

## Critical exposition of the fundamental concept of “Agni” with respect to its role in ‘Sthaulya’ (Obesity)

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### Abstract –

*Agni* is an important concept, which plays a major role in *Āyurveda* that influence all over the events of the body. The practical approach of the *Agni* in *Āyurveda* as a medical therapy is utilization in treatment. *Agni* reflects the status of the disease *sthaulya*, which matters to success of the treatment. In *sthaulya samprapti*, *agni* is vitiated which creates imbalance in *dhatu* specially formation of *meda dhatu* in excess. Hence it is important to understand the concept of “*Agni*” with respect to its physio- pathologic aspect and the role of “*Agni*” as a susceptible cause towards predisposition of “*sthaulya*” (obesity).

**Keywords:** *Agni*, *sthaulya*, obesity, *Medoroga*, *Abhyavaharanshakti*, *Jaranshakti*

### INTRODUCTION

“*Agni*” is considered to be the root (*moola*) or the most important sustaining factor of living being. “*Agni*” compliments the nutritional

status of an individual. Food digestibility, assimilability and its ultimate effects on the body as whole & on *vatadi tri dosha*, *rasadidhatu*, and *malas* all depends on soundness of “*Agni*”.

*Ayurved Maharshi* categorically mention that “Proper maintenance of “*Agni*” helps a person to live long life and its impairment gives rise to diseases.” (cha. Chi. 15/4) Depending on the chief site of action “*Agni*” is divided into *Jatharagni*, *bhootagni*, and *dhatvagni*. According to its nature and effects *Ayurvedacharaya* standardize *Koshthagni* in four groups i.e., *Tikshnagni*, *Mandagni*, *Samagni*, and *Vishmagni* respectively. Of which “*Samagni*” is the healthy condition of “*Agni*” comprised by equilibrium state of *vatadi dosha*. Rest of three considered as “*Agnivikruti*” which leads to diseases. We cannot determine the nature of health without accounting the “*Agni*”. To review literature regarding “*Agni*” with respect to *Bruhatrayi* is our prime objective.

*Sthaulya* is chronic medical condition caused by excessive

accumulation of body fat. Core pathogenic mechanism of and its clinico-pathological symptoms, with entirety has been mentioned in *Ayurvedic* classics.

“*Sthaulya*” is well documented risk factor for variety of diseases like hypertension, diabetes mellitus, CHD etc. *Sthaulya* is characterized by increased potential *Jatharagni* of and decreased potential of *Dhatvagni*. A retrospective, observational surveillance was launched among 100 obese individuals residing in Mumbai suburbs in view of their “*Agni*”. To educate the people about the hazardous effects of *sthaulya* and to spread awareness about it as suspected risk factor is the need of hour.

### AIMS AND OBJECTIVES

**AIM:** - To understand the concept of “*Agni*” with respect to its physio-pathologic aspect. (*dhatu-samya-vaishamya drushtya*)

#### OBJECTIVES :-

1. To review literature regarding fundamental concept of “*Agni*” from *Bruhatrayi*.
2. To study the role of “*Agni*” as a susceptible cause towards predisposition of “*sthaulya*” (obesity)
3. Survey study of hundred obese individuals in view of their “*Agni*” status.

### MATERIALS & METHODS

#### Literary Search

A literature is the body of the text that gives us both theoretical as well as methodological directions. The first objective of our research was to review literature regarding *Agni* and *Sthaulya* from *Bruhatrayi*.

Compilation of scattered references related to *Agni* and *Sthaulya* from these *Samhita* and related commentaries was carried out at departmental library & college library.

Collection of concerned material was done through seminars (ex. Seminar at Nagpur on Lifestyle disorders management with the help of *Ayurveda*, research papers, journals, periodicals, magazines and internet.

#### Field research

Focus of our study was to assess the condition of “*Agni*” in obese individual and determine its effects. Surveys are non-experimental, descriptive research method. The survey was carried out in randomly selected 100 obese individuals residing Mumbai suburbs in view of their “*Agni*” status.

The assessment was done by deep interview method. A modest attempt was made to adopt a more personalized approach by addressing their doubts, by arranging camps.

#### Inclusion Criteria

- Age - 20 to 40 years.
- Sex - Female/Male irrespective of Caste, Religion was chosen.
- Economic Status - Middle social economic class.
- BMI - 30 to 39.9 kg/m<sup>2</sup>

This the cross sectional observational study design primarily based on selecting random samples. Demographic characteristic and risk parameters collected at base line are, weight, height, body mass index (BMI), waist and hip circumference, abdominal girth, systolic & diastolic blood pressure.

#### Exclusion Criteria

- Age - Less than 20 years & more than 40 years.
- Individuals suffering from major disorders like Diabetes Mellitus, Hypertension, immune- compromised patient, cancer, hypothyroidism & any Mental Disorder. Pregnant, Lactating women or woman at risk of becoming pregnant are also excluded.

#### Method of Evaluation

Data formulation was done with the help of questionnaire & deep interview method. The précised Pro-forma sheet was constructed. It consists of 3 parts. The questionnaire development process consisted of four steps – Preparation of scope and structure, Development of questionnaire items, Pilot study for further development of questionnaire, Test and retest by obese groups for construct validity assessment and reproducibility.

After selecting the obese individual the next part of pro-forma was set to determine the condition of "Agni". A set of structured predetermined questions on a form submitted to obese individual in order to collect statistical information. For this 24 hour dietary chart, questionnaire about "Abhyavaharashakti" & "Jaranashakti" & assessment of symptoms developed after taking food. To estimate the *Medodhatvagni* questionnaire about 'Medo dhatuvridhi lakshana' and 'Medo dhatusarata' had been included in third part of pro-form.

Measurement of 'Agni' is complex as we do not possess the standardized measuring tools. It can only evaluate by *anumana* and *prashna pariksha*. By assessment of *abhyavaharanashakti* (capacity to eat), *jaranshakti* and after effects of digestion for various types of *agni*.

The first part of pro-forma consists of demographic questionnaire i.e. personal history with purpose to know the name, religion, address, occupation etc. The information provides us identifying features along with socioeconomic and educational status of obese person; followed by taking family history. General examinations include pulse, blood pressure, respiration rate, bowl, urination habits, H/o any present or past

medication to realize current health status of the individual.

Questions regarding physical activity (*vyayama*) also included to conclude the energy expenditure by the person compare to food intake.

#### \* Base line body measurements to select study materials

The following methods was used to select the sample- BMI, waist to hip ratio, abdominal girth, and Skin fold thickness. Skin fold thickness measuring calliper is used for this purpose measurement taken at following sites- mid triceps, abdomen, sub-scapular region. Siblings having BMI 30 - 40 was considered as a sample for further evaluation.

#### \* Pro-forma for the evaluation of 'Agni' status in obese individual:

Apparent *jatharagni vrudhi* is found in *Sthaulya* along with *medodhatvagnimandya*. Later part of pro-forma specially designed to evaluate the *Agni* status (digestive power) in obese person. As mentioned by *Acharya Charaka*, *Agni* status reflects in the form of *abhyavaharanshakti* and *jaranshakti* which is perceived by inference in *cha. vi. 8*.

#### • *Abhyavaharanshakti* (Intake capacity)

Evaluation of *abhyavaharanshakti* was performed on the account of 24 hr dietary recall or daily diet chart which makes us aware about food preferred (like vegetarian, non-vegetarian, salty, sweet, spicy, fried, cold, heavy etc.) and time of food intake. This conveys us the total food intake capacity. Questions like – How many times do you eat during a day? 2/3/4 times, Do you skip meals? Yes/ No, Do you use food supplements? Yes/ No etc. also reveal the intake capacity etc also reveals the capacity of eating food. It is interpreted as *Uttama*, *Madhyama* and *Hina*.

- **Jaranshakti ( capacity of digestion)**

Thoughtful consideration of Agni can only be made by in sighting the digestive capabilities of Agni. To know the capacity of digestion questions for evaluation are as follows - Is food is digested within proper time?, Do you feel hungry or thirsty when food is digested? (*kshutpipasa*), Has there is been any recent changes in bowel habits? etc. are expensed.

\* Evaluation of symptoms develops after/during digestion

For example symptoms like *jathargaurav*, *shoola*, *udavarta*, *atisara* etc are develops due to *vata* influenced *agni* are evaluated and same for other types also.

*Agni* is abstract entity & only inferred by the *Anumana*. Grossly final *agnivinishchaya* of person done by *abhyavaharana*, *jaranashakti* and *vyakta* lakshanani collectively.

\* **Assessment of ‘Medo dhatuvidhi lakshana’ (Symptoms of Sthaulya)**

Later part of pro-forma constructed to evaluate the effect of *Medo dhatuvidhi* on the body. As mentioned by *Acharyas* it reflects in the form of *Medoroga* or *sthaulya*.

\* **Daurbalya**

In *Ayurvedic* text *bala* is considered as *tejobhut* recreation of *rasadi saptadhaatu*. It means *utsaaha*. In obese person due to extra accumulation of *medo dhaatu* other

*dhatu*s do not grows in proportion due to *dhatvagnimandya* causes weakness. It is assessed by asking following questions- Do you feel incapability to perform regular activity?, Do you feel breathless after going up or down stairs? etc.

\* **Jadya**

*Jadya* is synonymous with *Gaurava* (heaviness). Inability to perform any task with relation with body known as *Gatragaurava* or *Jadya*. Questionnaire – Do you feel heaviness in body? If yes, it is same throughout the day or differs timely

\* **Javoparodh**

In obese due to guru, looseness of *meda dhatu* laziness is found in siblings. They don't feel enthusiastic to do any type of work. They cannot begin their work quickly. Dullness in their activities found which may be influenced by mind.

\* **Kshutpipasa**

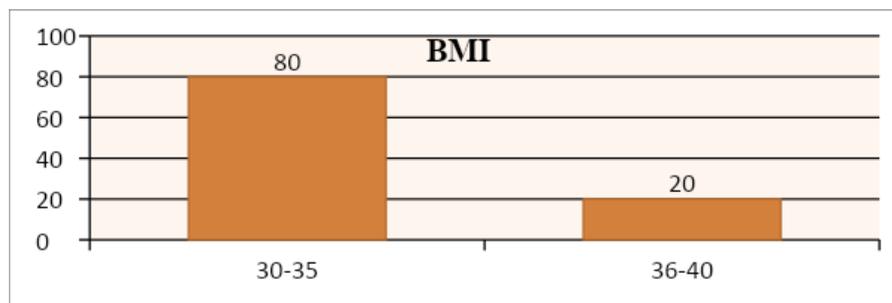
Likewise increased *Kshutpipasa* was also found in obese. This can be assessed by asking frequency of eating & drinking water during a day. The apparent increased in appetite & thirst is found due to *koshtvagata vaayu*.

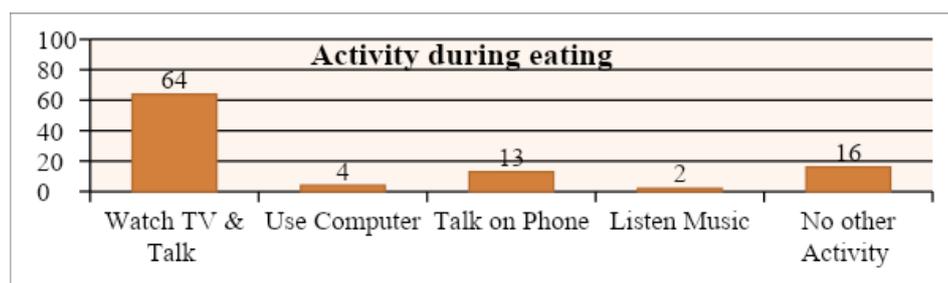
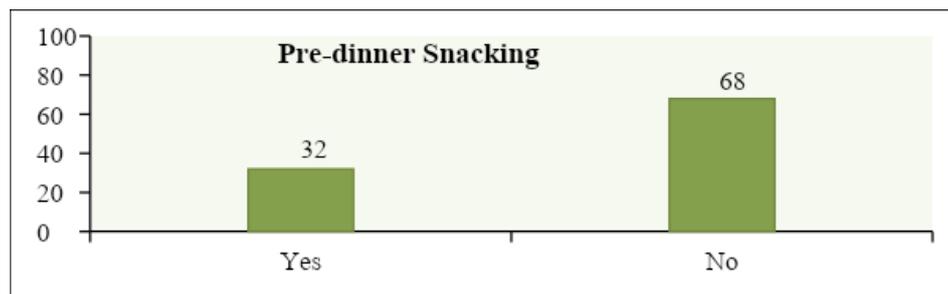
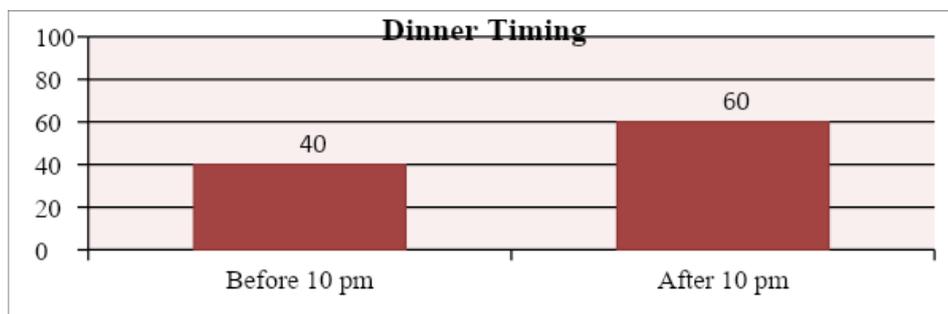
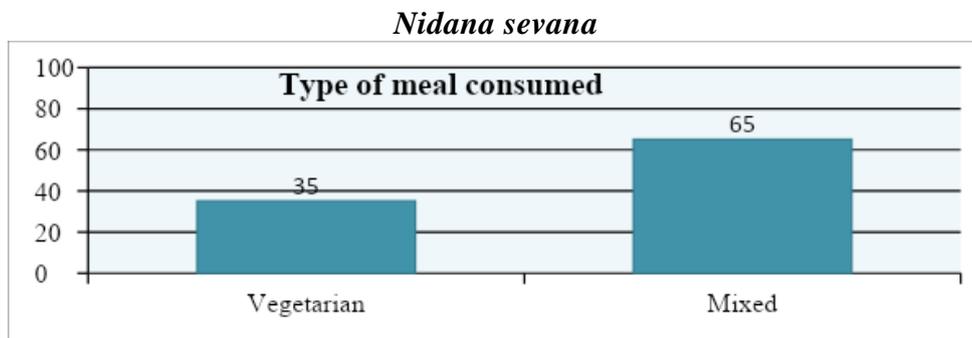
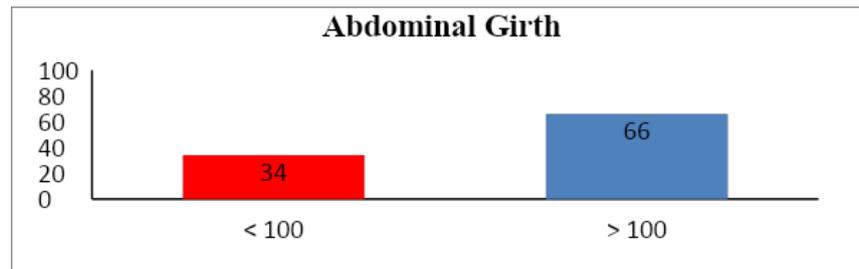
\* **medodhatvagnimandya**

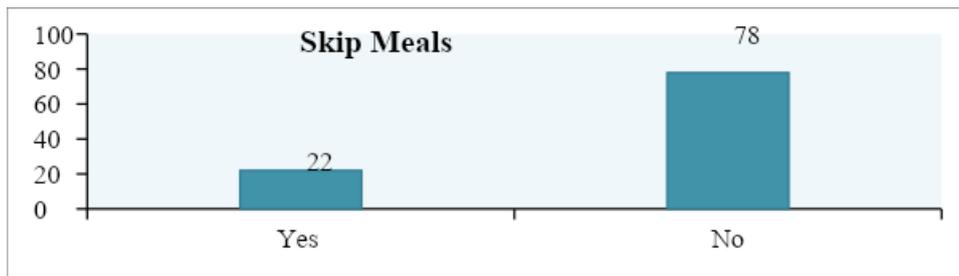
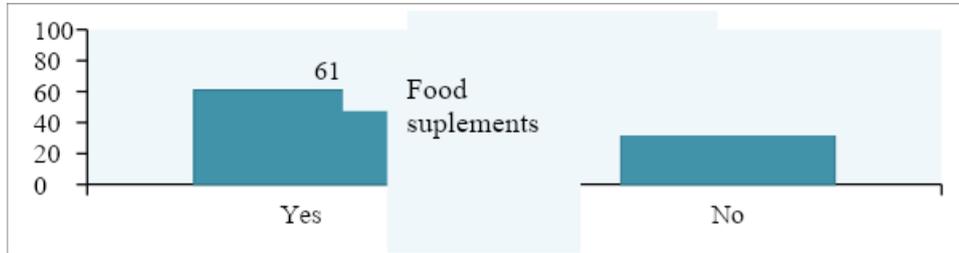
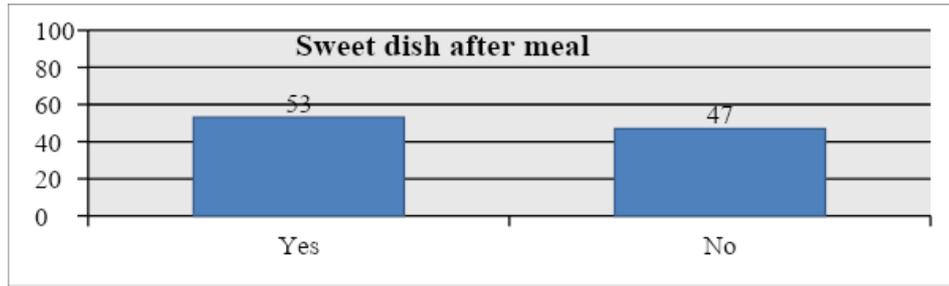
Due to *medodhatvagnimandya* extra growth of *vikrut medo dhatu* found in obese. Which was assessed by taking measurements of the body at various sites.

In this way other symptoms which are found in *sthoala* was assessed.

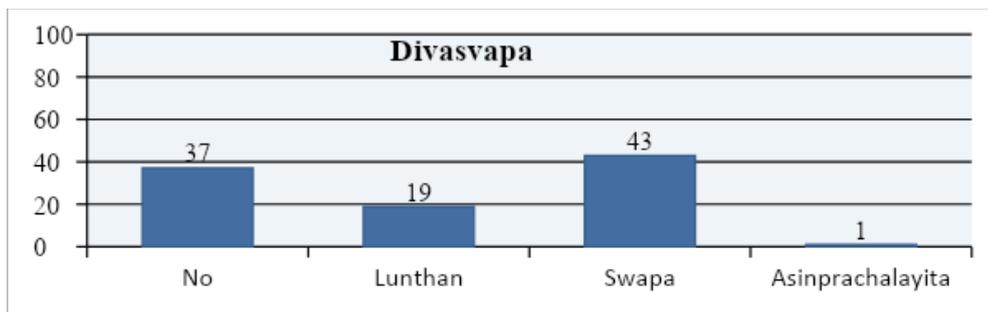
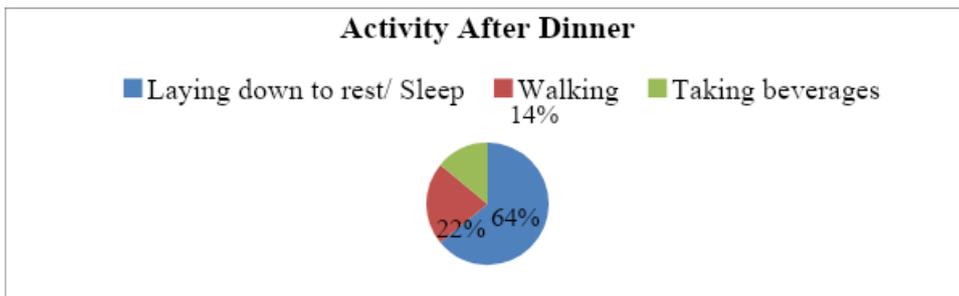
## OBSERVATION & RESULTS

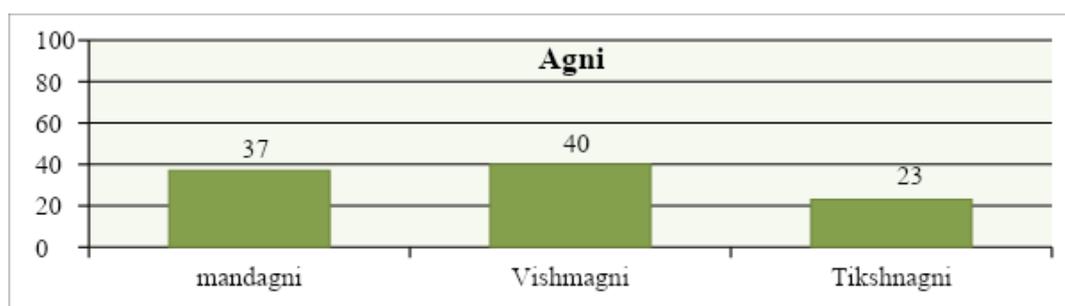
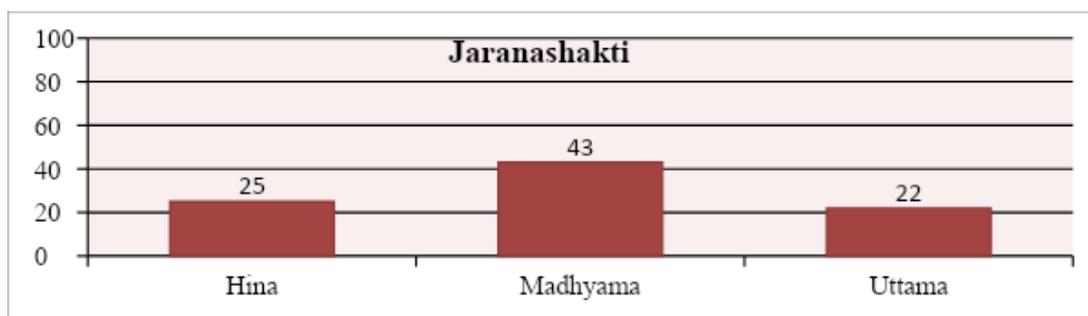
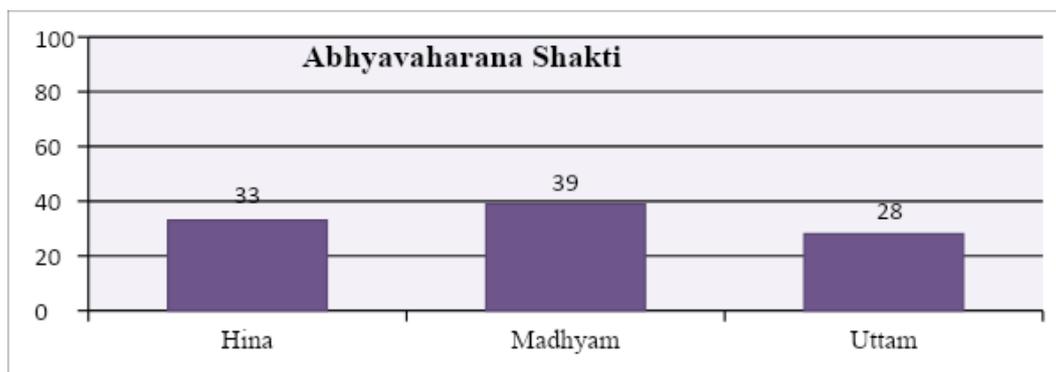
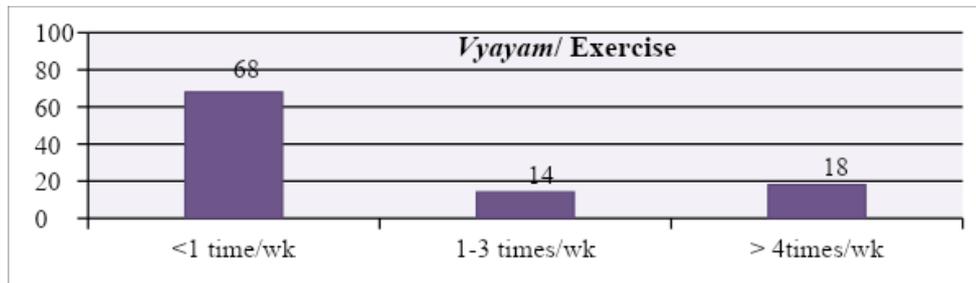
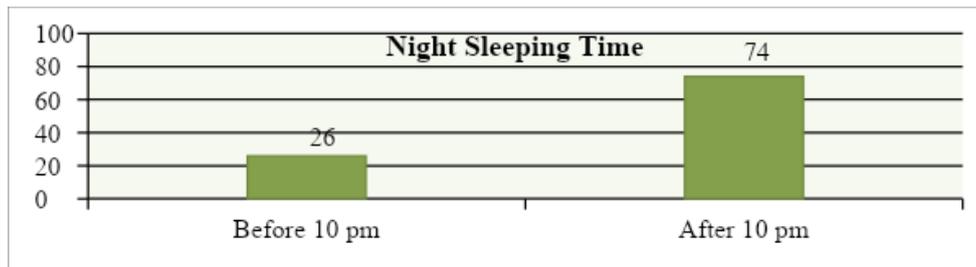






**Viharatmaka Hetusevana Smiksha**





**Functional aspect of *medodhatu* with respect to '*Agni*'**

The symptoms reported and observed in the patients were-

| Sr No | Symptoms of <i>medodhatu vridhdi</i> | No. of individuals out of 100 |
|-------|--------------------------------------|-------------------------------|
| 1     | <i>daurbalya</i>                     | 48                            |
| 2     | <i>daurgandhya</i>                   | 37                            |
| 3     | <i>svedabadha</i>                    | 54                            |
| 4     | <i>pipasatiyogaschha</i>             | 45                            |
| 5     | <i>Atinidrata</i>                    | 29                            |
| 6     | <i>jadya</i>                         | 59                            |
| 7     | <i>Calasphikaudarastana</i>          | 37                            |
| 8     | <i>ayasakshamata</i>                 | 49                            |
| 9     | <i>Ayathaupacayutsah</i>             | 50                            |
| 10    | <i>Alpa bala</i>                     | 43                            |
| 11    | <i>alpavegata</i>                    | 41                            |
| 12    | <i>javoparodha</i>                   | 37                            |
| 13    | <i>Sleshma vikar</i>                 | 33                            |
| 15    | <i>shvasakashtata</i>                | 74                            |

Near about all the individuals were found to have *medodhat asarta* as a result of *vikruta medodhatu sanchaya*.

#### SUMMARY

Agni is an important concept, which plays such a major role in *Ayurveda* that influence all over the events of the body. The practical approach of the *Agni* in *Ayurveda* as a medical therapy is utilization in treatment. In the present study, the taken principle emphasizes the *Agni* as status of the disease *sthaulya*, which matters to success of the treatment.

#### VI) Conclusion

##### Conclusions derived from literature review

- Careful analysis of the synonyms of '*agni*' like *vaishwanar*, *devata*, *pavak* etc. reveals that they are represents the different shades of *agni* at different level and time from minute to gross. It also suggests the importance of *agni*.
- Samagni* is entity that is advantageous for the body at all times. It can digests food within appropriate quantity and in appropriate time hence it should be practiced regularly by good food habits.

- Constitutional strength of *agni* is the one which exists in mind and from very birth. Strength of *Agni* is not only due to conservation but it depends on strength of the individual. In strong person naturally the *agni* is strong.
- Temporal is the one which is based on the division of seasons and the age of person the strength of *agni* is found to be increased.
- Acquired strength of *agni* is one which is attained by the combination of intake of wholesome food like *takra*, *grut* etc., *dipana*, *pachan aahar dravyaas* and other regimen like proper activities, *vyaayam*. In individual doing daily exercise strength of *agni* is increased.
- Pitta* is the replica (miniature form) of '*agni*' *mahabhuta* in the body. The existence of '*agni*' depends only on the *pitta*. Hence no *pitta* without '*agni*' and no '*agni*' without *pitta* exist. They are inseparably inter-dependent.
- Pitta* is same as '*agni*' excepts its *dravatva* and *visratva* gunas. *Agni* is conditional aspect of *pitta*.
- Sushruta* accepted the *vishudhda pitta* only.

#### Conclusion (Obesity)

- The diet regimen, as mentioned in *Ayurveda* should be strictly followed in the management of *sthaulya*, as the improper dietetic habits such as are the etiological factors of *agnidushti* leading to *sthaulya*.
- At an individual level, a combination of excessive food energy intake and a lack of physical activity was found in most cases of *sthaulya*. The increasing rates of *sthaulya* at a societal level are felt to be due to an easily accessible and palatable diet, increased reliance on mechanized manufacturing.
- The modern life style is adding *nidana* for *sthaulya* in terms of faulty dietary habits, overeating, stress etc.

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