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AN OBSERVATIONAL STUDY OF SWEDAPRAVRUTTI IN PITTA PRADHAN & KAPHA PRADHAN PRAKRITI INDIVIDUALS

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Abstract

Prakriti of an individual is one of the basic principles and known as basic constitution of human being. *Charakacharya* explained concept of *prakriti* on the basis of *guna* of related dosha with *prakriti* of an individual. The role of doshaguna in appearance of various characteristics is explained by him. In this study one of such *lakshana* called '*sweda*pravrutti' is focused.

For *pitta prakriti*, the ' *dravaguna*' of pitta is responsible for few characteristics like – less muscular tone, soft joint tissue, **more sweating tendency**, large amount of passing urine and faeces.

For *kaphaprakriti*, the '*sheetaguna*' of *kapha* creates less hunger and little tendency of drinking. It also causes calm nature & **less sweating** in kapha*prakriti* individuals.

For *vataprakriti*, in *Charaksamhita*, there is no characteristic mentioned regarding *swedapravrutti* of *vataprakriti* individuals. So it will also be point of interest to see how the nature of sweating in *vataprakriti* individuals. Sweating is important mechanism for temperature regulation. Practically it is observed that peoples living in same environmental conditions have variation in sweating tendency. Now curiosity arises in mind that whether sweating tendency of individuals varies as per *prakriti*? If so happens, it will also affect fluid intake of person. For these reasons, the *swedapravrutti* as per *prakriti* is considered for this research work.

KEY WORDS- sweda, prakriti,

INTRODUCTION

The basic principles of Ayurveda can solve new challenges in medical field Can fulfil the health demand of society effectively. *Prakriti* of an individual is one of the basic principles and known as basic constitution of human being. *Charaksamhita* is leading compendium of medicine in Ayurveda. It explained concept of *prakriti* on the basis of *guna* of related *dosha* with *prakriti* of an individual¹.

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As per *Charakacharya*, the predominance of *dosha* at the time of garbhadharana leads to its expression in the form of specific set of characteristics and known as *prakriti* of an individual¹. The role of *doshaguna* in appearance of various characteristics is explained by *Charakacharya*. In this study one of such lakshana called 'swedapravrutti' is focused.

For *pitta prakriti*,the ' *dravaguna*' of *pitta* is responsible for few characteristics like – less muscular tone, soft joint tissue, **more sweating tendency**, large amount of passing urine and faeces².

For *kaphaprakriti*, the '*sheetaguna*' of *kapha* creates less hunger and little tendency of drinking. It also causes calm nature &**less sweating** in *kaphaprakriti* individuals³.

For *vataprakriti*, in *Charaksamhita*, there is no characteristic mentioned regarding swedapravrutti of *vataprakriti* individuals.so it will also be point of interest to see how the nature of sweating in *vataprakriti* individuals.

The *panchamahabhuta* are responsible for everything in nature. In the same context they cause occurrence of *guna*. These *guna* in *prakriti* develops specific set of features of *prakriti*. In case of *pittaprakriti*, *dravaguna* is formed by *jalamahabhutadhikya* and causes more sweating tendency². For *kaphaprakriti*, *sheetaguna* is developed from *Jala&vayumahabhutadhikya*causes less sweating³.

Dosha, dhatu& mala are the basic components of human body. Out of these, sweda is included in mala category. In this research work the swedapravruttias per prakriti is considered.

In modern science when body temperature rises, the sympathetic nervous system stimulates eccrine sweat glands to secrete water to skin surface where it cools the body by evaporation. Thus, sweating is important mechanism for temperature regulation. Practically it is observed that peoples living in same environmental conditions have variation in sweating tendency. Now curiosity arises in mind that whether sweating tendency of individuals varies as per *prakriti*?If so happens, it will also affect fluid intake of person. For these reasons this topic is selected for research work.

AIM- To study swedapravrutti in pitta pradhan&kaphapradhanPrakriti individuals.

OBJECTIVES-

- 1. To study the concept of *prakriti* from *Charaksamhita* in detail.
- 2. To study swedapravrutti as per prakriti from Charaksamhita.
- 3. To study relation between concept of swedapravrutti& concept of prakriti.
- 4. To study physiology of sweating from modern science literature.
- 5. To observe sweating tendency with the help of questionnaire (Annexure III)
- 6. To examine the *prakriti* according to the M.U.H.S. proforma (Annexure V)
- 7. To establish relationship between *swedapravrutti* and *prakriti* of individual from data collected.

LITERATURE REVIEW-

A). Ayurvedic literature review-Prakriti

Defination of prakriti-

Prakriti is phenomenon of reflecting own body constitution.

At the time of 'garbhadharana' the predominance of one or more dosha is responsible for expression of that particular dosha in prakriti. Such predominance of doshaforms doshaprakritiof an individual. The role of doshaguna in appearance of various lakshanasof prakriti is specially highlighted by AacharyaCharak¹.

Factors responsible for *prakriti* –Sperm& ovum, season & condition of Uterus, diet & habits of mother. *Mahabhuta*¹

Types of Prakriti:-

Doshajprakriti¹-• Vataj• Pittaj•Kaphaj

- Combination of vatajand pittaj Combination of pittajand kaphaj
- Combination of kaphaj and vataj• Combination of vataj, pittaj and kaphaj

GunajaPrakriti⁴-

- i. Satvaja a) Brahma b)Aindra c)Varuna d) Kaubera e) Gandharava f) Yamyag) Arsa
- ii. Rajas a)Asura b)Rakshasa c)Paisaca d)Preta e)Sapra f)Sakuna
- iii. Tamas a) Pashava b) Matsya c) Vanaspatya

Jatyadiprakriti⁵

These are the types of *prakriti* described as per characteristics inherited with particular aspects like race, habitat etc.

This consist of following types

- Jatiprasakta. Kulaprasakta deshanupatini Kalanupatini
- Vayanupatini. balanupatini Pratyatmaniyata.

Characteristics of pitta prakriti in Charakasamhita-

Charaksamhita mentioned the set of *Prakritilakshanas* as per *guna* of concern *dosha*. Particular *dosha* creates certain positive characteristics in *prakriti*.

- *Drava*-The *dravaguna*develops looseness & softness of joints, muscles. **More sweating**, passinglarge quantity of urine, faeces².

Characteristics of Kaphaprakritiin Charaksamhita-

Kapha has its own guna, reflecting its effect in kaphaprakriticharacteristics.

• **Sheeta** (cold) –Sheetaguna of kapha develops lack of hunger. It also creates less thirst or tendency to drink less water in kaphaprakriti individuals. **Sheetaguna** of kaphadevelops less angry nature &minimum sweating conditions in kaphaprakriti person³.

Literary review of Sweda-

Formation and nature of sweda-

Dosha, *dhatu& mala* are the basic components of human body. Of these; *mutra*, *purisha* are *Aaharmala* and *sweda*is grouped in *Dhatumala*category (Medadhatu mala) ⁶.

Sweda is excreted through skin.

Sweda and Pitta-Sweda is ashraysthanafor pitta dosha.

Swedavahasrotas-Mulasthana- Principle organs of Swedavahasrotas are Meda, dhatu & lomkupa (hair follicle)⁸

Fluid due to heat is thrownout from body through body hair follicles, is called 'Sweda'

Functions of sweda-

- -Tomaintain the moisture of entire body is one of the chief functions of 'Sweda'. Alternate word used for kleda or moisture is kesha or hair. Ayurveda believes that due to sweat, hair become more stable.
- -It also lustres the skin.

Swedavahasrotodushtihetu⁸-

Excess exercise, very hot environment, consumption of very hot substances, anger, and fear are the factors interferes in abnormal functioning of *swedavahastrotas*.

Swedavahasrotodushtilakshan-8

It causes excessive or no sweating. This leads to very oily or dry skin texture, burning sensation of skin.

Swedayruddhi-9

When *sweat* is generated in extra amount, body stinks with smell of *sweat*, it itches. *Sweda*kshaya-⁹

Due to waning of sweat hair follicles fall, goose bears on skin are absent; skin becomes dry, rough.

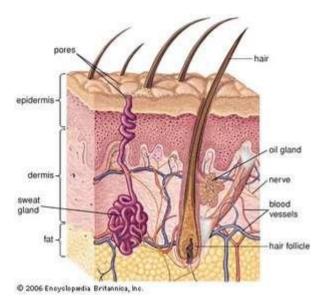
B] Physiology of sweating-

Skin is the largest organ in human body. It performs various functions. Of these sweating is considered in this research work. Modern science elaborates sweating physiology in context of glands of skin, its types and functions, sweat secretion and composition etc.

Glands of skin-

The skin contains two types of glands namely sebaceous gland & sweat glands.

Image-



Sebaceous gland-

Structure-

- 1) These are ovoid or spherical in shape and are situated at side of hair follicle. Sebaceous glands are absent over thick skin such as palm and sole.
- 2) The alveoli of gland are lined by stratified epithelium cells.
- 3) These glands open into the neck of hair follicle through a duct.

Secretion-

The secretion of sebaceous gland is called sebum which is formed by liquefaction of alveolar cells & poured out through ducts either by hair follicle or directly into exterior.

Composition-

Free fatty acids, triglycerides, sterol, waxes and paraffin.

Functions-

- Prevent infection of skin by bacteria and fungi.
- Sebum keeps skin smooth& oily. It protects skin from unnecessary desquamation and injury caused by dryness.
- Prevent heat loss from body.

Sweat glands-

Sweat glands are of two types- 1) eccrine glands

2) Apocrine glands

Eccrine glands-

Distribution- these glands are distributed throughout the body.

Structure-

- Eccrine gland is tubular coiled structure in which the coiled part lies deeper in dermis. It secretes sweat.

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- A duct portion passes through dermis & epidermis.
- Columnar epithelium cells are secretory in nature.

Secretory activity of eccrine glands-

- It secretes a clear watery sweat throughout life since birth. The secretion varies as per temperature and emotional conditions.
- It is supplied with sympathetic cholinergic fibres.

Sweat- $p^H - 4$ to 6.8

Specific gravity- 1.001 to 1.008

Components- water (99%)

Sodium chloride, potassium, amino acids, bicarbonates, urea, lactic acid.

Normal volume- 100 ml/day

Variations- it depends on exercise, climate and temperature.

Functions-

- Temperature regulation of body is prime functions.
- -Maintaining water balance & water excretion.
- reduces growth of microorganism.

Apocrine glands-

Distribution- axilla, pubis, areola, umbilicus.

Structure- coil portion lies in dermis and ducts open into hairFollicle.

Secretory activity-

- These glands are non-functional still puberty.

In old age the function of glands gradually declines.

- The secretions are thick, milky, and odourless. The microorganisms develops odour.
- These glands do not play role in temperature regulation.
- These glands are innervated by sympathetic adrenergic fibres.
- Secretory activity is under control of adrenaline.
- Mammary glands, glands of external auditory meatus are modified apocrine glands.

MATERIAL

1)Literature study material

Ayurvedic Compendia-Mainly Charaksamhita, Previous work done, research paper, articles related with sweda,

Modern literature related with physiology of sweating.

2) Observational study material-

- Written informed consent form was taken for volunteer's consent prior to solve questionnaire.
- -This observational study was conducted with the help of questionnaire for *sweda*& attached as an annexure.
- The *prakriti* of an individual is evaluated with the help of M.U.H.S. proforma which is attached as annexure.

Place of work- Respective Institute

Sample size-30 individuals were selected for this study.

Type of Study Design- Observational study (Descriptive)

Sampling Technique-Purposive sampling was conducted. Volunteers were selected according to inclusion & exclusion criteria to get desired number of sample.

Inclusion Criteria

- 1. Apparently healthy volunteers.
- 2. Males & females of age group 18 to 30Years.

Exclusion Criteria

- 1. Individuals with strenuous jobs, strenuous exercise.
- 2. Individuals with abnormal sweating i.e. showing swedavruddhior swedakshayalakshan

PLAN OF WORK

- 1. Conceptual Study previous work done
 - Conceptual study from *Charaksamhita*.
 - Physiology of sweating.
- 2. Observational study with help of questionnaire.

METHODOLOGY

- 1. Literature study was done from Ayurveda &modern literature.
- 2. All Volunteers were screened as per inclusion and exclusion criteria to get sample size 30
- 3. Written informed consent was taken from volunteers
- 4. Volunteers were asked to solve questionnaire designed for swedapravrutti
- 5. Prakriti of all the volunteers was decided with the help of M.U.H.S.proforma

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- 6. Statistical analysis was done on collected observational data
- 7. Observations were noted regarding relation of swedapravrutti&prakriti
- 8. Suitable conclusion was drawn.

STATISTICAL ANALYSIS

Table 1: Age

AGE	Frequency	Percentage
18 to 21	-	0
21 to 24	08	26
24 to 27	13	43
27 to 30	09	31
Total	30	100.0

Graph 1: Frequency distribution of age

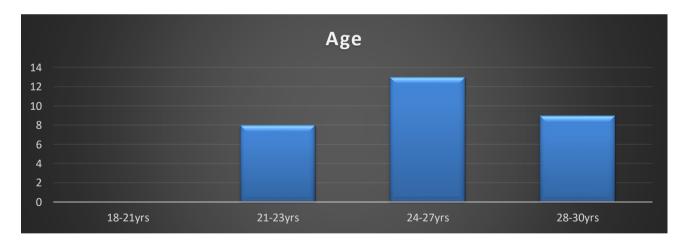


Table 2: Sex

SEX	Frequency	Percentage
Female	10	33
Male	20	67
Total	30	100.0

Graph 2: Frequency distribution of sex



Table 3: PRAKRITIVINISCHAYA

PRAKRITIVINISCHAYA	Frequency	Percent
KAPHA-PITTA	06	20
KAPHA-VATA	04	13
PITTA-KAPHA	08	26
PITTA-VATA	05	16
VATA-KAPHA	03	10
VATA-PITTA	04	13
Total	30	100.0

Graph 3: Frequency distribution of Prakritivinischaya.



Table 4: Scores of A

Scores of A	Frequency	Percent
0 to 3	01	06.6
4 to 7	14	93.34
Total	15	100.0

Graph 4: Frequency distribution of Score 'A'



Table 5: Scores of B

Scores of B	Frequency	Percent
0 to 3	02	13.34
4 to 7	13	86.66
Total	15	100.0

Graph 5: Frequency distribution of Score 'B'



Percentage Significance-

A) Vataprakriti and score of; 'A' and score 'B'

No. of *Vata Pradhan prakriti* individuals = *Vata Pradhan pitta* (04) +*Vata Pradhan kapha* (03) = 07

Vata Pradhan prakriti with score 'A' i.e. prabhutaswedapravrutti =03

Percentage= 42.85%

Vata Pradhan prakriti with score 'B' i.e. alpaswedapravrutti =04

Percentage= 57.14%

Conclusion-

42.85% of *VataPradhan Prakriti* individuals are found to have *prabhutaswedapravrutti* while 57.14% of *VataPradhan Prakriti* individuals are found to have *alpaswedapravrutti*.

B) Pitta prakriti and score of; 'A' and score 'B'

Number of *Pitta Pradhan Prakriti* individuals = *Pitta Pradhan kapha*(08) + *Pitta Pradhan vata*(05) = 13

Pitta Pradhanprakriti with score 'A' i.e. prabhutaswedapravrutti= 10

Percentage= 76.92%

Pitta Pradhanprakriti with score 'B' i.e. alpaswedapravrutti =02

Percentage= 15.38%

Other-Pitta Pradhanprakriti with non-significant score of 'A' & 'B'=01

Percentage=7.69%

Conclusion-

76.92 % of *Pitta Pradhanprakriti* individuals are found to have *prabhutaswedapravrutti* while 15.38 % of *Pitta Pradhanprakriti* individuals are found to have *alpaswedapravrutti*.

C) Kaphaprakriti and score of; 'A' and score 'B'

Number of *KaphaPradhanprakriti* individuals = *kapha Pradhan pitta* (06)

+ kapha Pradhan vata (04) = 10

KaphaPradhanprakriti with score 'A' i.e. *prabhutaswedapravrutti* = 02

Percentage= 20 %

*KaphaPradhan Prakriti*with score 'B' i.e. *alpaswedapravrutti* = 10

Percentage= 80%

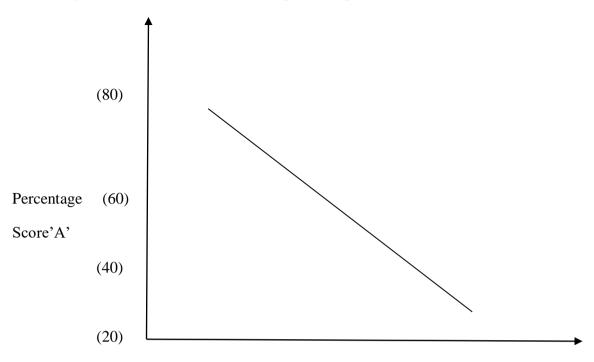
Conclusion-

80% of *KaphaPradhanprakriti* individuals are found to have *alpaswedapravrutti*while 20 % of *KaphaPradhanprakriti* individuals are found to have *prabhutaswedapravrutti*.

Table no.6- Summary of percentage

Prakriti	Score 'A'	Score 'B'	
Vata Pradhanprakriti	42.85	57.14	
Pitta Pradhan prakriti	76.92	15.38	
Kapha Pradhan prakriti	20	80	

Percentage Plot 1:Prakritivinischaya vs. percentage of score 'A'



Pitta vatakapha(Prakriti)

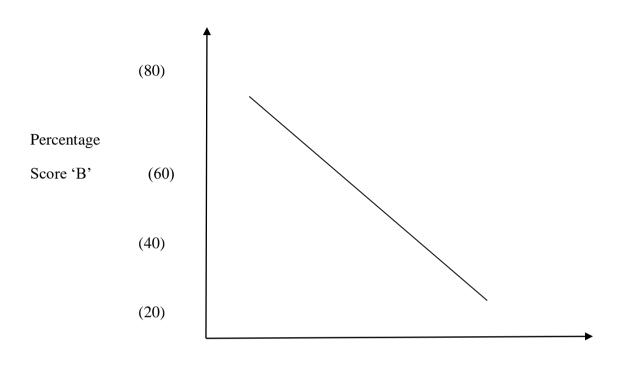
Summary:

The percentage plot suggests that the percentage values of scores of A are highest for *Pitta prakriti*, then for *Vataprakriti*& lastly for *Kaphaprakriti*

Percentage Plot:

The percentage plot showing the percentage values of scores of B according to *prakriti* is as given below.

Percentage Plot 2: Prakritivinischayavs. percentage of score 'B'



Summary:

Kaphavata

The percentage plot suggests that the percentage values of scores of 'B' are highest for *Kaphaprakriti*, then for *Vataprakriti*& lastly for *Pitta prakriti*.

DISCUSSION

The conceptual study along with observational study materials provides concrete platform to prove particular phenomenon. The topic is explained with the help of following headings-

Discussion about the selection of topic- Thermoregulation is one of the vital physiological functions in human body. Beside thalamus, hypothalamus; sweating works for bringing back temperature of body to normal. In day today life, it is seen that some individuals have more sweating tendency in spite of small rise in environmental temperature. On the other hand, there are some individuals with very little sweating tendency though there is hot environment. Also, there is variation in sweating among individuals living in same environmental conditions. What could be the possible reason for *swedapravrutti* variation from person to person? What affects the sweating of human beings? The concept of *prakriti* in Ayurveda has answers for such questions. The concept of swedapravrutti is described as one of the attributes of *prakriti* and it shows variation as per *prakriti* of individuals.

Prakriti of an individual can be evaluated as one of the factors affecting sweating tendency of individuals. For these points of interest, this topic is selected for research work.

Discussion on sweda-

As per Ayurveda, human body consist of three vitals constituents. These are *dosha*, *dhatu* and *mala*. The three *dosha*, seven *dhatu*& three *mala* are responsible for normal body processes. Of these *sweda* is considered in the present study. It is included in category of *mala*. Further, it is included in *sthula mala*. It is also *upadhatuofmedadhatu*. *Sweda* maintains moisture of body and keeps it soft. It does *kledavahan karma*. *Sweda* is *ashrayasthan* for *pitta dosha*. *Sweda* is composed of *Jalamahabhutadhikya*. The *swedapravrutti* is one of the attributes of *prakriti* and included in *sharirkriyatmak* points.

From above explanation the importance of *sweda* in *sharirkriya* is clear. In modern science, sweating is one of the important phenomenons in temperature regulation of human body. Eccrine sweat gland is the major site of sweat secretion.

Discussion on relation between Prakriti&Swedapravrutti-

Prakriti is vital concept of Ayurveda that explains uniqueness of an individual. *Prakriti* is particular composition of *doshas*at the time of zygote formation that is permanent and remains unchanged throughout the life. The evaluation of anatomical, physiological and psychological characteristics forms base of treatment. Thus, Ayurveda emphasize evaluation of individual for perfect management of health and disease.

The doshajprakritiof an individual is categorized as Vatapradhan-pittaj, Vatapradhan-kapha, Pitta pradhan-vataj, Pitta pradhan-kaphaj, Kaphapradhan-vataj, Kaphapradhan-pittaj. As per Charakacharya, gunas of the concern dosha of prakriti are the cause for appearance of various lakshanas in prakriti.

It can be summarized as below

Prakriti	Guna	Swedapravrutti
Vata	_	_
Pitta	Drava	Prabhutsweda
Kapha	Sheeta	Alpasweda

The dravaguna of pitta is similar to drava nature of sweda. Also, the sweda has dravamahabhutadhikya. The dravaguna pitta leads to prabhuta swedapravrutti. In contrast with above explanation, the kapha has sheetaguna which has mainly sthambhan karma. This leads to alpaswedapravrutti in kaphaprakriti person. The vishamguna of vata sometimes causes prabhutasweda and sometimes leads to alpasweda. The tabulated variation of swedapravrutti as per various prakriti is elaborated with the observational data.

Discussion on Observations –

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In this study following discussion is plotted as per observation data collected.

Age & sex-

In this study maximum individuals were found according to the age group in between 24 to 27 yrs. i.e. 43% & gender wise male category is maximum that is 67 %.

Various prakriti observations-

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Vatakapha- 10%, vata pitta-13%,
Pitta vata-16%, pitta kapha-26%
Kapha vata-13% kapha pitta-20%
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Questionnaire score observation-

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For option 'A',

0 to 3 = 01 individual, 06.6\%

4 to 7 = 14 individuals, 93.34\%

For option 'B'

0 to 3 = 02 individuals, 13.34\%

4 to 7 = 13 individuals, 86.66\%
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From statistical analysis, it is observed that there is significant difference in scores of 'A' and scores of 'B'.

- i) The percentage values of scores of 'A' are highest in *pitta prakriti*, then for *vataprakriti*& lastly for *kaphaprakriti*.
- ii) The percentage values of scores of 'B' are highest in *kaphaprakriti*, then for vata*prakriti*& lastly for *pitta prakriti*.

This assessment strongly supports positively mentioned 'prabhutswedapravrutti' in pitta prakriti as well as 'alpaswedapravrutti' in kaphaprakriti. As per questionnaire score, there is no significant association between vataprakritiand scores of 'A' & 'B'. The vataprakriti cannot be categorised in prabhutswedaor alpaswedapravrutti.

CONCLUSIONS

1) Sweda pravrutti varies as per prakriti. There is significant difference in scores of A & scores of B according to prakriti.

- 2) *Pitta pradhanprakriti* has '*prabhutswedapravrutti*' i.e. more sweating tendency. The percentage values of scores of 'A'are highest for *Pitta pradhanprakriti*& least for *Kaphapradhanprakriti*.

 76.92% of *Pitta Pradhanprakriti* individuals are found to have *prabhutswedapravrutti*.
- 3) Kaphapradhanprakriti has 'alpaswedapravrutti'. The percentage values of scores of 'B'are highest for Kaphapradhanprakriti& least for Pitta pradhanprakriti.

80% kapha Pradhan prakritiindividuals showed 'alpaswedapravrutti'.

4) There is no significant relation between swedapravruttiand *Vatapradhanprakriti*. There is no significant association between *Vatapradhanprakriti* and Scores of 'A'& Scores of 'B'.

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