



Clinical evaluation of *Haridra amalaki yoga* in the management of madhumeha (*Diabetes mellitus*)

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Abstract

Diabetes mellitus (Madhumeha) is a metabolic disorder which affects almost all the system of body. patient were registered with the help of Performa prepared for study 100 patient were taken for this observational study Drug Haridra Amalaki yoga were administered in dose of 8 gm per day with water Effect of therapy was assessed by sign symptom and blood sugar level before and after treatment. It was assessed by basis of self formulated scale. All patient were treated with 4 gm of Haridra Amalaki yoga with water twice daily for two month. Periodical checkup and follow up were conducted once in 15 days. Statistical analysis reveal that in the management of Diabetes mellitus the efficacy of Haridra amalaki yoga is effective. By using Haridra amalaki yoga in the management of madhumeha showed a significant result. Haridra Amalaki yoga in management of Madhumeha shows a positive result.

Keywords: Ayurveda, Amlaki, chikitsa, Charaka, Haridra, Madhumeha

Introduction

Diabetes (*madhumeha*) is a common disorder prevailing in the society. The prevalence of various metabolic diseases such as hypothyroidism, hypertension and diabetes mellitus is increasing in the elderly population. These diseases may be prevalent with nonspecific symptoms in the elderly rather than the classical sign and symptoms of the disease. They may present with fatigue, anorexia, obesity, failure to thrive, loss of motivation and difficulty in concentration. In India about 10% elderly people aged 65 or more have diabetes. At the age of 40 years glucose tolerance begins to decline and at 65 to 70 years of age 23% impaired glucose tolerance and by the age of 80 it may reach to 40%. the risk of death among people with diabetes is about twice that of people without diabetes in similar age. The health care cost of diabetes in the united state is 132 billion dollars, thus possessing a big economic burden in the country (Talwarkar 2006). Diabetes mellitus is a group of disease marked by high level of blood glucose resulting from depletion, in production and insulin action or both. Glucose intolerance and insulin resistance increases with age. Diabetes may lead to serious complications. Diabetes produces a

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wide range of problems far elderly people and their family also. These problems include pain, physical disabilities, change in life style and threatened survival (Makrilakis *et. al.*, 2007). The history of Madhumeha (diabetes) can be traced back in 1000BC (*Charak Samhita*), descriptions concerning the diseases and its management are available in Ayurvedic literature (Kashinath and Gorakhnath, 2004) In literature it is defined as a disease in which the patient passes frequent urine characterized in *kashaya* (astringent), sweet nature (Kashinath and Gorakhnath, 2004). *Ayurveda* attributes multifactor etiology to *madhumeha* and it has been described as advanced urinary condition having difficulty to cure. Maharishi *Charak* classified *Madhumeha* patients into two groups (according to their vitality, constitution, and disease etiology) that is either obese & strong, or lean and weak. (Kashinath and Gorakhnath, 2004). Treatment for obese and strong patient begins with Samsodhen therapy or biocleansing procedures is aimed to reduce the obesity of the patient. It is termed as Atparpana Chikitsa. Lean and weak diabetic patients can undergo milder cleansing procedures followed by the treatment to build the body with specific management (santarpana chikitsa) (Brahama, 2003). Both types of the patients are treated with specific distinct therapy and diet.



Exercise and diet are important adjunct to the primary diabetes treatment heavy exercises however is contraindicated in lean and weak patient (Brahama,2003).These patients are advised to perform specific yoga practices that are believed to benefit them at the mind and body level yoga is believed to stimulate the endocrine pancreas and improve its function. Stress is also a very important cause of diabetes. Yoga, meditation and *ayurvedic* medicines have an important therapeutic value.

Material and Methods

Madhumeha patients need a drug to control the disease and to maintain their health on long term basis. Due to the minimum side effects people prefers Ayurvedic medicine .Haridra Amalaki yoga has been considered as an important drug in Ayurvedic literature to treat madhumeha & to prevent complication of the disease. It is common drug which is available throughout the India.

To prepare this yoga following method as adopted
-take 250 gm pieces of Haridra (Sharma,2003) and wash with clean water

-wet Haridra kept in sunlight to dry

-make the powder of dry Haridra

-mix the Haridra powder with equal quantities of Amla(9)powder

Now the patient is advised to take this prepared Haridra amalaki yoga (4 gm) with water twice in a day for 2 month.

Selection of Patient

Source of data For the clinical trial the diabetic patients were selected from OPD & IPD of Rishikul PG Govt. Ayurvedic College, and State Ayurvedic College, Gurukul kangari, Haridwar.

Methods of collection of data These patients were examined in detail with regard to their complaint and duration of onset, history taking, general examination, systemic examination, laboratory investigations, etc and the particulars were entered in the respective column in the Performa. The patients were registered with the help of performa prepared for study and 100 patients were assigned for observational study.

Exclusion criteria Patient diagnosed as diabetes mellitus of different age group, belonging to either sex were selected. Insulin dependent diabetic

patient and patient suffering from chronic heart disease, & other systemic disorder were excluded for this study

Inclusion criteria Patient presenting with sign and symptoms of diabetes mellitus were included for this study.

Patients were selected in between 31 to 60 year of age irrespective of sex, occupation and religion.

Diagnostic criteria Diagnosis was established on the basis of history, sign and symptoms, and investigations. Complete history and clinical evaluation of the entire patient were recorded in a specially designed Performa including both ayurveda and modern method of examination.

Investigations

Following investigations were advised to the patient

- FBS
- PPBS
- Urine sugar

Diet and trial drug schedule (Treatment)

The trial drug (*Haridra amalaki yoga*) was administered to the diabetic patient in the dose of 8 gm per day (4 gm in morning & 4 gm in evening) with water after taking the food. Diet restriction was advised accordingly. Periodical check up and follow up were conducted once in 15 days. All the clinical observations were recorded in the case sheet & investigations (FBS, PPBS, urine sugar) noted in special prepared Performa.

Assessment criteria

Effect of therapy was assessed by sign and symptoms and blood sugar level before and after treatment. It was assessed on the basis of self formulated scoring scale. It is of two type.

- Subjective criteria
- Objective criteria

Subjective criteria

This completely depends on the symptoms and its grades. Improvement in symptoms is directly proportional to the improvements in the patient's condition. When there is a complete get rid of the symptoms, the assessment can be done quiet easily. but in the other cases when there is partial relief from a symptom objectively. The symptoms may be graded as their severity. For clinical study we followed four grade scale (0 -3) as described below



Results and Discussion

The results of the present study are given in table 1-18. In *Ayurvedic* classics a large number of indigenous drugs have been mentioned as *pramehaghna* (anti diabetic). In spite of lot of researches no satisfactory management of this disease could be established till date. Lots of patients take insulin or oral hypoglycemic drug life long. Although this drugs are not safe but there are no alternative. An antidiabetic drug should be should be effective by mouth, non toxic, & having capacity to correct basic metabolic defect in addition to lowering the blood sugar. Although the drug is freely available in Rural and Urban areas and is easily acceptable. Indeed Ayurveda is a rich treasure of safe *Materia medica* which provides promising field of drug research especially in view of least side effect or practically no side effect. *Haridra (curcuma longa)* is very popular as a spice in Indian kitchen. It is very useful in respiratory tract disorder, act as anti-helminthes, & anti-inflammatory on local application. It has *kaph shamak* property. *Amla* has *tridosh nashak* action. It is a rich source of vit.B, vit.C, & electrolyte. It also act as a *rasayana* (rejuvenation of body). *Haridra Aamlaki yoga* is used as *premeha nashak* in *Charak chikitsa*. For this clinical study 100 patients were selected. These patients took 8gm *Haridra Amlaki yoga* per day in two divided doses were given for 2 month. Really this drug has significant effect on diabetes mellitus.

Polyuria: It is increased urinary frequency and volume

Table 1:

Grade	Frequency in day	Frequency in night	volume
0	1-4	0-2	Normal
1	5-7	3-5	Excessive
2	8-10	6-8	Excessive
3	More then 10	More then 8	excessive

Polydipsia: Increased thirst graded as follows

Table 2

Grade	Feeling of thirst	Water intake
0	Normal	1.5-3 liters
1	Increased but frequencies of drinking water can be controlled	More volume

2	Increased with increased frequencies (aroximate once in 2 hours)	Excessive amounts
3	Very much increased with frequent intake	Excessive amounts

Polyphagia: Excessive hunger

Table 3

grade	Main meal	Light breakfast	quantity
0	1	1	Normal
1	2	2-3	Increased
2	2	3-5	Increased
3	2	5	increased

Normal quantity of food depends upon dietary, physical health, body structure etc.

Table 4: Weakness

grade	Routine activity	Weakness
0	Normal	No weakness
1	Normal	Feeling of weakness
2	Disturbed	Weakness
3	Bed ridden	

Table 5: Cramps on walking

Grade	Cramps
0	No cramps
1	Cramps after walking 1 km
2	Cvcramps after walking half km
3	Inability to walk up to half km

Table 6: Libido

Grade	Libido
0	Normal
1	Decrease frequency with normal performance
2	Decrease frequency with insufficiency in performing sexual act
3	No sexual stimulation at all

Table 7: Joint pain

Grade	Joint pain	Routine movement
0	No	Normal
1	Pain in joints	Normal
2	Pain in joints	Slight limitation of movements
3	Pain in joints	Severe limitation of movements Activity reduced



Table 8: Weight loss

grade	Weight loss
0	No weight loss
1	Weight loss less then 3 kg
2	Weight loss between 3-6 kg
3	Massive weight loss (beyond 6 kg)

Objective criteria: objective improvement was assessed by fasting and post parandial blood sugar estimation at every 10 days. This could indicate the degree of hyperglycaemia and any significant improvement or deterioration.

Statistical analysis of the obtained data

100 patients of *madhumeha* were taken for this study. The drug *Haridra amalaki yoga* was given to these patients. There was significant relief of the symptoms in subjective and objective parameters. Statistical analysis on the basis of different criteria like age, sex, food, *prakriti*, *saar*, *samhanana*, *satva*, *satamya*, effect of drug on blood sugar and urine sugar level etc was done and given in following tables.

Table 9: Distribution of diabetic patients according to their age and sex

AGE IN YEARS	MALE	FEMALE	TOTAL
31 to 40	18	04	22
41 to 50	30	04	34
51 to 60	34	10	44
Total percentage	82	18	100

Table 10: Distribution of diabetic patients according to their type of food

Type of food	No of patient	% of patient
Vegetarian	62	62
Mixed food	38	38
Total patient	100	100

Table 11: Distribution of diabetic patients according to their *prikriti*

Prikriti of patients	No. of patients	Percentage
Vata pitta	26	26
vata kapha	52	52
Pitta.kapha	22	22
Total patients	100	100

Table 12 : Distribution of Diabetic patients according to their *sara*

Type of sara	No of patient	% of patient
Pravara sara	16	16
Madhyam sara	84	84
Avara sara	00	00

Table 13: Distribution of Diabetic patients according to their *samhanana*

Type of samhanana	No of patient	% of patient
Pravara	50	50
Madhyam	50	50

Table 14: Distribution of Diabetic patients according to their *satva*

Type of satva	No of patient	% of patient
Pravara satva	12	12
Madhyam satva	64	64
Avara satva	24	24

Table 15: Distribution of Diabetic patients according to their liking of *aahar rasa*

Type of aahar rasa	No of patient	% of patient
Madhura	44	44
Amla	12	12
Lavana	06	06
Katu	32	32
Tikta	02	02
Kashaya	04	04

Table 16: Distribution of Diabetic patients according to their Habitate

Habitate	No of patient	% of patient
Rural	40	40
Urban	60	60

Table 17: Incidence of Diabetes in relation to weight

Weight(kg)	No of patients	% of patients
30-40	05	05
41-50	25	25
51-60	20	20
61-70	30	30
71-80	20	20



Table 18: Distribution of Diabetic patients according to sign & symptoms

Symptoms	No of patients	% of patients
Polyuria	95	95
Polydipsia	90	90
Weakness	85	85
Polyphagia	60	60
Cramps on walking	10	10
Libido	10	10
Joint pain	50	50
Weight loss	30	30

Effect of drug on urine sugar

Mean urine sugar before treatment is 0.75% and after treatment is 0%. On statistically analysis it seems highly significant (at the level of $p < 0.01$). So it is clear that *Haridra Amlaki yoga* is very useful for diabetes.

Effect of drug on blood sugar

Mean blood sugar before treatment is 220.3 mg /dl, while after treatment is 117.2mg/dl. Difference in mean sugar label is 103.1mg/dl. On statistically analysis it seems significant (at the level of $p < 0.001$). So it is clear that *Haridraaamlaki yoga* is very useful for diabetes.

Conclusion

In this study total 100 cases of diabetes mellitus were treated with *haridra amalaki yoga*. On the basis of observation and results following conclusion can be drawn

1. Patient suffering from this disease is generally of vata kapha prkriti
2. This disease mostly occurs in those persons who likes madhur rasa
3. This develops mostly in urban patients
4. *Haridra amalaki yoga* relieves symptoms significantly
5. The drug is highly significant for urinary sugar
6. The drug is significant for blood sugar
7. *Haridra amalaki yoga* is economically easily available, better acceptable drug for madhumeha (diabetes mellitus)

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