



EFFACACY OF SAMSHAMNI VATI IN DIABETES MELLITUS; A CASE STUDY

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Abstract

Background: Diabetes and its complications pose a major threat to future public health resources throughout the world. Based on compilation of studies from different parts of world the WHO has projected the maximum increase in diabetes would occur in India. According to diabetes Atlas published by the International diabetes Federation (IDF), there were an estimated 40 million persons with diabetes in India in 2007 and this number is predicted to rise to almost 70 million people by 2025. Diabetes Mellitus is a common metabolic disorder that is characterised by hyperglycemia. According to WHO, Diabetes is a growing challenge in India with estimated 8.7% diabetic population in the age group of 20 and 70 years. In *Ayurveda* it can be correlated with *Madhumaha* which is a type of *Prameha*. **Aim and Objective:** Efficacy of *Ayurvedic* medicine *Samshamni vati* in Diabetic Mellitus to reduce increase level of blood sugar. **Material and Method:** A newly diagnosed case of Diabetes Mellitus patient came to OPD with symptom and reports. All related *Ayurvedic* and modern literature and some previous research work in online sources. **Result and Discussion:** After the completion of therapy drugs provide better results on reliving symptoms, effective and safe in reduce blood sugar level without use of any contemporary medicine.

KEYWORDS: Ayurveda, Diabetes Mellitus, Madhumeha, Prameha, Samshamni vati.

INTRODUCTION

The advancement of science and technology is been observed in every field including modern medical science. Besides the miraculous achievement of modern medical science humanity is passing through a horror of disease and drug phobia particularly in developing countries like India. Improper unbalanced diet and sedentary lifestyle are showing upward trend in India. Diabetes mellitus refers to a group of common metabolic disorders that share the phenotype of hyperglycemia.^[1] Characteristically diabetes is a long term disease with variable clinical manifestations and progression. Chronic hyperglycemia leads to number of complication like cardiovascular, renal, neurological, ocular and others such as intercurrent infections.^[2] During the year 2012 in India, the proportional mortality due to Diabetes was 2%.^[3] According to WHO, Diabetes is a growing challenge in India with estimated 8.7% diabetic population in the age group of 20 and 70 years.

In *Ayurveda* it is considered as *Madhumeha* a type of *Prameha*^[4] means passing of urine profusely both in quantity and frequency. *Acharya Vagbhata* describes *Prameha* as frequent and copious urine with turbidity i.e. *PrabhutAvila Mutrata*.^[5] Excessive use of food stuff that has the properties like *Guru*, *Snigdha Guna* and *Amla*, *Lavan Rasa*.^[6] *Samprapti* (pathogenesis) of *Madhumeha* is described by *Charaka* in *Sutra sthana*.^[7] Prolonged and excess use of *Kapha Prakopaka Ahara-Vihara* leads to vitiation of *Kapha* and does the *Agnimandhyata* at the level of *Dhatu*. The vitiated *Kapha* (*Bahudrava Kapha*) have basic similarity to characteristics of *Meda*, both interact each other and flows with loose *Medas* in the system. Due to increased *Kapha*, *Pitta*, *Meda* and *Mamsa* the pathway of *Vata Dosha* gets obstructed and vitiated *Vata Dosha* along with *Ojas* and all *Dushaya* brings into *Mutrashaya* and causes the *Madhumeha*.^[8]

AIM AND OBJECTIVE

The objective of study to see the efficacy of *Samshamni vati* in Diabetic Mellitus patients without any intervention of modern medicine.

MATERIAL AND METHODS

All the description related to *Prameha* available in *Ayurvedic* literature as well as in modern literature, research articles and the laboratory investigations provided by the patient.

Drug to be used: *Samshamni vati* and *Trikatu churna*.

Samshamni Vati is made up of *Giloya Satva* obtained from stem of *Tinospora cordifolia* (Willd) of

Menispermaceae family, is a type of starch. It is *Rasayana* (Rejuvenation) drug, According to *Bhavprakash* and *Rajnighanthu* it has *Tridosha Shamaka* (pacification of vitiated *doṣa*), *Dahanashana* (Reduce burning sensation), *Trishanahghana* (Anti thrust), *Pramehahara* (Anti diabetic) qualities.^[9]

Ayurvedic properties^[10]

Guduchi contain *Tikta- Kashaya* (Bitter and Astringent) Rasa (Taste) and *Guru* (heaviness), *Snigdha* (sliminess/unctuousness) *Guna* (properties) with *Ushna* (fiery) in *Virya* (potency) and having *Madhur* (Sweet) *Vipaka* (bio-transformed *rasa*).

Trikatu Churna^[11] is a group of three *Katu rasa* (pungent taste) *Dravyas* (drugs) named *Shunthi*, *Maricha*, *Pippli*.

S. No.	Rasa (Taste)	Guna (property)	Virya (Potency)	Vipaka (Biotransformation rasa)	Karma (Actions)
Shunthi ^[12] (Zingiber officinale)	Katu	Laghu, Snigdha	Ushna	Madhur	Triptighana (anti-satiative)
Maricha ^[13] (Piper nigrum)	Katu	Laghu, Tikshna	Ushna	Katu	Deepana (digestion and metabolism enhancing)
Pippli ^[14] (Piper longum)	Katu	Laghu, Snigdha, Tikshna	Anushnashita	Madhur	Deepana, Pachana

According to *Susruth samhita* *Trikatu* has the *Kaphahagn* (kapha pacifying) and *Medohgana* properties. Useful in *Mandagni* (decreased digestive fire), *Prameha* (Diabetes), *Kustha* (Skin disorders).^[15]

Need of study

There is no. of Oral Hypoglycemic drugs available for Diabetes. Such as Sulfonylureas (Tolbutamide, Glipizide, Glimipride), Biguanide (Metformine), Thiazolidinediones etc. These drugs have good control on hyperglycemia but after long term use does some adverse effects to the patients like Hypoglycemia, Hypersensitivity rashes, photosensitivity, purpura, nausea, vomiting, flatulence, diarrhoea or constipation, headache, paresthesias and abdominal pain etc.^[16] The available modern treatment causes physical, emotional, economical disturbance to the patients. Hence we need to treat the patients without any side effects by *Ayurvedic* drugs, diet and life style changes.

CASE DISCUSSION

A 41 years male patient came to OPD of CBPACS with the chief complain like general weakness, fatigue along with gradual weight loss, increase frequency of urination, burning sensation of palm and sole since 3 months.

Present illness

According to patient he was apparently well before 3 months, then gradually he noticed increased frequency of urination initially 3to4 times in night that increases as time passes in day time urine frequency, along with weight loss 2kg.in 3months, dryness of mouth, burning sensation of palm and sole and heaviness of abdomen, incomplete bowel evacuation.

Past History

No history of Hypertension, Thyroid disorder and any chronic illness.

Family History

His father having type 2 diabetes since 20 years.

Personal History

Regularly having fast and junk food stuff, excessive use of sweet, salty, diet and sedentary life style, sitting work, no involvement in physical activities were inducing factor for the patient to generate the symptoms and raised blood sugar level. Patient had decrease appetite with indigestion, having disturb sleep, constipation since 1 week and urine frequency increased.

General Examination

Build – obese,

Height- 5ft 3 inches

Weight- 69 kgs.

BMI –Wt in kgs/(Ht in meters)² =69/2.63=25.65 kg/m²

Investigations- FBS and PPBS

According to investigation FBS and PPBS found as 145mg/dl and 180mg/dl.

Patient diagnosed as Diabetes Mellitus as FBS and PPBS is more than the level of FBS >110mg/dl and PPBS >140mg/dl as included for the diagnostic criteria of DM.

Drug intervention

The treatment was advised to the patient is *Trikatu Churan* 2gm twice a day with luke warm water before food for the *Deepana* and *Pachana* purpose and *Samshamni Vati* 4 tablets with lukewarm water 3 times in a day along with *Pathya Aahara and Vihara* (Diet and lifestyle modification) to relieve the symptoms and

decrease in blood sugar level. Along the treatment patients was advised to investigate blood sugar regularly and symptomatic relief. Patient continued the treatment with follow up. There was significant relief in symptoms and marked reduction in blood glucose level as.

Table No. 1: Investigation Reports of Patient.

S. No.	Date	FBS (mg/dl)	PPBS (mg/dl)
1.	18/03/2018	145	180
2.	01/04/2018	116	189
3.	30/04/2018	130	172
4.	19/06/2018	112	210
5.	29/07/2018	94	162
6.	30/10/2018	123	156
7.	10/02/2019	89	114

Assessment criteria

S. No.	Symptoms	Before treatment	After 3months of tt.	After 6monthsof tt.
1.	Weight	69 kg.	63kg.	62kg.
2.	General weakness	Present	mild relief	absent
3.	Increase frequency of urination	10 to 11 times at day and 3 to 4 time at night	9 to 10 times at day and 1 to 2 time at night	9 to 10 times at day and rarely wake up for urination
4.	Burning sensation in palm and sole	Present	Moderate relief	absent

Diet and Life Style Advised to Patient^[17]

Dos	Diet- old rice, puffed rice, oats, red variety of rice, old wheat, <i>Shayamak</i> , barley, millet, chick pea, butter milk, horse gram, mustered oil, split green gram, sesame oil, pigeon pea cardamom, red lentil, black pepper, turmeric, buckwheat flour, black berry Rice water, pomegranate, <i>khichdi</i> , Indian gooseberry, Bitter gourd, moonga daal soup, Pointed gourd, drinking water before meal, brinja, honey mixed water, luke warm water, amaranth, chenopodium, drum stick, Fenugreek, garlic ginger, asafoetida, Rock salt Avoid breakfast / light break fast
	Lifestyle wake up before sunrise, <i>pranayaama</i> , <i>yoga aasana</i> , <i>surya namaskaar</i> , exercise, walking
Don'ts	Diet- potato, milk Or milk made products, curd, excessive water intake after meal, jiggery, oil, Newly harvested rice, wheat Food substance made from sugarcane, split black gram Cold water intake
	Lifestyle- sleep in day time

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LAB No	XX38795	Date	18/Mar/2018
Name		Age / Sex	42Yrs / M
Referred By	Dr. AJAY MEDICAL CENTRE	Rect No	R-0015323
BIOCHEMISTRY TEST			
Test Name	Result	Units	Normal Range
BLOOD SUGAR (F)	<u>145</u>	mg/dl	(70-110)
BLOOD SUGAR (PP)	<u>180</u>	mg/dl	(80-140)
*****END OF REPORT*****			
 DR. M.S. KIRAN MINZ MBBB, MD (Path) Consultant Pathologist MCI No. 14277 DMC No.22487			
Date 18/03/2018			



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Date	01/04/2018	Sri No. 3003	Patient Id 1804013003
Name	[REDACTED]	Age 41 Yrs.	Sex M
Ref. By	AJAY MEDICAL CENTRE		

Test Name	Value	Unit	Normal Value
BIOCHEMISTRY			
BLOOD SUGAR FASTING	115	mg/dl	70 - 110
BLOOD SUGAR PP	189	mg/dl	80 - 140
**** End Of Report ****			


 LAB TECHNICIAN

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Name: Sno: 53200
Age: 41Y / M Date: 30/04/2018
Ref by: SELF

BLOOD ANALYSIS REPORT

TEST	RESULT	NORMAL RANGE
BLOOD SUGAR (F)	130 mg%	70 - 110 mg%
BLOOD SUGAR (PP)	172 mg%	80 - 140 mg%


DR. PRITI JAIN
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only a professional opinion, not the diagnosis. It should be clinically correlated.
For more details feel free to contact us

Date:30/04/2018

JYOTI Diagnostic Centre

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LAB No XX39897 Date 19/Jun/2018
Name --- Age / Sex 41Yrs / M
Referred By Dr. AJAY MEDICAL CENTRE Rect No R-0016428

BIOCHEMISTRY TEST

Test Name	Result	Units	Normal Range
BLOOD SUGAR (F)	112	mg/dl	(70-110)
BLOOD SUGAR (PP)	210	mg/dl	(80-140)

*****END OF REPORT*****


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19/06/2018



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New Delhi-59 Mob. : 9899480095, 9810524310

Date 29/07/2018	Sri No. 2	Patient Id 1807290002
Name	Age 41 Yrs.	Sex M
Ref. By AJAY HOSPITAL		

Test Name	Value	Unit	Normal Value
<u>BIOCHEMISTRY</u>			
BLOOD SUGAR FASTING	94.0	mg/dl	70 - 110
BLOOD SUGAR PP	182.0	mg/dl	80 - 150
**** End Of Report ****			



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29/07/2018

Test Name	Value	Unit	Normal Value
BJAY PATH LAB. (A UNIT OF AJAY HOSPITAL) H.No. 33A, Gall No. 3, Shidhatri Enclave, Kala Patthar Mandir, Jain Road, Uttam Nagar, New Delhi-59 Mob. : 9899480095, 9810524310			
Date	10/02/2019	Sri No. 3	Patient Id 1902100003
Name		Age 42 Yrs.	Sex M
Ref. By	AJAY HOSPITAL		
BIOCHEMISTRY			
BLOOD SUGAR FASTING	89.0	mg/dl	70 - 110
BLOOD SUGAR PP	114.0	mg/dl	80 - 150
**** End Of Report ****			
 Dr. R.S. KUSHWAHA MBS, DPB CONSULTANT PATHOLOGIST			
COLLECTION FACILITY ALSO <small>Page 1 of 1</small>			
<ul style="list-style-type: none"> • Please co-relate clinically for diagnosis. • Not valid for medico legal purpose. 		<ul style="list-style-type: none"> • All disputes are subject to Delhi Jurisdiction only. • Kindly inform the Lab incase of unexpected results 	
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DISCUSSION

Trikatu Churna Ushna in Virya (potency) and due to dominance of *Agni, Vayu and Aakasha Mahabhuta* has the property of *Deepana* (increase secretion of gastric juice, appetisers) and *Pachana* (Digestive), *Srotovishodhana & Shothahara*. With the property of *Kapha shaman Trikatu Churna* has the *Aam pachan* and *Agnivardhak*^[18] qualities due to *Katu, Tikta Rasa* and *Ushna Virya* which plays a main role in breaking the

Samprapti of Madhumeha. The *Tikshna* property of *Trikatu* ensures its action in *Mandagni* at the *Jatharagni, Dhatwagni* and *Bhutagni* level.

In the *Samprapti* (pathogenesis) of *Madhumeha* most of the *Hetu* (Causative Factors) are *Santarpanotthajanya*^[19] & *Kapha, Meda, Mamsa Pitta* increase excessively, which cause *Margavarodh* of *Vayu*. The vitiated *vata* withdraw the *dhatu, oja*, from the body into *basti*(urinary

bladder) or *Mootravaha Srotas*.^[20] The main aim of the treatment is to break the *samprapti* (*samprapti bhanga*) & the main factors are increase the quality of *Agni* (metabolism) at the level of *Dhatu* (Cellular and subcellular level level), remove the *Margavarodh*, normalize the *gati of Vaat Dosha* and improve the inherent properties of *dosha, dhatu, mala*. The main contents of *Samshamni Vati* is *Guduchi Satva*, has pharmacological properties as found in *Giloya. Tikta Kashaya Rasa, Madhur Vipak, Ushna Virya* which collectively act on *Tridosha*. It also act as *Rasayan*^[21] means improve the quality of life, *Ojadushti & Dhatu Balyakar. Samshamni vati* has *Medachedakar, virukshan* property & *kledashoshak* by *Kashay Anurasa*.^[22] *Giloya* is *Samgrahika*^[23] in nature so the cardinal symptoms *Prabhuta Aavil Mutrata* can be reduced so it helps out to improve the quality of urine. It is *Ushna in Virya* (potency) so does *Agnideepana* (increase the *Agni*), and *Aam Pachanas* takes place, due to reduction in *Aam* and *Kapha Dosha* and *Meda, Mamsa Dushaya* obstructed pathway of *Vata Dosha* gets normalised so natural *Marganusaari Gati* (movement in channels) of *Vata Dosha* does not bring the *Dushyas* in *Basti* and the quality and quantity of *Mutra* (urine) remains normal.

So if we concentrate on the pathology of *Madhumeha*, these all properties act against *margavarodh*, the properties of *Dushta & Drava, Snigdha, Picchila Guna of Kapha* & also *Dushta Vata* causing *Prakopas*. So the basic pathology can be stopped. *Giloya* is *Tridoshashamak* and *Agnideepaniya, Trikatu is Deepan, Pachana, Amahar, Kaph medohar* so its best action is mostly on increased *kapha dosha, meda & kleda*. The drug has *Pramehaghna* property.

According to modern parameters, this study also shows the action to reduce the blood sugar level without use of conventional medicine. No. of researches are available on *Trikatu churna* these shows that the active principle of *Trikatu* is piperine. The *Katu* rasa is mainly due to these active principals: Piperine (1-piperoyl piperidine), an amide alkaloid, is mainly responsible for enhancing the bioavailability of concurrently administered drugs. Bioavailability enhancing action of drugs is partly due to enhancement of blood supply in enteric vessels as a result of local vasodilatation by enhancing drug transport. So with the *Samshamni vati, Trikatu Churna* is administrated to increase the bioavailability and proper action.

Giloya Satva, It has been found anti-diabetic potential through biologically active phytoconstituents isolated from different parts of plant. The isoquinoline alkaloid rich fraction from stem, which have been reported for insulin mimicking and insulin releasing effect both so it breaks the pathogenesis of Diabetes Mellitus at the level of insulin secretion and at the level of metabolism of glucose. Another isoquinoline alkaloid 'berberine' It lowers elevated glucose level as effectively as

metformin. as It increase cellular uptake of glucose by decrease in peripheral resistance.

CONCLUSION

As we know that diabetes is a non communicable and metabolic disorder. Now a days it's burden high in developing countries and increasing day by day very speedy. Mainly it is due to sedentary life style, urbanization with genetic history. For the prevention of this disease people have to aware regarding their life style in routine. Modern science have treatment but it is long term and chances of side effect in long term use, hence *Ayurveda* medicine is better herbal source to fight against this non communicable disease also improves the quality of life of patients.

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