

Study of *Prameha* As A Lifestyle Disease with Special Reference To *Prameha Hetu* According To Ancient and Modern Dietetics

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Abstract

Change is the law of life'. There are pros and cons of everything that occurs in the universe. Likewise, the law of change has its share of good and bad things too. Throughout the ages, in this 21st century, there have been some drastic changes in the lifestyle pattern of the masses all over the world, especially our country INDIA. With the advancement of technology, the word manual is on its way of extinction, the word mechanical becoming so popular leading to a mechanical and technology savvy lifestyle, physical work taking a backseat altogether. Technology has made the boundary lines thinner, bringing the world closer to us. We have adopted many ideas and concepts across the world as it is. This has led to a changed scenario in our society which has a direct impact on our lifestyles. *Prameha* has been classified into twenty different types depending upon colours of urine and *Doshas* involved. For this purpose, the material from the internet and the Ayurveda classics were reviewed. This survey study deals with evaluating the causative factors according to ancient and modern dietetics.

Keywords: Prameha, Lifestyle, Dietetics

Introduction

Lifestyle means a way of living. The word lifestyle incorporates a wide range of things into it. There are certain rules and regulations to be followed while deciding a protocol. The same applies to our lives too. Lifestyle is a way of following these rules and regulations, considering our basic needs.

Lifestyle diseases like Diabetes Mellitus, Hypertension are on the verge of strengthening their roots deeply into the society. Lifestyle includes both *Aahara* and *Vihara* with the combined effect of these two factors on the *Satva* i.e. mind. *Acharya Charaka* has mentioned *Aahara*, *Nidra* and *Brahmacharya* as the *Traya Upastambha* i.e. the three basic pillars of our lives¹. Likewise *Aahara* is one of the factors that create the body. Therefore, it is our prime duty to be very keen about our dietary habits. In Ayurveda, there are certain food items that are described for prevention as well as cure of diseases. Modern dietetics also involves a wide range of food items to be included in our daily lives.

The disease *Prameha* described in Ayurveda is increasing in a large number of populations. The *Hetus* of this disease involves ten *Dushyas*². Study of these *Hetus* of *Prameha* based on dietetics and adopting the right kind of diet and implementing it into our lifestyles can definitely hamper and prevent the growth of this disease among the masses. The word *Prameha* is derived from '*Miha sechane*' which means watering. *Prameha* becomes self explanatory and holds the twin meanings of *Prabhuta Mutrata* or excessive urination and *Avil Mutrata* or turbid urine. *Prameha* is included in *Mutravidhijanya* disease³. As per the *Shashilekha* commentary on *Ashtang sangraha*, *Acharya Indu* has stated that in all types of *Prameha*, primarily, *Mutravidhii* occurs resulting in vitiation of *Shleshma* as it is allied with *Mutra* leading to *Kaphaja Prameha*, then consequently leads to *Pittaja* and *Vataja Prameha* and finally becomes incurable⁴. *Vataja prameha* has four types viz. *Vasameha*, *Majjameha*, *Hastimeha*, *Ojomeha*. *Ojomeha* is also called as *Madhumeha*. *Madhumeha* can be considered as Diabetes mellitus⁵.

Diabetes mellitus is a group of metabolic disorders characterized by hyperglycaemia and defects in insulin production or impaired tolerance to insulin effects. Diabetes Mellitus is increasing at a faster rate among Indians. The multicentre ICMR study showed a prevalence of 2.5 percent in the urban and 1.8 percent in the rural population above the age of 15 years. The prevalence is 2.8 percent among those who are still engaged in strenuous physical activity compared to 48.3 percent living a near sedentary life. The average age for the onset of Diabetes is around 40 years while it is around 55 years in other countries. According to World Health Organisation and the International Diabetes Association, Government Health Organisations **14th November is World Diabetes day**⁶.

The reason which has a causal relationship with the disease and which is able to produce that particular disease is called as *Hetu* of that disease⁷. All types of diseases arise from vitiated *Doshas*. The cause being intake of *Ahikara Aahara* and *Vihaar*.

Therefore the implementation of a proper lifestyle enable the diabetic to comprehend and improve the acceptance of this disease. The society must understand the principles of dietary modifications and comply. Hence an attempt has been made to study the disease *Prameha* and its *Hetus* with an emphasize on ancient and modern dietetics.

A survey study of the *Hetus* of *Prameha* with special reference to the dietetics may help us to understand the frequently observed *Hetus* in today's era. *Nidana Parivarjan* (ruling out the causative factors) is mentioned as the basic line of treatment of all the diseases⁸. Knowledge of the *Hetus* of *Prameha* will enable us to avoid them to decrease the incidence and further prognosis. Lifestyle changes related to *Aahara* which leads to *Prameha* are studied by evaluating the *Hetus*. Hence the causative factors of *Prameha* explained in Ayurveda classics and their prevalence in today's era are be studied in this dissertation.

Aim of the Study

To Study *Prameha* as a lifestyle disease with special reference to *Prameha Hetu* in ancient and modern dietetics.

1. To study the *Prameha Hetu* in detail.
2. To study the etiology of diabetes mellitus.
3. To study the causative factors of *Prameha* and diabetes mellitus by survey method.
4. To study lifestyle changes related to *Aahara* in today's era by evaluating the causative factors of *Prameha*.

Materials and Methods

Survey is a non-experimental, descriptive research method. Surveillance was launched in randomly selected 100 individuals in Ashtang Ayurved Mahavidyalaya in order to assess their dietary habits. A proforma consisting of eight pages concerned with various aspects of human behaviour in relation to food and food habits was the material for the survey study.

Inclusion Criteria

1. Patients diagnosed as *Prameha*.
2. Sex-male/female irrespective of their caste or religion, marital status, socioeconomic status etc. are chosen.
3. Age-30yrs to 70 yrs.

Exclusion Criteria

1. Age-Less than 30 years or more than 70 years.
2. Pregnancy
3. Individual suffering from any major cardiovascular disorders, major surgeries, endocrinal disorders.
4. Juvenile Diabetic patient.
5. Type 1 Diabetes patients.

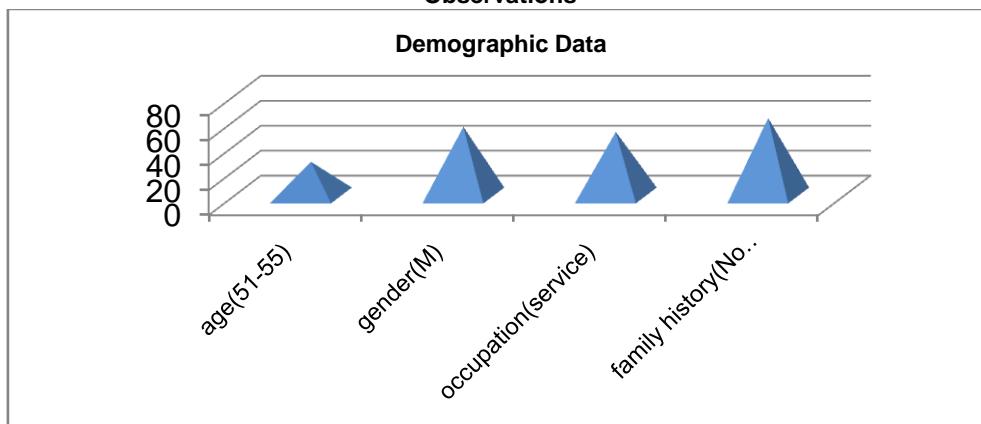
Patient Consent

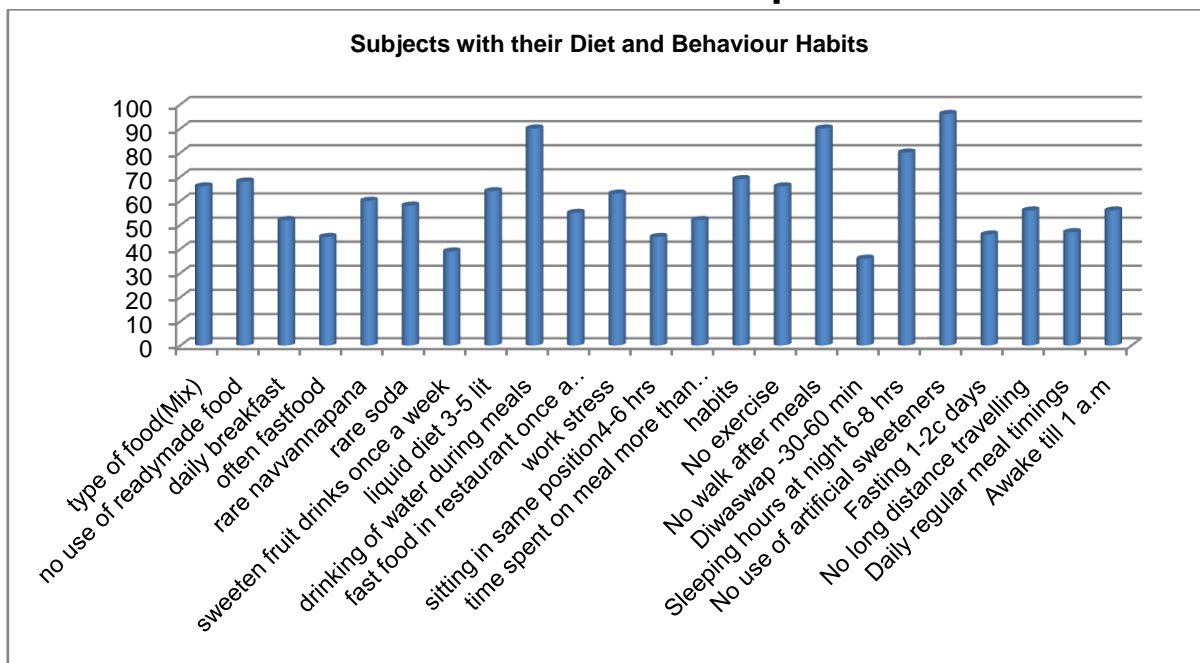
The purpose and general objectives of the study were duly explained to each and every individual and a written and informed consent was taken before starting the interview.

Method of Evaluation

The proforma was prepared and divided into four parts depending on the type of information expected. The first part was designed to collect the basic personal information of the subjects as regards their name, occupation etc. as also their daily chores to determine their health status. The second part included a structured questionnaire. The third part made use of a food schedule where in a list of food items, their frequency was listed.

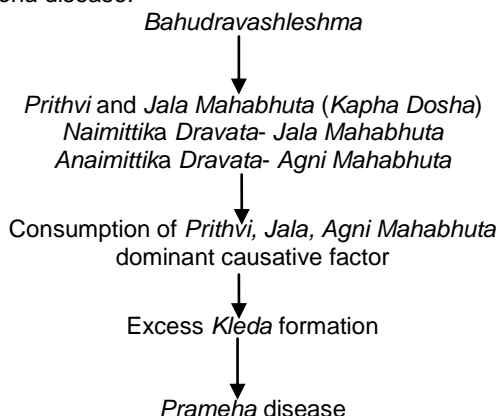
Observations





Discussion About the Disease Review

Prameha is a disease in which there is *Kleda* formation in the body. This *Kleda* is formed due to *Bahudravashleshma*⁹. *Dravata* is a characteristic of *Jala Mahabhuta*¹⁰. *Kapha Dosha* is also composed of *Prithvi* and *Jala Mahabhuta*¹¹. This *Dravata* is also seen in *Agni Mahabhuta*. According to *Tarkasangraha*, there is *Naimittika Dravata* in *Jala Mahabhuta* and *Anaimittika Dravata* in *Agni Mahabhuta*¹². According to the *Lokapurushasamy* principle, the factors or the processes that take place in the nature are also seen in the body¹³. The lifestyle or foodstuffs that are dominant in *Prithvi* and *Jala Mahabhuta* are likely to initiate the process of *Prameha* disease.



Thus *Bahudravashleshma* is the main factor responsible for *Prameha* disease. Among the six *Rasas* also, that contain *Prithvi*, *Jala* and *Agni Mahabhuta* are made up of *Madhura*, *Amla*, *Lavana*, *Katu* and *Kashaya Rasa*. If we take a look at the etiological factors of *Prameha* disease which is junk food or fried and preserved food, it is very rich in these *Rasas*. The consumption of these *Rasa* increases the *Kapha Dosha* in the body which is composed mainly of *Prithvi* and *Jala Mahabhuta*, This

increases the *Kleda* formation and leads to the disease *Prameha*.

The bodily principles *Vata*, *Pitta* and *Kapha*, their vitiation and connection with other bodily healthy issues is the main pathology in this disease. The body tissues that are affected by the vitiated *Doshas* are *Rasa*, *Rakta*, *Mansa*, *Meda*, *Shukra*, *Majja*, *Vasa*, *Lasika* and *Ojas*. The urine and sweat among the *Mala* also get affected by *Doshas*. Thus the causative factors that increase this *Dushyas* are the main causative factors of this disease. These causative factors have been evaluated in the questionnaire.

Discussion About the Assessment of Food Habits

The subjects that were taken up for the study were already diagnosed patients of *Prameha* disease. The allotment of the candidates was on a regular basis and hence there were no bindings related to sex, caste or religion. Food being one of the main factors in the lifestyle agenda of each and every human being, the various food habits were assessed in the questionnaire. A questionnaire consisting of predetermined questions helped to examine the dietary habits of the subjects.

Type of food

The type of food was categorized into three types. They were vegetarian, non-vegetarian or mixed. The advantages of a vegetarian diet are that it is low in calories, fat and cholesterol and it has adequate fibre which helps in binding cholesterol and the excretion of cholesterol. The increased frequency of eating nonvegetarian food is one of the causative factor of *Prameha* disease. *Mansa Rasa* is said to be of *Guru*, *Snigdha* and *Madhura Rasa*. It also promotes strength and plumpness in the body. These qualities increase the *Kapha Dosha* in the body, as they are similar to the qualities of *Kapha* itself. Hence *Mansa* consumed frequently irrespective of the *Desha* and *Kala* seems to be one of the aggravating disease in causing *Prameha* disease.

The percentage of diabetic patients with Mix type of food (66%) is greater than that with Vegetarian type food (34%) in this survey study.

Use of Readymade or Pre-Cooked Food

The use of readymade or pre-cooked food was also assessed among the subjects. Nowadays, due to the fast pace of life, many people prefer to eat the ready to cook items as well as reheating of food cooked on the previous day after refrigerating it. Such kind of food loses its palatability and becomes unctuous and difficult to digest. Such *Aahara Rasa* is not competent enough to provide nutrition to the *Dhatu*. Thus this affects the healthy *Dhatu* formation in the body. The vitiated *Doshas* along with the affected *Dhatu* results in *Prameha* disease.

The percentage of diabetic patients with no use of readymade or pre-cooked food is highest in this type of study.

Consumption of Breakfast

The word breakfast itself is self explanatory. After the long night hours, the body needs to be fed the right quality and amount of food. So breakfast is nothing but breaking the fast of such long night hours. People who skip their breakfast tend to develop diabetes later. Skipping the breakfast puts a strain on the pancreas thus affecting the pancreatic secretions like insulin. The imbalance in this secretion of insulin is said to cause this disease. Also skipping breakfast or meals tends to increase the appetite of the person. He tends to eat more in one time, which increases the weight of the individual. An excess of weight is also an important factor in causing this disease. Skipping breakfast do not make up for nutrient and energy deficits later in the day and tend to perform more poorly on tests of cognition than those who eat breakfast.

The percentage of diabetic patients with daily breakfast is highest in this study.

Consumption of Fast Foods and Fried Foods

Fast foods and fried foods are of Guru, Snigdha, Madhura, Lavana, Amla and Katu in Rasas. These are the Rasas that are present in the fast foods and fried foods. The fast food is available on the streets. The hygiene of such food is not assured. Also, the oil that is used for preparing such kind of food is reused many times. The use of reused oils leads to the formation of transfatty acids into it. Also the ingredients that are used while preparing such fast food or fried food contains saturated fatty acids in it. These fatty acids increase the LDL cholesterol in the body and also increase the obesity. The calorie count of this type of food is also very high. People tend to eat out of proportions as it is a tasty treat for the taste buds. This increases the unwanted calorie count. There is an abundance of palatable and calorifically dense food in the market. There is a lot of aggressive and sophisticated marketing in the mass media, super markets and restaurants. Thus the *Mansa, Meda Oja Dhatu* are affected leading to *Prameha* disease.

The percentage of diabetic patients with Often Fast Food and Fried Foods is highest.

Consumption of Navannapana

Navannapana means the foodstuffs that are consumed immediately without storing them. Such

food stuffs increase the *Kleda* formation in the body and vitiate the *Kapha Dosh*, leading to *Prameha* disease¹⁴. Ideally foodgrains have to be stored for one year and then consumed. But nowadays the foodgrains are consumed immediately as storing them involves a very long and tedious process.

The percentage of diabetic patients with rare *Navannapana* is highest in this study.

Consumption of regular soda that contains sugar and sweetened fruit juices

Soda drinks contain sugar in excessive amounts. The consumption of sugar in excessive amounts is a leading cause of the disease. These increases the calorie count of the food. All artificially flavoured squashes, colas, orange and lime drinks. These are generally carbonated. They have only calories, and no nutrients. These generally affect appetite if taken in excess amounts.

The percentage of diabetic patients with Sweetened Fruit Drinks once a week is highest.

Quantity of liquid consumed

Excess amount of liquid consumed increases the *Kleda* formation in the body. Also it increases the *Rasa Dhatu* and the *Lasika* which are the *Dushyas* in *Prameha*. Water is the major constituent of human body and is useful to relieve thirst and meet fluid requirements. The requirement of water depends upon the climate and physical activity. More fluid is required for hot weather and for people involved in heavy work and exercise. On an average, 8-10 glasses of fluid is required for an adult living in moderate climate, unless otherwise contraindicated.

The percentage of diabetic patients with liquid diet 3 - 5. It is highest in this survey study.

Drinking of water during meal timings

According to Ayurveda, the consumption of water before meals leads to *karshya*. The consumption of water during meals is advisable and useful for the body. The consumption of water after meals leads to heaviness in the body. Water consumed after meals causes solidification of fats increasing the fat deposition leading to obesity.

The percentage of diabetic patients with drinking of water during meals is highest.

Stress

Stress is the main causes of diseases. Stress affects muscles, tissues, blood vessels and organs. It speeds up heart rate and respiration, raises blood pressure and body temperature and can interfere with metabolism, appetite, digestion, fertility and sleep. It can result in early menopause. Stress can affect immune system, impairs memory. It can make a person obese or undernourished. Stress can be the cause of diabetes and heart disease.

In addition to keeping us alive, eating serves countless psychological, social and cultural purposes. We eat to celebrate, punish, comfort, defy and deny. Eating in response to emotional drives, such as feeling stressed, bored or tired is called as emotional eating. Psychological health problems include poor self esteem an ability to cope effectively with feelings of stress and in extreme cases, eating disorders, such as anorexia nervosa, bulimia and obesity.

The percentage of diabetic patients with work stress is highest.

Fast food at Chain Restaurant

Food centers and Hotels are on the rise. Every nook and corner of the society has a restaurant. It is difficult to judge whether each and every restaurant follows food standards. Eating out provides the body with unwanted calories leading to obesity.

The percentage of diabetic patients with fast food in chain restaurant once a week is highest.

Sedentary Lifestyle

Sedentary lifestyle vitiates the Kapha dosha. It also affects the *Dushyas Mansa, Meda* increasing the obesity. Through muscular activity, one spends energy and consume calories. Thus physical activity will tend to change the blood glucose levels. Activity can be graded as follows:

Sedentary

Those who do desk work, supervising work-office workers, desk managers, computer operators, shopkeepers etc.

Moderate Activity

Those who often move about, while at work, like doctors, techers, engineers, nurses etc. and take some exercise during the day.

Strenous Activity

Labourers and farmers usually perform this grade of activity.

The percentage of diabetic patients with sitting in the same position for 4 to 6 hrs is highest.

Time Spent During Meals

Food should be consumed at proper and fixed time. The food consumed before time when there is no lightness in the body and the feeling of hunger, it results in various diseases and also death. The food consumed after time affects the Vata Dosha and causes indigestion. Therefore food should be consumed at the right time.

The percentage of diabetic patients with time spend on meal more than 30 min is highest.

Eatables in Breakfast / Lunch Dinner

The consumption of various kinds of food items together was found to be highest among the patients. Many times wholesome and unwholesome food is consumed together. This leads to *Agni Dushti* which leads to the formation of various diseases.

Habits

The percentage of diabetic patients with Habits of 2 – 4 items is highest.

Consumption of tea and Coffee

Tea has been shown to contain several polyphenolic compounds and their derivatives which are reported to possess antioxidant property¹⁵. But tea contains large amount of sugar in it. This sugar is the main cause of diabetes mellitus. Tea and coffee have a stimulating effect due to their caffeine content. One cup of brewed coffee has 80-120 mg caffeine, instant coffee has 50-60 mg of caffeine, while tea has 30-65 mg caffeine. Caffeine stimulates the central nervous system and induces psychological dependence. High doses of caffeine can give anxiety, however low doses give a feeling of well being and alertness. Tannin present in tea and coffee also interfere with iron absorption, so it should not be taken with iron rich

foods. Too much coffee increases blood pressure and at time causes arrhythmias¹⁶. This also increases the incidence of *Prameha* disease.

Alcohol and Smoking

If alcohol is consumed, it should not be counted as part of the meal plan but in addition to the meal plan. In the fasting state alcohol may produce hypoglycaemia. This is because alcohol cannot be converted to glucose, inhibits gluconeogenesis and augments or increases the effects of insulin by interfering with the counter regulation of insulin induced hypoglycaemia. Alcohol is metabolized in a manner similar to fat. Even though extra calories are consumed, total food intake should not be reduced. When calorie intake is being restricted, as in individuals trying to reduce their body weight, alcohol is best substituted for fat. Cigarette smoking enhances endothelial damage, increases heart rate and blood pressure, lowers high density lipoprotein cholesterol, increases LDL, constricts blood vessels and promotes thrombus formation¹⁷. Thus it increases the chances of diabetes mellitus.

Exercise

Exercise prevents the occurrence of diseases. Exercise constitutes an important mode of controlling diseases. The advantages of exercise are toning of muscles and body alertness, greater utilization of glucose in the muscle tissues and increase in tissue insulin sensitivity, management of weight- calorie utilization. The best exercise is a stepwise increase in aerobic exercise. Brisk walking is safe and simple. A training effect is produced and maintained if exercises achieve 70-75% of the maximum, heart rate or target rate, lasting 15-20 min/day and 5-6 days a week¹⁸. Yoga exercises are also beneficial, but may not lead to calorie utilization as compared to aerobic activity; however they are good for flexibility and more suitable for elderly diabetics. The digestive power of an individual gets stabilized if exercised regularly. This helps in proper digestion which in turn leads to regular and timely physiological functioning of the body.

The percentage of diabetic patients with Exercise 0 – 6 points i.e. minimum or no exercise is highest.

Habit of Taking Walk after Meals

It is recommended to take a slow walk of around 100 steps subsequent to relaxing for sometime after meals. But nowadays when people are constantly under work pressure and complain of lack of time and as a result have fixed time for food, it is quite difficult for them to follow such habits.

The percentage of diabetic patients with no walk after meals is highest.

Sleeping Hours

Divaswaap that is sleeping during the day time increases the *Kapha Dosha* in the body¹⁹. According to some *Acharyas* it causes vitiation of the three Doshas. This is a major causes of *Prameha* disease. This *Divaswaap* is advisable only in the *Grishma Ritu*²⁰. As in *Grishma Ritu*, the day is longer and the nights are shorter. So to compensate with this sleeping during the day time is advised. But in other Ritus it is not at all advisable. But many people,

especially housewives tend to take *Divasvaap* throughout the year irrespective of the *Ritu*. Also the job patterns of people involve night working hours. Such people sleep during the day times. This affects the biological clock of the body leading to various kinds of diseases. *Prameha* is also one such disease.

The percentage of diabetic patients with sleeping hours at day 30 – 60 min is highest.

The percentage of diabetic patients with sleeping hrs at night 6 – 8 hrs is highest.

Use of Artificial Sweeteners

Artificial sweeteners offer the sweet taste and have few calories. These sugar substitutes are much sweeter than sugar and are required in very small quantities as compared to natural sugar. The food products made with artificial sweeteners are low in calories, however we need to check, if the calories are coming from other carbohydrates and fats, which could be the part of the recipe. Just removing sugar from cookies and chocolates does not make them low-calorie, low fat foods. If one eats too much quantity one still gets more calories than he or she may need and one may not get enough nutritious foods. The use of this artificial sweeteners has to be done sensibly²¹.

The percentage of diabetic patients with no use of artificial sweetener is highest.

Habit of Fasting

In our Indian culture, there are certain occasions where people fast. It has both a religious as well as scientific outlook to it. These fasts are advised according to the various climatic changes that take place and the Agni of that individual. Fasting is a period where we have to abstain from eating for some time. There are also various substitutes like fruits, milk to be consumed while fasting. This fasting helps the body to remove the stored toxins from the body. Often, there exists a misconception about fasting and people tend to eat more during fasting. People tend to provide themselves with alternatives like wafers, potatoes, sabudana which are very high in their calorie count. These foodstuffs are consumed like regular meals. This does not serve the purpose of fasting but creates harm to the body.

The percentage of diabetic patients with Fasting 1 - 2 days a week is highest.

Long Distance Travelling

Nowadays, men and women both have their own professional commitments. Often fulfilling these commitments involves travelling a lot. Travelling affects our daily routine and creates stress. The person becomes lethargic very early. Also the food timings are not followed properly and many people end up eating outside food. This leads to unnecessary stress and consumption of fast food.

The percentage of diabetic patients with no long distance travelling is highest.

Regular Meal Timings

There is the dominance of *Doshas* in our body according to the day and night patterns. Hence the food that we consume has to be at the right time everyday. The key to proper digestion and assimilation lies in the appropriate stimulation of the digestive *Agni*²². Feeling hungry at suitable times

indicates the stability of the same. Also the consumption of food when one is hungry is also important. Many times people tend to miss their meal timings even when hungry due to workload. This affects the blood glucose levels in the body.

The percentage of diabetic patients with daily regular meal timings is highest.

Habit of Staying Awake During Late Night Hours

Sleep in the right amount at the right time is very essential for the health of the body. Staying awake in the late night hours increases the *Rukshata* in the body and vitiates the *Vata Dosh*.^[22] This also puts a strain on the eyes and generates mental stress.

The percentage of diabetic patients with awake till late night (1.00 am) is highest.

Conclusion

1. Lifestyle changes have had their impact on every aspect of the society. Be it the cultural changes or the dietary habits. The acceptance of a fast paced and instant lifestyle has affected the health of every individual giving rise to lifestyle diseases like *Prameha*.
2. This change has been very significant in the last few decades as compared to the earlier centuries. Faulty food habits have become a part of our lives. The food habits are not followed according to the parameters mentioned in ancient and modern dietetics which has led to the development of many lifestyle diseases.
3. The regimens of *Dinacharya* and *Ritucharya* are not followed by the masses which are mentioned in the Ayurveda classics for the maintenance of good health. Thus the masses are deprived of the benefits of *Swasthavrrita*.
4. The frequently observed causative factors of *Prameha* in this survey study are eating out at fast food and chain restaurants, excessive consumption of liquid diet, *Diwasvaap*, lack of exercise, stress, sedentary work which are the causative factors of *Prameha* mentioned in Ayurveda classics as well as modern dietetics.
5. Sedentary job patterns are on the rise. This has led to less physical activity. Physical exercises have lost their place in the lives of people. This has led to the increase of diseases like *Prameha*.
6. Stress is increasing day by day which is mental as well as physical. This is the triggering factor in the disease process.

The causative factors of *Prameha* are clearly evident as mentioned in ancient and modern dietetics in this study. Thus the disease *Prameha* is certainly a lifestyle disease.

Genetic factors, geographical distribution, influence of other diseases or pathological conditions which are said to be responsible for the cause of *Prameha* are out of the scope of this particular study. Hence there is a scope of further study to evaluate the influence of these factors in the disease formation process of *Prameha*.

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