

AN OBSERVATIONAL STUDY TO ASSESS THE STATUS OF AGNI AMONG FISHERMEN

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ABSTRACT

In recent decades health and quality of life of an individual are correlated to lifestyle. Fishermen generally live unhealthy lifestyles. The fishermen community is engaged in irregular and nonstandard working hours. In a living organism, *Agni* maintains its integrity and performs its vital activities by *pakadi* karmas or biophysical and biochemical processes. Fishermen in a coastal area near Vallikkunnu panchayath was randomly selected for the study. Their *Agni* status was assessed by using *Agni* assessment tool. The frequency of fishermen with the percentage of *Samagni*, *vishamagni*, *tikshnagni* and *mandagni* was obtained from this study. The main gastrointestinal complaints among fishermen are pain and alteration in bowel habits, especially constipation and diarrhoea. They may experience temporary variation in bowel habits in association with night work. So irregular lifestyle among fishermen results in derangement of *Agni* and other gastrointestinal symptoms.

Keywords: coastal area, the status of *Agni*, irregular and nonstandard work

INTRODUCTION

According to WHO, Health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity.

In Ayurveda *Samavastha of dosha, dhatu, agni* and *mala* is considered to be healthy individual. The

Health and quality of life of an individual are correlated to lifestyle. Fishermen generally live unhealthy lifestyles. Fishermen engaged in irregular & nonstandard working hours such as working on day hours, night hours only and working continuously for three or more

days. Long term night work is associated with an increased risk of metabolic problems and Gastrointestinal problems (Jose,2012). *Agni* is said to be the base of life. If *Agni* of a person is vitiated the whole metabolism is disturbed and resulting in ill health and diseases. While at sea, fishermen require a high-calorie intake of 2850-3000 Kcal. But average calorie intake of fishermen is only 1800 Kcal (Jose novalbos, 2008). Among them, 30% reported consumption of alcohol with an average alcohol intake of 8.5 g/day. 60% - reported smoking while at sea. In the younger population, which is less than 35 years of age, 6% reported regular use of cannabis (Jose novalbos, 2008). In a previous study, it is observed that the Prevalence of diseases of the digestive system is 27% among small-scale fishermen in Turkey (F. percin, 2012)

Materials And Methods

It is an Observational Study. Fishermen in a coastal area near Vallikkunnu panchayath, Malappuram was selected for the Study by simple random sampling. A total of 15 Fishermen were selected based on inclusion

& exclusion criteria. Informed consent was taken from them before the study. *Agni* level was assessed by using a validated questionnaire.

Inclusion Criteria

Male subjects of age group 30-60 years were only selected for this study. Fishermen engaged in different working hours such as working on day hours only and night hours only was included in this study.

Exclusion Criteria

Fishermen with a history of systemic illness and working on day and night hours alternatively were excluded from the study.

Tool for assessment of *Agni*

Agni assessment tool – Development, validation, verification of a self-assessment tool to estimate *Agni* by Dr Kishor Patwardhan et al.

Percentage *Agni* was calculated by using the formula:

$$\frac{\text{scores obtained for an individual class of Agni} \times 100}{\text{total scores allotted to that class of Agni}}$$

RESULT

Table 1: Frequency of fishermen with the percentage of *mandagni*

Valid	Frequency	Percent	Valid percent	Cumulative percent
9.09	4	26.7	26.7	26.7
18.18	7	46.7	46.7	73.3
27.27	2	13.3	13.3	86.7
45.45	2	13.3	13.3	100.0
Total	15	100.0	100.0	

The frequency of fishermen with the percentage of *mandagni* above 45.45% is 2 (Table no:1)

Table 2: Frequency of fishermen with the percentage of *vishamagni*

Valid	Frequency	Percent	Valid percent	Cumulative percent
9.09	1	6.7	6.7	6.7
18.18	2	13.3	13.3	20.0
27.27	2	13.3	13.3	33.3
36.36	3	20.0	20.0	53.3
45.45	5	33.3	33.3	86.7
54.54	2	13.3	13.3	100.0
Total	15	100.0	100.0	

The frequency of fishermen with the percentage of *vishamagni* above 45.45% is 7 (Table no:2)

Table 3: Frequency of fishermen with the percentage of *Samagni*

		frequency	percent	Valid percent	Cumulative percent
Valid	9.09	1	6.7	6.7	6.7
	18.18	3	20.0	20.0	26.7
	27.27	3	20.0	20.0	46.7
	36.36	5	33.3	33.3	80.0
	45.45	2	13.3	13.3	93.3
	54.54	1	6.7	6.7	100.0
	Total	15	100.0	100.0	

The frequency of fishermen with the percentage of *samagni* above 45.45 % is only 3 (Table no:3)

Table 4: Frequency of fishermen with the percentage of *tikshnagni*

		frequency	Percent	Valid percent	Cumulative percent
Valid	0	3	20.0	20.0	20.0
	9.09	7	46.7	46.7	66.7
	18.18	3	20.0	20.0	86.7
	27.27	2	13.3	13.3	100.0
	Total	15	100.0	100.0	

The frequency of fishermen with the percentage of *tikshnagni* above 45.45% is Zero (Table no:4)

DISCUSSION

Health and quality of life are correlated to lifestyle. Fishermen generally live unhealthy lifestyles and take mixed food, predominantly spicy food items at irregular time intervals. From this study, Fishermen working during night hours only have an average duration of night sleep of about 4-5 hours and day sleep about 1-2 hours. Few of them are under cigarette smoking with an average of 10-15 cigarettes /day. Few of them are under the intake of alcohol. Increased frequency of evacuation of bowel noted with an average of 2-3 times /day. Most of them have no exercise.

Biological rhythm is the periodic biological fluctuation in an organism that corresponds to periodic environmental change. The internal mechanism by which such a rhythmic phenomenon occurs and is maintained even in the absence of the apparent environmental stimulus is termed the biological clock. Within the circadian cycle (24 hours), a person usually sleeps approximately 8 hours. During the wakeful hours, mental and physical functions are most active and tissue cell growth increases. During sleep, voluntary muscle activities nearly disappear and there is a decrease in metabolic rate, respiration, heart rate, body temperature and blood pressure. The activity of the digestive

system increases during the resting period, but that of the urinary system decreases.

The digestive system shows rhythmicity in many functions, including basal gastric acid secretion, epithelial cell proliferation and gastrointestinal motility. The role of the biological clock in gastrointestinal functions in humans comes from observation of night workers who have altered appetite and a higher prevalence of constipation, diarrhoea and abdominal discomfort and are also at increased risk of obesity. Short sleep (defined as < 6h of sleep per day) and sleep disorders have been associated with lower concentrations of leptin and higher levels of ghrelin and with increased hunger and appetite. Excessive weight, hypercholesterolemia, impaired glucose tolerance and ischemic heart disease were more common among persons who ate larger meals less frequently rather than smaller meals more often. Night work is associated with an increased risk of metabolic syndrome, obesity and sleep disturbances. Night workers have altered eating habits and tend to snack (on foods high in salt and carbohydrate) rather than eat a full meal during the shift (Dominika kanikowska, 2014)

CONCLUSION

There was a significant change in the status of *Agni* among Fishermen. The frequency of fishermen with the percentage of *mandagni* above 45.45% is 2 (Table no:1). The frequency of fishermen with the percentage of *vishamagni* above 45.45% is 7 (Table no:2). The frequency of fishermen with the percentage of *samagni* above 45.45 % is only 3 (Table no:3). The frequency of fishermen with the percentage of *tikshnagni* above 45.45% is Zero (Table no:4). The frequency of fishermen with the percentage of *vishamagni* was noted more. The frequency of fishermen with the percentage of *tikshnagni* was noted least.

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ANNEXURE

The *Agni* assessment tool

Questions

1. What option describes best your ability to digest food?
 - a) I am unable to digest even small quantities of food
 - b) My ability to digest food keeps varying. sometimes I am able to digest and other times I am not.
 - c) I am able to digest almost all sorts of food items when consumed in appropriate quantity.
 - d) I am able to digest all food items very easily, even in large quantities.
2. What time do you need to feel like eating again, after having your meal?
 - a) I feel like eating only after about 8 hours of having my meal.
 - b) Not consistent, keeps varying.
 - c) I feel like eating 6-8 hours after having my meal.
 - d) I feel like eating before 6 hours of having a meal.
3. What effects do you observe in your digestion due to disturbances in your lifestyle? (e.g., irregular eating habits, disturbed sleeping patterns, emotional disturbances etc.)
 - a) Digestion gets disturbed due to slight variation in lifestyle.
 - b) Digestion gets disturbed due to appreciable disturbances in lifestyle.
 - c) Digestion is not affected much due to disturbance in lifestyle.
 - d) Process of digestion gets initially disturbed, however, later gets adapted to variations in lifestyle.
4. How frequently do you have your meals in a day?
 - a) I have <2 meals / day.
 - b) My frequency of having meals varies between 1 to 4
 - c) I usually have 2-3 meals/day
 - d) I almost always have >3 meals/day
5. How do you describe your ability to bear hunger? (i.e., your ability to wait for food after you feel hungry)
 - a) I can bear hunger for >2 hours
 - b) Hunger is sometimes bearable (up to 1 hr) and sometimes is unbearable (<1 hr)
 - c) I can bear hunger for up to 1 to 2 hrs.
 - d) I feel it very difficult to bear hunger.

6. What quantity of meals do you have in a day?
- a) I usually have small meals
 - b) I sometimes have large and sometimes small meals
 - c) I usually have meals which are neither too small nor too large.
 - d) I usually have large meals
7. How do you describe your capacity to digest heavy meals in terms of time?
- a) Digestion mostly takes longer than normal
 - b) Time taken for proper digestion varies now and then
 - c) Digestion is completed in normal time
 - d) Digestion occurs quite quickly than normal
8. How do you describe your bowel habits?
- a) I have a tendency for constipation
 - b) My bowels are sometimes hard and on the other times are soft
 - c) My bowels are normal (neither too hard nor too soft)
- 9) How do you describe your eating habits?
- a) I generally have food after the scheduled time
 - b) I generally have food before or after the scheduled time
 - c) I generally have food exactly on scheduled time
 - d) I generally have food before scheduled time
- 10) How do you feel after the complete digestion of meals?
- a) I frequently feel heaviness in the abdomen and body
 - b) I occasionally feel slight heaviness in the abdomen and body
 - c) I mostly feel lightness in abdomen and body
 - d) I feel lightness in abdomen and body quite early after having meals
- 11) How do you express the feelings that you develop after looking at the food items that you like?
- a) I do not feel like eating even when hungry
 - b) I sometimes feel like eating and sometimes do not
 - c) I feel like eating food
 - d) I feel like eating any food item irrespective of whether I like it or not.

Total scores-

Mandagni-

Visamagni-

Samagni-

Tikshnagni

Percentage Agni - scores obtained for an individual class of Agni $\times 100$

Total scores allotted to that class of Agni

Source of Support: Nil

Conflict of Interest: None Declared

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