaja*, *Tvakja*, *Tanuruha* Substan-

tiate the above statement. Yet at times, the word *Roma* is used in the sense of both body and scalp hairs. Molecular anatomy of the hair speaks in terms of basic elements and *Ayurveda* Seems in terms of *Panchamahabhuta* where *Prithvi mahabhuta* plays a predominant role in maintenance of hair with invariable involvement of *Vaayu mahabhuta*. Notable point is that *Twak* is *Aap* and *Vaayu* predominant and *Kesha* is *Prithvi* and *Vayu* Predominant.

*Kesha* and *Nakha* are considered *Shareera avayava*, *mala* and *Upadhutu* at different places by different *Acharya*. These should be considered according to different contexts. *Dalhana's* Classification *Patana dharmi* and *Apatana dharmi* of *Mala* may throw some light on the aspect the *Nakha*, *Kesha*, *Roma* are *Apatana dharmi* and hence attain the designation of *Upadhatu* in that sense and may act as *Mala* and may cause discomfort later. It is produced as a *mala* of *Ahara paka* but stays for sometimes to act as *Upadhatu*. As far as *Kesha Bhumi* is concerned it is the scalp region over which the hair grows.

### Discussion on Anatomical and Physiological aspects of Kesha

Anatomy texts' classification of hair is based on location, stages of Development, influencing factors and shape of hair fibre. *Ayurveda* classics Even

through do not give such classification but references for such Presentations are found scattered at different places.

- Regarding location of hair various names like *Pakshma* for eye lashes, *Shmashru* for beard and moustache (Sanskrit literature gives name *Maasuri* for moustache), *Bhrukuti* for eyebrows, *Vyanjana* as a general term for secondary sexual character which includes pubic and axial hairs and in *Upadansha* abnormal fibers of pubic and hairs and *Nasagata* and *Karma paligata Roma* for nasal hairs and hairs of pinna of the ear.
- Regarding shaft we have *Alpa, Tanu, Stabdha, Mrudu, Sthira, Kutial* which derive at various shaft forms like straight, thin, wavy, poky and curly hairs.

#### Regarding the number of hair and hair follicle.

- *Charaka* quotes about presence of 29,956 hairs and claims for the figure to be similar to *Shmashru* and *Roma* in the body whereas recent evidence say that no of hair follicles in scalp ranges from 90,000 to 1,50,000 but *Chakrapani* clarifies by saying whatever the figure quoted is at macro level where as at microlevel the number would be countless.

#### Relation of *Dhatu* and *Kesha*.

- *Pitta* is due to *Rasa* and *Vyanga* and *Neelika* like pigment disorder establish its relation as quality and longevity of hair is dependent upon *Rasa*. Further *rasa* has a direct relation with *Twak*. *Kesha* is an integral part of *Twak*. The health and quality of *Twak* has direct bearing on *Kesha*.
- Relation of *Meda* and *Kesha* is understood through *Prameha Poorvarooopa* where in there will be *Kesha Jatileebhava* even though it is not possible to find such cases in this era. Consequently, the qualities of *Kesha* are related to *Medasara*. This draws the role of Sebaceous gland in maintenance of hair. As the hair shaft shoots up through the follicle the sebum (predominantly of lipid) secreted by sebaceous glands is smeared over its surface.
- *Asthi* can be related to bone and other hard structures in the body. *Kesha* is sometimes held as *Mala* and *Avayava* related to *Asthi*. *Kesha* and

*Roma vikara* are explained to be due to *Asthi Pradosha*.

- The relationship of *Kesha* with *Majja* is quite tiresome and the commentators of *Sharnagadhara* have tried to state *Kesha* as *Upadhatu of majja*. *Arunshika* is a disease related to *Majjadhatu* and the sequence of *Arunshika* in *Kshudra Roga* along with *Kesha vikara* would through some light on the relation.
- Expression of *Shukra* in the body is perceived through appearance of *Shmashru* and other features, which clearly state the relation of *Shukra* with hair. In modern parlance, the derivative of testosterone that is DihydroethylTestosterone is so far proved the cause behind androgenic alopecia, where there will be gradual loss of scalp hair and appearance of body, pubic and axillary hairs along with moustache and beard in men. As for as relative less manifestation of androgenic alopecia in woman acharya have come up with the idea that it due to expulsion of dosha through *Maasika Rajasrava* and absence of *vyama* which would have aggravated *Vata and Pitta* leading to *Khalitya* in men. Those could well be established by the action of estrogen and progesterone over hair growth.
- **Discussion on *Kesha Varnotpatti* ( colour of Hair)**

Regarding the production of the colour of hair, *Teja Mahabhuta* is responsible for the colouration of Hair, *Bhrajaka Pitta*, one of the manifestations of *Teja Mahabhuta*, combines with *Prithvi* and *Vayu Mahabhutas* and produces black colour. The above physiology can be equated as under.

*Krishna Varna = Teja + Prithvi + Vayu*

#### DISCUSSION ON *KHALITYA*

*Shabda Ratna Mahodadhi, Medini kosha, Vachaspatyam*, - In these texts they have considered *Khalitya* means baldness or hair loss. *Acharya Charaka* describes the *Tejas* combining with *Aniladi dosha* reaches the *Shira kapala* and causes hair fall by *Dalhana* of *Roma koopa*. This is named *Khalitya*. *Chakrapani* while commencing on this state the word *Tejas* here denotes *Deha Ushma* as well as *Pitta Dosh*.



while describing the *Guna*'s of *Shadrasa* explains the properties of *Lavana Rasa as Kledana* (production of stickiness) *Chedana* (excising in property), *Bhedana* (penetrating in nature), *Teekshna* (sharp in nature), *Vikasi* (spreads easily) *Avakashakara* (creates emptiness). Hence if is used in excess and in isolation , it leads to vitiation of *Pitta* and aggravation of *Rakta*, leading to *Khalitya* and other diseases.

According to *Vallabhacharya* , *Khalitya* is the result of destruction of hairs by *Krimis*.

### **Discussion on etiopathogenesis of *Khalitya* according to ayurveda and modern science.**

*Samprapti vighatana* is the process where the *Dosha Dooshya Sammurchana* is broken and the process of *Samprapti* will be reversed thus, resulting into *Dhatu samya*. The pathogenesis of the disease, *Khalitya* due to *Pitta Prakopaka* as well as *Vata Prakopaka Nidana* could be very well understood and appreciated. *Mithya Ahara*, *vihara*, *Manobhighata* and *manakriya* play an important role in the *Samprapti* (pathogenesis) of *Khalitya*. *Mithya ahara* and *Vihara manoabhighata* like mental stress, fright, anger, shock etc. may collectively increase the *Pitta* and *Vata dosha*. The *Ushna* and *Tikshna* properties of *Pitta* get augmented whereas the *Vata* suffers an aggravation in *Ruksha*, *Khara* and *Chala* properties. Here the aggravated *Pitta* (*bhrajaka pitta*) supported by the vitiated *Dehoshma* burns the *Keshabhoomi* whereas an increased *Vata* gives rise to more frequent and comparatively prolonged *Shira snakocha* by its *Ruksha* and *Khara Guna*. The *Snigdhatva* and the *Pichchilatva* of the normal *Kapha dosha* are prevalent throughout the pores of the skin so as to keep it soft and moist. By the augmentation of the *Usna*, *Tikshna*, *Ruksha* and *Khara* properties of *Pitta* and *Vata* doshas respectively, the *Sneha* and *Pichchilatva* of the *Kapha dosha* are dried up within the pores of the skin of scalp thus, obstructing the growth of new hairs, causing *Khalitya*. The *Samprapti* of *Khalitya* could be well understood with the help of modern physiology. It is known that people who excessive possess androgen receptor in hair follicle are prone to get hair fall by androgen DHT. DHT gets attached with the receptors situated in hair follicle and causes hair falling.

It can be included that androgen receptors and the hormone DHT in *Pitta Vargiya Dravya* correlate this, with the *Samprapti* of hair falling described by Acharya Sushruta that *pitta* penetrates into the *Romakupa*, unites with *Vata* and causes *Khalitya*.

### **DISCUSSION ON PRAKRUTI**

Detailed description of the concept of *Prakṛuti* is seen in all the *Samhitas*. This is that factor which constitutes, distinguishes, and characterizes a person. Based on the environmental and behavioural patterns a person is exposed to, there will be certain modification in his physical, physiological, and psychological aspect. But the base remains the same. This *Prakṛuti* of a person is formed during the *Shukra* and *Shonita Samyoga*.

The *Jati* (race), the *Kula* (family), are the main factors which influence the *Prakṛuti* of an individual life. The other factors which influence the character of an individual includes the *Desha* (place), *Vaya* (age /the maturity of the person and his growth physically and psychologically) and the *Kala* (seasonal variations). In the classics, irrespective of the *Prakṛuti* there are changes in the *Bala* (strength) of the person on the influence of the seasons.

### ***Kesha* in Relation to *Prakṛuti*.**

While describing *Prakṛuti* we find the term *Svabhava* where it is said that the growth and shedding of Hair is due to *Svabhava* (Natural). The *Kesha* and *Prakṛuti* are interrelated. People of different *Prakṛuti* have different types of *Kesha*. The *Prakṛuti* of a man is determined by dominance of the particular *Doshas* at the time of the genesis (*Shukra Shonita samyoga Kaala*)

### **DISCUSSION ON MODERN VIEW OF PRAKRUTI**

When we come across the modern point of view for *Prakṛuti*, we can understand that genetics is the science of human heredity. All the living beings with their traits and characteristics are the product of their heredity and environment. Heredity is the property by the virtue of the offspring inherent in the nature and characteristics of parents and ancestors.

Chromosomes contain the hereditary characters which are known to be ultramicroscopic DNA parti-

cles. Genes are ultramicroscopic DNA particles present inside the chromosomes which are carried from one generation to the other carrying the hereditary character along with it. The hereditary component is termed the genotype and after interaction with the environment results in the final product is termed the phenotype.

The individual genetic makeup is determined at the time of conception by recombination in zygotic DNA from sperm and ovum and is unaltered throughout life.

### **<sup>6,7</sup>DISCUSSION ON MALE PATTERN BALDNESS**

Male pattern baldness is the most common type of hair loss in men.

Cause of the male pattern baldness is genetics or having a family history of baldness. Research has found that male pattern baldness is associated with male sex hormones called androgens. The androgens have many functions, including regulating hair growth. Each hair has a growth cycle. With male pattern baldness, this growth cycle begins to weaken, and the hair follicle shrinks, producing shorter and finer strands of hair. Eventually the growth cycle for each hair ends and no new hair growth in its place.

#### **Role of genes in male pattern baldness**

Male and female pattern hair loss are polygenic conditions, which explains their high prevalence and variable phenotype expression. Epigenetic modification may alter genetic susceptibility.

Interestingly, genetic variations associated with the androgen receptor gene (AR) have been linked to development of male pattern hair loss, but genes for aromatase (CYP19A1), estrogen receptor - $\alpha$  (ESR1), type 15-alpha reductase (SRD5A1,) and insulin-like growth factor 2 (IGF-2) do not have any established association with it.

Research into genetic associations with female pattern hair loss is less extensive and robust than that of male pattern hair loss. Studying the relationship between female pattern hair loss studying the relationship between female pattern hair loss and AR has proven difficult, since AR is located on the X chromosome, which undergoes X inactivation in women.

An allelic variant of CYP19A1 Was associated with a predisposition to female pattern hair loss in genome-wide association study.

#### **<sup>8</sup>LINKED TO ANDROGEN EXCESS IN MEN.**

Androgens are considered necessary for male pattern hair loss to develop. The condition typically begins after the start of puberty, which is marked by a striking increase in androgen levels. Dihydroxytestosterone, a potent metabolite of testosterone synthesized in a reaction catalyzed by 5-alpha reductase in the peripheral target organs, hair follicle, and sebaceous glands, play a role in normal hair growth and male pattern hair loss development in androgen-sensitive areas such as the vertex and frontal scalp, beard axilla, pubis and extremities. Dihydroxytestosterone assists normal hair growth in these areas but elevated cellular levels of androgenic receptors and 5-alpha reductase and increased production of dihydroxytestosterone have been documented in cases of male pattern hair loss. No cases of male pattern hair loss have been documented in men with 5-alpha reductase deficiencies.

#### **RELATIONSHIP WITH HORMONES IN WOMEN.**

The relationship between androgens and female pattern hair loss is less clear. Female pattern hair loss has been observed in women with high androgen levels, but it has also been documented in a patient with complete androgen insensitivity syndrome. Additionally, most women with female pattern hair loss have normal testosterone levels and lack clinical manifestations of hyperandrogenemia.

The role of circulating estrogens in the development of female pattern hair loss is also unclear. The prevalence of hair loss increases after menopause. Evidence is conflicting regarding whether estrogen stimulates or inhibits the hair follicle.

Pattern hair loss in men and women begins soon after puberty. Thinning of hair and nonscarring loss of terminal hairs, resulting in a decrease in hair density, generally progress slowly over years. The scalp is healthy without associated symptoms.

In men, hair loss typically affects the central scalp including the midfrontal, temporal, and vertex re-

gions. The 7-stage Hamilton- Norwood scale is commonly used to classify male pattern hair loss.

In women the characteristic distribution of hair loss is different. Female pattern hair loss has 2 general distributions. Diffuse thinning across the central scalp and characteristic “Christmas tree” pattern observed along the midline part of the hair due to prominent hair thinning towards the front of the scalp with minimal involvement of the hairline. The frontal hairline is less likely to be involved, but bitemporal thinning is common. The 3-grade Ludwig scale is commonly used to characterize female pattern hair loss.

### **DISCUSSION ON HAMILTON -NORWOOD SCALE.**

There are many grading systems used to rate hair loss in both sexes, and the Hamilton – Norwood scale is used specifically for measuring male pattern baldness.

#### **Discussion on observations :**

#### **AGE**

This study shows that the disease is more likely to occur in the age group of 26-30 years, suggesting the immune response to the hormonal changes that tend to occur more likely in this age group.

Out of 100 volunteers, 21-25 years age group consist of 43 Volunteers (43%), 26-30 years age group consist of 50 volunteers (50%), 31-35 years age group consist of 07 volunteers (07%)

#### **HEIGHT**

Out of 100 volunteers, the 4ft height group consists of 3 volunteers (3%), 5ft height group consist of 89 volunteers (89%), 6ft height group consist of 8 volunteers (8%).

In this study the majority of volunteers belong to 5ft.

#### **RELIGION**

Out of 100 Volunteers, Hindu group consist of 90 volunteers (90%), Jain group consist of Volunteers (3%), Muslim group consist of 07 volunteers (07%)

The case study is conducted in which the majority of the volunteers were Hindu.

#### **ECONOMIC STATUS**

Out of 100 volunteers, Upper class group consist of 61 volunteers (61%), Middle class group consist of 0f

26 volunteers (26%), Lower class group consist of 13 volunteers (13%)

Majority of Volunteers belongs to upper class and that could be cause of the usage of Various types of hair cosmetic products like hair colour , cream, dye, gel , chemical shampoos, Soaps, etc , excessive use of hair equipment’s, stress induced busy schedules, along with dietary habits which leads to *Khalitya*.

### **PRAKRUTI RELATION WITH KHALITYA**

Out of 100 volunteers, *Kapha Prakruti* group consist of 14 volunteers (14%), *Pitta Prakruti* group consist of 71 volunteers (71%), *Vata Prakruti* group consist of 15 volunteers (15%)

Out of 100 Volunteers, *Kapha Prakruti* group consist of 14 volunteers (14%), among them 10 are *KV Prakruti*, 4 are *KP Prakruti*,

*Pitta Prakruti* group consist of 71 volunteers (71%), 36 are *PK Prakruti*, 35 are *PV Prakruti*,

*Vata Prakruti* group consists of 15 volunteers (15%), among them 12 are *VK Prakruti*, 3 are *VP Prakruti*.

*Khalitya* is *Pitta Pradhana vyadhi*. *Khalitya* is a common but very challenging disease of the world population and can have a profound effect on physical and emotional state Aging, lifestyle ,mental stress, social and family life and many other environmental factors may influence the aging process and their unfavourable effects cause premature aging could be cause of increasing hair fall in the peoples. *Viruddhahara , Pittvardhaka vihara , Abhishyandiahara*, sedentary lifestyle increases the *Pitta* and *Kapha* leads to *Khalitya*.

*Khalitya* means male pattern baldness. In this era millions of people are suffering from hair fall. The prevalence of hair fall was found to be 60.3% , prevalence of dandruff was found to be 17.1% and the prevalence of baldness was found to be 50.4%. In the advanced modern era, humans are gifted with lot of sophistication, luxuries but at the same time left with sedentary lifestyle stress induced hectic schedules along with faulty dietary habits. These all habits influence homeostasis of the body and many other health problems.

In this study the majority belongs *Pitta Pradhana Dwandaja prakruti* volunteers more prone to *Khalitya*.

### HAMILTON – NORWOOD SCALE

The Hamilton- Norwood scale is a way of measuring male pattern baldness. It was introduced by Dr. James Hamilton in 1950 and later revised and updated by Dr. O Tar Norwood in the 1970s.

TYPE 1: Full head of hair with no visible signs of hair loss

TYPE 2: Hairs starts to recede around the frontal region of the head.

TYPE 3: Hair recedes deeper into the frontal and temporal regions. Same pattern

Temporal regions, Same pattern as Level 2, but more visible.

TYPE 4: Hairline has drastically receded in the frontal and temporal regions.

There is beginning to show balding in the parietal region.

TYPE 5: The same pattern of baldness as in level 4 but there is a decrease in hair.

Density.

TYPE 6 : The strip of hair that once connecting the two temporal regions of the Scalp is no longer visible.

TYPE 7: The hair has receded all the way to the occipital region of the scalp and

The temporal regions no longer have hair.

In this study majority volunteers belongs to TYPE -2 hair loss ( Hamilton- Norwood scale)

### CONCLUSION

- *Kesha* Compared with hair.
- *Kesha* is one of the *Pitrujabhava* means the structure ,colour and quantity of hair of a progeny are dependent on paternal side and predominance of *Pruthvi mahabhuta*.
- *Keshabhoomi* refers to scalp region over which the hair grows.

- A different name for hairs distributed over the different places is unique in ayurveda whereas recent anatomy texts identify them with the body part they are associated.
- *Khalitya* is *Pitta Pradhana vyadhi* compared with male pattern baldness.
- *Pitta Pradhana Dwandaja Prakruti* peoples are more prone to *Khalitya*.
- After Analysing the Data of 100 volunteers following observations was made. Among the three different *Shareera prakruti* majority of *Khalitya* volunteers falls under *Pitta pradhana dwandaja prakruti*.

Grade 2 type of hair loss is found to be observed in majority of the volunteers by using Hamilton- Norwood scale.

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