

Innovations

Utility of Syzygium Jambolanum Q in Type II Diabetes Mellitus-A Randomized Clinical Study without Control Group

**Dr. Poonam Singh¹, Dr. Pranesh Kumar Singh², Dr. Manisha Shrivastava³,
Dr. Rekha Juneja⁴**

¹ Associate Professor, Dept. of Practice of Medicine, Sri Ganganagar Homoeopathic Medical College Hospital and Research Institute, Sri Ganganagar, Rajasthan, India

² Assistant Professor, Dept of Community Medicine, State Ghazipur Homoeopathic Medical College and Hospital, Ghazipur, Uttar Pradesh, India

³ Associate Professor, Dept. of Materia Medica, K. S. Homoeopathic Medical College and Hospital, Gwalior, Madhy Pradesh, India

⁴ Professor, Dept. of Materia Medica, Sri Ganganagar Homoeopathic Medical College Hospital and Research Institute, Sri Ganganagar, Rajasthan, India

Corresponding Author: **Dr. Poonam Singh & Dr. Pranesh Kumar Singh**

Abstract: Diabetes mellitus is most common problem now days in developing country. Incidence of type II Diabetes Mellitus increses day by day continuesly. Diabetes mellitus is a life style releted disorder. Aim of this study was role of Syzygium Jambolanum Q in case of Type II Diabetes Mellitus. **Methods:** The study was conducted at Sri Gnaganagar Homoeopathic Medical College Hospital and Research Institute, Sri Ganganagar. Study design was interventional trial without control. In this study total 30 cases of type II Diabetes Mellitus were treated according to various criteria mentioned in methedology. Samples were selected by simple ramdom sampling method. Paired T test use for stastical analysis. **Result:** out of 30 cases studied, 18 were male and 12 were females. The average ages of patient were 55.96 ± 5.5 years and the majority of patient between age group 50-60 years. After Pre and Post stastical analysis show that after taking the Syzijiium Jambolanum Q the Fasting and Post Prondialblood sugar level decreses that was significant. Syzygium Jambolanum Q show cahnge in Fasting blood sugar level (Mean \pm SD) 147.83 ± 15.54 to 100.43 ± 14.23 mg/dl, Post Prandial Blood Sugar Level (Mean \pm SD) 235.33 ± 19.25 to 149.93 ± 15.37 mg/dl. **Conclusion:** This study was an attempt to evaluate the effect of Syzygium Jambolanum Q on FBS and PPBS with aproprate satstical analysis.

Key word: Type II Diabetes Mellitus, Homoeopathy, FBS, PPBS, Insuline, CAM.

Introduction

The frequency of diabetes was escalating rapidly worldwide, including developed and developing countries.¹ In India recent projection indicate that there is an alarming rise in prevalence of diabetes, which has one beyond epidemic form to a pandemic one.² In modern medicine, there is no satisfactory effective therapy to cure diabetes mellitus.³ Synthetic oral hypoglycemic agents can produce a series of side effects including hematological, gastrointestinal reactions, hypoglycemic coma and disturbances in liver and kidney.⁴ Growing popularity of Homoeopathy in the public sector is reflected in the scientific community by an increased number of researches to assessing the efficacy of CAM.⁵ Homoeopathy had negligible side effects or toxic contribution and comparatively cost effective than synthetic drugs.⁶

Diabetes Mellitus is the most common form of diabetes occurring when the pancreas secretes insufficient amounts of insulin or no insulin at all. As a consequence, the person ends up with too much sugar or glucose in their bloodstream, and not enough gets into their cells to be burned as energy. Insulin is a hormone produced in the pancreas, which is needed to turn sugar and other food into energy.

There are two types of diabetes mellitus:

Type 1 Diabetes Mellitus: Sometimes called juvenile diabetes or insulin-dependent diabetes, Type 1 diabetes means your body cannot produce insulin because the beta cells (cells which produce insulin) in the pancreas are destroyed. Type 1 diabetes occurs more frequently in children and young adults, but accounts for less than 10% of the total diabetes cases.

Type 2 Diabetes Mellitus: The majority of diabetics fall in this category. In Type 2 diabetes the body doesn't make enough insulin or doesn't properly utilize its insulin supply. While many Type 2 diabetics take medication to lower their blood glucose, this type of diabetes can be managed with diet, exercise and weight loss where required. Two main contributing factors for Type 2 diabetes are obesity and age. In both cases, the body becomes less efficient. When the blood glucose rises above normal levels, people experience different symptoms

Risk factors for developing type 2 diabetes include the following:

- High blood pressure
- High blood levels of cholesterol and/or triglyceride
- Gestational diabetes or giving birth to a baby weighing more than 9 pounds
- High alcohol intake
- Sedentary lifestyle
- Obesity
- Positive Family History

- Aging: Increasing age is a significant risk factor for type 2 diabetes. Risk begins to rise significantly at about age 45 years, and rises considerably after age 65 years.

Symptoms of Hyperglycaemia

1. Thirst, dry mouth
2. Polyuria
3. Nocturia
4. Tiredness, fatigue
5. Recent change in weight
6. Blurring of vision
7. Pruritus vulvae, balanitis (genital candidiasis)
8. Nausea; headache
9. Hyperphagia; predilection for sweet foods
10. Mood change, irritability, difficulty in concentrating, apathy

Diabetes Mellitus diagnosed by simple blood sugar level (Fasting and Post Prandial Blood sugar level) test easily.

Criteria for the Diagnosis of Diabetes Mellitus

- Symptoms of diabetes plus random blood glucose concentration ≥ 11.1 mmol/L (200 mg/dL) or
 - Fasting plasma glucose ≥ 7.0 mmol/L (126 mg/dL) or after two-hour plasma glucose ≥ 11.1 mmol/L (200 mg/dL) during an oral glucose tolerance test
- The treatment of diabetes are: dietary/lifestyle modification, oral anti-diabetic agents and insulin by injection.

Homeopathy is one of the most widespread alternative system of medicine based on the two cardinal principles “law of similarities” and “minimal dilution”.⁷ Homeopathy seeks to cure in accordance with natural laws of healing and uses medicine made from natural substances viz. animal, vegetable and mineral.⁸ Some important homeopathic oral hypoglycaemic drugs are *Rhus aromatica*, *Syzygium jambolanum*, *Uranium nitricum* and *Acid Phos*. In homeopathic *Materia Medica*, *Syzygium jambolanum* (*S jambolanum*) is described as a most useful remedy against diabetes mellitus. It has an immediate effect to manage the high blood sugar. No other remedy causes so marked degree in the diminution of sugar in the urine.⁹

Syzygium jambolanum (Family-Myrtaceae; commonly known as ‘jambol fruit’ or ‘jamun’) is common herb found in India, Pakistan, Southern Asia and Brazil.¹⁰ Mother tincture of *S jambolanum* is widely used by homeopathy practitioners for diabetes management. Mother tincture (θ) is defined as the original tincture prepared with the aid of alcohol, directly from the crude drug. It is the precursor for the preparation of different potencies and the starting point for the production of homeopathic medicines.¹¹ The chemical composition of the

seed extract has been recently reported by a study. It contains glycoside (Jamboline), tannin, ellagic acid and gallic acid as principal ingredients.¹²

Material & Methods

- **Study design & Sampling** - A type of interventional study without placebo group. Minimum 30 cases satisfying the case definition, inclusion and exclusion criteria have been studied. Patients diagnosed as Type II DM had been selected for the study on basis of Simple Random sampling method.
- **Clinical Study Setting** -The study has been carried out with detail case study and follows up in O.P.D of Sri Ganganagar Homoeopathic Medical College Hospital & Research Institute, Sri Ganganagar (Rajasthan)
- **Intervention**- Syzizium Jambolanum Mother tincture given to all patient in 30 ml of water (each Dose). Dose and repetition depend on severity of cases.
- **Clinical Protocol** -Data has been collected by proper method and has been processed in standard format. Patients have been explained about the research project, patient's information sheet and informed consent form has been formed and filled up. Nosological diagnosis has been done after clinical study and investigations
- **Inclusion criteria** –
 - Patients of both sexes.
 - Patients suffering from Type II Diabetes Mellitus, willing to participate and taking treatment regularly and co-operating for
 - regular follow-up has been included.
 - FBS was More than 126mg/dl and PPBS was More than 200 Mg/dl.
- **Exclusion criteria** –
 - Patients with complications of Diabetes mellitus.
 - Patients who require emergency medical
 - intervention.
 - Immune-compromised patients.
 - Patient without written consent.
- **Criteria for assessment** – On basis of improvement of level of FBS and PPBS..
- **Statistical Techniques**- Paired T- test is used as a statistical technique with help of SPSS software.

Result

During my study 30 cases included in which 18 (60%) male and 12 (40%) Females. Most common age group was 50 -60 years and average age was 55.96 ±5.5 years. Out of 30 Patient 24 (80%) from rural area and 06 (20%) from urban area.

Charectristic	Number of patient	Percentage	Mean ± SD
1. Sex Distribution			
Male	18	60 %	
Female	12	40 %	
2. Age Distribution in Years			
40 – 50	05	16.67 %	55.96 ± 5.5
50 – 60	21	70 %	
60 -Above	04	13.33 %	
3. Habitat			
Rural	24	80 %	
Urban	06	20 %	

Table 1 Sociodemographic Profile

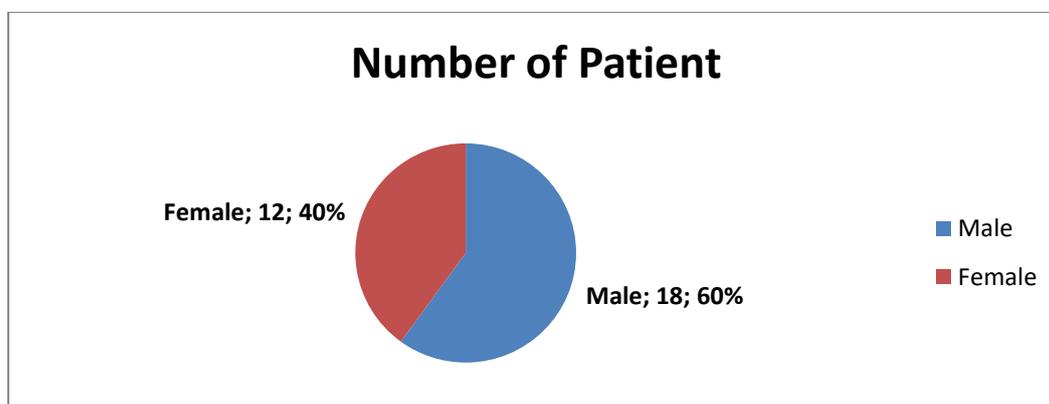


Fig 1 Gendar Distribution

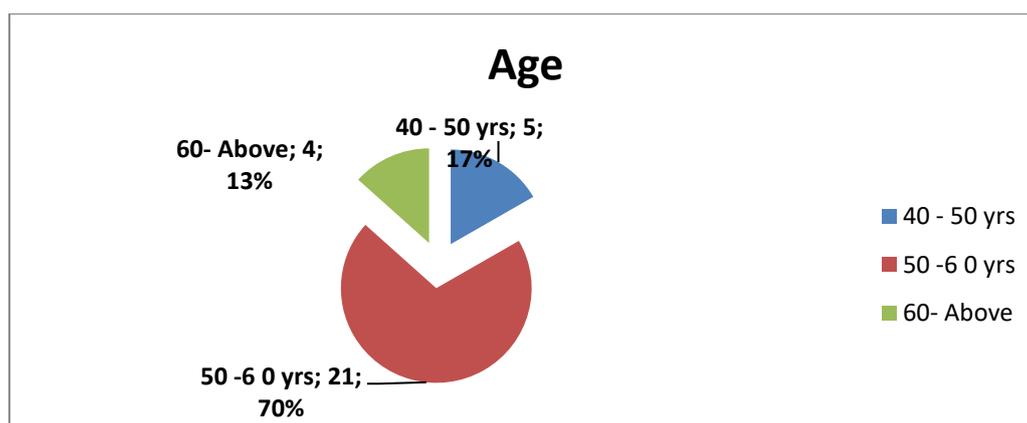


Fig 2 Age Distribution

Pre and Post analysis by Paired T test:

Pre and Post stastical analysis show that after taking the Syzijium Jambolanum Q the Fasting and Post Prondialblood sugar level decreases that was significant. Syzygium Jambolanum Q show cahnge in Fasting blood sugar level (Mean±SD)

147.83 ±15.54 to 100.43 ± 14.23 mg/dl, Post Prandial Blood Sugar Level (Mean±SD) 235.33 ±19.25 to 149.93 ± 15.37 mg/dl. Null Hypothesis was rejected and alternate hypothesis was accepted.

	Before Treatment	After Treatment	T Calculated	T critical	At 95% Confidence interval	Hypothesis Accepted	Significant
FBS (Mean ±SD)	147.83 ± 15.54	100.43 ± 14.23	14.605	2.045	P<0.05	H1 Accepted	Significant
PPBS (Mean ±SD)	235.33 ± 19.25	149.93 ± 15.37	29.24	2.045		H1 Accepted	Significant

Table.2 Pre and Post Analysis

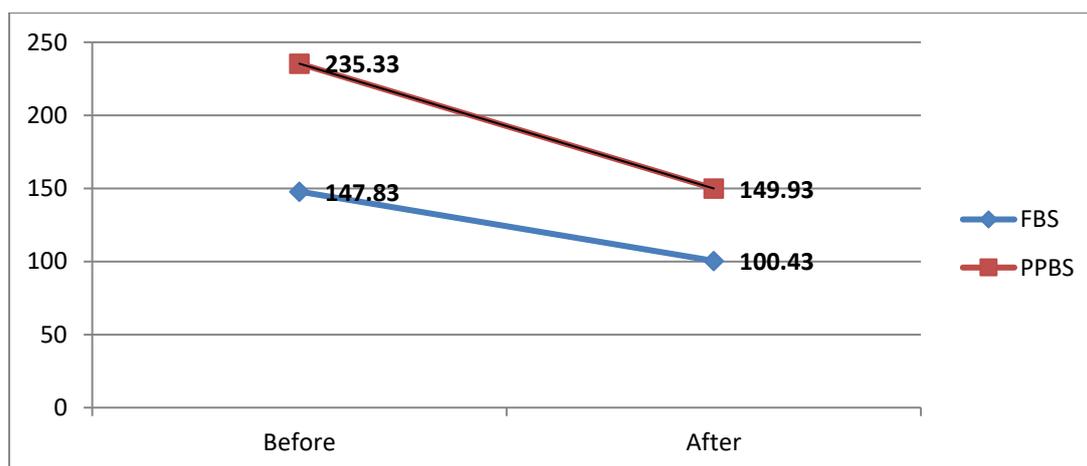


Fig.3 Before and after treatment FBS and PPBS Mean score

Conclusion

This study showed a significant role of homoeopathic medicine Syzijium Jambolanum Q in the treatment of Type II Diabetes Mellitus in reducing the intensity of suffering and providing good quality of life along with reduction in value of fasting and Post Prondial blood sugar level. This study also established an important role of Homoeopathy in treatment of Type II Diabetes Mellitus.

References

1. Hu FB. Globalization of diabetes: The role of diet, lifestyle and genes. *Diabetes Care*. 2011;34:1249–57. [PMC free article] [PubMed]

2. Gupta OP, Phatak S. Pandemic trends in prevalence of diabetes mellitus and associated coronary heart disease in India -their causes and prevention. *Int J Diabetes Dev Ctries.* 2003; 23:37–49.
3. Ali KM, Chatterjee K, De D, Bera TK, Ghosh D. Efficacy of aqueous extract of seed of *Holarrhena anti dysenterica* for the management of diabetes in experimental model rat: A correlative study with anti hyper lipidemic activity. *Int J Appl Res Nat Prod.* 2009; 2:13–21.
4. Prakasam A, Sethupathy S, Pugalendi KV. Anti peroxidative and antioxidant effects of *Casearia esculenta* root in STZ-induced diabetic rat. *Yale J Biol Med.* 2005; 78:15–23. [PMC free article] [Pub Med]
5. Caulfield T, DeBow S. A systematic review of how homeopathy is represented in conventional and CAM peer reviewed journals. *BMC Complement Altern Med.* 2005; 5:12. [PMC free article] [Pub Med]
6. Tayler JB, Triggle DJ. *Global perspective, Text Book. Vol. 1. Amsterdam: Elsevier; 2006. Comprehensive medicinal chemistry-II; p. 357.*
7. Hahnemann CF. In: *Organon of medicine.* 5th and 6th ed. Joseph R, editor. Haifa: Hoeopress Ltd; 1994. (1842)
8. Bhanja KC. *The homeopathic prescriber.* Calcutta: Probartak Printing; 1967.
9. Boericke W. *Materia medica with repertory.* 9th ed. Santa Rosa, Calif, USA: Boericke and Tafel; 1927.
10. Grover JK, Yadav S, Vats V. Medicinal plants of India with anti-diabetic potential. *J Ethnopharmacol.* 2002;81:81–100. [Pub Med]
11. Verma PN, Vaid I. *Encyclopedia of homeopathic pharmacopeia.* New Delhi, India: B Jain Publishers Pvt. Ltd;1995. p. 113.
12. Shanbhag DA, Khandagale AN. Application of HPTLC in the standardization of a homoeopathic mother tincture of *Syzygium jambolanum*. *J Chem Pharm Res.* 2011; 3:395–401.
13. Jamaludin M, Budin SB, Ketharin T. Effects of homeopathy remedy *Syzygium jambolanum* on glucose level, lipidprofile and histology of pancreas of streptozotocin induced diabetes rat. *Rev Glob Med Healthc Res.* 2010; 1:135–5.