

# Effectiveness of Fenugreek (Seeds) Powder Administration in Reduction of Blood Glucose Level among Patients with Type-II Diabetes Mellitus at Pillaiyarkuppam, Puducherry

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## ABSTRACT

**Background and objectives:** Diabetes has emerged as a major healthcare problem in India and Puducherry. It is estimated that every fifth person with diabetes will be an Indian, which is due to adopting a negative lifestyle. The study aimed to assess the effectiveness of fenugreek (seeds) powder administration in reduction of blood glucose level among type-II diabetes mellitus (DM) patients.

**Materials and methods:** A quantitative research approach was adopted with the pre-experimental (one group pretest–posttest only) research design, and the purposive sampling technique was used to select the sample and the structured questionnaire was used to collect the data from 40 samples with type-II DM at Pillaiyarkuppam, Puducherry. The pretest glucose analysis was conducted by using a glucometer. The posttest was conducted after 2 weeks of intervention.

**Results:** The result proves that there is an effectiveness in fenugreek seed powder administration between the pretest and posttest, the  $p$  value was highly significant at  $p < 0.001$  level.

**Conclusion:** It was implied that the fenugreek seeds that are easily available, cheap of cost, and used in treatment of type-II DM, help in cost-effective management of this chronic disease.

**Keywords:** Assess, Effectiveness, Fenugreek seed powder.

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## INTRODUCTION

Diabetes has emerged as a global health problem. Unfortunately, India stands first in prevalence of diabetes mellitus (DM) in the world. By the year 2030 if we take the diabetes population of the world, one in five will be Indian. This is due to adopting a negative lifestyle. This is a serious issue that the entire health care professional from the top-level administrators to bottom-level health workers need to concentrate.<sup>1-7</sup>

The Government of India has launched a national control program for prevention and control of diabetes on June 30, 2012. Efforts are being made by the government but complete participation from the public is not available. People are not willing to take drug lifelong; they want to control it by dietary management.

The conceptual framework for this study was derived from the general system theory (modified Wiedenback's helping art of clinical nursing theory, 1964).

## OBJECTIVES

- To assess the level of blood glucose pretest and posttest among type-II DM patients.
- To determine the effectiveness of fenugreek seed powder administration in the blood glucose level.
- To associate the selected demographic variables with the blood glucose level.

## HYPOTHESES

- H1: There will be a significant difference in the pretest and posttest level of blood glucose after administration of fenugreek seed powder for 15 days.

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- H2: There will be no significant association between the level of blood glucose with selected demographic variables.

## MATERIALS AND METHODS

A quantitative research approach was adopted with the pre-experimental (one group pretest–posttest only) research design. This study was conducted among 40 samples with type-II DM at Pillaiyarkuppam, Puducherry. The purposive sampling technique was used to select the samples. The pretest glucose analysis was conducted by using a glucometer. The posttest was conducted after 2 weeks of intervention.

## RESULTS

Table 1 shows that there is a significant reduction in the postprandial blood glucose levels of the samples with the mean

**Table 1:** Distribution of effectiveness of fenugreek powder in the reduction of blood glucose during pretest and posttest ( $n = 40$ )

Test	Mean	Standard deviation	t value	Significance
Pretest PPBS	229.65	446.024	0.316	0.005***
Posttest PPBS	229.05	43.886		

PPBS, postprandial blood sugar

\*\*\*Highly significant

difference of 0.6. The difference was found statistically significant at  $p < 0.005$  level and can be attributed to the effectiveness of fenugreek powder on type-II DM in the postprandial blood glucose level. Hence, hypothesis H01 is accepted and the research hypothesis is rejected.

Based on the third objective, the study was inferred that there is no association between any demographic variables, such as age, sex, weight, duration of illness, dietary pattern, and healthy life practices, and the fasting blood glucose level of the samples and the demographic variables.

## CONCLUSION

The main conclusion of the present study is that apart from medication, dietary and lifestyle modifications play an important role in the control of the blood glucose level. As the fenugreek seeds have fewer side effects, are locally available, and as they

show significant difference in the glucose level they can be utilized as cost-effective care.

## DECLARATION OF THE STUDY PARTICIPANTS

The author certifies that all appropriate consent forms had been obtained from the study participants. In the form, patient(s) had given his/her consent and other clinical information to be reported in the journal. The study subjects understood that their names and initials will be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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