



**EFFICACY OF YASHADBHASMA WITH TRIPHALA CHURNA IN PRAMEHA ( TYPE 2 DIABETES MELLITUS) WITH SPECIAL REFERENCE TO BSL AND HBA1C**

<sup>1</sup>Damle Neena ,

<sup>2</sup>Gharote Archana

<sup>1</sup>Asst. Professor Kayachikitsa Department.D.Y.Patil School of Ayurveda ,Nerul, Navi Mumbai.Cell No.7977153510,Email drneena.damle@gmail.com

<sup>2</sup>Professor and HOD Rasashastra & Bhaishajya Kalpana Department, D.Y.Patil School of Ayurveda Nerul, Navi Mumbai

**ABSTRACT**

Prevalence of type - II diabetes is increasing in all countries, especially in India, at an alarming rate. Various factors contribute to the rise in prevalence of type -II diabetes that include body fat distribution, rapid changes in eating habits, and lifestyles that are increasingly sedentary .In this trial total 10 Subjects who was showing high BSL Fasting>130mg/dl, pp>180mg/dl and HbA1c >6.5mol. were selected from *Kayachikitsa* OPD of D. Y. Patil Ayurvedic Hospital,Nerul,Navi Mumbai.*Yashad Bhasma* (zinc ash) 100 mg +*Triphala Churna* 2 gms BD before Lunch and Dinner was given with warm water for three months .Data was recorded in CRF during regular monthly intervals. Statistical analysis done with help of paired t test and Wilcoxon matched-pairs signed-rank test. The study showed reduction of FBS, PPBS, and HBA1C values before and after the trial at the level of significance  $p < 0.01$ .The study also showed reduction of subjective parameters at level of significance  $p < 0.01$ .

**Keywords:** type - II Diabetes Mellitus, *Prameha*, *Triphala Churna* , *Yashad Bhasma*

**INTRODUCTION**

- Drastically modified lifestyle, lack of physical activity,Improper unbalanced diet and stress are a known causative factor for prameha (DM). *Prameha* (Diabetes Mellitus) is a metabolic diseases in which there is a high BSL & symptoms like *Avilmootrata*, *Prabhutmutrata*, *Naktamootrata*, *ati pipasa*, *Hastapadtaldaha*
- India is among top countries with high Diabetic population & it is predicted to be increased in next decade.Modern oral Hypoglycaemic drugs are having many side effects <sup>(1)(5)(6)</sup>,so there is need of Ayurvedic medicine which can be taken on regular bases to achieve normal blood sugar levels.So this clinical study Efficacy OF *Yashad bhasma* with *Triphala churna* in *Prameha* ( TYPE 2 DIABETES

MELLITUS)was undertaken in D.Y.Patil University School of *Ayurveda*

- *Yashad (Jasad) Bhasma* contains calcined and pure zinc. It is highly absorbable zinc supplement because of the decreased particle size and nanochemistry. *Pramehahar* (antidiabetic) formulations having *Triphala* as the main ingredient are very well defined in *Brihatrayee* especially in the chapters dealing with the treatment of *Prameha* so I used mixture of *Yashad bhasma* and *Triphala* to get additive effect in Diabetes management.

**AIM OF THE STUDY:**Assessment of changes in BSL before and after the study.

**OBJECTIVES:**

**PRIMARY OBJECTIVE:**

- Assessment of changes in HbA1c % (Glycosylated Hemoglobin %) levels

**SECONDARY OBJECTIVE:**

- To assess clinical symptoms of Diabetes like Polyuria (*Prabhutmutrata*), polydipsia (*Atipipasa*), Polyphagia, Fatigue in type II Diabetes subjects.

### MATERIALS AND METHODS

*Triphala*<sup>(3)(8)</sup> is an important *Ayurvedic* herbal formulation consisting of the dried fruits of three medicinal plants Terminalia

chebula, Terminalia bellerica, and Emblica officinalis. *Triphala* means “three” (tri) “fruits” (*Phala*) and are popularly known in India as *Harada*, *Baheda*, and *Amla*, respectively. The formulation is prescribed as the first line of treatment in Diabetes Mellitus.

**Table 1. Yashad (Jasad) Bhasma<sup>(4)(5)</sup> contains calcined and pure zinc .Mixture of Triphala Churna and Yashad Bhasma are used in this study.**

Sr.No.	Name of the drug	Latin Name	Rasa	Guna	Virya	Vipaka
1	<i>Amalaki</i>	<i>Emblica officinalis</i> ,	<i>Pancharasa</i> except <i>Lavanrasa</i>	<i>Guru</i> , <i>Ruksha</i> , <i>Sheeta</i>	<i>Shita</i>	<i>Madhur</i>
2	<i>Haritaki</i>	Terminalia Chebula	<i>Pancharasa</i> except <i>Lavanrasa</i>	<i>Laghu</i> , <i>Ruksha</i>	<i>Shita</i>	<i>Madhur</i>
3	<i>Bibhitaki</i>	Terminalia Bellirica	<i>Kashaya</i>	<i>Laghu</i> , <i>Ruksha</i> .	<i>Ushna</i>	<i>Madhur</i>
4	<i>Yashad Bhasma</i>	Zinc oxide	<i>Kashaya</i> , <i>Tikta Rasa</i>	-----	<i>Shita Virya</i>	-----

- Total 10 Subjects who was showing high BSL Fasting>130mg/dl, pp>180mg/dl were selected from *Kayachikitsa* OPD of D. Y. Patil *Ayurvedic* Hospital, Nerul, Navi Mumbai. *Yashad Bhasma* (zinc ash) 125 mg +*Triphala Churna* 2 gms BD before Lunch and Dinner was given with warm water for three months. Data was recorded in CRF during regular monthly intervals.

### INCLUSION CRITERIA:

1. Subjects with high BSL Fasting>130mg/dl, pp>180mg/dl.
2. Subjects in the age group of 18 to 70 years, both inclusive.
3. Subjects with HbA1c >6.5mol.
4. Both Male and Female (non-pregnant, non-lactating) gender Subjects were included in the study.

### Exclusion Criteria:

1. Known cases of Type-1 Diabetes Mellitus.

2. Subjects having high Fasting blood sugar > 250 mg/dl were not selected for study
3. Subjects having high Post Prandial blood sugar > 350 mg/dl were not selected for study
4. Subjects having high HbA1c > 8 were not selected for study.
5. Subjects having known major complications of Diabetes like Ketoacidosis, Nephropathy, Neuropathy, Retinopathy, and Diabetic wounds.
6. Known cases of Severe/Chronic hepatic or renal disease.
7. Known subject of any active Malignancy
8. Subjects giving history of significant Cardiovascular event < 40 weeks prior to study
9. Subjects having known chronic infectious disease, such as active Tuberculosis, Hepatitis B or C, or HIV.
9. Pregnant and Lactating females.

Criteria used for assessment of clinical symptoms of type II DM:

• Subjective Assessment –

The clinical symptoms marked in four grades-

0 – Absent ,1 – Mild ,2 –Moderate,3 – Severe

1. Polyuria: Gradation for Frequency of urination

- a) grade 0 - 5- 6 times in 24 hours
- b) grade 1 - 7 - 9 times in 24 hours
- c) grade 2 - 10 -12 times in 24 hours
- d) grade 3 - 13 or more times in 24 hours

2. Polydypsia: Gradation used for daily water consumption

- a) grade 0 < 7 glasses
- b) grade 1 - 8- 9 glasses
- c) grade 2 -10 -12 glasses
- d) grade 3 - More than 12 glasses.

3. Polyphagia:Gradation used for Daily Diet

- a) grade 0 - 2 Meals (including Breakfast)

b) grade 1 - 3 Meals (including Breakfast)

c) grade 2 - 4 Meals (including Breakfast)

d) grade 3 - >4 Meals (including Breakfast)

4. Fatigue: Gradation used for Fatigue over the past week

a) grade 0 No fatigue feeling throughout the week.

b) grade 1 Fatigue feeling on 1-2 days during the week

c) grade 2 Fatigue feeling on 3-5 days during the week

d) grade 3 Fatigue feeling throughout the week

**Study Type :** Single arm, Prospective, Interventional clinical study.

**Sample size:** Total 10 subjects were enrolled for this study

**Place of Clinical Study:** D.Y.Patil School of Ayurveda Nerul Navi Mumbai

**OBSERVATION AND RESULTS:**

Statistical Analysis

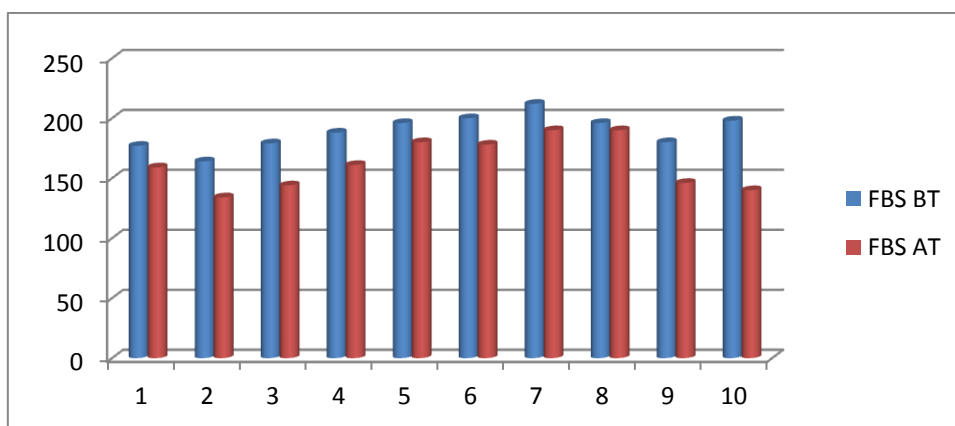
**Table 2 Wilcoxon matched-pairs signed-ranks test used to assess Subjective parameters in this study.**

Sr.No.	Characteristic	W	n	p	Inference
1	Polyuria	34.00	10	<0.01	Very Significant
2	Polydypsia	35.00	10	<0.01	Very Significant
3	Polyphagia	40.00	10	<0.01	Very Significant
4	Fatigue	40.00	10	<0.01	Very Significant

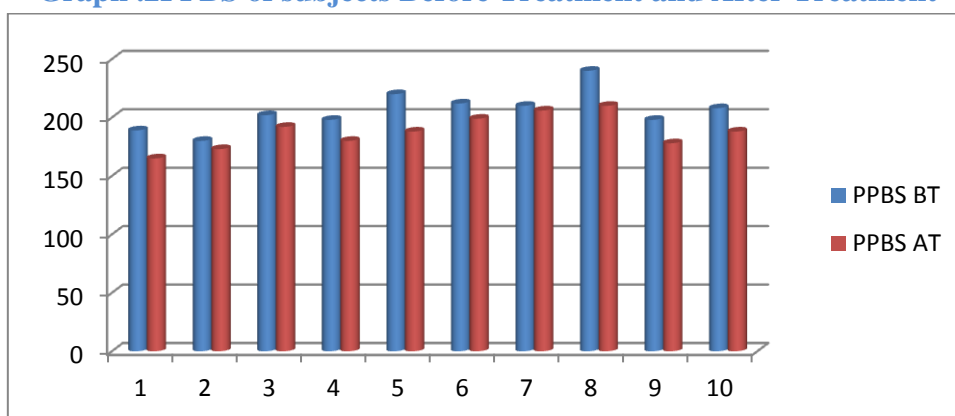
**Table 3.Paired t-Test is used to compare Blood Sugar levels and HBA1c levels BT& AT**

Sr. No.	Parameters	Mean	SD	SEM	t	p	Inference	
1	FBS	BT	189.0	14.06	4.45	6.0337	<0.01	Extremely significant
		AT	162.20	21.10	6.67			
2	PPBS	BT	205.70	16.72	5.29	6.1190	<0.01	Extremely significant
		AT	187.90	14.39	4.55			
3	HbA1c	BT	6.850	0.303	0.096	5.2500	<0.01	Extremely significant
		AT	6.710	0.321	0.102			

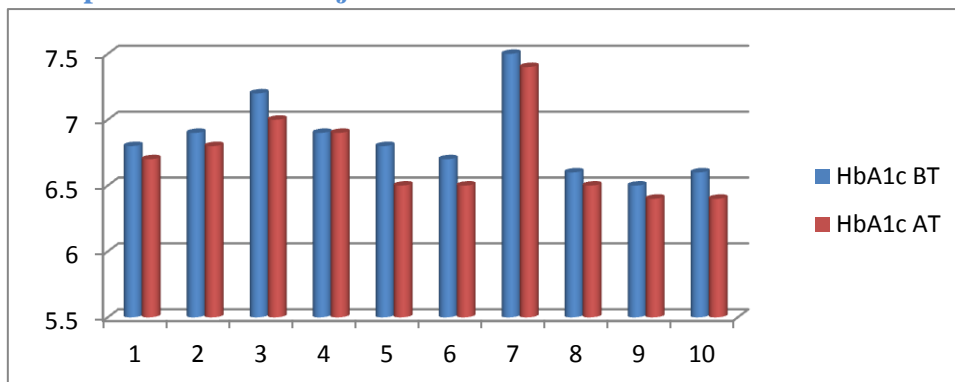
**Graph 1. FBS of subjects Before Treatment and After Treatment**



Graph 2. PPBS of subjects Before Treatment and After Treatment



Graph 3 HbA1c of subjects Before Treatment and After Treatment



Statistical analysis done with help of paired t test and Wilcoxon matched-pairs signed-rank test. The study showed reduction of FBS, PPBS, and HBA1C values before and after the trial at the level of significance  $p < 0.01$ .

**DISCUSSION:** Yashad bhasma is having Kashaya and Tikta Rasa and Shita Virya<sup>(4)(5)</sup> it is useful in Kapha pittaja Prameha, adding Triphala churna in it increases its properties and relieving Dhatushaithilya. People with diabetes may have lower

serum zinc concentration. Zinc supplement improves glycemic control and decrease HbA1c percentage. Zinc also has protective effects for insulin secreting cells in the pancreas. Thus, it helps preventing further damage to the cells and improves health in diabetes.

Triphala is a detoxifying agent and rejuvenator and Rasayana. Triphala is known to possess antidiabetic effect on oral administration and can improve glucose utilization In Prameha. Yashad

*bhasma* with *Triphala Churna* is significantly beneficial in management of *Prameha* Type II Diabetes Mellitus.

**CONCLUSION:** The study showed reduction of Objective and Subjective parameters at level of significance  $p < 0.01$ . The *Yashad bhasma* with *Triphala Churna* was significantly effective in Type II Diabetes Mellitus. This combination also shows betterment of general health and enhancement of *Bala* and improvement in quality of life of type II Diabetes Mellitus patients. This was only a pilot study *Yashad bhasma* with *Triphala churna* combination should be tried on more number of patients.

### REFERENCES

- 1) everydayhealth 345 Hudson, Floor 16 New York, NY 10014 (646) 728-9500 <https://www.everydayhealth.com/sulfonylureas/guide12/1/2015>
- 2) Newsletter Healthline Medically reviewed by Lindsay Slowiczek, PharmD on September 23, 2016 — Written by University of Illinois-Chicago, Drug Information Group <https://www.healthline.com/health/diabetes/metformin-side-effects#serious-side-effects> Copyright©2005-2018Healthline Media.
- 3) Bhavaprakash Nighantu Indian materia medica of Shri Bhavamishra, commentary by Professor K. C. Chinese, edited by late Dr. G. S. Pandey, Published by Chaukhamba Bharati academy Varanasi 2010, Chapter 1 Shloka 42,43 page no. 12.
- 4) Ayurveda Prakash of Acharya Shri Madhav, commentary by Shri Gulrajsharma Mishra, published by Chaukhamba Bharati Academy, Varanasi, Chapter no. 3, shloka no. 183, page 381.
- 5) Rasatararangini by ShriSadananda Sharma.edited by Pandit Kashinath Shastri published by Motilal Banarasidas,

reprinted in 2004, chapter no. 19, Shloka no. 120,121, page no. 479

6) Davidson's Principles and Practice of Medicine 20th edition, Chapter no. 21, page no. 805,813,

Metformin side effects page 833.higher incidence of gastrointestinal side effects .

7)Harrison's Principles of Internal Medicine 16th edition volume II, McGraw Hill Medical Publishing Division Chapter no. 323, page no.2153

8)Wohlmuth H. Triphala-a short review. Inf Res Bot Med 2007; 16:2. <https://www.asiapharmaceutics.info/index.php/ajp/article/download/1696/739>

9)API textbook of Medicine 7th edition chapter no. 18 page no. 1097,1101

10) Sushruta Samhita Purvardha, edited by Kaviraja Ambikadatta Shastri, Published by Chaukhamba Sanskrit sansthan, Varanasi, Nidansthana chapter no. 6 Shloka no. 3 page no. 251

11) Sushruta Samhita Purvardha, edited by Kaviraja Ambikadatta Shastri, Published by Chaukhamba Sanskrit sansthan, Varanasi, Chikitsasthana ch.11,slok.3 pg59

12)Charak samhita part II, with Vidyotini Hindi commentary by Pt. Kashinath Shastri edited by Dr. Gangasahaya pandeya Published by Chaukhamba Sanskrit sansthan, Varanasi, Chikitsa sthana chapter 6. shloka no. 4 page no. 188

**Corresponding Author:** Dr. Neena Damle ,Asst. Professor *Kayachikitsa* Department.D.Y.Patil School of *Ayurveda* ,Nerul, Navi Mumbai. Email [drneena.damle@gmail.com](mailto:drneena.damle@gmail.com)

Source of support: Nil

Conflict of interest: None Declared

Cite this Article as : [Damle Neena et al : Efficacy of Yashadbhasma with Triphala Churna in Prameha ( Type 2 Diabetes Mellitus) with special reference to BSL And Hba1c] [www.ijaar.in](http://www.ijaar.in) : IJAAR VOLUME III ISSUE X SEP –OCT 2018 Page NO:1491-1496

Investigation reports BT/AT

Thyrocare  
 Hba1c & Blood Glucose Control  
 REGULATED BY THE GOVERNMENT OF INDIA

Corporate Office: Thyrocare Technologies Limited | D-37/3, TTC MIDC, Aurhli, Near Mumbai - 400705  
 (S) 022-30900800 / 41292525 | web@thyrocare.com | www.thyrocare.com

NAME: MRS KUSUM PRASAD (64YF) | SAMPLE COLLECTED AT: DR D F PATIL AAYURVEDIC SCHOOL COLLEGE NAVI MUMBAI

REF. BY: DR NEENA DAMLE | TEST ASKED: HBA

TEST NAME	TECHNOLOGY	VALUE	UNITS
DIABETES SCREEN (BLOOD)			
HBA1c	H.P.L.C.	6.8	%

Reference Range:  
 Below 5.0% - Normal Value  
 6.0% - 7.0% - Good Control  
 7.0% - 8.0% - Fair Control  
 8.0% - 10% - Unsatisfactory Control  
 Above 10% - Poor Control

Method: Fully Automated H.P.L.C. using Biorad Variant II Turbo

AVERAGE BLOOD GLUCOSE (ABG)	CALCULATED	128	mg/dl
AVERAGE BLOOD GLUCOSE (ABG)			

Reference Range:  
 90 - 120 mg/dl - Excellent Control  
 121 - 150 mg/dl - Good Control  
 151 - 180 mg/dl - Average Control  
 181 - 210 mg/dl - Action Suggested  
 > 211 mg/dl - Panic Value

(Note: Average Blood Glucose value is calculated from HBA1c value and it indicates Average Blood Sugar level over past three months.)  
 Method: Derived from HBA1c values  
 Please correlate with clinical conditions.

-- End of report --

Sample Collected on (SCT) : 15 Jan 2016 10:00  
 Sample Received on (SRT) : 15 Jan 2016 19:10  
 Report Released on (RRT) : 15 Jan 2016 21:25

Sample Type : EDTA  
 Barcode : 150118956/MUW31  
 Barcode : 164900731

Dr. Durgaprasad N Agrawal MD | Dr. Caesar Sengupta MD  
 Page: 1 of 1  
 Reporting conditions overleaf

Thyrocare  
 Hba1c & Blood Glucose Control  
 REGULATED BY THE GOVERNMENT OF INDIA

Corporate Office: Thyrocare Technologies Limited | D-37/3, TTC MIDC, Aurhli, Near Mumbai - 400705  
 (S) 022-30900800 / 41292525 | web@thyrocare.com | www.thyrocare.com

NAME: MRS KUSUM PRASAD (64YF) | SAMPLE COLLECTED AT: DR D F PATIL AAYURVEDIC SCHOOL COLLEGE NAVI MUMBAI

REF. BY: DR NEENA DAMLE | TEST ASKED: HBA

TEST NAME	TECHNOLOGY	VALUE	UNITS
DIABETES SCREEN (BLOOD)			
HBA1c	H.P.L.C.	6.7	%

Reference Range:  
 Below 5.0% - Normal Value  
 6.0% - 7.0% - Good Control  
 7.0% - 8.0% - Fair Control  
 8.0% - 10% - Unsatisfactory Control  
 Above 10% - Poor Control

Method: Fully Automated H.P.L.C. using Biorad Variant II Turbo

AVERAGE BLOOD GLUCOSE (ABG)	CALCULATED	125	mg/dl
AVERAGE BLOOD GLUCOSE (ABG)			

Reference Range:  
 90 - 120 mg/dl - Excellent Control  
 121 - 150 mg/dl - Good Control  
 151 - 180 mg/dl - Average Control  
 181 - 210 mg/dl - Action Suggested  
 > 211 mg/dl - Panic Value

(Note: Average Blood Glucose value is calculated from HBA1c value and it indicates Average Blood Sugar level over past three months.)  
 Method: Derived from HBA1c values  
 Please correlate with clinical conditions.

Sample Collected on (SCT) : 18 Apr 2016 10:00  
 Sample Received on (SRT) : 18 Apr 2016 19:44  
 Report Released on (RRT) : 18 Apr 2016 21:42

Sample Type : EDTA  
 Barcode : 180423818/MUW31  
 Barcode : 167491654

Dr. Durgaprasad N Agrawal MD | Dr. Caesar Sengupta MD  
 Page: 1 of 2  
 Reporting conditions overleaf