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OBSERVATIONAL SURVEY STUDY OF RASA-ATYIYOGA**Dr.Vivek M.Gokhale ,**

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Abstract- This human body is maintained for lifetime by proper intake of proper food.

So for perfect *Chikitsa*, It is very important to know the main *Rasa* of each and every *Aahardravya* to define its exact action on specific *Dosha*. This relation between *Rasa* and *Dosha* is termed as *Rasa-Dosha Sambandha* or *Rasa-Dosha* correlation. Correlation is a relationship in which one thing affects or depends on another. For proper treatment one should know the exact relation between *Dosha* and *Rasa* whether favorable or unfavorable.

Cohort Retrospective study is analytical (observational) study which is usually undertaken to obtain additional evidence to refute or support the existence of an association between suspected cause and disease. The purpose of this Retrospective study was to correlate or to find any relation between *Atiyoga* of each *Rasa* and various *Lakshana* of specific *Dosha* if any found in Volunteers taken for this study.

Key words- *Rasa- Dosha* relation, *Atiyoga*, Retrospective observational study**INTRODUCTION**

The human body is maintained for lifetime by proper intake of proper food. Though this food exists outside the human body, but according to *Panchabhautika* theory it is also made up of *Panchamahaabhoota*. (1) *Aahara* maintains *Prana* in the body which is responsible for life. Both are *Panchabhautika* in nature and exert effect on each other.(2)

This *Aahara* sustains or maintains human body by its different

attributes or *Rasapanchaka*. (3) *Rasa* of specific *Aahardravya* is more important in this process. The balance of six *Rasa* should be maintained for well being . (4) It is termed as *Samyakyoga*. Improper consumption of any *Aahardravya* having specific *Rasa* exerts either *Ati/ Mithya* or *Heenayoga* of that specific *Rasa* which results in balance of *Dosha*. Being *Panchabhautika* in origin, this *Aahaara* has direct action on *Panchabhautika* components of the human body like

Dosha-Dhatu-Mala according to *Samanya-Vishesha* theory.

So for perfect *Chikitsa*, it is very important to know the main *Rasa* of each and every *Aahardravya* to define its exact action on specific *Dosha* as these are related to each other. Without the clear knowledge about this interrelation between *Rasa* and *Dosha* one is not able to diagnose as well as treat the patient. Each patient has individual characters and should be diagnosed and be treated individually. Two patients of the same diagnosis may not be treated by same medicine. Many other factors like *Doosha-Desha-Bala-Kala-Anala-Prakruti-Vaya-Sattwa-Satmya-Aahara-Avastha* are also contributing.(5) So for proper treatment one should know the exact relation between *Dosha* and *Rasa* whether favorable or unfavorable.

A special Retrospective survey study had been done to support this literary study concept.

Cohort Retrospective study is analytical (observational) study which is usually undertaken to obtain additional evidence to refute or support the existence of an association between suspected cause and disease.

In epidemiology, the term 'Cohort' is defined as a group people who share a common characteristic or experience within a defined time period (e.g. age, occupation, exposure to a drug or vaccine, pregnancy etc.) The comparison group may be the general population from which the cohort is drawn ,or it may be another cohort of persons thought to have had little or no exposure to the substance in question, but otherwise similar.

The distinguishing features of Cohort studies are 1-the cohorts are identified prior to the appearance of the disease under investigations 2.the study groups, so defined, are observed over a period of time to determine the frequency of disease among them 3.The study proceeds forward from cause to effect. These criterias are used to design the retrospective observational survey study to support the study of *Rasa-Dosha* correlation .

The purpose of this Retrospective study was to correlate or to find any relation between *Atiyoga* of each *Rasa* and various *Lakshana* of specific *Dosha* if any found in Volenteers taken for this study. *Aahara* is composed of *Shadrasa*. It has been mentioned as one of the '*Vyapaka Hetu*' of all

Vyadhi. So efforts have been made to see any correlation of *Shadrasatmaka Aahara* and *Dosha Lakshana* with the help of this study.

It is also needed to prove this concept of relation between *Rasa* and *Dosha* with the help of survey study. This was the rationale behind selection of this topic

So study was done with the hypothesis -Two variables are associated (i.e dependent) i.e *Rasasevana* and *Doshalakshana* are associated.

Materials-

1000 Volunteers of age between 08 to 75

Methodology of Retrospective Study-

Charaka Samhita has been taken as main or centralized idea for the discussion chapter in this Thesis. So *Atiyoga Rasalakshana* described in *Charaka Sootrasthana Adhyay 26* was used to draw this special case paper.

- 1000 Volunteers of age between 08 to 75 and of either sex with their consent were selected randomly for this survey. Since the age group under study was very large; to minimize the errors large sample size was selected. According to statistics if 1% error is

accepted then minimum sample size required was 990. Hence 1000 Volunteers were selected.

- A detailed history of *Aahara-Dravyatah* (Bhat,Poli,Bread,Bhaji),*Gunatah*,(Gurva di), *Rasatah* (Any) of each patient was taken. This history was taken for minimum 1 month. *Aahara* shows its effect *Hita* or *Ahita* on *Shukradhatu* after the period of minimum 1 month. So history of *Aahara* for minimum 1 month was taken. In the case of aged Volunteers (Above 70 yrs) efforts were taken to observe history of *Aahara* by asking their close relatives also wherever needed.
- *Annakala* or the time for meal is different for each person. Generally each person takes breakfast in the morning, lunch in the afternoon and dinner at night. Thus three *Annakala* are common. But this time may differ from person to person. *Annakala* of persons doing daily night duties is totally different. While taking the case of each volunteer for the survey the history of *Aaharadravya* with reference to these main 3 *Annakala* was observed. Thus observations about minimum 90 *Annakala* of each volunteer in a month were recorded. Observation about consumption of

snacks other than these 3 main *Annakala* was also recorded to check the effects of specific *Rasasevana*.

- If any Volunteer showed minimum 75% *Lakshana* of *Atiyoga* mentioned in *Samhita*, it was considered as *Atiyoga* of specific *Rasa*. e.g. Total 25 *Atiyoga Lakshana* of *Madhura rasa* are mentioned in *Samhita*. If Volunteer showed minimum 18 *Lakshana*, it was termed as *Atiyoga* of *Madhura rasa*. The same method was applied for other *Rasa* also.
- Approach of *Ayurveda* to examine any person whether *Swastha* or *Aatura* is individual. *Aahara* consists of many types of foods having combination of many *Rasa*. So to observe the history of *Aahara* in each person is quite different as well as difficult. So emphasis was given to observe *Atiyoga Lakshana* of specific *Rasa* mentioned in *Charaka Samhita Su.26* which was present in Volunteers at the time of case taking. If a volunteer consumes specific *Rasa* for at least 60 *Annakala* or more than that in a month and if showing any *Lakshana* of specific *Rasa* then it was named as '*Atiyoga*'.
- *Lakshana* of *Atiyoga* of *Rasa* mentioned in *Charaka Su .26* were

written in a tabular form in the casepaper. The grade of 0 and 1 were used to observe these *Lakshana*. 0 means –*Lakshana* not present at the time of case taking. 1 means-*Lakshana* present at the time of case taking.

- *Hina* and *Mityyayoga* are not mentioned clearly. It is advised to see these *Yoga* by different *Lakshana*. These all *Yoga* are interrelated. Person having *Lakshana* of *Madhura Atiyoga* may show different *Lakshana* of *Vatakshaya*. But it is quite difficult to check these *Lakshana* as *Samprapti* is *Dwidoshaja* or *Tridoshaja*. Estimation of *Mithyayoga* is also difficult. So in this Retrospective survey study present *Atiyoga Lakshana* in Volunteers and their history of *Aahara* of certain *Rasa* was observed mainly. Many *Lakshana* of *Atiyoga* of each *Rasa* are mentioned in *Samhita*. All *Lakshana* are not found in survey. Similar *Lakshana* has also been mentioned for different *Rasa*. In that case history of specific *Rasa* was applied for that *Lakshana*.
- Assessment of various *Atiyoga Lakshana*
 1. *Sthoulya* were assessed with the help of Height-Weight chart and all who were showing various *Lakshana*

of *Sthoulya* mentioned in *Charaka* were considered as *Sthula*.

2. *Aalasya*, *Atiswapna*, *Gaurava*, *Anannabhilasha* etc were subjective criteria. So the grade of 0 and 1 were used to observe these *Lakshana*

3. Enlargement of Tonsils was observed to assess *Mansabhivruddhi*.

4. History of episodes of *Shwasa-Kasa* and *Pratisshaya* were asked to Volunteers. 5. *Upalepa* was assessed by examining coating on Tongue.

6. *Dantaharsha* was subjective.

7. *Trushna* was checked by asking about increased frequency of drinking water. 8. *Kaphanishivana* was assessed by asking excessive secretion from mouth or *Lalastrava*.

9. *Raktadooshana* and *Pittakopa* was assessed by asking the history of *Lakshana* of *Raktadushti* like *Vidradhi*, *Pitika*, *Mukhapaka*.

10. History of *Mukhashotha* or *Padashotha* was asked to assess *Shwayathu*.

11. *Khalitya* and *Palitya* were assessed by subjective criteria.

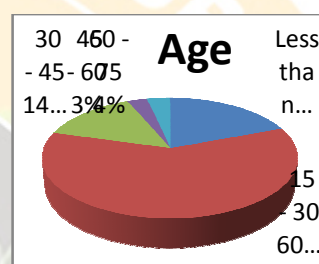
12. *Amlapitta* and *Vicharchika* were assessed by Textual parameters.

13. *Sadana*- *Kanthadaha*, *Aasyashosha*, *Bheda* were also subjective.

14. *Karshana* was assessed by the history of reduction in weight.

- With the help of observed data the relation between *Rasa* of *Aahara* and *Lakshana* of *Dosha* if any were observed by using Chi-square test of Independence.

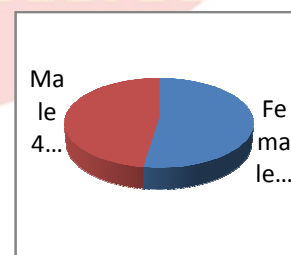
• OBSERVATIONS and RESULTS-



Age wise distribution of 1000 Volunteers

Age	Number
8-15	193
15 - 30	601
30 - 45	143
45 - 60	29
60 - 75	34

SEX



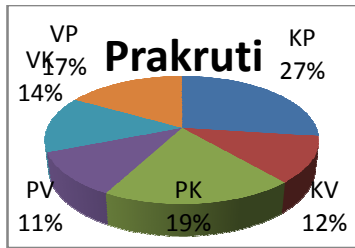
Sexwise distribution of 1000 Volunteers

Sex	Number
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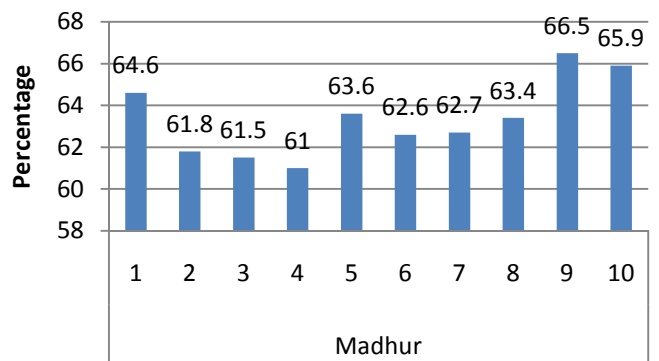
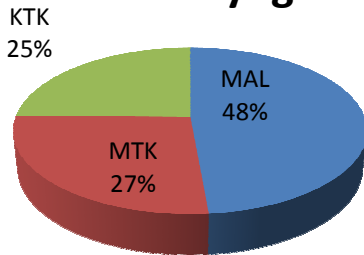
Female	524
Male	476

Doshaprakopwise**distribution of 1000 volunteers**

K	354
P	316
V	330

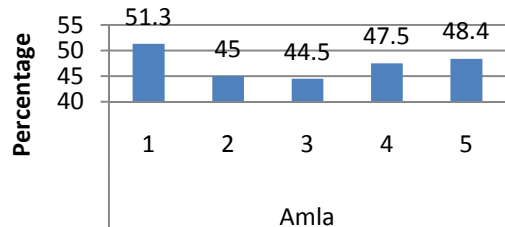
**distribution of 1000 volunteer**

Prakruti	Number
KP	270
KV	117
PK	191
PV	112
VK	143
VP	167

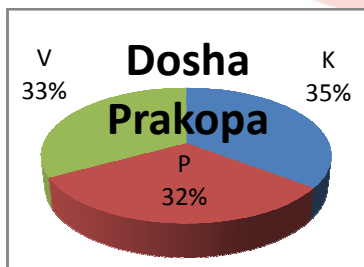
Graph of % of volunteers in Madhur Atiyoga lakshana**Rasa atiyoga**

Rasa	Aahara atiyoga
MAL	486
MTK	266
KTK	248

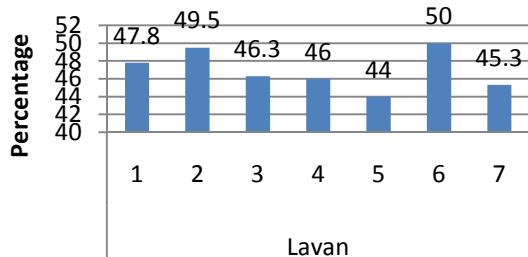
1. Sthoulya.
2. Aalasya
3. Atiswapna
4. Gaurava
5. Anannabhilasha
6. Mansabhivruddhi
7. Shwasa
8. Kasa
9. Pratishshaya
10. Upalepa

Graph of % of volunteers in Amla Atiyoga lakshana

1. Dantaharsha.
2. Trusha
3. Kaphavilapana
4. Raktadooshana
5. shwayathu

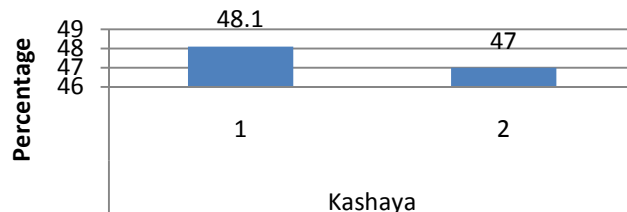


Graph of % of volunteers in Lavan Atiyoga lakshana



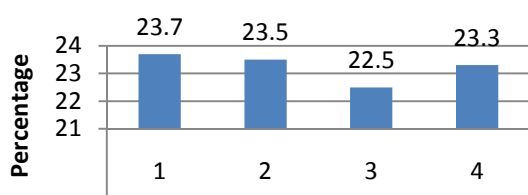
1.Trusha 2.Pittakopa 3.Tapa 4.Palitya
5.Khalitya 6.Amlapitta 7.Vicharchika

Graph of % of volunteers in Kashaya Atiyoga lakshana



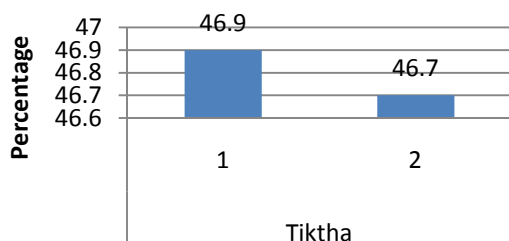
1.Aasyashosha 2.Karshana

Graph of % of volunteers in Katu...



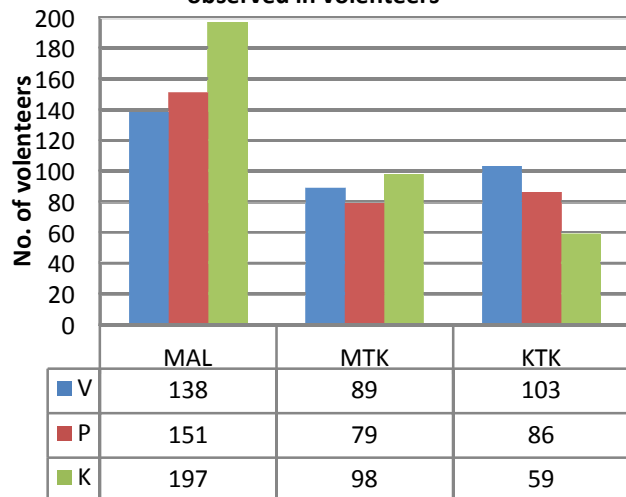
1.Sadana 2.Shariratapa 3.Kanthadaha
4.Bheda

Graph of % of volunteers in Tikta Atiyoga lakshana



1.Aasyashosha 2.Balakshaya

Classification of Rasa and Dosh Lakshana observed in volunteers



Contingency Table

Dosha	MAL	MTK	KTK	Total
V	138	89	103	330
P	151	79	86	316
K	197	98	59	354
Total	486	266	248	1000

STATISTICAL ANALYSIS

Contingency Table

Dosha	MAL	MTK	KTK	Total
V	138	89	103	330
P	151	79	86	316
K	197	98	59	354
Total	486	266	248	1000

Rasasevana either *Madhura-Amla-Lavana* (MAL) or *Madhura-Tikta-Kashaya* (MTK) or *Katu-Tikta-Kashaya* (KTK) is observed in each patient but which makes things difficult as each patient comes in each group of MAL /MTK/KTK. But to check the concept only *Atisevana* is considered as leading factor. After creating such data, Chi square test of Association is applied to test the hypothesis that-

H-Two variables are not associated (i.e independent) i.e *Rasasevana* and *Doshalakshana* is independent. Versus- H1-Two variables are associated (i.e dependent) i.e *Rasasevana* and *Doshalakshana* are associated.

Chi square calculated = 22.90, Chi square table = 13.27, P value = 0.0001325, d.f. = 4

Since P value is less than 0.01, we are accepting H1. Hence we can conclude that *Rasa Atisevana* have significant effect on *Doshalakshana* observed.

DISCUSSION-

A special case paper for the Retrospective survey study had been prepared to support this literary study of '*Rasa-Dosha relation*'.

Out of 1000 Volunteers maximum Volunteers were found in the age group of 15-30 while minimum Volunteers were from the age group of 60-75.

Female Volunteers are more (524) than Male Volunteers (476)

Kaphapitta Prakruti Volunteers were maximum (270) while Pittavata Prakruti were minimum (112).

486 Volunteers consumed Aahara of Madhura-Amla-Lavana rasa. 266 consumed Aahara of Madhura-Tikta-Kashaya while 248 Volunteers consumed Aahara of Katu-Tikta-Kashaya mainly.

Out of 1000 Volunteers, 354 showed Atiyoga Lakshana related to Kaphaprakopa mainly. 316 Volunteers showed Atiyoga Lakshana related to Pitta while 330 showed Atiyoga Lakshana related to Vata mainly.

After analyzing the data of all Volunteers it was observed that *Atiyoga Lakshana* of mainly *Madhura* and *Amla-Lavana Rasa* were found. It is also observed that these Volunteers were consuming *Aahara* of this *Rasa* mainly. *Lakshana* of *Samayoga* and *Hinayoga* were not found significantly. Discussion of main observed *Lakshana* has been done.

1. **Madhurarasa-**

Main *Aaharadravya* observed are *Dugdhavikruti* like Paneer, Khava, Bengali Mithai, Milkshakes, Chocolates, Sabudana, Fruitsalad, Icecream, Udid dal. Volunteers with these causative factors show some *Lakshana* of *Madhurarasa Atiyoga* as well as *Kaphaprakopa*.

1. **Sthoulya-** Overweight Volunteers according to the Height-Weight chart and all who were showing various *Lakshana* of *Sthoulya* mentioned in *Charaka* were considered as *Sthula*. 64.6% Volunteers were found *Sthula*. They mainly showed higher consumption of Sabudana, Potato, and South Indian food like Uttapa or Masala dosa mainly. It is a *Lakshana* of *Kaphaprakopa*.

2. **Aalasya-**It is a subjective *Lakshana*. It is a *Lakshana* of

Kaphaprakopa. It is mainly observed in 61.8% Volunteers taking *Dugdhavikruti* as well as Cheese mainly in excess.

3. **Atiswapna-**It is also a subjective criteria and one of the *Lakshana* of *Kapha*. Volunteers were asked for the need for excessive sleep irrespective of sleep for normal period. 61.5% Volunteers showed excessive consumption of *Dugdhavikruti* which is *Guru* in nature.

4. **Gaurava-**Feeling of heaviness is named as *Gaurava*. It is a subjective *Lakshana*. 61% Volunteers showed history of Cheese, Pizza, Milkshakes.

5. **Anannabhilasha-**63.6% Volunteers having the consumption of *Dugdhavikruti* like Paneer or *Kilata* showed this *Lakshana* mainly. *Kilata* is *Guru*, *Brunhana* and *Kaphakara* in nature. In excess it creates *Mandagni* which leads to *Anannabhilasha*.

6. **Mansabhivruddhi-**Abnormal growth of *Mansadhātu* at various places is named as *Mansabhivruddhi*. 62.6% Volunteers showed *Gilayuvruddhi* mainly. Excessive consumption of Paneer as well as fruits like banana, fruitsalad and milkshakes was observed in these Volunteers mainly.

7. **Shwasa-Kaphapradhana** *Tamakashwasa* was observed in 62.7% Volunteers consuming Milkshakes or Icecreams and Dosa.

8. **Kasa -Kaphapradhana** *Kasa* was found in Volunteers who were consuming *Madhurarasa Dravya* like Jam or Jelly. 63.4% Volunteers also showed this *Lakshana*.

9. **Pratishyaya**-66.5% Volunteers showed recurrent history of *Pratishyaya*. It is found in the Volunteers at the age of 10 to 12 years mainly. This age comes under the dominance of *Kaphadosha*. History of *Madhura Atisevana* like Bengali Mithai, Cold drinks, Chocolates was found in these Volunteers.

10. **Upalepa**-65.9% Volunteers showed Upalepa of Jivha mainly. It is due to excessive intake of *Madhura Aahara* having *Guruguna* like *Kilata*.

2. **Amlarasa-**

Main *Aaharadravya* observed are- Pickles, Dadhi, Tomato, Methi, Cold drinks.

1. **Dantaharsha**-51.3% Volunteers showed this *Lakshana* consuming excessive amount of Pickles mainly. Volunteers also showed excessive intake of aerated coldrinks which contains acids. *Vishadaguna* of

Amlarasa in excess is a causative factor for this *Lakshana*.

2. **Trusha**-This *Lakshana* has also been mentioned in *Atiyoga* of *Lavana*, *Tikta* and *Kashaya rasa*. But 45% Volunteers showed the history of *Amlarasa* like Tomato, Sauce as well as bakery products mainly. Many bakery products are made up of Maida (Samita) which is *Gurugunatmaka*. These products are made up by fermentation. So *Amlarasa* and *Guruguna* of these products may lead to *Pittakopa* and *Trusha*.

3. **Kaphavilapana**- It is related to different excessive secretions due to *Kaphadosha*. According to references this *Lakshana* is due to *Atiyoga* of *Amlarasa* and *Lavana*. 44.5 % Volunteers having the history of excessive intake of Pickles and *Nimbuka* showed post nasal discharge mainly. *Ushnaguna* of *Amlarasa* might be responsible for this discharge.

4. **Raktadooshana**- 47.5% Volunteers consuming bakery products, Chinese food showed different *Lakshana* of *Raktadushti* like *Vidradhi*, *Pitika*, *Mukhapaka* which are mainly related to *Pitta*. Chinese food is prepared with the help of different sauces and salts like soya

sauce which are *Amla* and *Kshara* in nature. Both are *Raktaprapak* when consumed in excess. Intake of *Methi* is also found in some Volunteers.

5. **Shwayathu** - 48.4% Volunteers showed the tendency of *Mukhashotha* or *Padashotha* having the history of *Methika*, Pickles.

3. **Lavanarasa-**

1. **Trusha-** 47.8% Volunteers consuming snacks like *Vadapav*, Pickles as well as Chinese food showed this *Lakshana* mainly. All these foods contain *Lavanarasa*.

2. **Pittakopa-** 49.5% Volunteers having excessive consumption of these foods as well as Potato Wafers containing added salt showed some *Lakshana* of *Pittakopa* like *Swedadhikya*. It is due to *Ushnaguna* of *Lavana*.

3. **Tapa-** 46.3% Volunteers consuming Chinese food especially Soups showed '*Tapa*' i.e. feeling of rise in temperature without having fever. It is due to *Ushnaguna* of *Lavanarasa*.

4. **Palitya-** 46% Volunteers at the age of 19 to 35 mainly showed this *Lakshana* who were consuming Wafers, Kurkure, Pickles in excess. Excessive *Lavanarasa* vitiates *Pitta* and

Romakoopa which leads to either *Palitya* or *Khalitya*.

5. **Khalitya-** 44% Volunteers consuming bakery products as well as Cheese mainly showed this *Lakshana*. These foods are *Lavana-Amla* and *Pittakara*.

6. **Amlapitta-** It is the main *Lakshana* observed in 50% Volunteers consuming *Amla*, *Lavana* as well as *Madhurarasa* in excess. *Amla* and *Lavanarasa* are responsible for *Pittapradhana Agnidushti* directly which leads to *Amlapitta*. *Madhurarasa* in excess makes *Agnimandya* which also can lead to *Amlapitta*. Many other causative factors are also responsible for *Amlapitta*, but food like Chinese, bakery products, cold drinks as well as non vegetarian like chicken and mutton having these *Rasa* mainly is observed in this survey.

7. **Vicharchika-** It is found in 45.3% Volunteers consuming Pickles as well as added salt. Many volunteers showed *Sravi Vicharchika*. It is due to excessive use of *Lavana* and *Amlarasa* also.

4. **Katurasa-**

1. **Sadana-** The feeling of tiredness is named as '*Sadana*'. 23.7% Volunteers consuming food containing Green

pepper as well as spices showed this *Lakshana* mainly. It is due to *Aagneya* nature of *Katurasa*. Vitiated Vata is also responsible for it.

2. **Shariratapa**- It has been mentioned in *Atiyoga* of *Lavanarasa* also. It is a feeling of rise in body temperature. *Aagneya* nature of *Katurasa* is responsible for it. 46.7% Volunteers consuming Garama Masala and spicy non vegetarian food as well as Capsicum showed this *Lakshana* mainly.

3. **Kanthadaha**- *Kanthadaha* was observed in 22.5% Volunteers showing history of excessive consumption of Green piper, food containing Garam Masala. It is due to *Pittakopa*.

4. **Bheda**-23.4% Volunteers '*Bheda*' type pain at different *Asthi* like Tibula. They were consuming Spices like Garama Masala. Vitiated *Vata* due to excessive *Katurasa* is a causative factor.

5. **Tiktarasa**-

Main *Aaharadravya* were Karvellak, Palaka.

1. **Aasyashosha**-46.9% Volunteers consuming Karavellak as well as Palaka showed this *Lakshana*. *Rukshaguna* and *Tiktarasa* are causative factors.

2. **Balakshaya**-46.7% Volunteers showed the feeling of Fatigue or *Balakshaya* who were consuming *Patrashaka* like Palaka, *Methika beeja*.

6. **Kashayarasa**-

Main *Aaharadravya* were Supari, Mataki.

1. **Aasyashosha**-48.1% Volunteers consuming *Pooga* or Supari after meal show this *Lakshana*. It is due to *Rukshaguna* of *Kashayarasa* as well as *Vata*.

2. **Karshana**-47% Volunteers showed reduction in weight since 6 months who were consuming Mataki, Chavali. These are *Shimbidhanya* having *Kashayarasa* and *Vatala*.

3. **Udaradhmana** and 4. **Vishtambha** *Lakshana* were not significant though they were observed.

CONCLUSION

Two variables are associated (i.e dependent) i.e *Rasasevana* and *Doshalakshana* are associated. *Rasa Atisevana* causes *Doshaprakopa*. This Association is found statistically significant as the P value is less than 0.01.

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