

STUDY OF DEHA PRAKRITI (PHENOTYPE) IN SWITRA (VITILIGO) WITH SPECIAL REFERENCE TO BLOOD GROUP

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ABSTRACT

Deha prakṛti denotes the physiological character of a person that takes place at the time of conception and remain unchanged till the prior moment of death. So the concept of *deha prakṛti* can be somewhat correlated with phenotype as it is defined as the composite observable characteristics or traits of an organism in genetics. However, phenotypic disparity can be better understood with the hereditament of ABORh blood groups. *śvitra* with the cardinal sign of *śveta lakṣaṇam* can be correlated to vitiligo- a chronic depigmentary disorder of the skin as both has similar clinical presentation mentioned in ancient as well as modern science. Total 106 numbers of patients were registered. Out of which 23 patients were dropped due to various causes and rest

83 patients completed the study. During the study, it has been observed that *Pittaja* type of *śvitra* is highest in all the blood groups & *deha prakṛti* irrespective of predominant *doṣa*, i.e., the role of *pitta* in the aetiopathogenesis of *śvitra* is significant. Prevalence of B positive & O positive & A positive blood groups are highest in all types of *svitra*. *Pitta* predominant *deha prakṛti* is highest in all types of blood groups. In this study, number of *pittaja śvitra*, *pitta* predominant *deha prakṛti*, O positive, B Positive & A positive cases are found highest. However, no any significant association can be made between the types of *śvitra*, blood groups and predominant *deha prakṛti* from the present study.

KEYWORDS: *deha prakṛti*, ABORh blood groups, *śvitra*, phenotypic disparity, vitiligo.

INTRODUCTION

Large community prevalence studies have demonstrated that about 20-30% of the world population have various skin problems requiring attention (Davidson-18th edition). Skin complaints affect all ages from neonates to the elderly and cause harm in number of ways, such as discomfort, disfigurement, disability etc.

Śvitra is one among various skin diseases. In ayurveda, though *śvitra* is mentioned along with other types of *kuṣṭhā*, but the difference between *Śvitra* and *Kuṣṭhā* is based on non-secretory and non-infectious nature of disease, involvement of *Tvāk* only, peculiarity of *Nidāna*, *sādhyāsādhyā lakṣaṇa* and *cirotthita* nature of disease.^[6] *śvitra* is enumerated as *raktaja vikāra*. Mainly *pitta (bhrajaka)* gets vitiated, which is responsible for normal skin color, leads to white colored skin patches, named as *Śvitra Vyādhī*.^[3] According to Modern dermatology, *Śvitra* can be correlated with Vitiligo, when there is deficiency of this pigment either locally or in whole body's skin, which causes whitening of skin. But the exact aetiopathology of vitiligo is yet to be known and the same goes in case of *śvitra* in ayurveda.

Therefore, it is the need of the hour to conduct various researches on the disease *śvitra* in depth. The study, thus undertaken aims to establish the role of *deha prakṛti* in developing *śvitra* and its prevalence in ABORh blood group of modern science.

DESCRIPTION

Deha prakṛti denotes the physiological character of a person that takes place at the time of conception and remain unchanged till the prior moment of death. *Deha prakṛti* is decided based on all factors responsible for *garbha utpatti*. *prakṛti* can neither be vitiated nor does the predominance of any particular *doṣa* in it causes disease.^[7] *Prakṛti* transforms into *vikṛti* only if *ariṣṭa sūcaka lakṣaṇa* appears.^[4] Some scholars correlated *deha prakṛti* with phenotype of contemporary science. Phenotype is the term used in genetics for the composite observable characteristics or traits of an organism. Blood group or ABORh can be cited as one of the best example for displaying the variations in phenotypes.^[11] Besides this, *deha prakṛti* has various anatomical and physiological features among which *tvāk* or skin is of greater importance from diagnosis point of view as well as therapeutic purpose. There are seven layers of *tvacā*. Dr. Ghanekar has correlated the layers of skin mentioned by Suśruta with the latest anatomy of skin as the layers of *Avabāsini Lohitā*, *Śveta Tāmra* under Epidermis whereas *Vedini*, *Rohiṇi* & *Māṃsadharā* under Dermis.^[4] *Vaikṛta varṇa* of *tvacā* (abnormal colour of skin) is due to the effect of *jatottara bhāva* and *nidāna sevana (āhārātmak &*

vihārātmak). Melanin, the brown pigment is the major colour determinant of human skin. Abnormal metabolism of melanin leads to various pigmentation disorders of the skin. *Śvitra* is defined as “*Svetaitisvitram*”. In modern medical science many terms are used for *Śvitra*, however vitiligo & leucoderma is widely and popularly used. Vitiligo is a chronic autoimmune disease involving white patches of pigmentless skin on various parts of the body.

MATERIALS AND METHODS

Study has been conducted on 83 clinically diagnosed cases of *svitra*, who were assessed for the type of *śvitra*, their *deha prakṛti* and blood group along with detail history and other necessary examination and investigations. A complete literary review relating to the study has been done. Diagnosis has been done on the basis of clinical parameters mentioned in Āyurvedic & modern texts. All age group irrespective of sex, skin colour, community & locality were included under the study. Data are collected and statistically analysed.

ASSESSMENT CRITERIA

1. A proforma is made by plotting the *samanya lakṣana* of the 3 types of *svitra* to determine the type.
2. Questionnaire is prepared with the features mentioned in ayurvedic classics for different *deha prakṛti*
3. The highest ratio of the characters observed will be considered as diagnostic criteria for determining the type of *Śvitra* & *deha prakṛti*.
4. All selected patients were investigated for routine ABORh blood grouping & other investigations, if necessary.

RESULTS

Table 1: Age wise distribution of 83 patients of *Śvitra*.

Age group (in year)	No. of patient	% age
0-10	4	4.8
11-20	17	20.6
21-30	23	27.3
31-40	12	14.6
41-50	14	16.9
51-60	7	8.5
>60	6	7.2

Table reveals that maximum number of patient were from the age group 21-30 years i.e. 27.3%, while 20.6% of the patient belongs to 11-20 years age group. Very few of them are under 0-10 years.

Table 2: Sex wise distribution of 83 patients of *Švitra*.

Sex	No. of patient	% age
Male	25	30.1
Female	58	69.9

Above table suggest that 30.1% patients were male and 69.9% patients were female. It may be concluded that M:F ::1:2.3.

Table 3: Chief complaint wise distribution in 83 patients of *Švitra*.

Symptoms	No. of patient	% age
Arunama	11	13.3
Parusham/ ruksham	0	0
Paridhwanshi	11	13.3
Padmapatrapratikasam OR kamala patravata	43	51.8
Roma dhvamsi	27	32.5
Tamram	0	0
Sakandu	3	3.6
Shwetam	29	34.9
Ghana bahala	43	51.8
Guru	0	0
Snigdha	10	12.0
Colour of lesion is given preference over other character in determining the type of svitra.		

The present study reports that 51.8% of patient has *padma patra pratikasana* and *Ghana bahala* each, 34.9% having *švetam*, 32.5% having *roma dhvamsi*, 13.3% having *Aruṇam* and *pari dhvamsi* followed by 12% with *snigdha* and 3.6% with *kaṇḍu*.

Table 4: Type of *Švitra* wise distribution of 83 patients

Dosa	No. of patient	% age
Vata	11	13.3
Pitta	43	51.8
Kapha	29	34.9
Highest score is taken to determine the type.		

Maximum no. of patients 51.8% were having *paittik* type of *švitra* followed by *kaphaja* type of in 34.9% & 13.3% with *vataja* type of *svitra*.

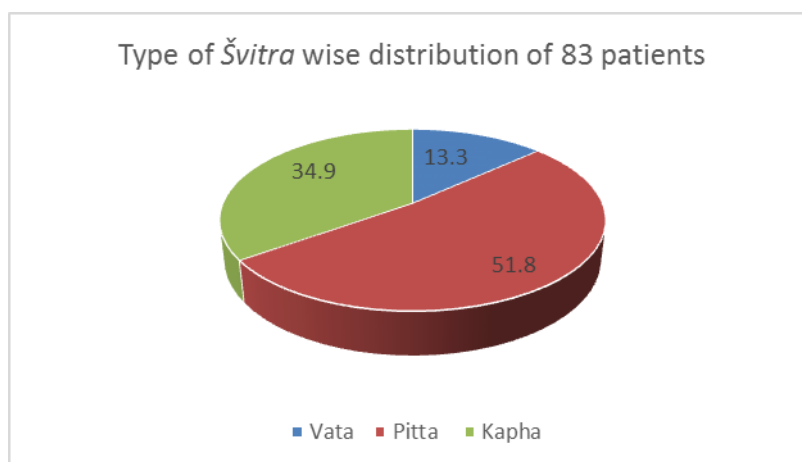


Table 5: Deha Prakṛti wise distribution of 83 patients of *Švitra*

Deha Prakṛiti	No. of patient	% age
Vata	19	22.9
Pitta	42	50.6
Kapha	22	26.5
Highest score is assumed as the predominant prakṛiti		

The present study reveals that 50.6% of patients have *pitta* predominant *prakṛti* whereas 26.5% have *kapha* predominant *prakṛti* & 24.1% have *vata* predominant *prakṛti*.

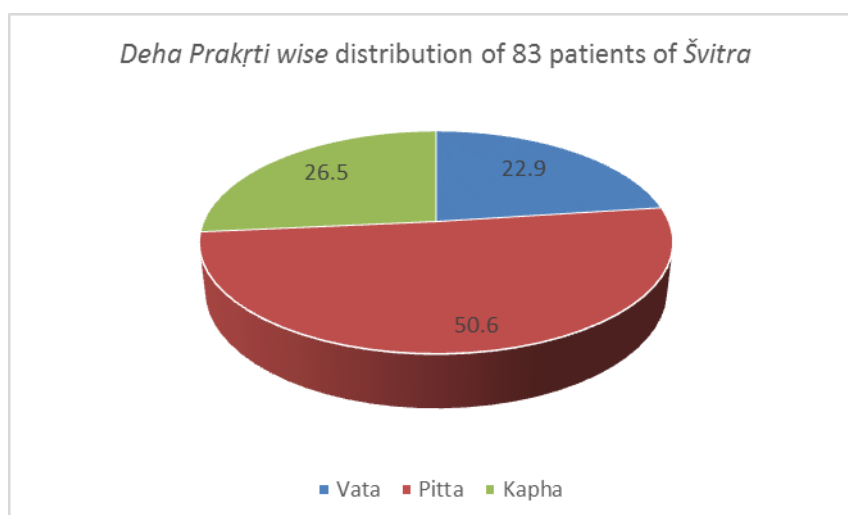
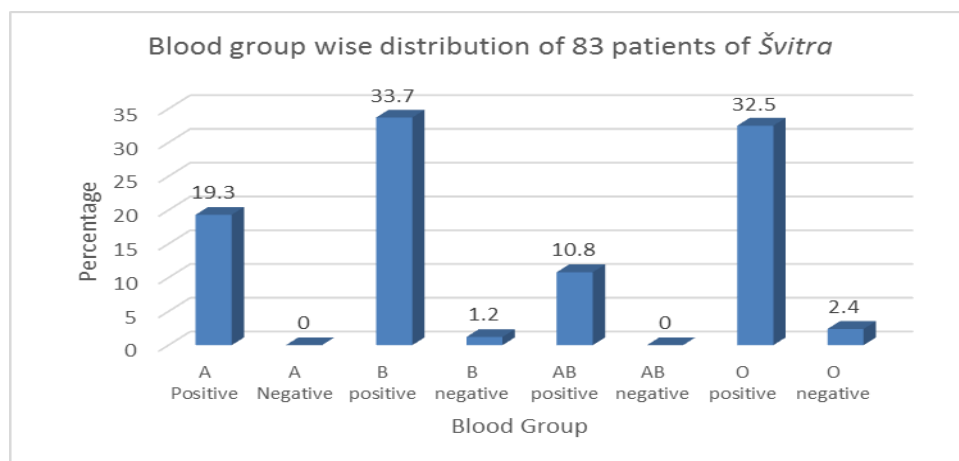


Table 6: Blood group wise distribution of 83 patients of *Švitra*

Blood group	No. of patient	% age
A Positive	16	19.3
A Negative	0	0
B positive	28	33.7
B negative	1	1.2
AB positive	9	10.8
AB negative	0	0
O positive	27	32.5
O negative	2	2.4

The present study reveals that 33.7% patients have B positive blood group followed by 32.5% having O positive blood group and 19.3% having A positive blood group 10.8% of patients have AB positive & 1.2% having B negative blood group. No any patients have been recorded with A negative & AB negative blood group among the 83 patients of *švitra*.

**Table 7: Blood group wise distribution of 42 patients with *pitta* predominant *deha prakṛti*.**

Blood group	No. of patient	% age
A Positive	9	21.4
A Negative	0	0
B positive	13	30.9
B negative	0	0
AB positive	5	11.9
AB negative	0	0
O positive	14	33.4
O negative	1	2.4

Study reveals that 33.4% patient with predominant *deha prakṛti* have O positive blood group, 30.9% having B positive, 21.4% have A positive, 11.9% have AB positive and 2.4% have O negative blood groups.

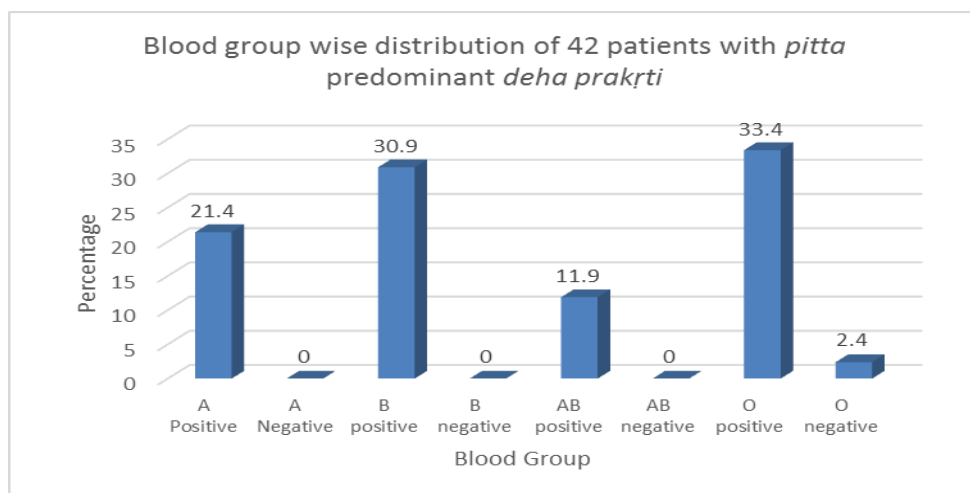


Table 8: Blood group wise distribution of 22 patients with *kapha* predominant *deha prakṛti*.

Blood group	No. of patient	% age
A Positive	3	13.6
A Negative	0	0
B positive	8	36.4
B negative	0	0
AB positive	2	9.0
AB negative	0	0
O positive	8	36.4
O negative	1	4.6

Out of 22 patients with *kapha* predominant *deha prakṛti*, maximum number of patients, i.e. 36.4% is found to have O positive & B positive blood groups, followed by 13.6% with A positive, 9.0% with AB positive & 4.6% with O negative blood group.

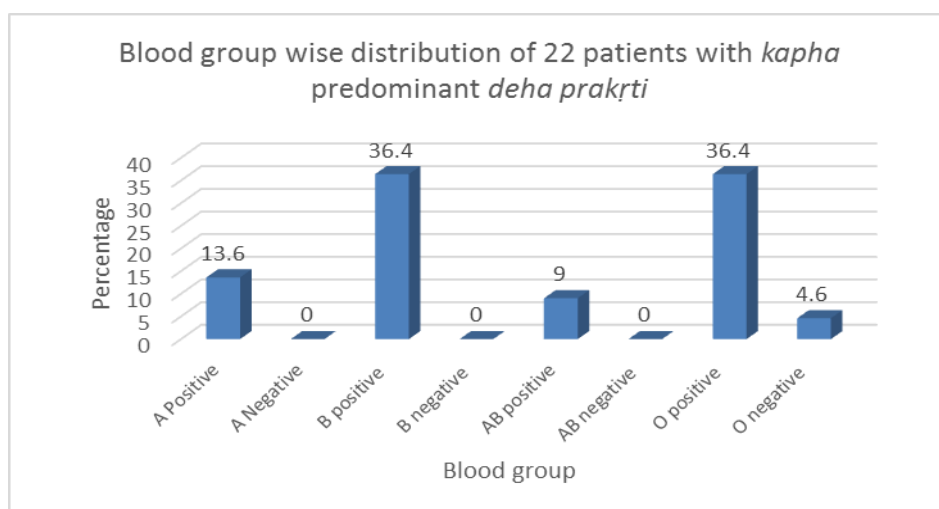
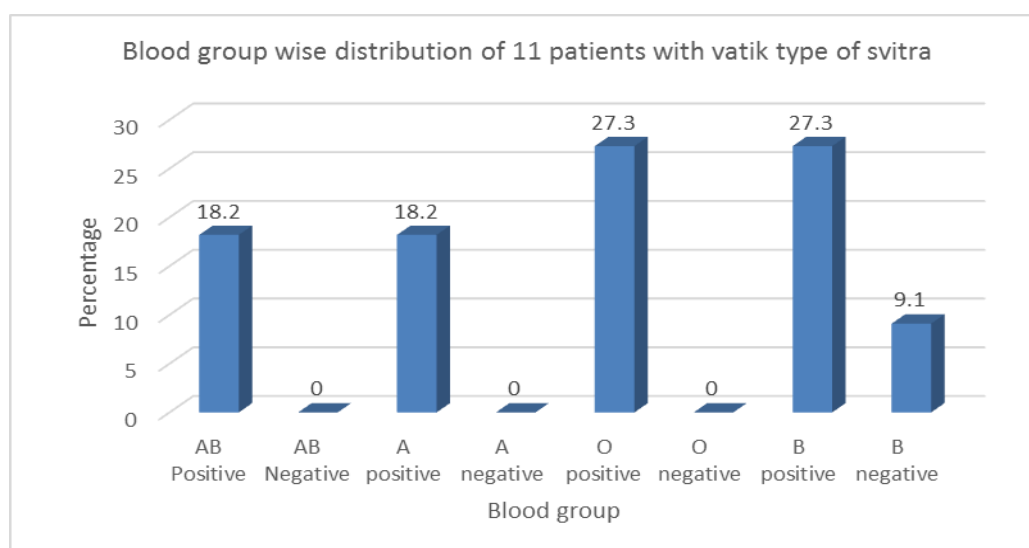


Table 9: Blood group wise distribution of 11 patients with vatic type of svitra.

Blood group	No. of patient	% age
AB Positive	2	18.2
AB Negative	0	0
A positive	2	18.2
A negative	0	0
O positive	3	27.3
O negative	0	0
B positive	3	27.3
B negative	1	9.1

Study reveals that O positive & B positive blood groups (27.3%) is highest among *vatic* type of *svitra* followed by AB positive and A positive (18.2%). Only 1 patient has B negative blood group with *vatic* type of *svitra*.

**Table 10: Blood group wise distribution in 43 patients with pittaja type of svitra.**

Blood group	No. of patient	% age
AB Positive	5	11.6
AB Negative	0	0
A positive	9	20.9
A negative	0	0
O positive	14	32.6
O negative	0	0
B positive	15	34.9
B negative	0	0

Prevalence of B positive (34.9%) and O positive (32.9%) blood groups is highest among the *pittaja* type of *svitra* followed by A positive blood group which is 20.9% & AB positive which is 11.6%.

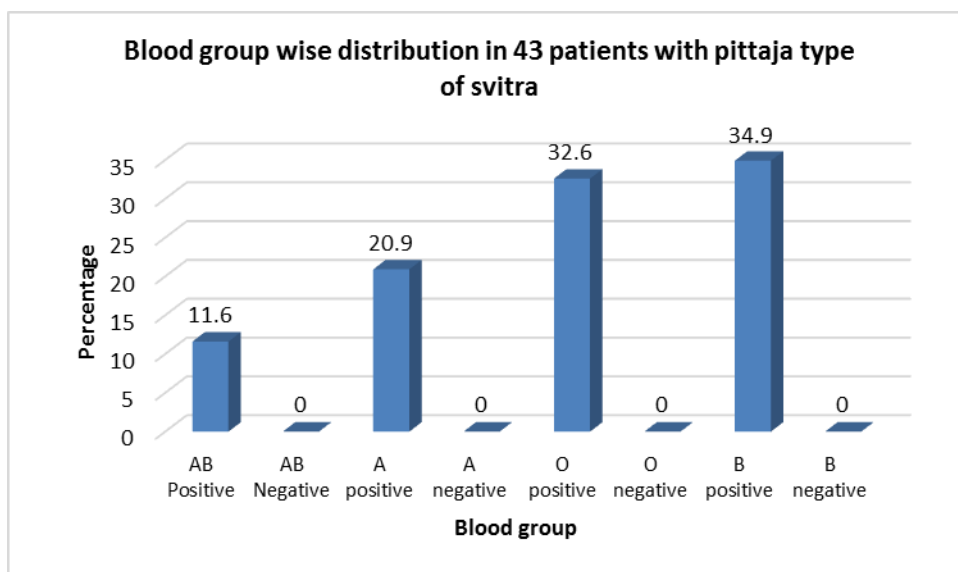


Table 11: Blood group wise distribution in 29 patients of *kaphaja* type of *svitra*

Blood group	No. of patient	% age
AB Positive	2	6.9
AB Negative	0	0
A positive	5	17.2
A negative	0	0
O positive	10	34.5
O negative	2	6.9
B positive	10	34.5
B negative	0	0

Prevalence of B positive & O positive blood group is maximum (34.5%) in *Kaphaja* type of *svitra*, then in A positive blood group (17.2%) and 6.9% with AB positive & O negative blood group simultaneously.

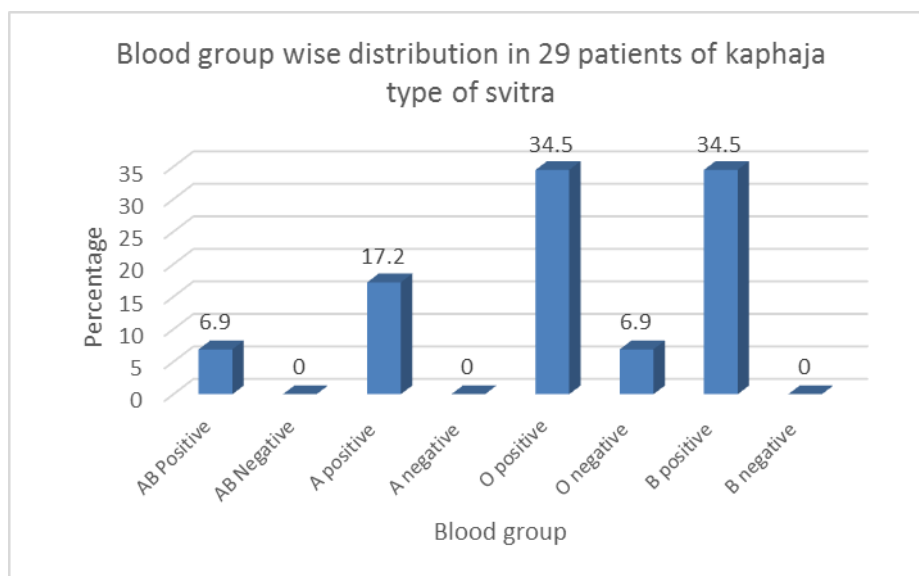


Table 12: Type of *śvitra* wise distribution of 19 patients of *vāta* predominant *deha prakṛti*.

Type of svitra	No. of patient	% age
Vata	7	36.8
Pitta	8	42.1
Kapha	4	21.1

Study shows that, pitta type of *śvitra* (42.1%) is more prevalent followed by *vātaja* type (36.8%), then *kaphaja* type (21.1%) in *vāta* predominant *deha prakṛti*.

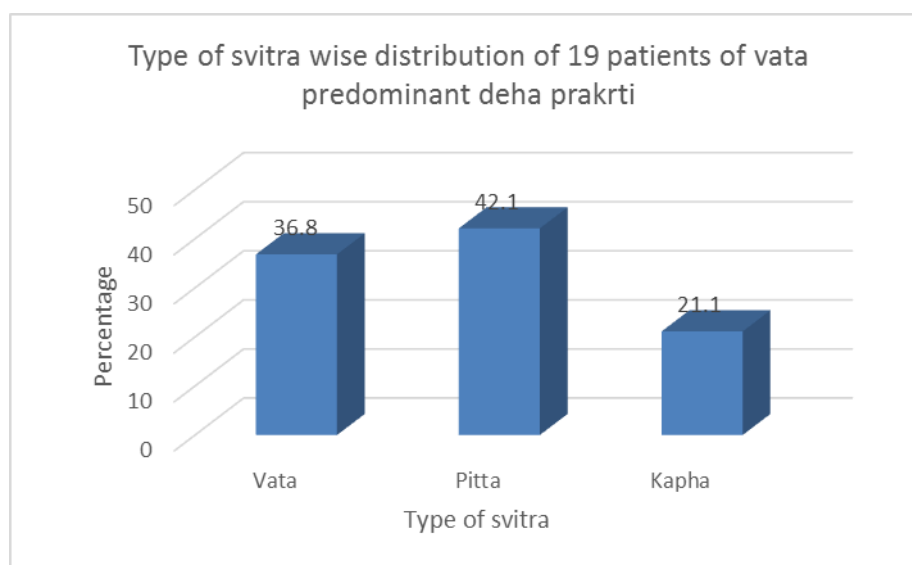


Table 13: Type of *śvitra* wise distribution of 42 patients of *pitta* predominant *deha prakṛti*.

Type of svitra	No. of patient	% age
Vata	3	7.1
Pitta	25	59.5
Kapha	14	33.3

Study shows *pittaja* type of *śvitra* is more (59.5%) followed by *kaphaja* type (33.3%) then *vātaja* type of *śvitra* (7.1%) in *pitta* predominant *deha prakṛti*.

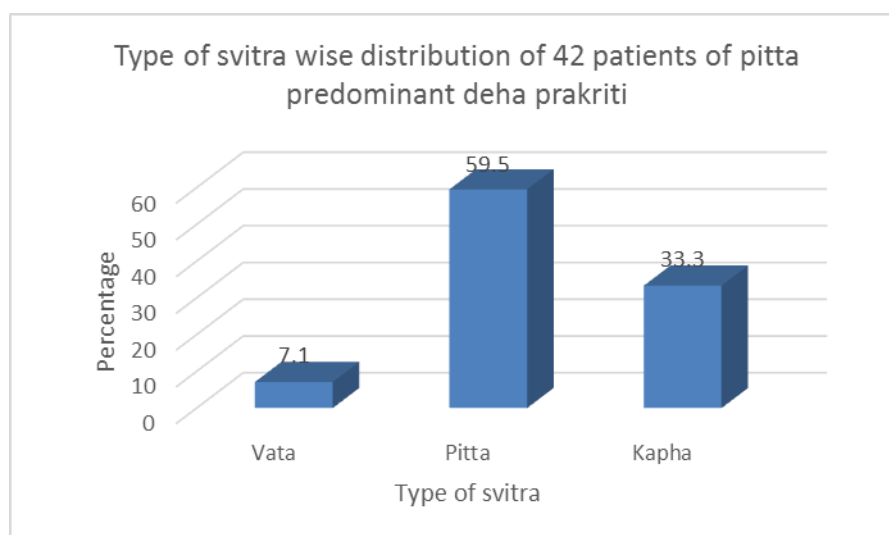


Table 14: Type of *śvitra* wise distribution of 22 patients of *kapha* predominant *deha prakṛti*.

Type of svitra	No. of patient	% age
Vata	1	4.5
Pitta	10	45.5
Kapha	11	50

Study shows *kapha* type of *śvitra* (50%) followed by *pitta* type of *śvitra* (45.5%) then *vata* type (4.5%) in *kapha* predominance *deha prakṛti*.

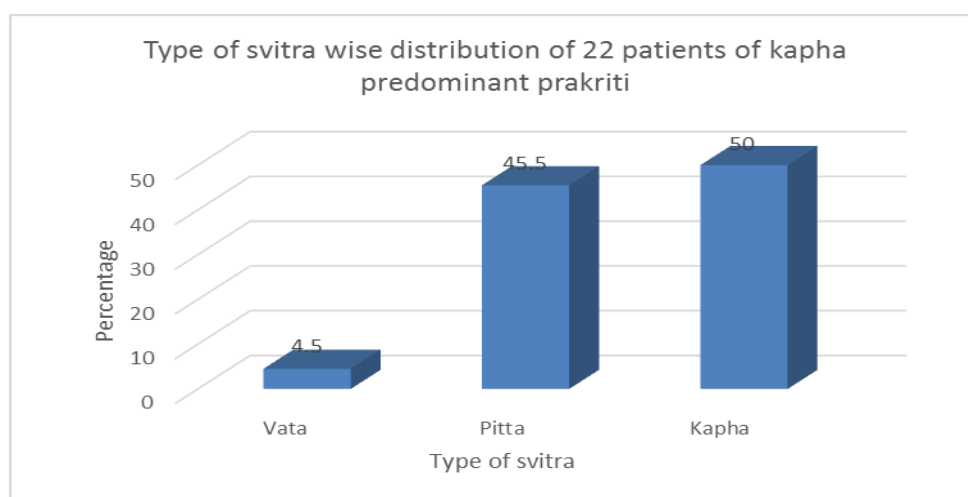


Table 15: type of *śvitra* wise distribution in 9 patients with AB positive blood group.

Type of svitra	No. of patient	% age
Vata	2	22.2
Pitta	5	55.6
Kapha	2	22.2

Study shows prevalence of *pitta* type of *śvitra* (55.6%) is more in ABO positive blood group. *Vātaja* & *kaphaja* type has a prevalence of 22.2% each.

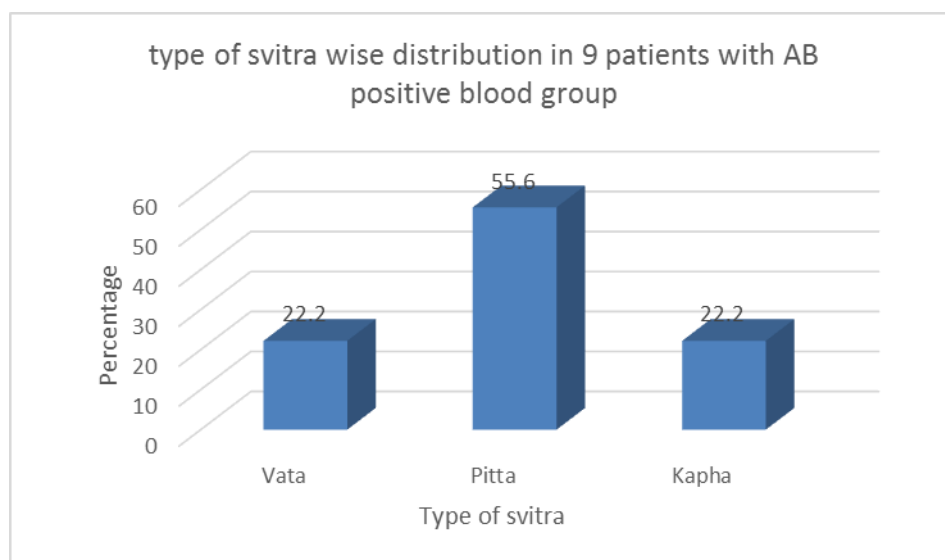


Table 16: Type of *śvitra* wise distribution in 16 patients with A positive blood group.

Type of svitra	No. of patient	% age
Vata	2	12.5
Pitta	9	56.3
Kapha	5	31.2

Study shows prevalence of *pittaja śvitra* (56.3%) is maximum, followed by *kaphaja śvitra* (31.2%) and *vātaja śvitra* 12.3% in A positive blood group.

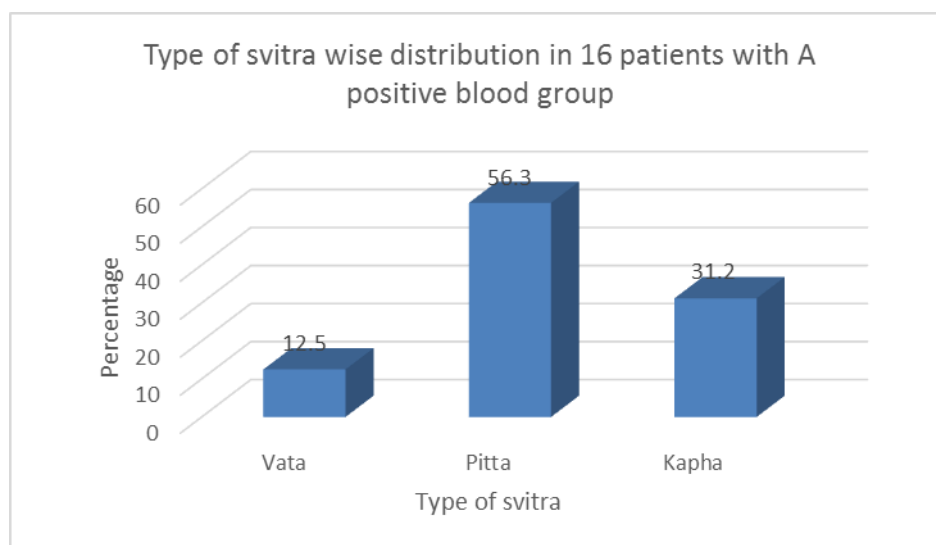
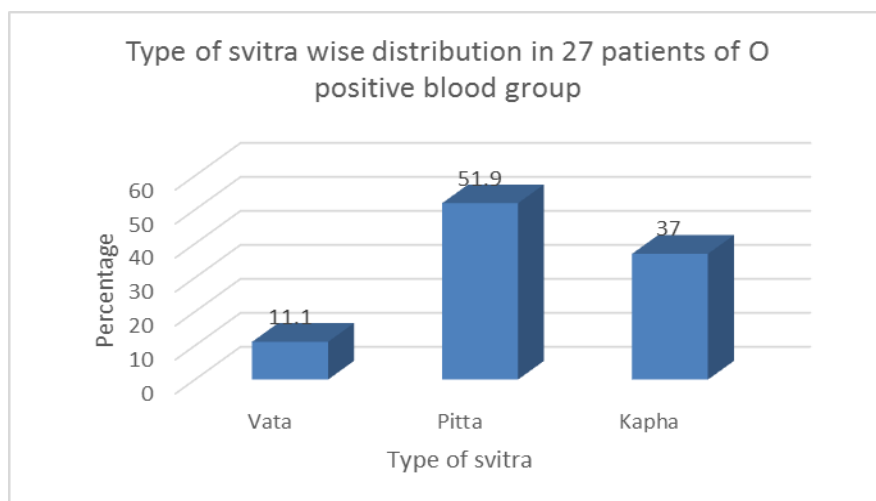


Table 17: Type of *śvitra* wise distribution in 27 patients of O positive blood group

Type of svitra	No. of patient	% age
Vata	3	11.1
Pitta	14	51.9
Kapha	10	37.0

Study shows prevalence of *pitta* type of *śvitra* as maximum (51.9%) in O positive blood group.

**Table 18: Type of *śvitra* in 28 patients of B positive blood group.**

Type of svitra	No. of patient	% age
Vata	3	10.7
Pitta	15	53.6
Kapha	10	35.7

53.6% of patients have *pittaja* type of *śvitra*, 35.7% have *kaphaja* type of *śvitra* and 10.7% have *vataja* type of *śvitra* in B positive blood group.

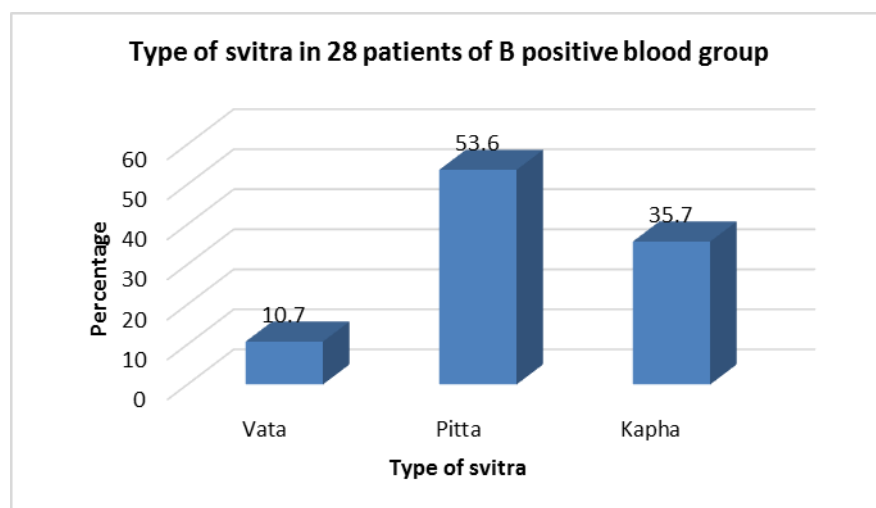
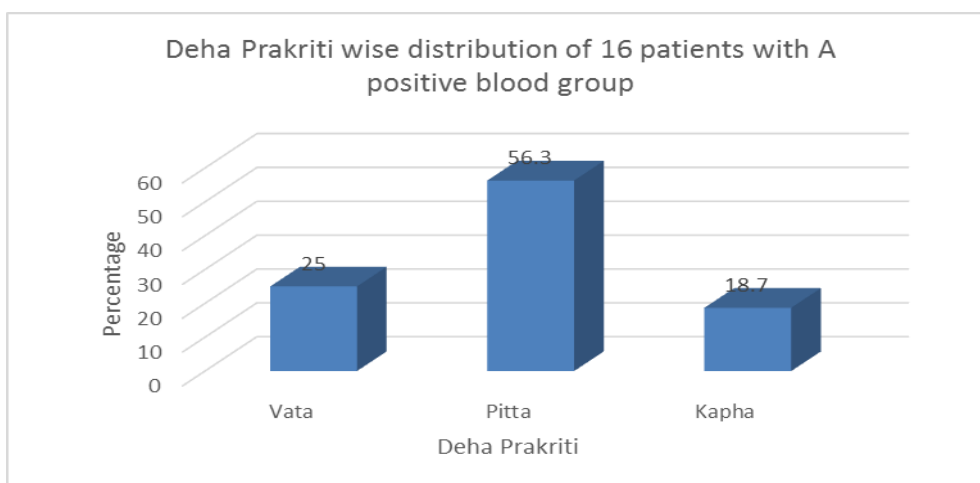


Table 19: Deha Prakṛti wise distribution of 16 patients with A positive blood group.

Deha Prakṛti	No. of patient	% age
Vata	4	25
Pitta	9	56.3
Kapha	3	18.7

Out of 16 patients with A positive blood group, 56.3% have *pitta* predominant *deha prakṛti* followed by 25% with *vāta* predominant *deha prakṛti* then 18.7% with *kapha* predominant *deha prakṛti*.

**Table 20: Deha Prakṛti wise distribution of 28 patients with B positive blood group.**

Deha Prakṛti	No. of patient	% age
Vata	7	25
Pitta	13	46.4
Kapha	8	28.6

Table shows 46.4% patients with B positive blood group having *pittaja deha prakṛti* followed by 28.6% with *kapha* predominant *deha prakṛti* & 25% with *vāta* predominant *deha prakṛti*.

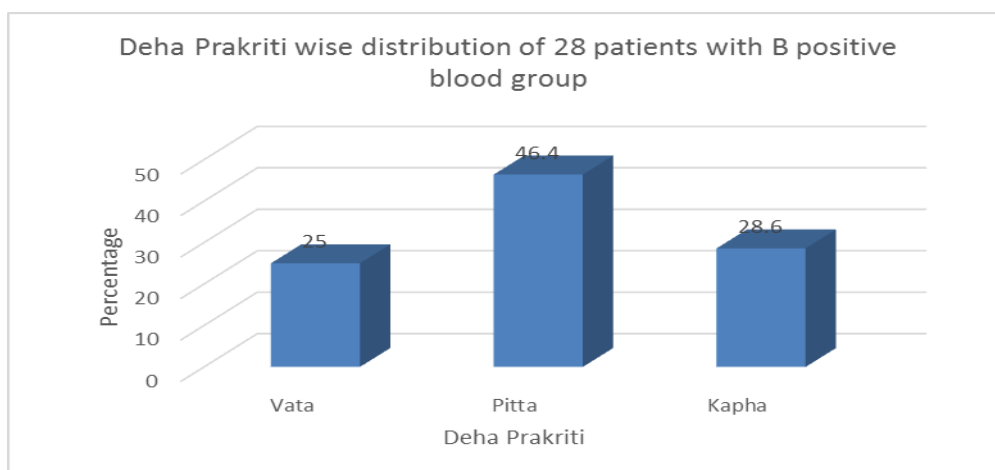
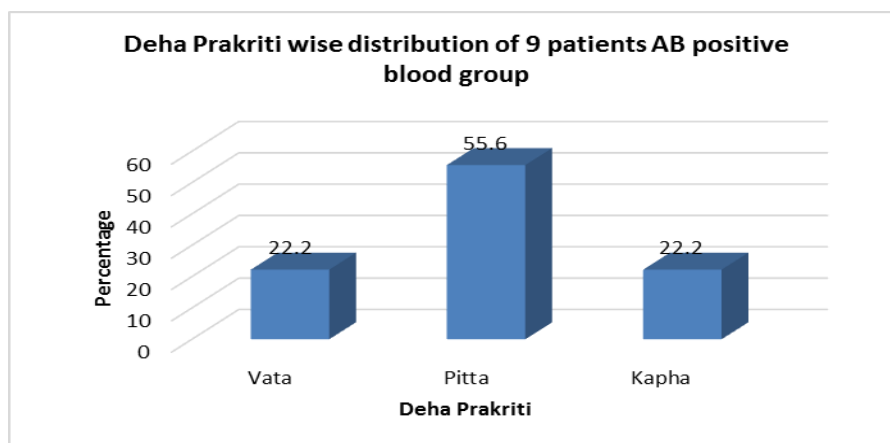


Table 21: Deha Prakṛti wise distribution of 9 patients AB positive blood group.

Deha Prakriti	No. of patient	% age
Vata	2	22.2
Pitta	5	55.6
Kapha	2	22.2

Maximum numbers of patients with AB positive blood group have *pitta* predominant *deha prakṛti*, i.e 55.6% followed by *vāta* & *kapha* predominant *deha prakṛti* which is 22.2% each.

**Table 22: Deha Prakṛti wise distribution of 27 patients having O positive blood group.**

Deha Prakriti	No. of patient	% age
Vata	5	18.5
Pitta	14	51.9
Kapha	8	29.6

The study shows 51.9% patient having O positive blood group are *pitta* predominant *deha prakṛti* & 29.6% having *kapha* predominant *deha prakṛti* and 18.5% having *vāta* predominant *deha prakṛti*.

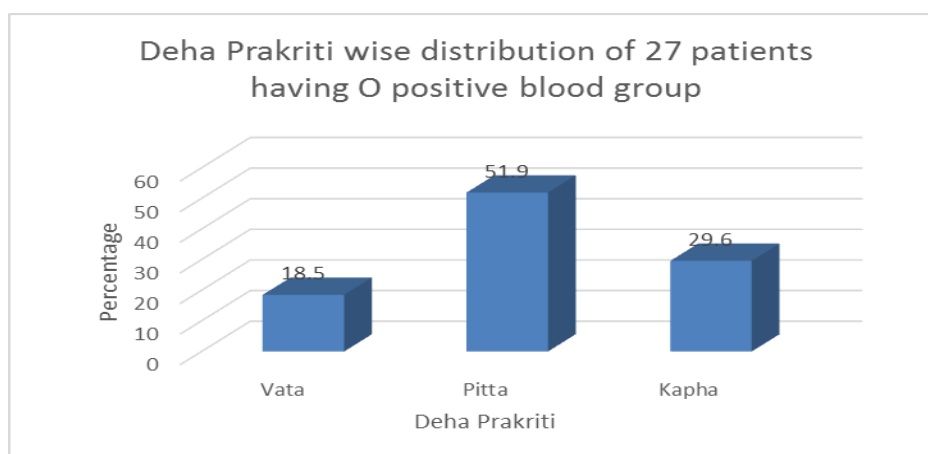
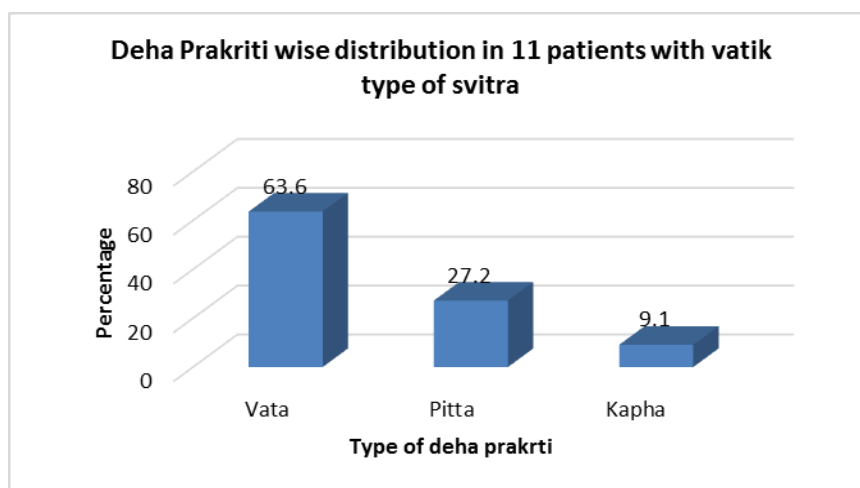


Table 23: Deha Prakṛti wise distribution in 11 patients with vātik type of śvitra.

Type of deha prakṛti	No. of patient	% age
Vata	7	63.6
Pitta	3	27.2
Kapha	1	9.1

Prevalence of vāta deha prakṛti (63.6%) is highest in vātik type of śvitra.

**Table 24: Deha Prakṛti wise distribution in 43 patients of pittaja type of śvitra.**

Type of deha prakṛti	No. of patient	% age
Vata	8	18.6
Pitta	25	58.1
Kapha	10	23.3

Prevalence of pittaja deha prakṛti is highest in pittaja type of śvitra (58.1%)

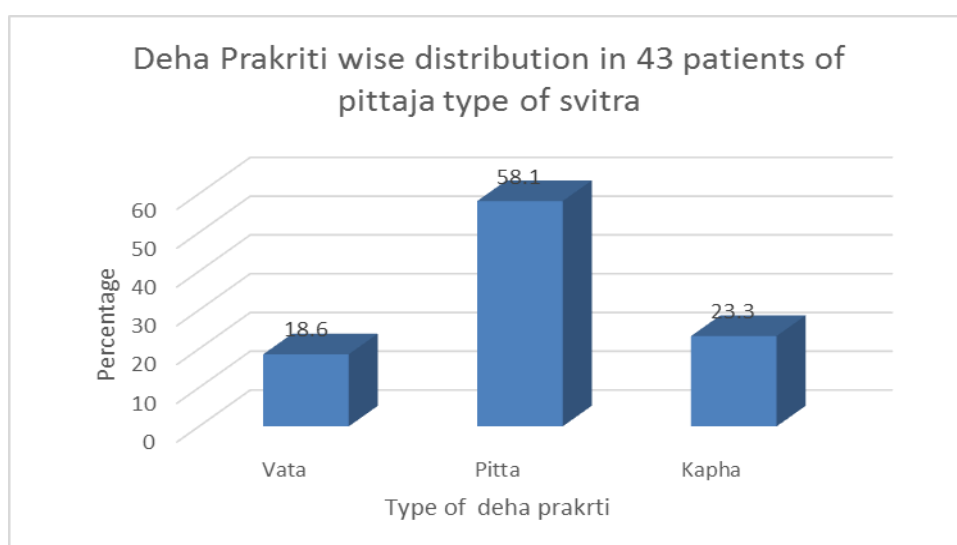
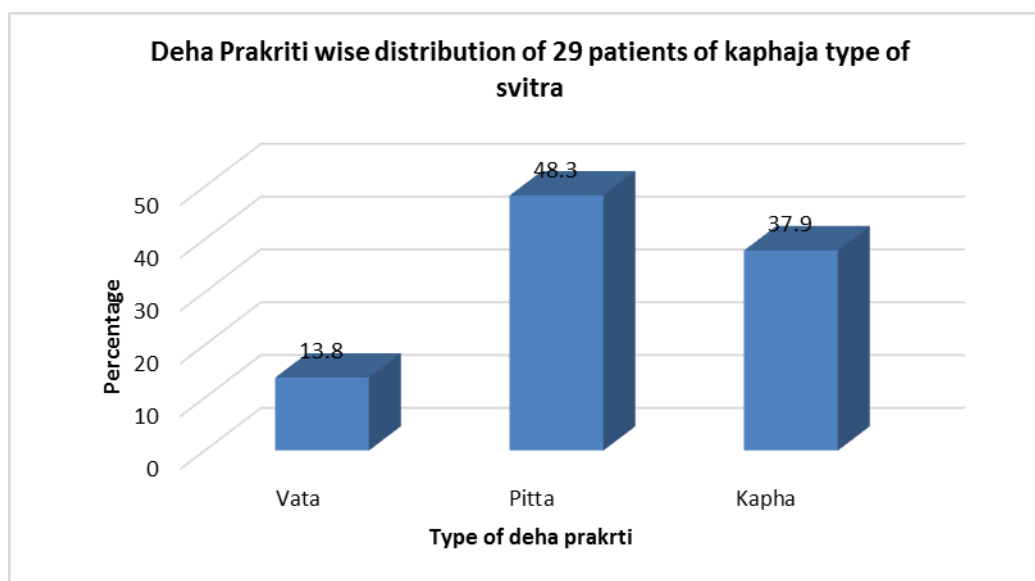


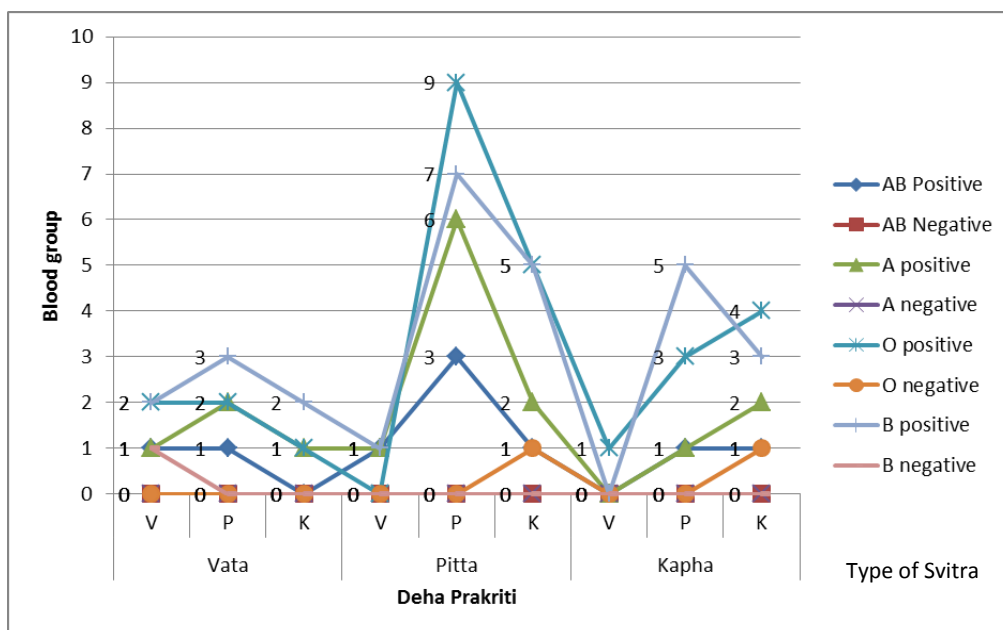
Table 25: Deha Prakṛti wise distribution of 29 patients of kaphaja type of śvitra.

Type of deha prakṛti	No. of patient	% age
Vata	4	13.8
Pitta	14	48.3
Kapha	11	37.9

Prevalence of *pittaja deha prakṛti* (48.3) is highest in *kapha* type of *śvitra*.

**Table 26: Relation between blood group, deha prakṛti & type of śvitra.**

Blood group	Vata			Pitta			Kapha			Total	% age
	V	P	K	V	P	K	V	P	K		
AB Positive	1	1	0	1	3	1	0	1	1	9	10.8
AB Negative	0	0	0	0	0	0	0	0	0	0	0
A positive	1	2	1	1	6	2	0	1	2	16	19.3
A negative	0	0	0	0	0	0	0	0	0	0	0
O positive	2	2	1	0	9	5	1	3	4	27	32.5
O negative	0	0	0	0	0	1	0	0	1	2	2.4
B positive	2	3	2	1	7	5	0	5	3	28	33.7
B negative	1	0	0	0	0	0	0	0	0	1	1.2
	7	8	4	3	25	14	1	10	11		
	19			42			22			83	
	22.9			50.6			26.5				



The graphic presentation reveals that most of patients were belong to paittik *deha prakṛti* with *pittaja* type of *śvitra* and O positive blood group (9 cases) followed by B positive (7cases) and Apositive (6 cases) respectively.

DISCUSSION

In this study, maximum number of patients, i.e. 27.3% were from the age group 21-30 years, followed by 20.6% were recorded from 11-20 years age group, then 16.9% among the 41-50 years and 14.6% recorded from 31-40%. Very few of them are recorded under 0-10 years & above 60 years age group. Most patients were between 21-50yrs of age when there is *pitta pradhānya* in *yuvāvasthā* and *śvitra* is a *pitta pradhān tridoṣaja vyādhi*.

SEX: In this study, 30% patients here male and 69.9% were female. The higher number of female patients may be because female were more conscious regarding their looks. However it is difficult to make any comment regarding distribution of gender.

TYPE OF SVITRA AND CHIEF COMPLAINTS: According to diagnosis, *pittaja śvitra* were mostly found (51.8%) with the chief complaints of *Padma patrapratikasan* in all patients with *paittik śvitra*. The chief complaints due to *vāta*, i.e. *Arunam* and *paridhvansi* is seen in all patients diagnosed with *vātaja śvitra*. *Kaphaja* complaints of *śvetam* is found in 34.9% followed by *ghana bahala* (51.8%), *snigdha* (12%) and *sakaṇḍu* (3.6%). Thus it can be said that all *doṣas* are involved in the pathogenesis.

DEHA PRAKRTI: Study shows that 50.6% of patients were having *pitta* predominant *deha prakṛti* while 26.5% of patients were *kapha* predominant *deha prakṛti* and rest of the patients having *vāta* predominant *deha prakṛti* (22.9%). Though *śvitra* is a *Tridoṣaja vyādhi*, often dominance of *pitta* is seen in *śvitra* which is confirmed with the symptomatology of *śvitra*. In this study, maximum number of patients having *pittaja deha prakṛti* was suffering from *śvitra* more.

BLOOD GROUP: Study reveals that prevalence of vitiligo is more in patients with B positive (33.7%), O positive (32.5%) blood groups and A positive blood groups (19.3%).

BLOOD GROUPS IN DEHA PRAKRTI: It can be observed that *pittaja deha prakṛti* is dominant in all the blood groups (42 out of 83 patients have *pitta* predominant *deha prakṛti*). In blood group AB, 7 out of 11 (55.6%), in blood group A, 9 out of 16 (56.3%), in blood group B, 13 out of 28 (46.4%) and in blood group O, 14 out of 27 (51.9%) have *pitta* predominant *deha prakṛti*. No significant association can be made between the blood groups and predominant *deha prakṛti*.

BLOOD GROUP IN TYPE OF SVITRA: Study shows that prevalence of B positive & O positive blood groups is highest in *vātik* (27.3%), *pittaja* (34.9% & 32.6%) & *kaphaja* (34.5%) type of *śvitra*, i.e. prevalence of B positive & O positive blood group is highest in all types of *śvitra*.

TYPE OF SVITRA IN DEHA PRAKRTI: Study shows that prevalence of *vātajā deha prakṛti* (63.6%) is highest in *vātik* type of *śvitra*, *pittaja deha prakṛti* is highest in both *pittaja* & *kaphaja* type of *śvitra* which is 58% & 48.3% respectively i.e. it is difficult to derive a conclusion regarding the relation between the type of *śvitra* and predominant *deha prakṛti* of the patients in the study.

TYPE OF SVITRA IN BLOOD GROUP: Prevalence of *pittaja śvitra* is highest among the AB positive (55.6%), A positive (56.3%), O positive (51.9%), B positive (53.6%) blood group, i.e. prevalence of *pittaja* type of *śvitra* is highest irrespective of the blood groups as *śvitra* is a *pitta pradhān tridoṣaja vyādhi*.

DEHA PRAKRTI IN TYPE OF SVITRA: Prevalence of *pittaja* type of *śvitra* is more in *vāta* & *kapha* predominant *deha prakṛti*, i.e. 42.1% and 59.5% respectively, whereas in *kapha* predominant *deha prakṛti* prevalence of both *pittaja* (45.5%) & *kaphaja* type of (50%) of

śvitra is almost same i.e. prevalence of *pittaja* type of *śvitra* is more irrespective of the predominant *doṣa* in *deha prakṛti* as *śvitra* is a *pitta pradhān tridoṣaja vyādhi*.

DEHA PRAKRTI IN BLOOD GROUPS: Prevalence of *pitta* predominant *deha prakṛti* is highest in all types of blood groups, i.e. 56.3% in A positive, 46.4% in B positive, 55.6% in AB positive & 51.9% in O Positive blood group.

O NEGATIVE AND B NEGATIVE BLOOD GROUPS

- 2 patients of *śvitra* are found to have O negative blood group, both of which have *kaphaja* type of *śvitra* and *deha prakṛti* wise, one have *pitta* predominant *deha prakṛti* and the other has *kapha* predominant *deha prakṛti*.
- Also 2 patients with B negative blood group has *vātajā* type of *śvitra* & *vāta* predominant *deha prakṛti*.

CONCLUSION

Results of the present study suggests that most of the patients have *pittaja śvitra* (43 out of 83 cases), *pitta* predominant *deha prakṛti* (42 out of 83), O positive (27 cases) B Positive (28 cases) & A positive (16 cases) blood groups respectively. However, no any significant association can be made between the type of *śvitra*, blood groups and predominant *deha prakṛti*.

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