

A comparative study of Abroma augusta mother tincture with oral hypoglycaemic drugs and patient with oral hypoglycaemic drug alone in Type 2 Diabetes mellitus

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ABSTRACT

BACKGROUND: Diabetes has a significant and growing disease burden in every country, owing to the global growth in obesity and poor lifestyles. Abroma Augusta Mother tincture as add on therapy can give better results in management of Diabetes Mellitus type II, as per the Homoeopathic Literature. **OBJECTIVE:** Primary objective: To study if there is any significant difference in the effectiveness of management of Type 2 Diabetes Mellitus between two groups Group A: Abroma Augusta Ø along with Oral Hypoglycaemic Agents (OHA). Group B: Only OHA. Secondary objective: To evaluate the changes in the HbA1c level in Type 2 DM patients after the intervention of Abroma Augusta Ø. **MATERIALS AND METHODS:** 46 subjects of Type II DM were included in the study based on convenience sampling following inclusion and exclusion criteria. This was pre-test and post-test study of HbA1c of patients for 6 months, along with FBS. Intervention of Abroma Augusta Ø was made along with their regular OHA. The data was statistically analyzed using unpaired 't' test **RESULT:** Table value of t for 45 degrees of freedom is 2.02 at 5% (0.05) level of significance. Calculated value of $t = 2.48$ is greater than the table value at 5% level of significance. After the study we saw that Abroma Augusta Ø along with OHA was more effective in reducing the symptoms of the patient as compared to oral hypoglycaemic agents alone. **CONCLUSION:** According to the study, we conclude that Abroma Augusta Ø along with OHA is effective in reducing HbA1c of type 2 DM patients

KEYWORDS: Abroma Augusta, Type II Diabetes mellitus, Homoeopathy, Oral hypoglycemic agents, HbA1c, BSL.

INTRODUCTION:-

Type 2 Diabetes mellitus also known as non-insulin dependent Diabetes mellitus occurs in subjects who are obese and insulin resistant, but these two factors alone are insufficient to cause diabetes unless accompanied by impaired beta cell function.⁽¹⁾

Type 2 diabetes has greater prevalence than type 1 diabetes. It is generally gradual in onset and occurs primarily in middle age and elderly individuals.⁽²⁾

In T2DM, the response to insulin is reduced, and this is defined as insulin resistance. During this state, insulin is initially countered by an elevation in insulin production to maintain homeostasis of glucose, but after period of time insulin production reduces, resulting in T2DM.⁽³⁾

Abroma Augusta, is found throughout the hot and humid parts of India. Leaves are used as a remedy for Diabetes, it is used for profuse nocturnal enuresis, glycosuria, and general weakness, dryness of mouth, hungry even after meal, rheumatic pain of joints, uterine disorders, and headache.⁽⁵⁾ Abroma augusta also known as Devil's cotton is helpful in cases of Diabetes Mellitus and insipidus, Albuminuria, debility etc. ⁽⁶⁾

If this is not given proper attention then the death rate related to DM will be double in number by 2030 as per the WHO. ⁽⁴⁾ There are some of the major classes of oral anti-diabetic drugs biguanides, sulfonylureas, meglitinide, dipeptidyl peptidase 4 inhibitors, sodium glucose cotransporter inhibitors, and α -glucosidase inhibitors. These oral hypoglycemic drugs delay carbohydrate digestion and absorption of glucose and post meal glucose regulators which stimulate endogenous insulin secretion. ⁽¹⁾

EPIDEMIOLOGY:

Diabetes is a rapidly expanding problem and possible epidemic in countries with low or middle-incomes, including India.

Diabetes prevalence was twice as high in urban regions (14.3%) compared to rural regions (6.9%). ⁽⁷⁾

Diabetes prevalence in India raised from 7.1% in the year 2009 to 8.9% in the year 2019. Approximately 43.9 million individuals in India have undiagnosed diabetes, accounting for roughly 57% of the population. ⁽⁸⁾

In Maharashtra, prevalence of Diabetes is 14.6% in urban and 10.7% in rural area among Women. ⁽⁹⁾ Many patients tend to suffer from adverse effects of oral hypoglycemic agents such as hypoglycemia, weight gain, lactic acidosis, fluid retention gastrointestinal disturbances ⁽¹⁰⁾

MATERIALS AND METHODS:

Duration of study: 6 months

Source of study: Motiwala National Homoeopathic Medical College Hospital OPD, camps, online, peripheral OPD, Diabetologist OPD.

Study design: A Non- Randomized - Before and After Comparison Study

Data collection: Data required for this study will be collected by case taking according to 6th edition of Organon of medicine by Dr Hahnemann, Total number of cases: 46 Patients
Eligibility criteria

• INCLUSION CRITERIA:

1. Patient of all age , both sex
2. Diagnosed cases of type 2 DM taking OHA
3. Patient with HbA1C more than 6%
(HbA1c done on entry or a fresh report of last 3 months)

- **EXCLUSION CRITERIA:**

1. Patient with complications of Diabetes Mellitus Retinopathy Nephropathy, Peripheral Neuropathy etc.
2. Immuno-compromised patients

Operational definition: Diabetes Mellitus is a clinical syndrome characterized by an increase in plasma blood glucose and HbA1c
Levels of 6.0 or greater are considered diabetes
Specification of the instruments used: HbA1C and Fasting BSL

DISCUSSION:

In our study we had considered a population of all age group with K/C/O type 2 Diabetes mellitus. In our sample size of 46 patient, there were 26 male patients and 20 females which proves that type 2 Diabetes mellitus affects both the sex, also most common age affected group in our study were from 50 to 70 years We had enrolled 16 patients from M(N)HMC OPD, 8 patients from diabetic OPD , 15 patient online , 1 patient from peripheral OPD, 6 patient from camp .

We had recorded the cases in our case recording format and medicines were given accordingly. There were total 46 cases in which 23 patient belong to A group [patient with Abroma Augusta mother tincture with oral hypoglycemic agent] and 23 patient belong to B group. In group A, 18 patient are substantially improving, 4 patient were deteriorating, 1 patient got dropped. In group B, 16 patient were substantially improving, 7 patient were deteriorated. One researcher Rita Chakraborty investigated the effect of abroma augusta mother tincture on glycosylated haemoglobin (HbA1c) production in type 2 diabetes mellitus patients and discovered that each patient improved considerably in HbA1c%, FBS, and PPBS. In her study the statistical 't' value of HbA1c% is 8.295 which is more than the tabular value, shows the efficacy of Abroma Augusta Mother tincture. ⁽¹¹⁾ Drs. G Lakshmi Narasaiah and G Chandra Sekhara Rao did a study on the Indian plants in homoeopathy for the treatment of diabetes. This article highlights some of the important symptoms of abroma augusta and also helps our prescribing of Indian plant treatments in diabetes mellitus. ⁽¹²⁾ Diabetes Mellitus and homoeopathy, a research by Anita Sharma, Praveen Oberoi showed that abroma augusta q has a slight hypoglycemic impact in dosages ranging from 0.5 ml. To 0.1ml as it was prescribed to 104 patients and proved 44.4% effective. ⁽¹³⁾ Nargis Sultana Chowdhury published a review article on pharmacological values and phytochemical properties of abroma augusta and found that the aqueous extract of fresh leaves of devil's cotton has a therapeutic effect on type 2 diabetes mellitus by reducing the absorption of glucose, thus helps in glucose tolerance. ⁽¹⁴⁾ As type 2 Diabetes mellitus is chronic lifestyle disorder, to control BSL, the study could be carried out for more duration.

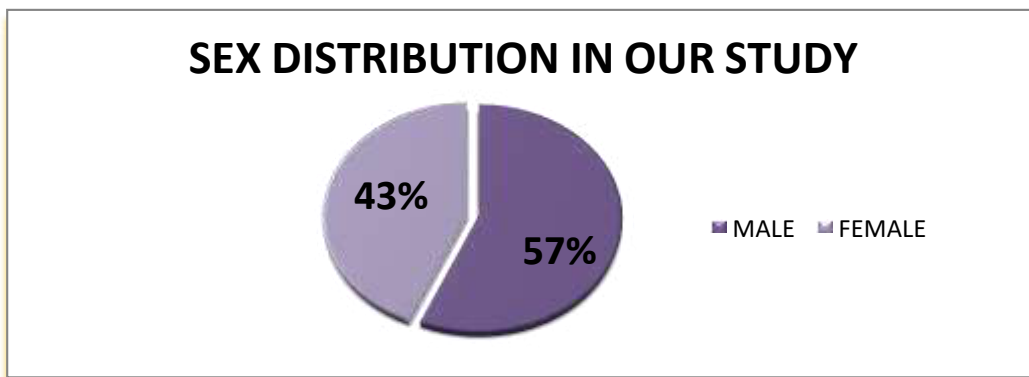
RESULT:

Sr. No.	OBJECTIVES	RESULTS WITH INTERPRETATION
1.	<p>To study if there is any significant difference in the effectiveness of management of type 2 Diabetes Mellitus between two groups</p> <p>Group A: Abroma Augusta Ø along with OHA</p> <p>Group B: Only OHA</p>	<p>After the study we saw that Abroma Augusta Ø along with OHA was more effective in reducing the symptoms of the patient as compared to oral hypoglycaemic agents alone.</p> <p>Comparison was made using unpaired t test where the value of t was 2.48 which was greater than the tabled value of t 2.02 at (0.05) at 5% level of significance i.e. null hypothesis is rejected, hence it concludes that there is a significant difference in the effectiveness of management of type 2 Diabetes Mellitus between both the groups</p>
2.	<p>To evaluate the changes in the HbA1c level in Type 2 Diabetes Mellitus patient after the intervention of Abroma Augusta Ø</p>	<p>The HbA1c level of 82% of type 2 Diabetes mellitus patient was improved hence we conclude that Homoeopathic medicine Abroma Augusta mother tincture along with oral hypoglycaemic agent is effective in reducing the HbA1c Level.</p>

GRAPHICAL PRESENTATION:

1) GRAPH NO. 1:- SEX DISTRIBUTION IN OUR STUDY

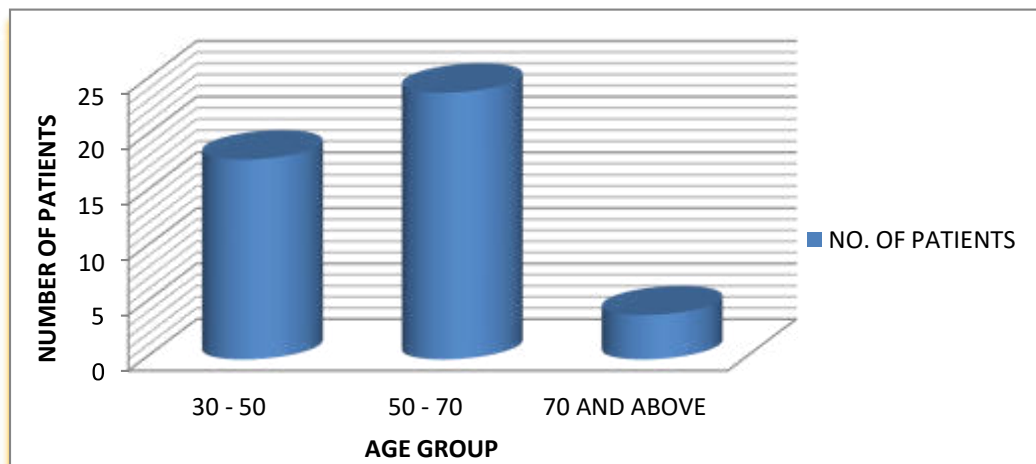
	MALE PATIENT	FEMALE PATIENT
NO. OF PATIENTS	26	20



Graph- Sex distribution in our study

2) GRAPH NO. 2 : - AGE DISTRIBUTION ON OUR STUDY

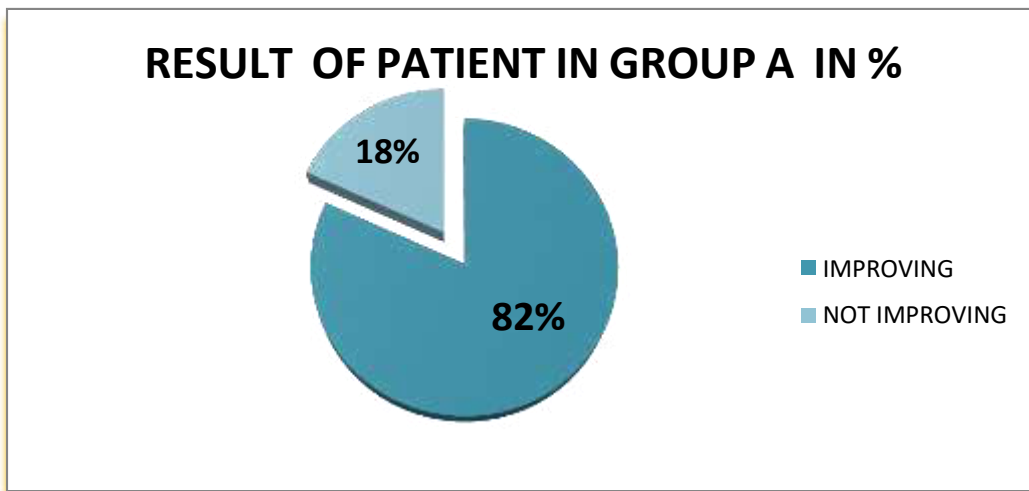
AGE GROUP IN YEARS	NO. OF PATIENTS
30 – 50	18
50 - 70	24
70 AND ABOVE	4



Graph- Age distribution in our study

3) GRAPH NO. 3 :- RESULT OF PATIENTS IN GROUP A IN %

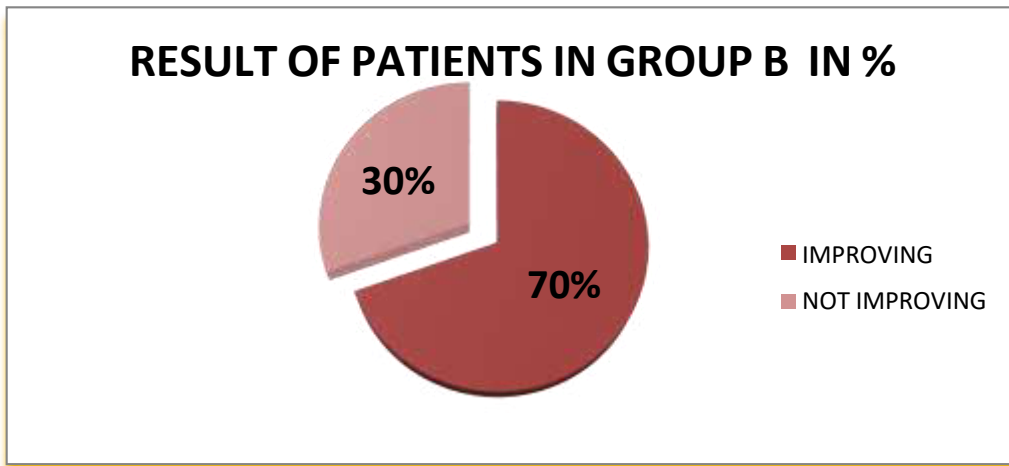
RESULT	NO OF PATIENTS
IMPROVING	18
NOT IMPROVING	4



Graph- Result of patients in group A in %

4) GRAPH NO. 4:- RESULT OF PATIENTS IN GROUP B IN %

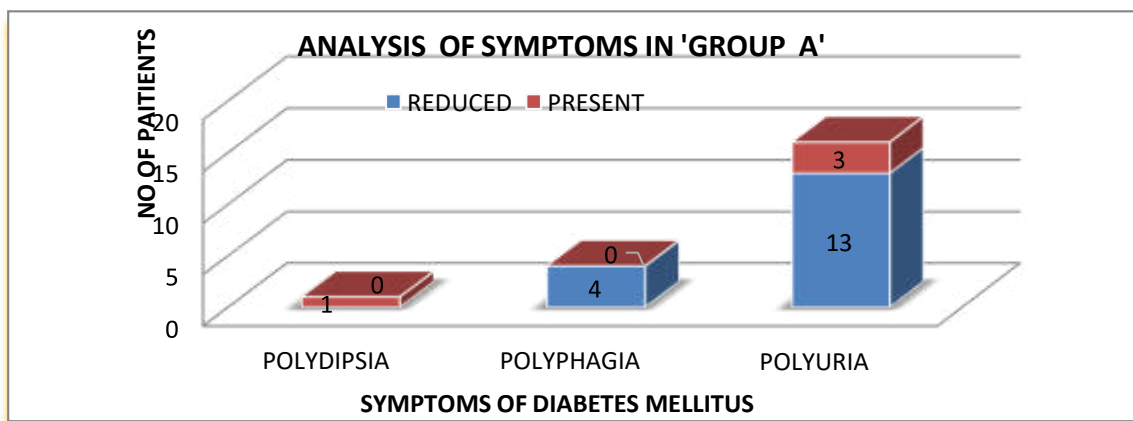
RESULT	NO OF PATIENTS
IMPROVING	16
NOT IMPROVING	7



Graph- Result of patients in group B in %

5) GRAPH NO.5:- ANALYSIS OF SYMPTOMS IN 'GROUP A':-

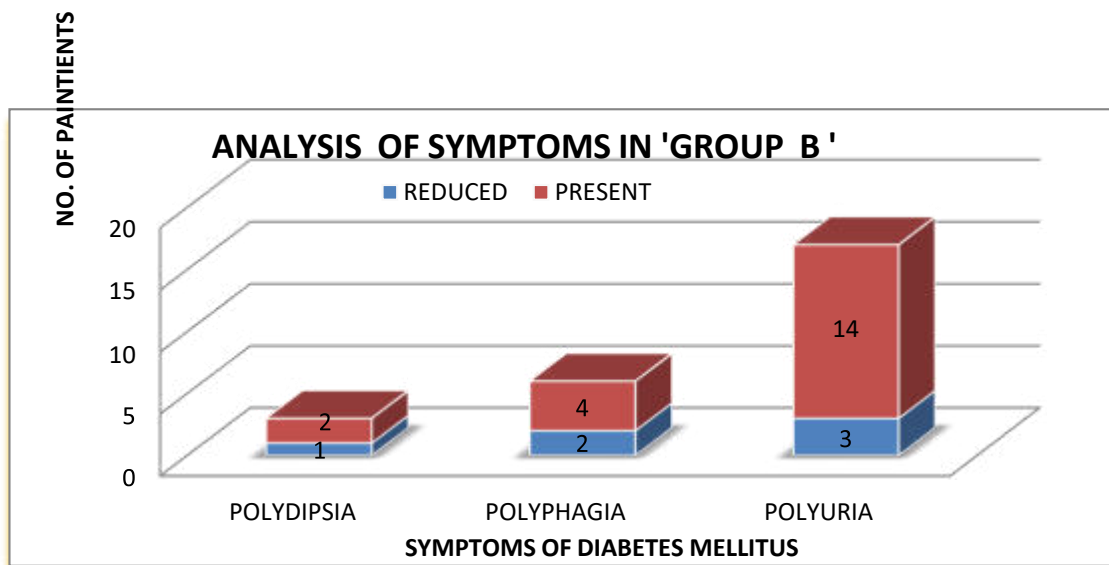
SYMPTOMS	TOTAL PATIENTS	REDUCED STUDY	AFTER PRESENT STUDY	AFTER STUDY
POLYDIPSIA	1	0	1	
POLYPHAGIA	4	4	0	
POLYURIA	16	13	3	



Graph- Analysis of symptoms in 'Group A':-

6) GRAPH NO. 6:- ANALYSIS OF SYMPTOMS IN 'GROUP B':-

SYMPTOMS	TOTAL PATIENTS	REDUCED AFTER STUDY	PRESENT AFTER STUDY
POLYDIPSIA	3	1	2
POLYPHAGIA	6	2	4
POLYURIA	17	3	14



Graph- Analysis of symptoms in Group B

CONCLUSION:

After analysis of our study, we conclude that both the group have their effectiveness, but Abroma Augusta mother tincture with oral hypoglycemic agent is more effective than oral hypoglycemic agents alone in the management of Type II Diabetes Mellitus

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