

A CROSSECTIONAL SURVEY STUDY TO ESTABLISH RELATION BETWEEN
OJAKSHAYA AND MADHUMEHA (TYPE 2 DM)Dr. Siminayani G.^{1*}, Dr. Chetan M.² and Dr. Mamatha T.³

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ABSTRACT

Introduction: The human body, known as "Shareera," is a harmonious union of four fundamental entities: the physical body, the senses, the mind, and the soul.^[1] This equilibrium is intricately sustained by a vital life force called "Ojas."^[2] Ojas is the foremost entity to form after the emergence of the foundational elements Vata, Pitta, and Kapha and Sapta Dhatu, accumulating the essence of living beings and any disturbance to Ojas, termed "Ojovikruti," poses a significant threat to life. Factors contributing to Ojas depletion include loss of bodily tissues, injuries, emotional distress, excessive hunger.^[1] **Materials and Methods:** In this study of investigating Ojas in the context of Madhumeha (type 2 Diabetes mellitus), 200 diagnosed patients participated. They were assessed for Ojakshaya through a self-designed questionnaire. **Aims and Objectives:** The primary objective was to evaluate Ojakshaya symptoms in these patients and determine if the condition's duration correlated with the extent of Ojakshaya. **Observation and Results:** The research identified Ojakshaya symptoms in Madhumeha patients, with longer disease duration intensifying these effects. This supports the concept of Dhatu depletion and Vata aggravation leading to profound Ojakshaya in diabetes, emphasizing the significance of Ojas in this context.^[1]

KEYWORDS: The research identified Ojakshaya symptoms in Madhumeha patients, with longer disease duration intensifying these effects.

INTRODUCTION

India faces a formidable burden of diabetes, with an estimated 77 million individuals affected, ranking second globally only to China. Approximately one in six people with diabetes worldwide resides in India, resulting in an alarming incidence rate of 13.5%.^[3] Diabetes mellitus is a multifaceted metabolic disorder characterized by chronic hyperglycemia, profoundly affecting carbohydrate, fat, and protein metabolism due to anomalies in insulin secretion, action, or both.^[4] Within this intricate diabetes landscape, Madhumeha, categorized as a subtype of Vataja Prameha, stands out with distinctive attributes and is often referred to as Ojomeha or Kshaudra meha. This study delves into the dynamic relationship between diabetes and Ojas, acknowledged as the paramount essence of vital energy. The progression of Madhumeha encompasses vitiated tridosha impacting dasha dushyas and eventually leading to increased shareera kleda, which leads to excess kleda vahana through basti. Over time, Madhumeha result in Ojas depletion because of constant dhatu kshaya and vatavruddhi.^[1] Hence, this exploration into the

correlation between Madhumeha and Ojakshaya is of paramount importance, promising to enhance our comprehension of this intricate concept. This study is driven by the pressing need to address the substantial diabetes burden in India, particularly the unique subtype of Madhumeha. Through an investigation into the connection between Madhumeha and Ojas, we aspire to gain profound insights into the underlying mechanisms of this intricate metabolic disorder. This exploration is vital for refining treatment strategies and developing more effective approaches to combat the distinct challenges posed by diabetes in India.

MATERIALS AND METHODS**Criteria for Subject Selection**

Inclusion criteria for this study encompassed individuals diagnosed with Madhumeha, specifically Type 2 Diabetes mellitus, irrespective gender, provided they were willing to give consent. The age range for the study participants was set between 40 and 80 years.

Exclusion criteria excluded individuals with concurrent systemic illnesses, lactating or pregnant women, and patients exhibiting diabetic complications.

Data Collection Method: Data for this research was collected using convenience sampling, with a total sample size of 200 participants, which included 20 for a pilot study. The data was gathered through a closed-end questionnaire featuring a 5-item Likert scale.

Assessment Criteria for Ojakshaya^[1]

The assessment of Ojakshaya was structured around eight distinct domains.

1. Bibheti
2. Durbala abhikshanam
3. Dhyayati

4. Vyathitendriya
5. Duschaya
6. Durmana
7. Ruksha
8. Kshama

Assessment criteria for Madhumeha^[5]

Diagnosed cases of Madhumeha (Type 2 diabetes mellitus).

OBSERVATIONS AND RESULTS

Based on the survey study done these were the question which had significant p value after subjecting the data to chi-square test. The sample was divided into 4 groups based on the onset of Type 2 Diabetes mellitus.

S.NO	Question	Option	DM SINCE				P value
			1 (1-10 years)	2 (11-20 years)	3 (21-30 years)	4 (31-40 years)	
	Fear of Diabetes	5-Every time	61	111	14	13	0.05
1.	Sleep Pattern Changes	5-Every time	59	110	11	13	0.00
2.	Increased General Weakness	5-Strongly Agree	50	50	3	2	0.00
3.	Increased Weakness of Joints	1-Strongly Agree	53	94	12	11	0.05
4.	Initial Denial of Diabetes	1-Strongly Agree	15	12	11	11	0.05
5.	Increased Weakness of Eyes	5-Every time	54	109	8	7	0.00
6.	Increased Blurring of Vision	5-Every time	54	109	8	7	0.05
7.	Increased Dryness of Tongue	5-Every time	62	111	14	13	0.05
8.	Repeated Bleeding in Gums	3-Occasionally	55	105	8	2	0.00
9.	Pricking Sensation All Over Body	5-Every time	60	110	11	7	0.05
10.	Burning Sensation in Hands and Feet	3-Occasionally	55	105	8	2	0.05
11.	Numbness or Wrong Pedal While Driving	5-Every time	61	111	14	13	0.05
12.	Increased Dryness even after application of oil or moisturizer	1-Strongly Agree	62	111	14	13	Constant
13.	Increased hunger and weakness despite of sufficient amount of food	4-Almost every time	53	107	8	9	0.05
14.	Increased thirst despite of consumption of sufficient amount of water	4-Almost every time	61	111	14	13	Constant

DISCUSSION

1. Incidence of Sex: The study found that 65% of diabetes patients were male. This aligns with global trends where the prevalence of type 2 diabetes mellitus is higher in men. Low testosterone levels in men may lead to visceral fat deposition, insulin resistance, and an increased susceptibility to type 2 diabetes.

2. Incidence of Occupation: The research revealed a higher prevalence of ojakshaya symptoms in agriculturists (30%). This is attributed to the direct handling of agrochemicals, including pesticides and fertilizers, which was associated with a 15.2% prevalence of type 2 diabetes among the farming community.

3. Socio-economic Status: A significant proportion (70%) of patients belonged to the lower-middle class, characterized by low income and limited education. These factors contribute to a lack of health awareness, physical inactivity, obesity, and unhealthy lifestyles, increasing susceptibility to type 2 diabetes.

Probable understanding of ojakshaya being a cause for these lakshanas

1. Anxiety and loss of concentration in Madhumeha:- In Madhumeha further the person is in not able to accept the situation as it is that he is afflicted with such a disease because of which there is moha, due to moha the person gets further involved in prajnapardha. when there is consumption of nidanas like asatmya indriyarthas, not following sadvrutta, Vega dharana etc the tridosha, rajas and tamas get afflicted further leading to dusthi of manovahasrotas whose sthana is hridaya. The sthana of ojas also being hridaya leads to ojakshaya and lakshanas like bhaya, shoka dhyayana get manifested.^[1]

Anxiety disorders are more prevalent in diabetic patients, primarily due to the influence of stress on hormonal imbalances, immune dysfunction, and inflammation.^[6] These factors can contribute to the development or exacerbation of diabetes, High blood sugar levels can damage blood vessels that supply oxygen to the brain, leading to cognitive issues such as memory loss and attention problems.^[7]

2. Disturbed Sleep in Madhumeha: One of the karana for nidra pravrtti is sleshma samudbhava In madhumeha there is swabhavata vataprakopa happening and further there is consumption of ruksha padartha which further lead to kapha kshaya .Moreover in nidra nasha the role of manasika nidanas like bhaya, chinta, shoka, vyatha, lobha, krodha has been mentioned which further lead to vata prakopa and similar nidanas are said to even cause the oja kshaya leading to alpa nidrata in madhumeha.^[1]

Diabetes can disrupt sleep patterns through increased urination and other symptoms, impacting sleep quality. High blood sugar may also cause headaches, increased thirst, and tiredness that can interfere with falling asleep. Similarly, symptoms of low blood sugar levels can also lower sleep quality. It is not uncommon for people to experience a hypoglycemic event during their sleep, which can cause them to feel sweaty, shaky, and hungry and to experience nightmares.^[4]

3. Generalized Weakness in Madhumeha : When ahara is consumed the jatharagni acts on the ahara and when there is paka of ahara it gets divided into prasada and kitta bhaga. The prasada bhaga of ahara is responsible for nourishment of all the Dhatus and inturn ojas In madhumeha the ahara paka doesnot happen properly there is improper formation of dosha and dhatu hence there is oja kshaya happening. In prakruta avastha kapha is considered as bala and in madhumeha there is kapha kshaya and vata vrudhhi occurring further leading to bala kshaya.^[1]

Diabetes affects energy levels by impairing the utilization of glucose, further due to deposition of intermuscular fat there is decreased blood flow to the muscle and hence there is early muscle fatigue leading to weakness.^[8]

4. Weakness of Joints in Madhumeha: In Madhumeha patients there is vata prakopa happening and proper nourishment of dhatus is not happening leading to sira and dhamani shaithilyata. Further there is ashraya ashrayi bhava relationship between Vata dosha and Asthi Dhatu as there is increased vata dosha there is decreased asthidhatu happening leading to sandhishaitilyata.

In diabetes, there is an increased risk of osteoporosis due to glycosylation of collagen, which can weaken joints.^[9]

5. Blurring and Weakness of Eyes in Madhumeha: Netra is Agni mahabhoota pradhanya avayava, due to nidana sevana for chronic amount of time the agnimandyata occurs even at the level of Netra. In madhumeha there is sira and dhamani shaithilyata moreover rakta and majja dhatus are one among the dushyas in the samprapti, timira dasrshana is one of the lakshana of majja dhatu kshaya. Timira, akshi vyudusha are one among the vataja nanatmaja lakshanas.^[10]

Diabetes can lead abnormal apoptosis, capillary loss, and oxidative stress, resulting in Retinal neuronal damage and vision problems.^[11]

6. Dryness of Mouth in Madhumeha: Due to ama and ajirna there is constant dhatu kshaya happening, mukhsosha is one of the lakshana of Ajirna Mukha shosha is also one among the vataja nanatmaja vikara as there is constant vata vrudhhi occurring it leads to manifestation of mukha shosha.^[12]

Prolonged diabetes causes dysfunction of salivary glands which further contribute to dry mouth, oral ulcers, and dental issues.^[13]

7. Burning Sensation in Hands and Feet in Madhumeha: Daha is a feeling like burn from fire any type of daha is always associated with pitta, padadaha is due to Ashayaapakarsha of pitta by vata.^[14]

8. Pricking Sensation All Over the Body: It is included in vata prakopa lakshanas, the chala guna of vata is responsible for it.^[12]

9. Numbness: Supti occurs due to snayu sira kandara dusti gata prakupita vata prolonged consumption of nidanas lead to manifestation of suptata Diabetes can narrow blood vessels, leading to diminished oxygen supply to nerves, causing numbness.^[1]

10. Frequent Urination at Night: Prakarsha and prabhoota mutrata occurs due to increase in the kleda of the body which gets eliminated through basti.^[15]

Elevated blood sugar levels prompt increased urination, especially at night.^[8]

11. Dull Look: Prasannata in one of the lakshana of ojas and when there is oja kshaya it leads to dull and ill look.^[1]

12. Increased Formation of Plaques on Teeth: Madhura asyata and malaadhikyata is a Poorvaroop of prameha Elevated blood sugar levels can foster the growth of harmful bacteria in the mouth, leading to plaque formation.^[1]

13. Dryness of Skin: Qualities of ojas include mridu, snigdha and slakshana, due to madhumeha when there is oja kshaya happening there is loss of snigdha amsa of the sharira the sara of twak is also lost hence it leads to rukshata.

When there is increased blood sugar level the body tries to pull fluid from the cells so it can produce enough urine to remove the excess sugar this makes the skin dry and loss of tugor.^[4]

14. Hunger and Thirst: Gala talu sosha is mentioned as Poorvaroop in prameha, when there is agnimandyata and ama formation occurs the paka of ahara does not happen properly hence there is vidagdha bhava of the ahara leading to trishna and daha Diabetes affects glucose utilization, leading to increased hunger and thirst as the body struggles to convert food into energy.^[4]

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CONCLUSION

This study offers valuable insights into the relationship between ojkshaya and Madhumeha (Type 2 Diabetes mellitus), highlighting the multifaceted nature of the disease. These findings integrate both Ayurvedic and modern medical perspectives, offering a comprehensive understanding of diabetes and its various manifestations.

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