

EFFECTS OF SENNA AURICULATA POWDER FOR LOWERING BLOOD SUGAR AMONG TYPE II DIABETIC PATIENTS

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ABSTRACT

Background and objectives: Diabetes Mellitus is a group of metabolic disorder affecting majority of population worldwide. Diabetes is due to either the pancreas not producing enough insulin, or because cells of the body do not respond properly to the insulin that is produced. The study was done to identify the effectiveness of Senna Auriculata powder in control of blood sugar level among Type II Diabetes Mellitus clients attending diabetic outpatient department in a selected community health centre at Chennai.

Materials and methods: Quasi-experimental research design was adopted with the pre-test and post-test research design for this study. Purposive sampling technique was used to select the sample and a structured questionnaire was used to collect the data from 60 samples with type-II DM at Otteri, Chennai. Samples were randomly divided in two groups- Experimental group was supplemented with 10gms/day Senna Auriculata powder and Control group was given no intervention. The pre-test glucose analysis was conducted by using a glucometer. The post-test was conducted after 4 weeks of intervention.

Results: The result proves that there is an effectiveness of Senna Auriculata powder administered between the pre-test and post-test, the p value being highly significant at $p < 0.001$ level.

Conclusion: It was implied that the Senna Auriculata powder are easily available, cheap in cost, and used in treatment of type-II DM, helping in cost-effective management of this chronic disease. However, the study can be conducted by using larger populations to generalise the findings.

Keywords: Senna Auriculata powder, type-II Diabetes Mellitus, Blood Sugar level.

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INTRODUCTION

Diabetes Mellitus is a chronic disease affecting majority of population worldwide. Diabetes occurs when the pancreas does not produce enough insulin, or because body cells are not responding properly to the insulin that is produced. This leads to an increased concentration of glucose in the blood which is described as hyperglycemia. The study was done to identify the effectiveness of Senna Auriculata powder in controlling blood sugar level among Type II Diabetes Mellitus patients attending diabetic outpatient department in selected community at Chennai.

NEED FOR THE STUDY

According to W.H.O estimates, by 2025 a total of 300 million of the worldwide population will be affected by diabetes. In every 21 seconds, someone is diagnosed with diabetes, and in every 10 seconds, a person dies from diabetes-related causes in the world, an estimation given by American Diabetes Association. There is potential for further rise in prevalence of diabetes mellitus in the coming decades. Each year, over three million deaths worldwide are tied directly to diabetes and even greater number die from cardiovascular disease. Diabetes related complications are coronary artery disease, peripheral vascular disease, neuropathy, retinopathy, nephropathy, etc. People with diabetes are 25 times more likely to develop blindness, 17 times more likely to develop kidney disease, 30-40 times more likely to undergo amputation, two to four times more likely to develop myocardial infarction and twice as likely to suffer a stroke as non-diabetics. Modification in lifestyle and dietary habits with proper medication can delay and prevent diabetes in high-risk groups.

Benefits of Senna Auriculata powder: A few of the herbs have proven successful as natural supplements to treat signs and symptoms of diabetes. Senna Auriculata is commonly used in traditional medicine to cure diabetes. Natural remedies such as Senna Auriculata powder can be used to treat diabetes being natural supplements that suppresses elevated blood sugar by increasing insulin production.

Scientists found that Senna Auriculata has antioxidant potential and also contains many phytochemicals detected in CAFE and CAFÉ through LC ESI/MS analysis.

PROBLEM STATEMENT

To assess the effectiveness of Senna Auriculata powder in control of blood sugar level among Type II Diabetes Mellitus patients attending diabetic outpatient department in a selected community health centre at Chennai.

OBJECTIVES

1. To assess the pre-test level of fasting blood glucose among patients with type II diabetes mellitus in experimental group and the control group.
2. To assess the post-test level of fasting blood glucose among patients with type II diabetes mellitus in experimental group and the control group.
3. To evaluate the effectiveness of Senna Auriculata powder on level of fasting blood glucose among patients with type II diabetes mellitus in the experimental group.
4. To find out the association between the post-test level of fasting blood glucose with their selected demographic variables in the experimental group.

HYPOTHESIS

H₁: There will be a significant difference between pre-test and post-test levels of blood glucose among Type II Diabetes Mellitus patients

H₂: There will be a significant difference between the post-test levels of blood glucose among Type II Diabetes Mellitus patients in experimental and control groups.

MATERIALS AND METHODS

Quasi experimental research design was adopted with the pre-test and post-test research design, and purposive sampling technique was used to select the sample in Otteri, Chennai. 5 gram of Senna Auriculata Powder was administered 30 minutes before breakfast and 5 gram for 30 minutes before dinner for clients in experimental group for 30 days. The conceptual frame work was based on modified model of Wiedenbach's helping Art of clinical nursing theory. The pre-test glucose analysis was conducted by using a glucometer. The post-test was conducted after 4 weeks of intervention.

RESULTS

The data were analysed using descriptive and inferential statistics. The independent 't' value of blood glucose was 3.038, which was significant at $P < 0.05$ levels. This showed that there is a significant reduction in the levels of blood glucose in the experimental group. The study findings revealed that there was no significant association between post-test levels of blood glucose scores among Type II Diabetes Mellitus patients with their selected demographic variables. The above study findings revealed that Senna Auriculata powder was helpful in reducing the blood glucose among Type II Diabetes Mellitus patients.

Table – 1: Comparison between the post-test level of blood glucose among Type II Diabetes Mellitus patients in experimental group and the control group.

Comparison of mean, standard deviation, mean difference and independent 't' value of post-test level of Blood Glucose among Type II Diabetes Mellitus patients in experimental and control groups.

n1 =30, n2 =30

Groups	Mean	Standard Deviation	Mean Difference	Independent 'T' Value
Experimental Group	164.36	9.90	0.47	3.038
Control Group	164.83	11.93		

df = 58 p < 0.05

Table - 1 depicts that the mean pre-test scores of Blood Glucose level was 164.36(SD± 9.9) and the post-test mean score was 164.83 (SD ±11.93). The post-test mean score was lower than the pre-test mean score. The mean difference was 0.47. The Independent 't' value was 3.038 which was significant at P <0.05 level, which showed that Senna Auriculata powder was effective in reducing blood sugar level.

CONCLUSION

Diabetes mellitus is a common chronic disease requiring lifelong behavioural and lifestyle changes. It should be managed with a team approach to empower the patient to successfully manage the disease. Nurses should plan, organise, and co-ordinate the care among the various health disciplines involved. Senna Auriculata powder had proved its effect on reduction of blood glucose level among patients with type II diabetes mellitus. Proper education about this should be given to the patients to promote their health and well-being.

RECOMMENDATIONS

- The study can be conducted by using larger populations to generalise the findings.
- A longitudinal study can be conducted to assess the effectiveness of Senna Auriculata powder in maintaining the blood glucose level within limit.
- This study can be done as a comparative study in different settings.
- The effectiveness of Senna Auriculata powder can be tested among patients with diabetes mellitus who are on insulin administration.
- A follow up study can be done to find out whether the patients are practising Senna Auriculata powder intake regularly.

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