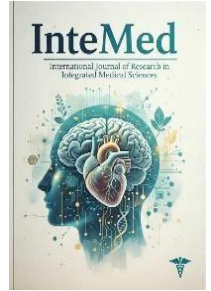




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Research Article

An Assessment Of Vyanga In Different Deha Prakriti W.S.R To Fitzpatrick Scale.

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Abstract:

Background: Vyanga is a Kshudra Roga characterized by asymptomatic facial hyperpigmentation that adversely affects cosmetic appearance and quality of life. Ayurveda considers Deha Prakriti an important determinant of an individual's susceptibility to diseases.

Objective: To observe the distribution and severity of Vyanga among individuals with different Deha Prakriti.

Methods: An observational study was conducted on 100 clinically diagnosed cases of Vyanga. Deha Prakriti was assessed using standard Ayurvedic criteria, while the severity of Vyanga was evaluated using the Arbitrary Grading Score and Fitzpatrick skin type.

Results: The study observed variations in the occurrence and severity of Vyanga among different Deha Prakriti, with

statistically significant associations between Prakriti and severity parameters.

Conclusion: Deha Prakriti appears to influence the clinical presentation and severity of Vyanga. Understanding this association may help in individualized prevention and management strategies based on Ayurvedic principles.

KEYWORDS- Vyanga, Melasma, Deha Prakriti, Ayurveda, Arbitrary Grading System, Fitzpatrick Scale,

INTRODUCTION

According to Acharya Sushruta, the union of Shukra and Shonita gives rise to the formation of Twacha . Acharya Sushruta explained seven layers of Twacha and mention their respective diseases. Each layer has specific importance as it is location for specific Vyadhi. Out of which, second layer named as 'Lohita' which is location of Vyanga.^[1]

Melasma can be correlated with Vyanga in Ayurveda. Vanga or Melasma is a skin condition in which a hyper pigmented painless patch appear on face. It may manifests with various sign and symptoms like mandalam visrijati (circular lesion), nirujatanuka (painless thin lesion), shyava (dark brown color lesion over skin) on face^[2]. According to Shushruta and Vagbhata due to excessive anger and work, the Pitta and Vata Dosha increases and they do sthansanshraya on face and causes black hyper pigmented patch on face which is called Vyanga. The pathogenesis involves Dushita Bhrajak Pitta leading to Shyava Varna Mandalas (dark discoloration) on the face without symptoms like pain or itching but with a major impact on self-esteem and social interactions^[3]. It is more common in people that tan well or have naturally dark skin compared with those who have fair skin. Vyanga or Melasma affects the forehead, cheeks, upper lips, chin, nose and sometimes the neck.

According to Ayurveda theory, treatment (Chikitsa) depends upon the Dosha involved and the physical state of a patient. Hence, a good knowledge of Prakriti is highly essential for the proper treatment and management. Importance of knowing Prakriti is in the promotion of health status of the individual.^[4]

The Prakriti means manifestation of specific characteristics due to predominance of Dosha. According to Ayurveda Prakriti is nothing but the expression of one's Constitution^[5] which is specific for every individual. At the time of Shukra (Sperm) and Shonita (Ovum) fusion the predominant Dosha decides Prakriti of fetus^[6].

AIM AND OBJECTIVE

AIM-

To assess the association between Vyanga and different Deha Prakriti individuals.

OBJECTIVE-

To study the correlation between Vyanga and different Deha Prakriti.

MATERIALS AND METHODS-

MATERIALS

- Bruhatrayis and Laghutrayis and their concerned commentaries.
 - CCRAS Proforma for Deha Prakriti assessment .
 - Assessment of Vyanga features will be done by
1. Arbitrary Grading on Various Classical Symptoms of Vyanga
 2. Melasma area severity index score (MASI Score)
 3. Fitzpatrick Scale
 4. Vernier Caliper Scale

METHODOLOGY

STUDY DESIGN-

The study was conducted on patients in the OPD and IPD of Ayurvedic Hospital

Patients were selected on the basis of Inclusive and Exclusive criteria.

Written informed consent was obtained from every patient.

Proper case history was taken and CRF (case record form) was prepared.

Correlation was done between Prakriti and Vyanga.

Observed data was analysed.

ANNOVA test was applied according to data

Interpretation & Discussion

Result

METHODS OF SELECTION OF STUDY DESIGN-

1) Inclusion criteria

1. Patients were selected between the age group of 25 to 50 years.
2. All patients showing signs & symptoms of Vyanga were selected.

2) Exclusion criteria

1. Hyperpigmentation caused since birth like nevus of ota, tumor like malignant melanoma, kushta roga to be excluded.
2. Patients suffering from other systemic disorders like renal failure, hepatic disorders and endocrine system related disorder.
3. Pregnant womens and Lactating women are excluded.
4. Age less than 25 years and more than 50 years.

Sample Size

Total **100** patients were taken for the study.

Assessment criteria

1) Subjective criteria:

- Deh Prakriti will be assessed with the help of CCRAS Prakriti parikshan proforma. **SUBJECTIVE PARAMETER**
- The features of Vyanga as well as Melasma explained in Ayurvedic and Modern texts will be subjective parameters with the help of arbitrary grading system^[7]. *Arbitrary Grading on Various Classical Symptoms of Vyanga.*

Table No. 1: Arbitrary grading on the symptom, Mandalam visrijati:

[Mandalakara = Circular lesion]

FEATURES	SCORE
A. More than five circular lesion present whole over face.	4
B. 4 to 5 circular lesion present whole over face.	3
C. 3 to 4 circular lesion present whole over face.	2
D. 1 to 2 circular lesion present whole over face.	1
E. No such circular lesion present on face.	0

Table No.2: Arbitrary grading on the symptom, Niruja Tanuka:

[Tanu abahalam, or Nirujam arujam = Painless thin lesion]

FEATURES	SCORE
A. Painless thin lesion present in entire face and sever hardness on touch.	4
B. Painless thin lesion present in cheek with malar prominence, hardness on touch.	3
C. Painless thin lesion present in cheek with malar prominence and bridge of nose, mild hardness on touch.	2
D. Painless thin lesion present in cheek with malar prominence, smoothness on touch.	1
E. Not present	0

Table No.3: Arbitrary grading on the symptom, Shyava [Shyavamiti shuklanuviddha krishna varnah = Dark brown color lesion over skin]

FEATURES	SCORE
A. Deep dark brown color lesion over skin of face.	4
B. Moderate dark brown color lesion over skin of face.	3
C. Light dark brown color lesion over skin of face.	2
D. Faint dark brown color lesion over skin of face.	1
E. Normal skin.	0

Table No.4 : Arbitrary grading on the symptoms of Vyanga present on the Mukha: [Face]

FEATURES	SCORE
A. Present in entire face.	4
B. Present in cheek with malar prominence, bridge of nose and forehead	3

C.Present in cheek with malar prominence and bridge of nose.	2
D.Present in cheek with malar prominence.	1
E.Not Present	0

Table No.5 : Shows assessment of grading and remarks:

Grade	Score	Grade (Degree)	Remark
G4	13-16	++++	Very Severe
G3	9-11	+++	Severe
G2	5-8	++	Moderate
G1	1-4	+	Mild
G0	0	Nil	Normal

2)Objective Criteria –

- Fitzpatrick Scale
- Photographs

OBJECTIVE PARAMETER

FITZPATRICK SCALE :

Fitzpatrick scale is a numerical classification schema for human skin color. It is a recognized tool for human skin pigmentation. [8,9]



Plate No. 1- Fitzpatrick Scale

Fitzpatrick Scale-

Table No.6

Fitzpatrick scale type	Score	Interpretation
Type I	0-6	Always burns, Never tans (palest)

Type II	7-13	Usually burns, tans minimally (light colored but darker than fair)
Type III	14-20	Sometimes mild burn,tan uniformly (golden honey or olive)
Type IV	21-27	Burns minimally, always tans well (moderate brown)
Type V	28-34	Very rarely burns, tans very easily (Dark brown)
Type VI	35-36	Never burns (deeply pigmented dark brown to darkest brown)

Plate No.2 - Von Luschan's chromatic scale

	1	10			19	28	
	2	11			20	29	
	3	12			21	30	
	4	13			22	31	
	5	14			23	32	
	6	15			24	33	
	7	16			25	34	
	8	17			26	35	
	9	18			27	36	

PHOTOGRAPHS:



Dark brownish discolour Melasma Lesion

OBSERVATIONS AND RESULT-

Gradation of Subjective Criteria (Arbitrary Grading Score)

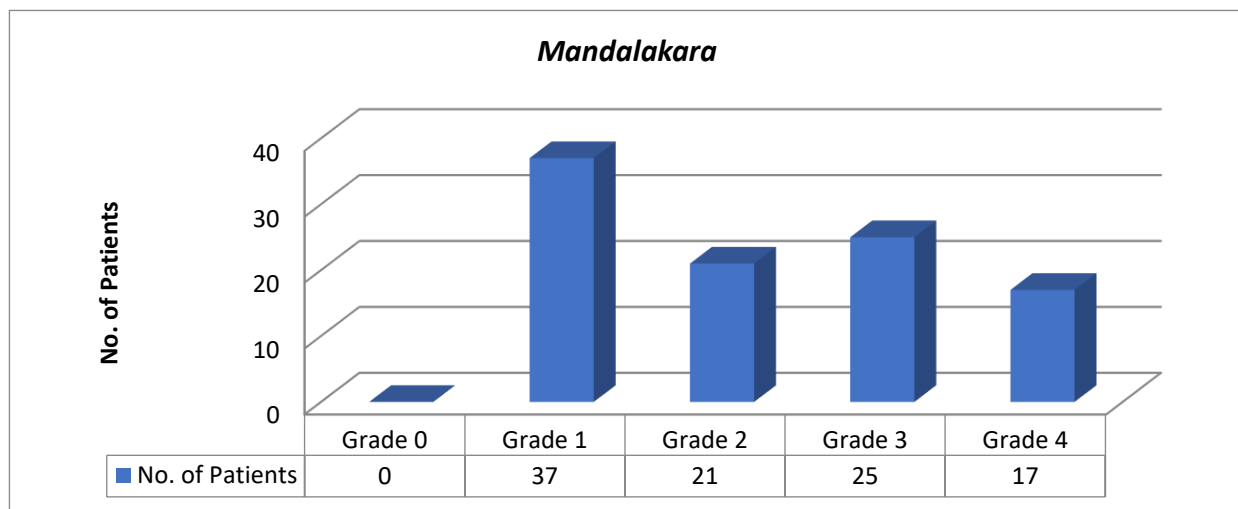
A) Mandalakara

Table No.7: Shows Gradation in Mandalakara-

Sr. No.	Grade	No. of Patients	% of patients
1	Grade 0	0	0
2	Grade 1	37	37

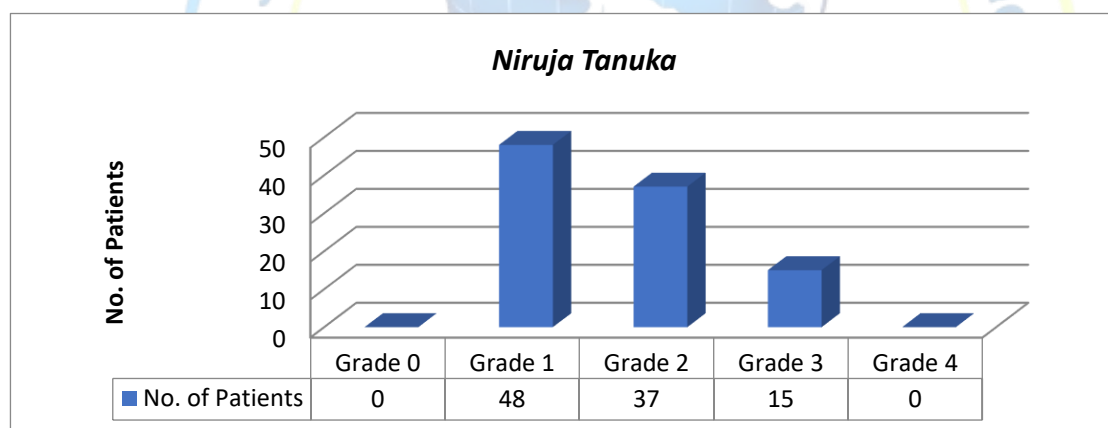
3	Grade 2	21	21
4	Grade 3	25	25
5	Grade 4	17	17
6	Total	100	100

Graph No. 1 : Shows Gradation in *Mandalakara*–



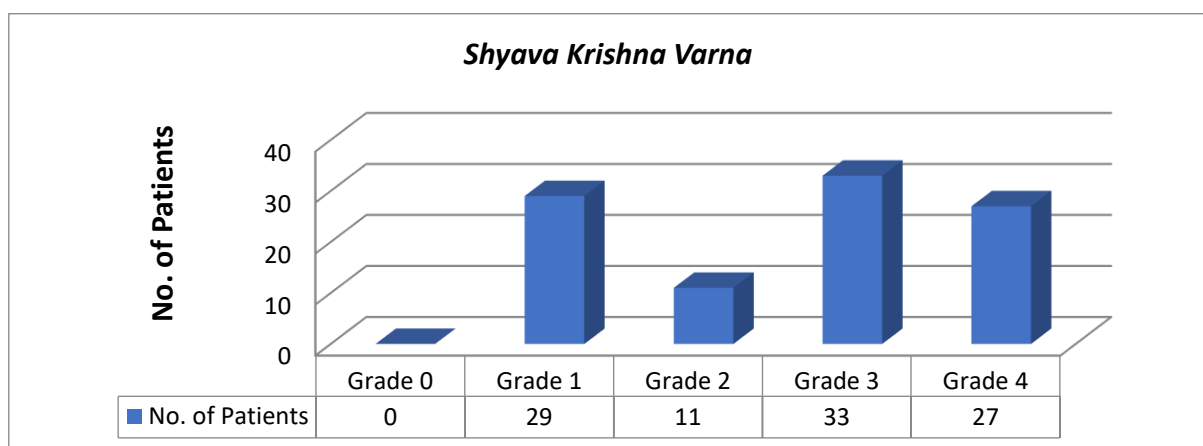
B) *Niruja Tanuka*

Graph No. 2: Shows Gradation in *Niruja Tanuka*–



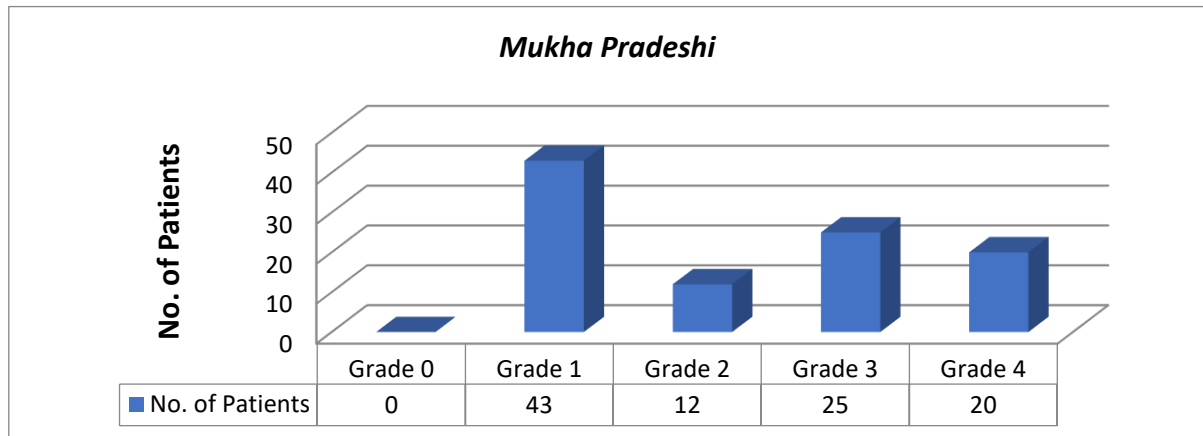
C) *Shyava Krishna Varna*

Graph No.3: Shows Gradation in *Shyava Krishna Varna*–



D) Mukha Pradeshi

Graph No.4: Shows Gradation in *Mukha Pradeshi*–

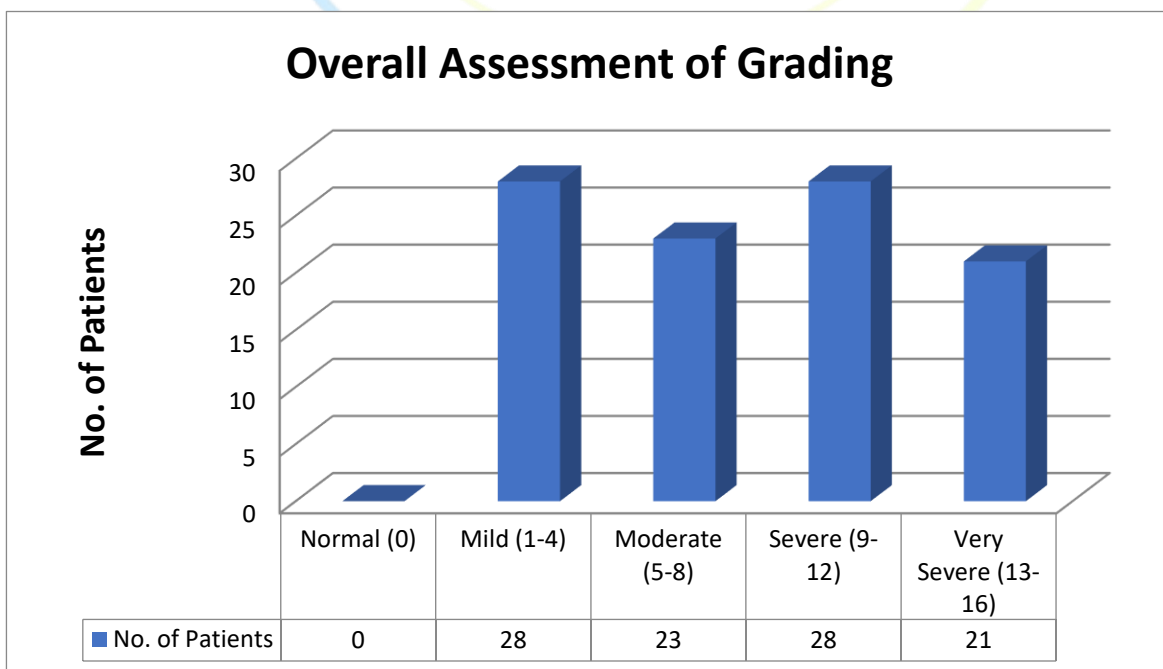


E) Overall Assessment of Grading-

Table No.8: Shows Overall Assessment of Grading –

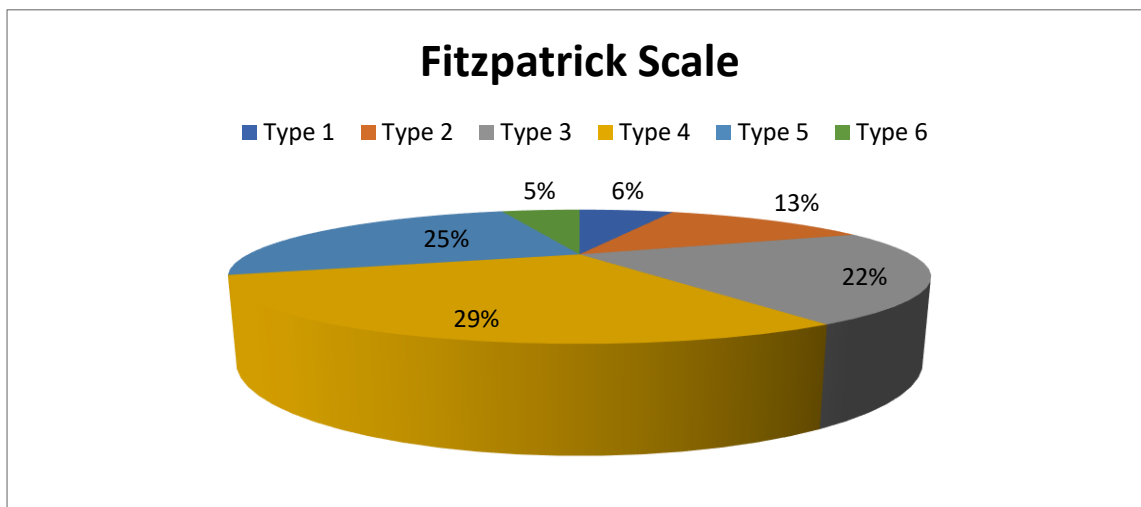
Sr. No.	Overall Assessment of Grading	No. of Patients	% of patients
1	Normal (0)	0	0
2	Mild (1-4)	28	28
3	Moderate (5-8)	23	23
4	Severe (9-12)	28	28
5	Very Severe (13-16)	21	21
6	Total	100	100

Graph No.5: Shows Overall Assessment of Grading –

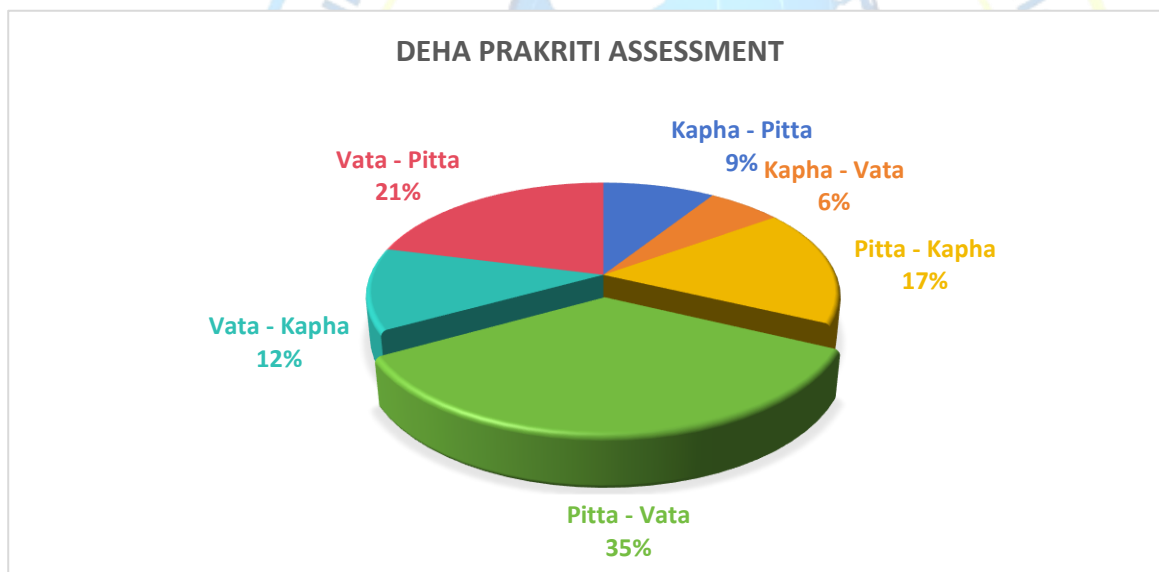


B) Fitzpatrick Scale

Graph No: 6. Shows Gradation in fitzpatrick Scale-



C) *Deha Prakriti* Assessment –Graph No : 7 Shows *Deha Prakriti* Assessment.



Objective Parameters by Analysis of Variance (ANOVA)

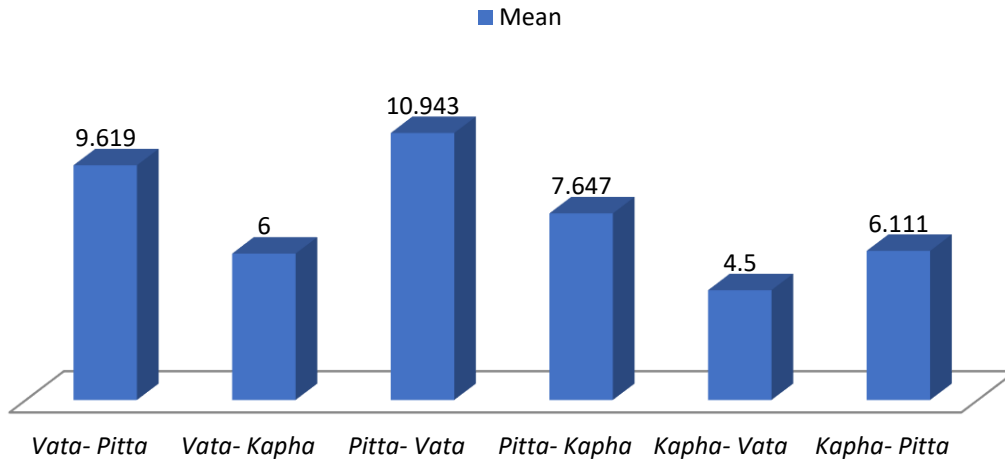
The Null Hypothesis, H₀: There is no any correlation of Arbitrary Grading Score, Fitzpatrick Scale with different *Deha Prakriti*.

The Alternative hypothesis H₁: There is correlation of Arbitrary Grading Score, Fitzpatrick Scale with different *Deha Prakriti*.

ANOVA test is applied to correlate Arbitrary Grading Score, Fitzpatrick Scale with different *Deha Prakriti* as given below:

Graph No.8 –Average Arbitrary Grading Score according to different *Prakriti*-

Average Arbitrary Grading Score according to different *Prakriti*

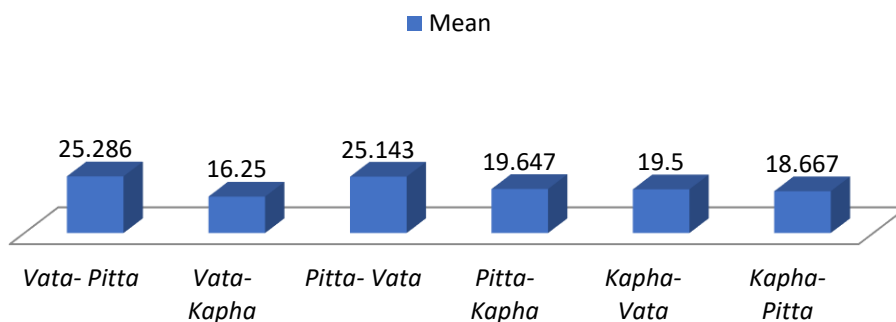


Analysis of Variance (ANOVA) Summary-

Source	Df	Sum of square	Mean Square	F-ratio	P
Between Group	5	466.285	93.26	9.56	0
Within Group	94	917.11	9.756		
Total	99	1383.39			

Graph No.9 –Average Fitzpatrick Scale according to different *Prakriti*-

Average Fitzpatrick Scale according to different *Prakriti*



Analysis of Variance (ANOVA) Summary-

Source	dF	Sum of square	Mean Square	F-ratio	P
Between Group	5	1194.54	238.91	5.3724	0.0002
Within Group	94	4180.18	44.47		
Total	99	5374.73			

The value of P is 0.0002.

The result is significant at $p < 0.05$. Therefore we should reject the null hypothesis and accept the alternative hypothesis that there is correlation of Fitzpatrick Scale with different *Deha Prakriti*.

According to statistical analysis

Table No.9: Overall Statistical analysis by Analysis of Variance (ANOVA) according to different *Prakriti* Parameter.

Sr.No.	Parameters	By Analysis of Variance (ANOVA) according to different <i>Prakriti</i>
1	Arbitrary Grading Score	Significant
2	Fitzpatrick Scale	Significant

Statistical Analysis

This study was aimed to study the relation between *Vyanga* and different *Deha Prakriti*.

H₀ – There is no correlation between *Vyanga* and different *Deha Prakriti* i.e H₀ is null hypothesis.

H₁ – There is correlation between *Vyanga* and different *Deha Prakriti* i.e H₁ is alternative hypothesis.

Further to find the relation between *Vyanga* and different *Deha Prakriti*, **ANOVA Test** was applied.

For every statistical analysis, significance level accepted at 5% at 95% confidence limit.

Interpretation

As value of p is less than 0.05, significant difference was observed between mean of Arbitrary Grading system, Fitzpatrick Scale and *Prakriti*. Hence there is correlation between *Vyanga* and different *Deha Prakriti*.

We should reject the null hypothesis H₀ and accept the alternate hypothesis H₁ i.e. there is correlation between *Vyanga* and different *Deha Prakriti*.

DISCUSSION

Discussion on significant correlation between *Vyanga* & *Deha Prakriti* Assessment:

In the present observational study, the assessment of *Deha Prakriti* among 100 patients suffering from *Vyanga* revealed a predominance of *Pitta-Vata Prakriti*, which was observed in 35% of the cases. This was followed by *Vata-Pitta Prakriti* in 21% of the patients and *Pitta-Kapha Prakriti* in 17%. A smaller proportion of individuals exhibited *Vata-Kapha* (12%), *Kapha -Pitta* (9%), and *Kapha -Vata* (6%) *Prakriti* types.

Discussion: Higher Prevalence of *Vyanga* in *Pitta-Vata Prakriti*

In the present study, the *Pitta-Vata Prakriti* individuals showed the highest prevalence of *Vyanga* as compared to other *Prakriti* types. This finding can be logically correlated with the Ayurvedic and physiological characteristics of both *Pitta* and *Vata Doshas* and their combined influence on *Twak* (skin) and pigmentation processes.

CONCLUSION

The study draws the following conclusions.

- There is a significant Relation of *Vyanga* and different *Deha Prakriti*.
- *Pitta Pradhan Vata Anubandhi Prakriti* is more prone for *Vyanga* Lakshanas whereas *Kapha*

Pradhan Vata Anubandhi Prakriti is least prone for *Vyanga Lakshanas*.

- **Thus, it is concluded that, *Pitta-Vata Prakriti* is more prone to develop *Vyanga* (Melasma) than other *Prakriti* to develop *Vyanga* (Melasma).**

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