



Research Article

ASSOCIATION BETWEEN *DEHAPRAKRITI* AND BLOOD GROUP: AN OBSERVATIONAL STUDY

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Article info

Article History:

Received: 05-09-2024

Accepted: 18-10-2024

Published: 20-11-2024

KEYWORDS:

Prakriti,
Dehaprakriti,
Ayurgenomics, Blood
group, Ayurveda.

ABSTRACT

In Ayurveda, *Prakriti* represents an individual's inherent constitution, which remains stable throughout life. Similarly, blood groups are genetically inherited and do not change. Both *Prakriti* and blood group are innate and unchanging attributes, suggesting a potential relationship between the two. **Objective:** To investigate the correlation between *Dehaprakriti* and blood group among individuals, hypothesizing that a noteworthy association may exist between these two fixed traits. **Methods:** An observational study was conducted with a sample of 500 individuals. The assessment included both subjective and objective measures. **Subjective Assessment:** Each participant's *Prakriti* was determined using a self-assessment questionnaire developed by Kishore Pattawardhan and Sharma. **Objective Assessment:** Each participant's blood group was recorded following *Prakriti* determination. The data were then subjected to statistical analysis using chi-square tests to examine correlations between *Prakriti* types and blood groups. **Results:** The chi-square analysis revealed a significant association between *Dehaprakriti* and blood group, with a p-value of less than 0.05. However, no single *Prakriti* type was found to correspond exclusively with a specific blood group, as most blood groups appeared across multiple *Prakriti* types. **Conclusion:** Although a significant correlation exists between *Dehaprakriti* and blood group, the study concludes that blood groups cannot be used as definitive markers for categorizing dominant *Prakriti*. Further studies with larger samples and diverse populations are recommended to explore this relationship in greater detail.

INTRODUCTION

The term "*Prakriti*" refers to a person's innate constitution, which is established by the condition of the *Tridosha* at the time of sperm and ovum union within the uterus and impacted by *Matru ahara-vihara*, *Mahabhuta vikara*, and *Kala garbhasaya*^[1]. There are seven types of this *Prakriti*, *Vataja*, *Pittaja*, *Kaphaja*, *Vata-Pittaja*, *Pitta-Kaphaj*, *Vata-Kaphaja*, and *Sannipataja*, based on which *Dosha* is predominant. Just as a person's blood type does not alter throughout their life, neither do these prevalent *Doshas*^[2]. Considering that *Prakriti* is formed during sperm and ovarian conception, and that blood group is also

produced from the mother's and father's parts. *Prakriti* and blood type are thought to be innate, immutable, and eternal. It is logical that a relationship would exist between the two. Therefore, the purpose of this research is to determine how blood group and *Dehaprakriti* are related. The new field of study called "Ayurgenomics" integrates genomics and Ayurveda to better understand the core ideas of Ayurveda as a modern science^[3]. Several studies on the relationship between Blood group and *Dehaprakriti* have been done, with varying degrees of success. It has been accepted, for instance, that *Vataja prakriti* (37.5%) have B+ve blood group, *Pittaja prakriti* (39.2%) have O+ve blood group, and *Kaphaja prakriti* (25%) have both B+ve and AB+ve blood groups^[4]. In contrast, others have discovered a substantial linkage between *Vataja prakriti* and Blood group A, *Pittaja Prakriti* and Blood group O, and *Kaphaja prakriti* and Blood group B^[5]. In several other instances, there is no discernible relationship between blood group and *Dehaprakriti*^[6].

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Therefore, more research may be required to determine the true correlation.

AIMS AND OBJECTIVES

1. To ascertain *Dehaprakriti* by using *Prakriti* assessment proforma.
2. To ascertain blood group.
3. To assess the co relation between *Dehaprakriti* and blood group.

MATERIALS & METHODS

The *Veda, Upanishad, Brihatrayi, Laghutrayi*, and their commentators, as well as numerous journals and published articles, have all the relevant references for blood type and *Dehaprakriti* gathered. All research has been conducted using both objective and subjective analysis. The produced proforma used in the subjective investigation served as the basis for

Selection criteria

Inclusion criteria	Exclusion criteria
<ul style="list-style-type: none"> ● Age 18 -60 years ● Both male and female ● Healthy volunteers were selected randomly from the institution as well as from the city also. 	<ul style="list-style-type: none"> ● Less than 18 yrs and more than 60 yrs. ● Suffering in any chronic disorder. ● Patients who are habituated to smoking and alcohol. ● Any one, who left the proforma incomplete and not done the blood grouping.

Assessment of *Prakriti*^[7]

For *Prakriti* assessment, a proforma was used which is originally designed by Kishore Patwardhan and Sharma on the basis of explanation found in *Charak Samhita*. This explanation based on specific attribute (*Guna*) of a particular *Dosha* along with description of specific features of these attributes produce in an individual. Thus, *Vata, Pitta*, and *Kapha* have been assigned with eight, five and twelve attributes (*Guna*), respectively. Each feature as described in *Charaka Samhita (Vimana Sthana)* has been converted into a simple question/statement. The response of the individual is provided with Yes or No. The score is given as per individual's response against yes or no. For the sake of convenience in the calculations a total of 120 scores were allotted for each *Guna*. If a particular *Guna* produced a single feature, a full of 120 scores was allotted to that feature, when found in the individual. On the other hand, if a *Guna* produced more than one feature, 120 scores was divided equally into the specific number of features that the particular *Guna* produced. For example, if a particular *Guna* produced four features, 120 scores were divided by four, resulting in 30 scores for each feature. This new scoring pattern avoided the need of scores being allotted in fractional numbers. Also certain questions/statements are modified to suit the mindset of the student population. Thus, the final maximal scores according to this questionnaire were

classifying the various *Prakriti* categories. The goal of the study was to determine the blood groups of all enrolled participants utilizing the slide method in a pathology laboratory. Following the determination of each person's *Dehaprakriti*, it was executed. For this observational study, 500 healthy people were chosen from among the institution's staff and students as well as local healthy volunteers from the town of Balangir. The study took place over a 24-month period. All of the information on a study participant is recorded on the proforma information sheet. On the study proforma of the *Prakriti* assessment questionnaire, each person's *Dehaprakriti* was recorded. Following the arrangement of all the observations into a master chart (a tabular format), the information was made available for statistical evaluation. The subjects were chosen for this purpose based on selection criteria.

960 for *Vata*, 600 for *Pitta* and 1440 for *Kapha*. Mathematical calculation as shown in:

$$\frac{\text{Total score scored by an individual for a } \textit{Dosha} \times 100}{\text{Total scores allotted to that } \textit{Dosha}}$$

Procedure adopted to assign the constitutional type status

The Primary, Secondary, and Tertiary *Doshas* were recorded in terms of percentage scores. a). As defined by *Ekadosha Prakriti*, a primary *Dosha* should comprise more than 50% of both secondary and tertiary *Doshas*. b). According to *Dwandaja prakriti*, the secondary *Dosha* scores should be at least 50% of the primary *Dosha*, and the difference between the secondary and tertiary *Doshas* should be at least 25% of the secondary *Dosha*. The evaluation was also predicated on the individual's clinical presentation during the questionnaire session.

Out of 500 volunteers, *Ekadoshaja prakriti (Vataja, Pittaja and Kaphaja Prakriti)* were 21, 7 & 77 respectively. Whereas *Dwandaja prakriti (Kapha-Pittaja, Kapha-Vataja, Pitta-Kaphaja, Pitta-Vataja and Vata-Kaphaja, Vata-Pittaja)* were 113, 129, 34, 17, 65 & 37 respectively fulfilled the above criteria and were designated accordingly. Here, it is considered 6 *Dwandaja prakriti* instead of 3, which is a deviation regarding the views of our *Acharyas*. *Acharyas* explained *Vata-Pittaja, Pitta-Kaphaja* and *Vata-Kaphaja prakriti* varieties in *Dwandaja Prakriti*.

In other *Dwandaja prakriti*, which is not explained by *Acharyas*, like *Pitta-Vataja prakriti* in which *Pitta* is the predominant and primary *Dosha* and *Vata* is the secondary *Dosha*. Same as in *Kapha-Pittaja prakriti*, *Kapha* is the predominant and primary *Dosha*, and *Pitta* is the secondary *Dosha*. In *Kapha- Vataja prakriti*, *Kapha* is the predominant and primary *Dosha*, while *Vata* is the secondary *Dosha*.

So, from the above fact, it is found that *Vata-Pittaja prakriti* and *Pitta- Vataja prakriti* are not the same. Also, clinical presentations were different from each other during the assessment of the questionnaire, with one having features of *Vata* predominant and the other having features of *Pitta* predominant. The same thing was found in other *Dwandaja prakriti* also.

Hence, *Pitta-Kaphaja-Kapha-Pittaja*, *Vata-Kaphaja-Kapha-Vataja* and *Pitta-Vataja-Vata-Pittaja prakriti* are not the same. These *Prakritis* are different

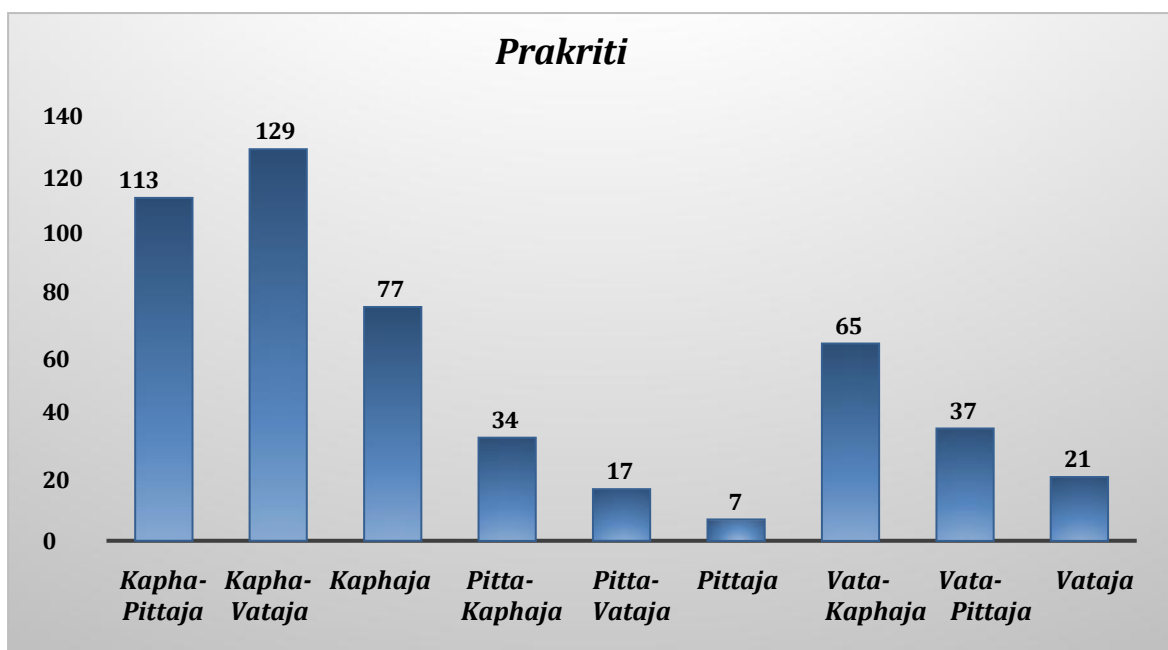
from each other and considered to be 6 in number instead of 3 mentioned by our *Acharyas*.

OBSERVATION & RESULTS

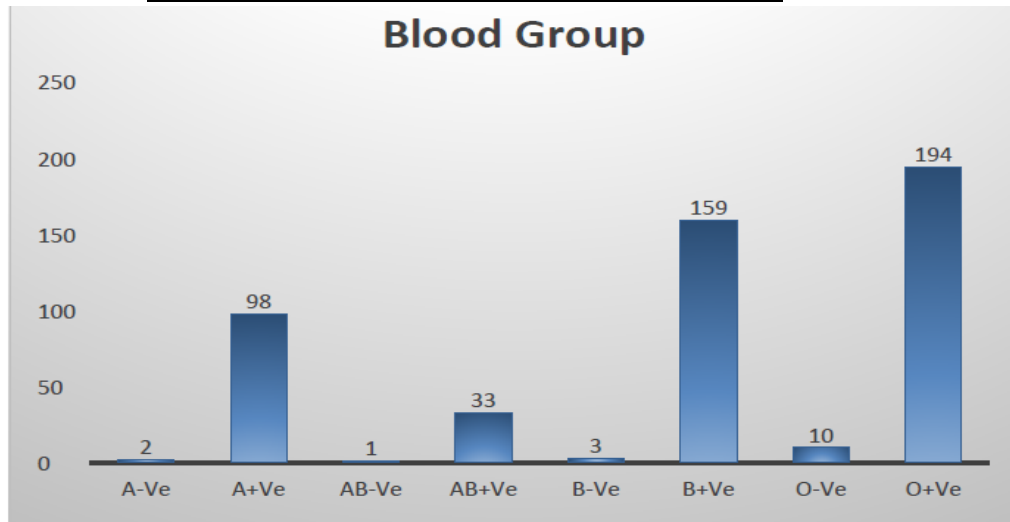
Using Chi-Square, the relationship between Blood group and *Deha prakriti* was investigated. P-value of less than 0.05 is regarded as significant, while P-value of more than 0.05 is not. 532 samples in all were gathered. 500 samples were taken for *Prakriti* assessment, and 32 samples were rejected. The data indicates that, of the 500 individuals, 47 (9.40%) belonged to the 18-20yrs age group, 381 (76.20%) to the 21-30yrs age group, 38 (7.60%) to the 31-40yrs age group, 23 (4.60%) to the 41-50yrs age group, and 11 (2.20%) to the 51-60yrs age group. Out of 500 total people, 270 (54%) were females and 230 were (46%) males. Of these, 117 (23.40%) came from *Anupa desha*, 215 from *Jangala desha*, and 168 from *Sadharana desha*.

Table 1: Prakriti Wise Distribution (N=500)

<i>Prakruti</i>	Frequency	Percentage
<i>Kapha-Pittaja</i>	113	22.60%
<i>Kapha-Vataja</i>	129	25.80%
<i>Kaphaja</i>	77	15.40%
<i>Pitta-Kaphaja</i>	34	6.80%
<i>Pitta-Vataja</i>	17	3.40%
<i>Pittaja</i>	7	1.40%
<i>Vata-Kaphaja</i>	65	13.00%
<i>Vata-Pittaja</i>	37	7.40%
<i>Vataja</i>	21	4.20%
Total	500	100.00%



Blood Group	Frequency	Percentage
A-Ve	2	0.40%
A+Ve	98	19.60%
AB-Ve	1	0.20%
AB+Ve	33	6.60%
B-Ve	3	0.60%
B+Ve	159	31.80%
O-Ve	10	2.00%
O+Ve	194	38.80%
TOTAL	500	100.00%



Of the 500 people, 2 had the Blood group A-ve, 98 had the Blood group A+ve, 1 had the Blood group AB-ve, 33 had the Blood group AB+, 3 had the Blood group B-ve, 159 had the Blood group B+ve, 10 had the Blood group O- ve, and 194 had the Blood group O+ve.

Table-3: Co relation between Dehaprakriti and Blood group

		Blood Group							Total	
		A-Ve	A+Ve	AB-Ve	AB+Ve	B-Ve	B+Ve	O-Ve		O+Ve
Deha Prakruti	Kapha- Pittaja	1	24	0	9	2	31	3	43	113
	Kapha- Vataja	0	24	0	7	0	44	4	50	129
	Kaphaja	0	11	0	3	0	25	1	37	77
	Pitta- Kaphaja	0	6	0	3	0	12	0	13	34
	Pitta-Vataja	0	3	0	1	0	5	0	8	17
	Pittaja	0	1	0	0	0	2	0	4	7
	Vata- Kaphaja	1	12	0	6	0	21	1	24	65
	Vata-Pittaja	0	8	1	3	1	12	1	11	37
	Vataja	0	9	0	1	0	7	0	4	21
Total		2	98	1	33	3	159	10	194	500

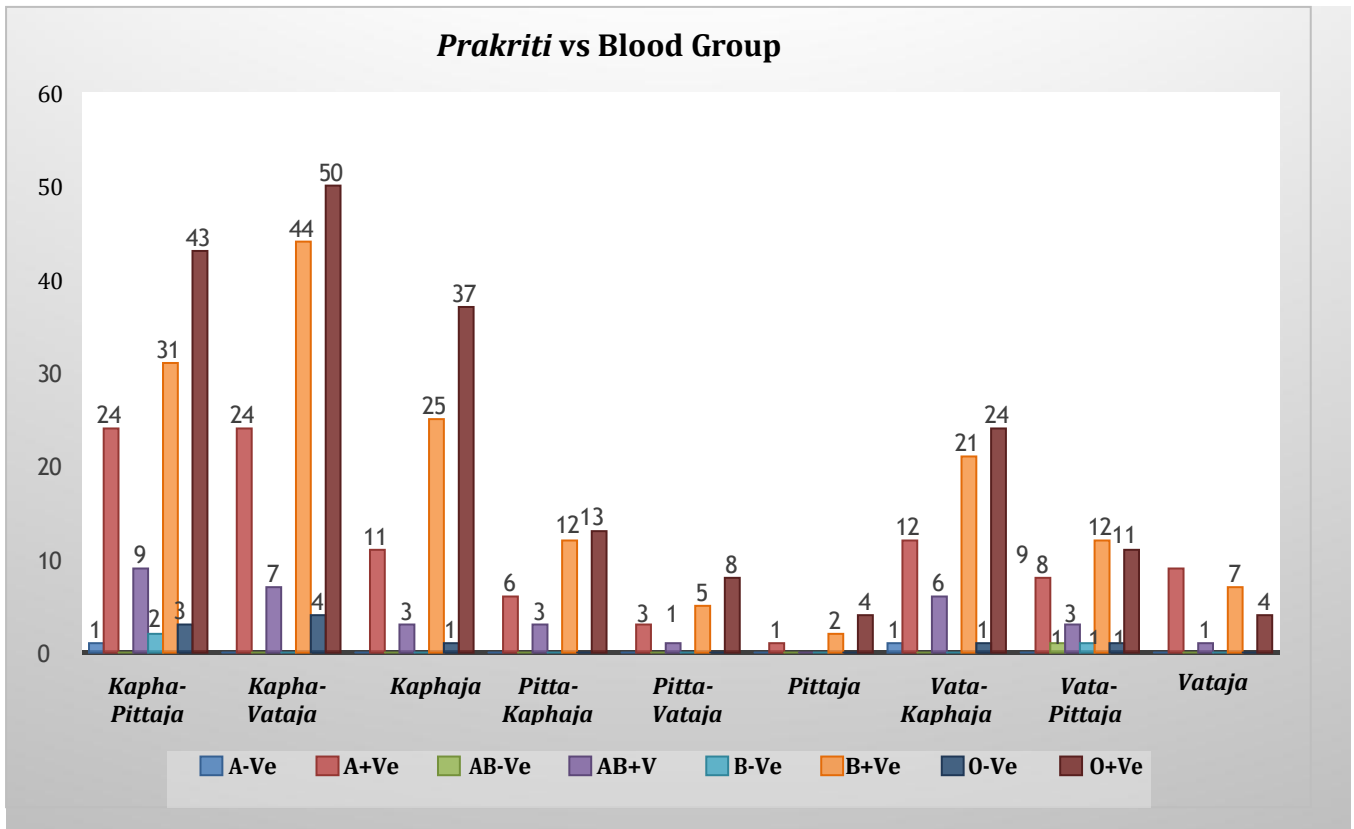


Table 4: Statistical table showing the P-Value

Chi-Square Tests			
	Value	Df	P-Value
Pearson Chi-Square	76.021	56	0.039
No. of Valid Cases	500		

The Chi-Square Test is used to evaluate the relationship between Blood group and *Dehaprakriti*. It is seen from the above table that the P-Value is less than 0.05. Thus, it can be inferred that there exists a noteworthy co-relation (association) between blood group and *Dehaprakriti*.

DISCUSSION

The concept of *Prakriti* is one such fundamental principle in Ayurveda that is unique in terms of its physical, psychological, social, and spiritual approach. Its uniqueness signifies that one person’s food and way of living become fatal for others. The assessment of *Prakriti* (constitution) is part of the diagnostic and prognostic methods in the science of Ayurveda. Ayurveda is the first medicinal system to incorporate promotive and preventive health care management, which helps in prevention of infectious diseases, pandemics, metabolic diseases, lifestyle disorders, seasonal diseases, and even genetic diseases too. Thus, the establishment of one's *Prakriti* is necessary to separate one individual from the other. Persons having different types of *Prakriti* are exposed to some specific diseases, and these need some specific therapeutic measures.

According to the demographic data, 76.20% of the subjects were between the ages of 21 and 30yrs because the maximum number of students were used to collect the samples. Since the majority of students enrolled in this course were female; 54%. Additionally, since the sample was collected in *Jangala Desha*, 43% of the students belonged to that region.

Within the sample of 500 individuals, 129 (25.80%) had *Kapha-Vataja prakriti*, followed by 113 (22.60%) who had *Kapha-Pittaja prakriti*, 77 (15.40%) who had *Kaphaja prakriti*, 65 (13%) had *Vata-Kaphaja prakriti*, 37 (7.40%) had *Vata-Pittaja prakriti*, 34 (6.80%) had *Pitta-Kaphaja prakriti*, 21 (4.20%) had *Vataja prakriti*, 17 (3.40%) had *Pitta-Vataja prakriti*, and 7 (1.40%) had *Pittaja prakriti*. In contrast to other *Prakriti*, it was found that the majority of subjects had *Kaphaja prakriti*, or *Kapha* associated with *Pitta* or *Vata prakriti*. This is because *Kapha* is predominant in both *Valyavastha* and some stages of *Madhyavastha*. Furthermore, it is observed that the quantity of *Ekadoshaja prakriti*, particularly *Vataja* and *Pittaja prakriti*, is lower than that of other *Dwidoshaja prakriti*. No individual participant came from *Tridoshaja Sama prakriti*.

Blood Group: Since O+ve Blood group is universally donated, 194 subjects (19.80%) belonged to this blood group; 159 subjects (31.8%) belonged to B+ve Blood group, 98 subjects (19.60%) to A+ve Blood group, and 33 subjects (6.60%) to AB+ve Blood group.

Ten (2% of the Rh-negative group) were from the O-ve Blood group, three (0.6%) from the B-ve Blood group, two (0.4%) from the A-ve Blood group, and one (0.2%) from the AB-ve Blood group.

So, here it is observed that maximum (384) number of subjects were belonged to Rh positive group in comparatively Rh negative group which was only 16 in numbers.

Association (Co-relation) between Dehaprakriti and blood group

It has been observed that out of 500 individuals 21 were from *Vataja prakriti*. Out of which 9 were from A+ve Blood group, 7 participants belongs to B+ve Blood group, 4 belongs to O+ve Blood group and 1 participant from AB-ve Blood group.

7 were from *Pittaja prakriti*. 4 participants belongs to O+ve Blood group, 2 participants were having B+ve Blood group and 1 belonged to A+ve Blood group. No one was having negative blood group.

77 participants belong to *Kaphaja prakriti*. Out of 77 participants 37 were having O+ve Blood group, 25 were having B+ve Blood group, 11 were A+ve Blood group, 3 were having AB+ve Blood group and 1 was having O-ve Blood group.

37 were belongs to *Vata-Pitta prakriti*. Out of which 11 were having O+ve Blood group, 12 were having B+ve Blood group, 8 were having A+ve Blood group, 1 was AB+ve Blood group. Remaining 3 were from negative blood group; each one belongs to O-ve, B-ve and AB-ve Blood group.

17 were belongs to *Pitta-Vata prakriti*. Out of which 8 were having O+ve Blood group, 5 were having B+ve Blood group, 3 were A+ve blood group and only 1 was having AB+ve Blood group.

34 participants belong to *Pitta-Kapha prakriti*. Out of which 12 were having B+ve Blood group, 11 were from O+ve Blood group, 8 were from A+ve Blood group. Remaining 3 were from negative blood group; each one belongs to O-ve, B-ve and AB-ve Blood group.

113 participants belong to *Kapha-Pittaja prakriti*. Out of which 43 were from O+ve Blood group, 31 were from B+ve Blood group, 24 were having A+ve Blood group, 9 were having AB+ve Blood group, 3 were having O-ve Blood group and 1 was having A-ve Blood group.

129 participants belong to *Kapha-Vataja prakriti*. Out of which 50 were belongs to O+ve Blood group, 44 were having B+ve Blood group, 24 were having A+ve Blood group, 7 were having AB+ve Blood group and 4 were having O-ve Blood group.

65 participants belong to *Vata-Kaphaja prakriti*. Out of which 24 participants belongs to O+ve Blood group, 21 participants belongs to B+ve Blood group, 12 were from A+ve Blood group, 6 were having AB+ve Blood group, 1 was having O-ve and another 1 having A-ve Blood group.

The prevalence of different blood group as found in our study is in the order of O+ve, B+ve, A+ve, AB+ve, O-ve, B-ve, A-ve and AB-ve respectively.

On analyzing the blood group with respect to *Prakriti* types, association was noticed between *Dehaprakriti* and blood group. But particular *Prakriti* is not responsible for particular blood group, as most of Blood group is found in most of *Prakriti* (above mentioned 9 *Prakriti*). This study shows that blood groups cannot be used as features to classify dominant *Prakriti*. Though the blood group of a person does not decide any *Deha Prakriti*, the *Dehaprakriti* (constitution) and blood group of a person decided by chromosomes, so there must be some relationship found between them (in a chromosomal study).

It was discovered during the study that although some of the participants appeared to have *Kapha prakriti* and were in good health upon assessment, they actually had either *Vata prakriti*, *Pitta prakriti*, or both *Vata* and *Pitta prakriti*. Thus, a proper questionnaire is required to assess *Prakriti*, one cannot simply observe someone. Additionally, it was noted that young ages (22 to 25 yrs) is the ideal age range for *Prakriti* assessments, as it was changed comparatively previous one reported by some participants. It might be the result of the body's maturity state or one of the influencing factors that our *Acharyas* mentioned.

During the selection of *Prakriti*, *Kapha prakriti* and *Kapha* associated with *Vata* and *Pitta prakriti* were found to be predominant among the sample population. The reason for the dominance of specific *Doshas* in the sample population can be further scientifically investigated considering the fact that the *Prakriti* of an individual depends on various factors like heredity, maternal diet, and lifestyle. *Dosha* dominance in the maternal reproductive tract, place of birth, time of birth, age of parents, socio-economic condition, tropical region, spicy food, cause of high pollution, etc. This can further widen the scope of this study, which may yield new and valuable knowledge.

CONCLUSION

Prakriti differs from person to person and is affected by *Manasika guna*. It emphasizes a person's health, for which distinct eating habits, lifestyle regimens, and medications are being explained by our *Acharya*. Also, it acts like a diagnostic, therapeutic, and prognostic device without causing any harmful effects. Ayurgenomics is the science where there is a genetic link to *Prakriti*. It can help in the confirmation of *Prakriti* and guide the patient for avoidance of

expected disorders. The study revealed that the majority of individuals were having *Kapha prakriti* along with *Kapha*-associated *Vata* or *Pitta prakriti*. Same as in case of blood grouping, maximum were having O+ve, followed by B+ve, and least were AB-ve Blood group. Always, it needs a proper questionnaire. Both the blood group and *Prakriti* are inborn and constant. There is therefore a connection between the two. Also it is found from the study that there is a significant correlation (relationship) between the two as the P-value is less than 0.05. However, the study also revealed that most blood groups are present in most of *Prakriti*. So, it is not possible to conclude that a specific *Prakriti* is responsible for a specific blood group. Thus blood groups cannot be used as characteristics to categorize dominant *Prakriti*.

References:

1. Charak Samhita by R.K. Sharma and Bhagwan Das, Viman sthan 8/95, Chaukhamba Sanskrit Series office, Varanasi, 4th edition 1996
2. Sushrut Samhita by Prof V.C.Patil and Dr.Rajeshwari N.M., Volume 2, Sharira sthan 4/62-79, Chaukhamba Publication, 1st edition 2018
3. Gupta P Pharmacogenetics, pharmacogenomics, and Ayurgenomics for personalized medicine: A Paradigm shift. Indian J Pharm Sci 2015; 77: 135-41.
4. Ahmad Wani, Bilal, Kumar Mandal, S., & Godatwar, P. (2017). Prakriti Analysis and Its Clinical Significance. International Journal of Ayurveda and Pharma Research, 5(9). Retrieved from <https://ijapr.in/index.php/ijapr/article/view/775>
5. Chaple Jagruti and Dawale Ajay, Relation Between Prakriti (Ayurvedic Concept of Constitution) and Blood Group Among Ayurvedic Students UJAHM 2016, 04(01): page 18-20.
6. Acharya Balkrishna, Kuldeep Singh, Ramesh Kumar, Paran Gowda. Correlations between blood group and dominant Prakriti based on the Tridosha concept of Ayurveda. International Journal of Research and Analytical Reviews. Volume 5; Issue 4; Oct- Dec-2018; 846-851.
7. Tripathi, Piyush Kumar, Patwardhan, Kishor, Singh, Girish, The Basic Cardiovascular Responses to Postural Changes, Exercise, and Cold Pressor Test: Do They Vary in Accordance with the Dual Constitutional Types of Ayurveda?, Evidence-Based Complementary and Alternative Medicine, 2011, 251850, 10 pages, 2011. <https://doi.org/10.1155/2011/251850>

Cite this article as:

Utkalini Nayak, Subash Sahu, P.K.Panda. Association between Dehaprakriti and Blood Group: An Observational Study. International Journal of Ayurveda and Pharma Research. 2024;12(10):75-81.

<https://doi.org/10.47070/ijapr.v12i10.3428>

Source of support: Nil, Conflict of interest: None Declared

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