

Title: Comparative Study of *Madhumeha Lakshana* in Alcoholic & Non Alcoholic patients**Author: Pawar Mangesh Madhusudan*¹, Kale Snehal Vinayak²****1. Assistant Professor, Rognidan and V. V.****2. Assistant Professor, Balrog**

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***Corresponding Author:** Mob.: 9325810119; Email: mangeshpawar00005@gmail.com**Abstract:**

Among the several health problems *Madhumeha* (Diabetes mellitus) is a giant disease considered as one of the arch enemy of the mankind. World Health Organization (W.H.O.) has projected that the maximum increase in diabetes would occur in India.

Diabetes is fast gaining the status of a potential epidemic in India. It is predicted that by 2030 diabetes mellitus may afflict up to 79.4 million individuals in India.

The present study has been undertaken with the objectives, to find out the etiology and *Samprapti* of the disease according to Ayurvedic texts, to evaluate role of *Madyapana* (alcoholism) in the etiology and progression of the disease.

Survey study was designed to strengthen the facts about diet and lifestyle contributing to etiopathogenesis of *Madhumeha* (diabetes mellitus). It establishes that excessive consumption of alcohol play a significant role in doing *Tivrata* of *lakshana* (change in gradation) causation of the disease.

For this, 120 male patients of age group 40 to 70 years were randomly selected from OPD and IPD of Late Kedari Redekar Ayurved medical College and Research centre Gadhinglaj, Kolhapur, Maharashtra and divided into two groups, Group A (60 Non alcoholic *Madhumehi* patients) and Group B (60 Alcoholic *Madhumehi* patients). Clinical and laboratorial signs and symptoms were observed before study and after 2 days of discontinuation of treatment. The study has proved that Alcoholism and *Prabhut Mutrata* (Polyuria), Frequency of Urine were associated with *Madhumeha*.

Keywords: *Madhumeha*, Diabetes mellitus, alcohol, *Tivrata*, *Prabhut Mutrata*.

Introduction:

Modern science through improved sanitation, vaccination, antibiotics and

medical attention has eliminated the threat of death from most infectious diseases. This means that death from lifestyle diseases like heart disease, diabetes, cancer etc are now the primary causes of death. Everybody naturally has to die of something, but lifestyle diseases take people before their time.

The World health Organization (WHO) has identified India as one of the nations that is going to have most of the lifestyle disorders in the near future. It is said that, the possibility of an Indian suffering from a lifestyle disease is four percent greater than people from other nationalities. Nowadays, not only are lifestyle disorders becoming more common, but they are also affecting younger population.

A sedentary lifestyle combined with an increase in the consumption of fatty food and alcohol is to blame for the cases of obesity, diabetes, hypertension etc. Doctors term these diseases as 'affluent society diseases', which are mainly caused due to reduced physical activity and consumption of fast food and alcohol.

*Acharyas of Bhrihatrayi dealt Prameha extensively in their samhitas with its types according to Doshas. Madhumeha is one of the type of vataj prameha.*¹⁻²

The disease *madhumeha* is one among the *asthamahagadas* (eight fetal condition) formed in urinary system³.

The 'Meha' word is mainly related with the excretions through urine. The definition of *Prameha* mentioned by *acharya madhava* in *madhav nidan samhita* is⁴

"प्रकर्षेण प्रभुतं प्रचुरं वारंवारं वा मेहति मूत्रत्यागं करोति यस्मिन् रोगे स प्रमेहः /"

(मा.नि.३३/१)

In ayurvedic literature *Acharya Charaka* has mentioned *Madyapana* (Alcoholism) as one of the hetu for *Madhumeha*⁵.

"गुरुस्निग्धाम्ललवणान्यतिमात्रं समश्नताम्।

नवमन्त्रं च पानं

च निद्रामास्यासुखानि च॥"

(च.सु.१७/७८)

Alcohol is the most common abusive substance addiction of the present day population. Also the amount consumed and problems associated have been increased in recent years.

Since most of the generation, especially young generation is getting provoked attracted to it due to present life style.

Alcohol can cause chronic inflammation of the pancreas (pancreatitis), which can impair its ability to secrete insulin and ultimately lead to diabetes.

If this turns out to be the main cause of *Madhumeha*, preventive measures can be adopted through education and counseling, as first line of treatment in *Prameha* mentioned by *Acharya Charaka* is *Nidana Parivarjanam*.

"Swasthasya swasthyarakshanama aaturasya vikara prashamanam".

Health is the supreme foundation to virtue, wealth, enjoyment and salvation. Therefore preservation and promotion of health is removal of causative factor of disease is the principal goal of Ayurveda i.e. *Nidana Parivarjana*.

In the present study a total of 120 patients were registered for the trial and were distributed in two groups i.e. Group A and Group B. Of these 60 children in Group A and 60 children in Group B completed the course of treatment. The general observations of total 120 children are plotted in the clinical study. Maximum efforts had been taken to avoid

bias that may creep in this as it is a psychological research work.

In the present study 120 male patients of age group 40 to 70 years were randomly selected from OPD and IPD and divided into two groups, Group A (60 Non alcoholic *Madhumehi* patients) and Group B (60 Alcoholic *Madhumehi* patients). Clinical and laboratorial signs and symptoms were observed before study and after 2 days of discontinuation of treatment.

Aims and Objectives:

Aim: - To conduct the comparative study of *Madhumeha Lakshana* in Alcoholic and Non-alcoholic patients.

Objectives:-

1. To study *Madhumeha* from various classical texts of modern and ayurveda.
2. To study the role of alcohol as an etiological factor in *Madhumeha*.

MATERIAL AND METHOD

The present study was conducted to observe *Madhumeha Lakshana* in Alcoholic & Non Alcoholic patients in *Madhumehi* patients.

Total 120 male patients between 40 to 70 years age group excluding dropouts, suffering from salient features of *Madhumeha* (Diabetes mellitus) either attending the O.P.D. or admitted in the I.P.D. were randomly selected for this present study irrespective of age, caste, occupation, religion etc.

These patients were randomly divided into two groups; Group A (Non Alcoholic) and Group B (Alcoholic). Random blood sugar level

and urine sugar level count study was conducted in diagnosed patients of *Madhumeha* on first day of clinical examination and after discontinuation of all type of medication of *Madhumeha* (Diabetes mellitus) for 2 days. For urine examination Urinary container was given. Prior, informed written consent was taken from patient whenever it is necessary. History & Clinical observation of all patients was taken thoroughly with the help of special case paper format. Clinical observations were noted according to case record format. Relation between laboratory investigations and clinical observations were evaluated.

This is the observational based study and no medication was given to any of the patients and hence in the course of study no bio-medical hazards were caused to the patients.

The study was done at Late Kedari Redekar ayurveda Medical college and research center Gadhinglaj, Kolhapur, Maharashtra.

Study design:

Observational Study

Inclusion criteria:

1. Age group 40-70 years.
2. Sex-Males.
3. Having Random Blood Sugar Level count below 400 mg/dl.
4. Diagnosed *Madhumeha* patient.

Exclusive criteria:

1. Patients with age group below 40 and above 70 years.
2. Female patients.
3. Patient taking insulin.

4. Having Random Blood Sugar Level count above 400 mg/dl.
5. Patients of Sahaja Madhumeha (IDDM), Juvenile Diabetes mellitus.
6. Patients complicated with any cardiac problems.
7. Patients suffering from anorectal diseases.
8. Diabetes mellitus due to other hormonal disturbances like Pheochromocytoma, Acromegaly, and Thyrotoxicoses etc.
9. Diabetes due to side effect of drugs :
 - Diuretics (Thiazide groups)
 - Steroids
10. Acute and chronic systemic infectious diseases such as renal diseases, liver disease, etc.

Withdrawal criteria-

2.

Patients not in regular follow up and during the course of trial if any serious condition develops which requires urgent treatment such subjects were withdrawn and managed according to need.

Time and Duration of the Study

The duration of the study was 2 days.

Diagnostic criteria:

Diagnosis was made on the basis of-

1. Random Blood Sugar level
(On the same day of the clinical examination and after discontinuation of all type of medication of Madhumeha (Diabetes mellitus) for 2 days)
2. The known patient of Diabetes mellitus

CRITERIA FOR ASSESSMENT

1) Subjective Criteria-

As per the text symptomatology was considered,

1. **Prabhuta Mutrata (Polyuria)**

Grade	Quantity of urine (in liter)	On 1 st D of Ex	On 3 rd D of Ex
Grade 1	1.50 to 2.00		
Grade 2	2.00 to 2.50		
Grade 3	2.50 to 3.00		
Grade 4	3.00 to 3.50		
Grade 5	3.50 and onwards		

3. Frequency of urine

Grade	Frequency of urine		On 1 st D of Ex	On 3 rd D of Ex
	Per day	Per night		
Grade 1	3 - 5 times	Rare		
Grade 2	5 - 7 times	1 - 2 times		
Grade 3	7 - 9 times	2 - 3 times		
Grade 4	9 - 11 times	3 - 4 times		

Grade 5	more than 11 times	more than 4 times		
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3. Avila Mutrata (Turbidity)

Grade	Avila Mutrata (Turbidity)	On 1 st D of Ex	On 3 rd D of Ex
Grade 1	Crystal clear fluid		
Grade 2	Faintly cloudy or smoky (turbidity barely visible)		
Grade 3	Turbidity clearly present but newsprint easily read through test tube		
Grade 4	Newsprint not easily read through test tube		
Grade 5	Newsprint cannot be seen through test tube		

2) Objective Criteria-

1. Alcohol Consumption

The criteria will be assessed on the basis of questionnaire.

Grade	Alcohol Consumption	On 1 st D of Ex	On 3 rd D of Ex
Grade 1	Mild alcoholic		
Grade 2	Moderate alcoholic		
Grade 3	Severe alcoholic		

RESULT:

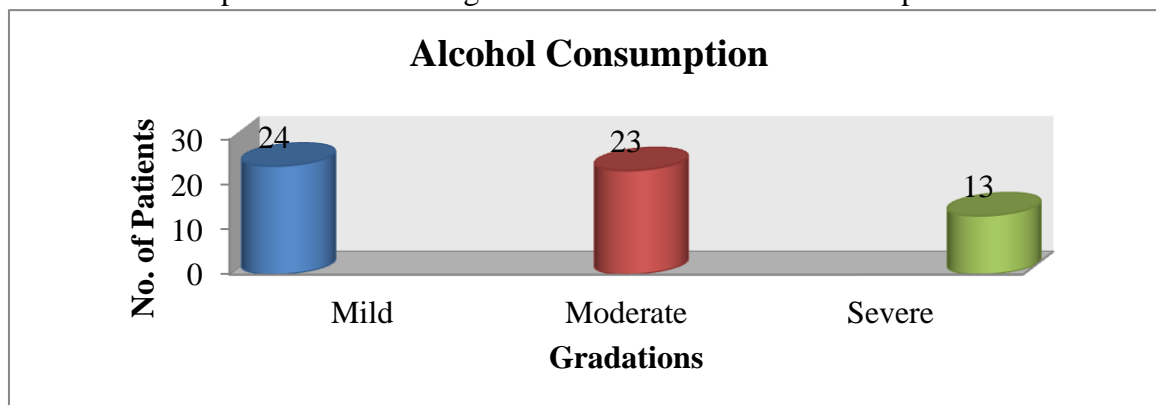
Alcohol Consumption wise distribution-

Table No.1- Percentage wise distribution of alcoholic patients:

Alcohol Consumption	No. of Patients	Percentage
Mild	24	40.00%
Moderate	23	38.33%
Severe	13	21.66%
Total	60	100%

In Group of Alcoholic – majority of i.e. 24 (40%) were mild amount of alcohol consuming patients, 23 (38.33%), were moderate amount of alcohol consuming patients and 13 (21.66%) were severe amount of alcohol consuming patients.

Graph no. 1- Percentage wise distribution of alcoholic patients



In present study Chi square test is applied to prove whether there is association between the Alcoholism and Change in Gradation for Libido.

1. Null hypothesis

There is no association between the Alcoholism and Change in

Gradation for following Lakshana's.

2. Alternative hypothesis

There is an association between the Alcoholism and Change in Gradation for following Lakshana's.

Table No.2- Chi square value for lakshanas

Sr. No.	Lakshana's	Group A		Group B		X ²
		Increase In G	No Change	Increase In G	No Change	
1	Prabhut Mutrata (Polyuria)	8	52	21	39	7.68
2	Frequency of Urine	10	50	24	36	8.04
3	Avil Mutrata (Turbidity)	7	53	9	51	0.28

G- Gradation; X²- Chi square test value

Degrees of freedom (df) = (Column – 1) (Row – 1) = (2 – 1) (2 – 1) = 1

Chi square (X²) tabulated value of df = 1 is 3.84 at P<0.05 i.e. at 95 % level of significance.

Conclusion:

As the calculated chi square (X²) value is lower than the tabulated (X²) value, we should accept the null hypothesis and reject the alternative hypothesis.

So the Alcoholism and Change in Gradation for Prabhut Mutrata (Polyuria), Frequency of Urine are associated or interdependent.

DISCUSSION

1. Prabhuta Mutrata (Polyuria)

In observational study it was observed that for the Lakshana Prabhuta Mutrata (Polyuria) increase in gradation (change in degree of lakshana) was 21 and 8 for Alcoholic and non alcoholic groups respectively.

As the calculated Chi square value (7.68) is higher than the tabulated Chi square value (3.84) for Prabhuta Mutrata and Alcoholism, it is observed that the intensity of sign Prabhuta Mutrata (Polyuria) was more sever in

alcoholic diabetic patients than that of non alcoholic diabetic patients.

View of Ayurveda: Prabhuta Mutrata is the main cardinal sign of Madhumeha described by all Acharyas. Vagbhata mentioned Prameha as the disease of Mutraatipravrtija (A.hr.ni. 9/40). Prabhuta Mutrata i.e. excess urine quantity in Madhumehi is due to of liquification of the Dushyas and their amalgamation as explained by Gayadasa on (Su.ni.6/6).

Prabhuta Mutrata is a result of Vriddhi Swarupa Kleda Dushti. To diminish increase in amount of Kleda, Prabhuta Mutrata is seen in Madhumehi patients.

Modern View: In diabetes body tries to rid itself of unused glucose (blood sugar) through the urine and results in excessive urination. Diabetes also damage the nerves that control the bladder, causing frequent urination and difficulty controlling bladder.

Alcohol is a diuretic. Due to diuretic property of alcohol it produces more urine. Alcohol suppresses release of arginine vasopressin or anti-diuretic hormone (ADH), the hormone that allows kidneys to return water to bloodstream.

May be the reason that it was observed, the sign Polyuria was more severe in alcoholic patients diabetic patients than that of non alcoholic diabetic patients.

2. Frequency of Urine:

In observational study it was observed that for the Lakshana Frequency of Urine increase in gradation (change in degree of lakshana) was 24 and 10 for Alcoholic and non alcoholic groups respectively.

As the calculated Chi square value (8.04) is higher than the tabulated Chi square value (3.84) for Frequency of Urine and Alcoholism, it is observed that the severity of sign Frequency of Urine was more in alcoholic diabetic patients than that of non alcoholic diabetic patients.

Alcohol reduces the production of a hormone Vasopressin. Vasopressin tells to kidney to reabsorb water rather than flush it out through the bladder. As the body's natural signal switched off, the bladder is free to fill up with fluid. Every 1grm drunk alcohol increases approximately urine excretions by 10 ml. Alcohol also stimulates the bladder, so patients feel the urge to pee sooner. This may be the reason that in Alcoholic diabetic patient severity of Frequency of urination was more severe compared to that of Non Alcoholic.

3. Avil Mutrata (Turbidity):

In observational study it was observed that for the Lakshana Avil Mutrata (Turbidity) increase in gradation (change in degree of lakshana) was 9 and 7 for Alcoholic and non alcoholic groups respectively.

As Tabulated Chi square value (3.84) of Avil Mutrata (Turbidity) and Alcoholism was higher than the calculated value of Chi Square (0.28). It is observed that Alcoholism does not affect on acuteness of Avil Mutrata (Turbidity) in Madhumeha Vyadhi.

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