INFLUENCE OF LIFESTYLE FACTORS ON AGNI AMONG YOUNG ADULT A PILOT STUDY

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ABSTRACT

Agni, the fire element in the body, is responsible for the conversion of food into energy, essential for all vital functions. If *Agni* ceases to function, death occurs, making its maintenance critical for health. There are three types of *Agni*: *jatharagni* (digestive fire), *bhootaagni* (chemical fire), and *dhatwagni* (metabolic fire). Among these, *jatharagni* plays the most significant role in maintaining health, with four functional states: *vishamagni* (irregular), *teekshnagni* (intense), *mandagni* (low), and *samaagni* (normal). *Samaagni*, the balanced state, is crucial for maintaining health. This paper explores the relationship between *Agni* and lifestyle diseases, emphasizing the importance of maintaining a balanced *Agni* for health.

Material & Methods: A cross-sectional survey was conducted among 100 healthy individuals of the 18 to 30 years age group of either gender. *Jatharagni* was assessed by using a standardized questionnaire.

Result: Association of *Agni* with the lifestyle was done by using principal component analysis and correlation method. A statistically significant correlation was established at the level of $p < 0.01$.

Conclusion: Though the result showed significant association, large population-based works are needed for conclusional statements.

INTRODUCTION

In *Ayurveda*, health is defined as a state of equilibrium involving physical entities like *doshas* (bodily humors), *dhatu* (body tissues), *agni* (biological fire), and *malas* (biological wastes), along with psychological factors such as *manas* (mind), *atma* (soul), and the sense organs.1 Imbalance in any of these components leads to disease. *Agni* plays a crucial role in the physiological processes of the body. It is the determinant of life, complexion, strength, health, nourishment, vitality, *ojas* (the essence of the body's tissues), *teja* (energy), and *prana* (life force).2 *Agni* is considered the foundation of life and is one of the ten essential factors evaluated before initiating medical treatment. The state of *Agni* varies depending on the individual's constitution, environmental factors, age, and other influences. To maintain *Agni* in its equilibrium state, *Ayurveda*'s principles, such as *ahara vidhi vidhana* (methods for food intake) and *asta ahara vidhi viseshayatana* (dietary rules) need to follow.3 In the modern era, these methods are often ignored, contributing to the rise in lifestyle disorders.

Among three types of *Agni* - *jatharagni, bhootaagni,* and *dhatwagni, Jatharagni* is the one which regulates the fate of the human body and serves as the pivotal factor in the process of *Paka* (digestion and transformation). *Jatharagni* is primarily localized in the *Jathara* (stomach and duodenum). It is responsible for functional integrity of *bhootaagni* (elemental digestive fires) and *dhatwagni* (tissue digestive fires). The strength of *jatharagni* directly influences lifespan and health, acting as the central metabolic power of the body.2

The lifestyle of the Indian population has undergone significant changes, which include irregular meal patterns, inadequate or excessive food intake, increased consumption of carbonated and alcoholic beverages, irregular sleep, and high stress levels. These habits disrupt *Agni*, causing indigestion and both physiological and psychological disturbances. When *Agni* is in a balanced (*Sama*) state, an individual experiences optimal health and longevity.2 However, if *Agni* becomes disturbed, it leads to metabolic dysfunctions, resulting in illness and disease. A weak *jatharagni* impairs digestion, leading to malabsorption and the accumulation of toxins (*ama*), while an excessively strong

jatharagni can cause tissue damage through excessive tissue breakdown and degeneration.4

Material and Methods

2.1 Study Design:
This study employed an institution-based cross-sectional analytical design aimed at evaluating the *Agni* (digestive fire) of young adults by using a validated tool and exploring the association between *Agni* and contemporary lifestyle factors. The study was conducted with 100 healthy participants of either gender during the time frame of July 2024 to December 2024.

2.2 Study Setting:
The study was carried out at KVG Ayurveda Medical College, Sullia, with prior approval from the institution's head.

2.3 Data Collection:
Participants were fully informed about the objectives and procedures of the study. A web-based consent form was created, and informed consent was obtained from each participant prior to participation. Comprehensive assessments were conducted, which included a detailed collection of personal history, dietary habits, lifestyle factors, and *Jatharagni* questionnaires. The *Jatharagni* was evaluated using a validated tool Self-Assessment Tool to Estimate *Agnibala* (Digestive Strength)5

2.4 Data Analysis:
Data entry and analysis were performed using the Statistical Package for the Social Sciences PAST (Paleontological Statistics) software. The dependent variable in this study was *Agni*, while the independent variables included dietary habits, sleep patterns, physical activity, bowel habits, social media usage, and psychological disturbances. Descriptive statistics for the independent variables were presented as frequencies and percentages. The correlation between the dependent and independent variables was analyzed using Principal Component Analysis (PCA) and correlation methods. A statistically significant correlation was observed, with a p-value of < 0.01.

3. Result

3.1 Data Distribution:
Among the 100 participants, 70% were male and 30% were female. The age range of participants was between 18 and 23 years, with the majority (90%) falling within the age group of 19 to 21 years. A significant proportion (92%) of participants belonged to a middle socioeconomic background. The distribution of participants by residence was nearly equal, with similar proportions from both rural and urban areas.
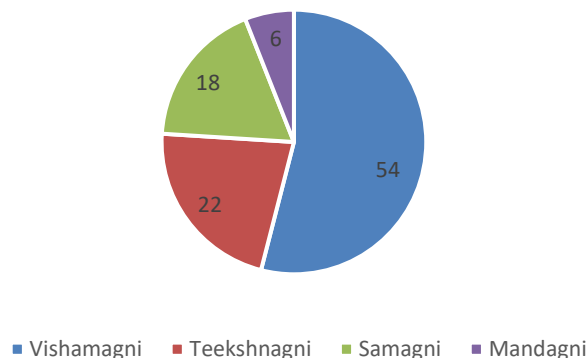

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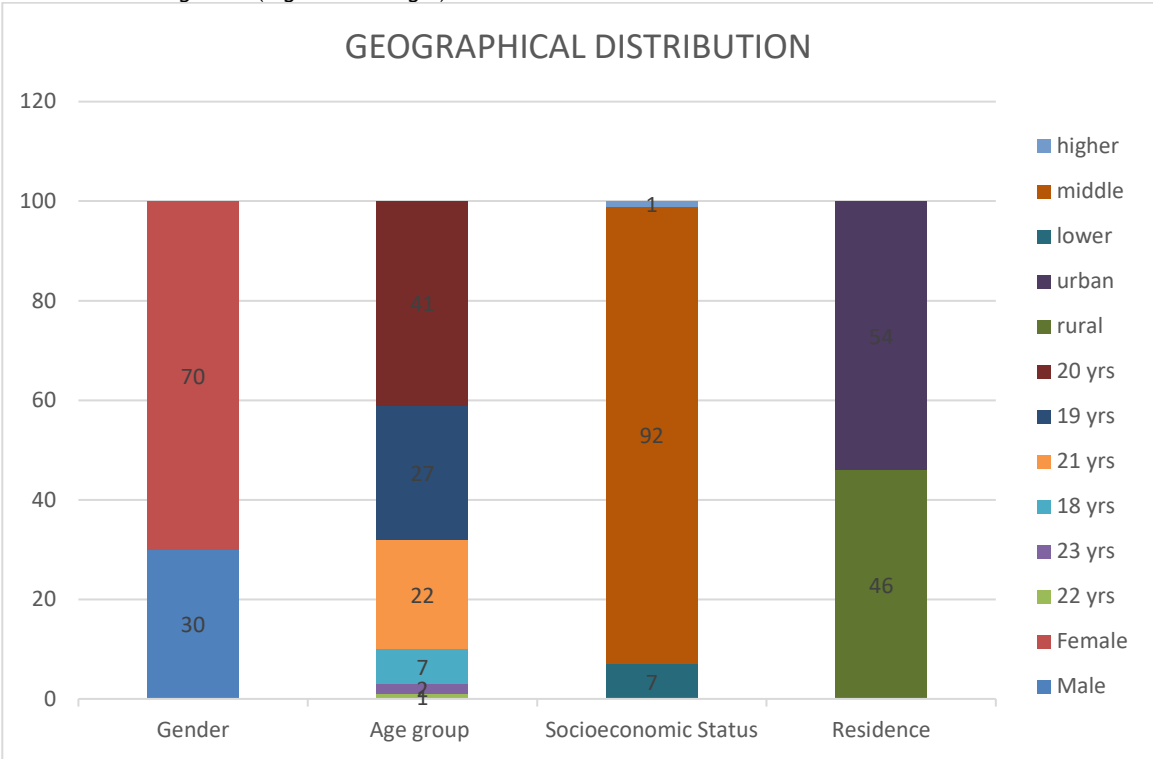
3.2 Key Findings:
Out of the 100 participants, the majority exhibited *Vishamagni* (54%) and *Teekshnagni* (22%). A smaller proportion of participants were categorized as having *Samagni* (18%) and *Mandagni* (6%).

JATHARAGNI

- Vishamagni
- Teekshnagni
- Samagni
- Mandagni

3.3 *Agni* and faulty food habits

The survey on out-of-order food practice was focused on the rate of fast-food intake, soft drinks/aerated drinks, chocolates and confectionary use in a week and more than an average of 2 times were incorporated in the data. 93 out of 100 survey subjects were following this nonstandard behavior linked to food and among them 52% were having *vishamagni* (irregular digestion) and 24% with *teekshnagni* (excess digestion).

3.4 *Agni* and sedentary lifestyle

Lack of regular exercise every day and the work prototype of sitting for more than 6 hrs per day continuously were taken as inactive category. 74 Out of 100 study subjects were belonging to the same. 54% of those had *vishamagni* and 21% had *teekshnagni*. This illustrates the probable association between deskbound standard of living and *Agni* imbalance.

3.5 *Agni* and Mental stress

Individuals who opined to have fear, anxiety, depression, anger, worries etc in the survey were taken into the classification of psychological stress data collection and it was observed that 72 were having these stress factors one or the other.47% present with *vishamagni* and 23% with *teekshnagni*. The data shows another significant information regarding *Agni* and mental status.

Lifestyle factors	Present	Vishamagni	Teekshnagni	Mandagni	Samagni
Junk food	93	52% (48)	24% (22)	20% (18)	4% (5)
Sedentary life	74	54% (40)	21% (16)	19% (14)	6% (4)
Mental stress	72	47% (34)	23% (17)	25% (18)	5% (3)
Disturbed sleep	57	67% (39)	27% (15)	2% (1)	4% (2)
Overweight	36	53% (20)	27% (15)	2% (1)	10% (4)
Obese	11	22% (2)	78% (9)	0% (0)	0% (0)

Table: Association between *Agni* and Lifestyle factors

3.6 *Agni* and Sleep pattern

The study classifies sleep into three groups: Deep Sleep- 14 out of 100 subjects, Disturbed Sleep- 57 out of 100 subjects and undisturbed (but not deep) sleep- 29 out of 100 subjects. Once again, a strong link between *Agni* imbalance and disturbed sleep was obtained with 67% of subjects disturbed sleep presenting with *teekshnagni*.

3.7 *Agni* and BMI

36% of the study population were overweight and 11% were obese on self-assessment of BMI.8 53% suffer with *vishamagni* and 35% with *teekshnagni*. Ayurveda recognizes a strong connection between *Agni* and weight gain. People who are obese tend to have strong digestive power and the same with irregular *Agni* is demonstrated here.6

DISCUSSION

The survey was conducted to get the status of *Agni* in young adults and to find the association of *Agni* with food habits and other lifestyle factors. It was conducted among young adults of the age group 18 to 23 from an educational institution of South Karnataka. All of them were students and staying in the hostel. The mean age group is 19- 21.

For *Ayurveda* this age group belongs to *madhyama vaya*; and is the stage of growth and development. Therefore, *pitta* invariably plays a vital role in digestion and metabolism. But the lifestyle and food patterns of the present generation create hamper to *Agni* and therefore maximum are having *vata* governing *vishamagni* or pitta leading *teekshnagni*.

Ritu or season is another factor influencing the status of *Agni* and this survey was conducted from July to December which exhibits the supremacy of *pitta* and *vata* dosha. Both these might have been reflected in the key findings of maximum subjects with *vishamagni* and *teekshnagni* in the survey report.

Easy availability of fast food, craving delicious foodstuff, staying away from the home, stress are the factors responsible for more indulgence in fast-food of the current youngsters. The overconsumption of fast food in direct proportion can affect the normalcy of *Agni* and this also can be considered as the reason for improper status of *Agni* in the study population.

The irregularity in *Agni* creates a craving for junk food and therefore they prefer to consume the same more times in a week. The stress developed by staying away from home, the exam pressure, time-bound assignments, a major percentage undergo various psychological issues out of it and once again they try to consume food out of pseudo hunger, sleep is also impaired due to these factors. Lack of exercise, sedentary routine and faulty food all together leads to gaining weight and therefore many are in the category of overweight and obesity.

The survey population consists of students that spend most of their time in the day in class and study hours, the remaining time they are not interested in indulging in any workouts or yoga. The lack of exercise and irregular food habits has impaired *Agni* and therefore *samagni* is very minimum in this group of students

The add on pressure due to exams, classes, being away from home, late night sleeping most of the students have issue with deep good sleep showing the influence of *vata* as well as *pitta* in sleep quality.

Elevated BMI levels reflecting metabolic aberration are invariably a result of abnormal excess and irregular dietetic, irregular sleep pattern, deskbound living and lack of exercise

To sum up the *Agni* of these youngsters in the study population is chiefly *vishamagni* and *teekshnagni* showing the role of *vata* and pitta on the *Agni* in *amashaya* and *annavaha srotas*.

CONCLUSION

Agni is the core of a metabolic function which can determine health and disease. The purpose of the survey was to assess the status of *Agni* in young students from an institution and to have an insight into the diet and lifestyle factors followed by the participants and how it affects Agni.

Outside fast food and street food are found the part of their routine, as well varying in appetite, one or other types of stress and low quality of sleep found in many participants and gaining of weight was also reported. Being in early youth *Agni* is led by *pitta*, along with that the unhealthy food habits and sedentary lifestyle made *Agni* into *vishamavastha* in many of them

Middle is the age which determines the prone of a person to develop noncommunicable diseases related to metabolic aberrations such as type 2 diabetes mellitus, obesity, polycystic ovarian disorder, anxiety neurosis, anorexia, restlessness, impatience, sleeplessness, short temperedness etc7. By correcting the lifestyle and diet the state of *Agni* can be balanced thereby preventing many of the maladies in our young generation.

REFERENCES

- *Susruta, Dalhana, Murthy Srikantha. Susruta Samhita. 7th ed. Vol. Sutrasthana. Varanasi: Chaukhambha; 2014. 110 p.*

- *Agnivesha, Charaka, Chakrapani, Vaidya Yadavji Trikanji Acharaya. Charaka Samhita. 3rd ed. Vol. Chikitsasthana. Varanasi: Chaukambha; 2013. 512 p.*
- *Agnivesha, Charaka, Chakrapani, Das Bhagwan. Charaka Samhita. 7th ed. Vol. Vimanasthana. Varanasi: Chaukhambha; 2021. 126-127 p.*
- *Agrawal A, Yadav C, Meena M. Physiological aspects of Agni. AYU (An international quarterly journal of research in Ayurveda) [Internet]. 2010;31(3):395. Available from: https://journals.lww.com/10.4103/0974-8520.77159*
- *Singh A, Singh G, Patwardhan K, Gehlot S. Development, Validation, and Verification of a Self-Assessment Tool to Estimate Agnibala (Digestive Strength). J Evid Based Complementary Altern Med. 2017 Jan 1;22(1):134-40.*
- *Lim JU, Lee JH, Kim JS, Hwang Y Il, Kim TH, Lim SY, et al. Comparison of World Health Organization and Asia-Pacific body mass index classifications in COPD patients. International Journal of COPD. 2017 Aug 21;12:2465-75.*
- *Mathur P, Mascarenhas L. Lifestyle Diseases: Keeping Fit for a Better Tomorrow. Vol. 149, Indian Journal of Medical Research. Wolters Kluwer Medknow Publications; 2019. p. 129-35.*