
**Hypoglycemic effect of triphala on selected non insulin dependent
Diabetes mellitus subjects**

Received : 14.05.2007

Accepted : 26.07.2007

Sowmya. S. Rajan and

Seema Antony,

Department of Foods And Nutrition,
RVS College of Arts And Science,
KVK Thottam, Sulur, Coimbatore - 641402.

Abstract :

Modern life style is characterized by high stress, increased automation, junk food consumption and sedentary life style which have lead to the incidence of Diabetes. The study involved selection of NIDDM subjects who were supplemented with Triphala powder called, The Three Myrobalans (*Terminalia bellirica*- **Belliric myrobalan**, *Terminalia chebula*- **Inknot**, *Embilica officinalis* - **Indian gooseberry**) for a period of 45 days. Statistical evaluation of the blood profile showed significant reduction in the blood glucose level of the subjects.

Introduction

Health means a natural feeling of well being, a self contained enjoyment and fulfillment. Any conflict with nature in following these codes brings disturbances in man's well being. A scientific

analysis of medical ailments reveals a strong co ordination between disease and life style. Diabetes mellitus is one of the major killers of the modern world, which has not only affected the developed nations but the developing countries too. WHO states that more than 300 million people world wide will be Diabetics. It is true that "**Diabetes is going to be the biggest epidemic in the human history**". Medical management and Nutritional therapy, Increased physical activity are the goals to alleviate the incidence of Diabetes. Awareness about *Alternative medicine* has increased. *Ayurveda*(*The Traditional medicinal system*), defines Diabetes as *Madhumeha*, -as an incurable ailment if untreated. Among many Herbs, *Triphala*- *The Three Myrobalans* (*Terminalia bellirica*, *Terminalia chebula*, *Embilica officinalis*) is a suggestive combination that possesses Hypoglycemic qualities.

Botanical name

Terminalia bellirica -

Terminalia chebula -

Embilica officinalis -

Therapeutic effect

Anti pyretic, Laxative, hypoglycemic and blood purifier.
(Belliric myrobalan)

Laxative, Hypoglycemic

Diuretic, Laxative and Hypoglycemic.
(Indian gooseberry)

Materials And Methods

The current study is an endeavor that involved the conduct of a baseline survey among 150 Diabetic subjects, among which, 60 subjects (Control = 30 and Experimental = 30) were selected for the study. The supplementation study involved selection of subjects without much complication. The combined impact of the *Three Myrobalans (Healer's mix)* seeds i.e. Amla, Beheda and Harra was used to study the hypoglycemic effect

among Diabetic subjects. Evidences suggest supplementation of 7 to 8 gms of Triphala showing hypoglycemic effect among diabetic subjects. The current study involved the supplementation of 5 gms of Triphala (lesser than the prescribed amount). The powder supplement was mixed with buttermilk and given daily two hours after dinner for a period of 45 days. Both the control and experimental group were monitored during the study

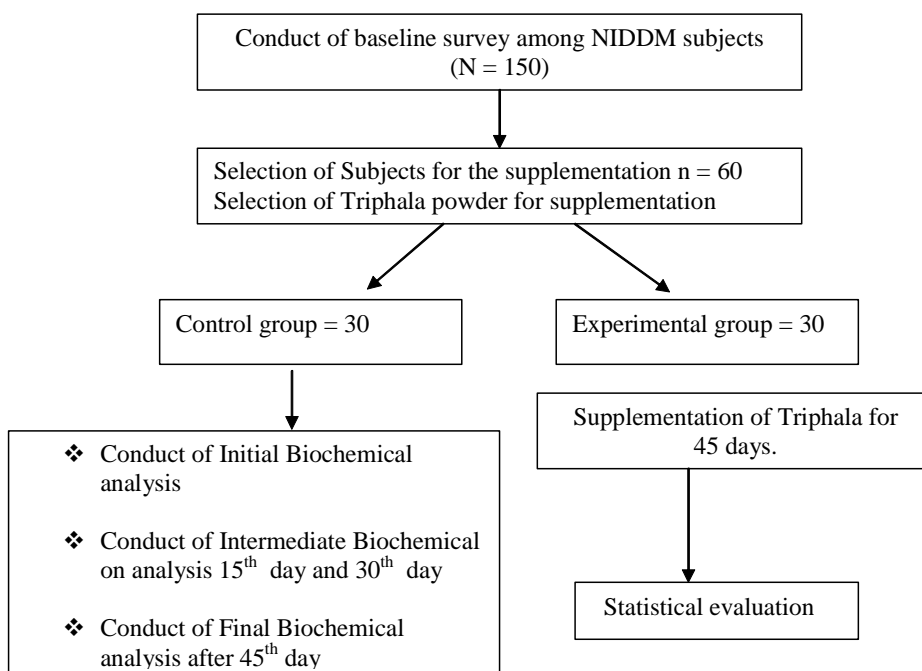


Figure I **Flowchart of Methodology**

Results And Discussion

The supplementation of Triphala (The three Myrobalans) revealed significant lowering in the Blood Glucose levels at 5 gm level quantity. Triphala contained the active ingredient *Menthol* and *Sorbitol* which

is believed to have hypoglycemic effect. The significant Glucose lowering effect (Fasting and Post prandial) could have been due to the action of the key active ingredients. The mean Blood glucose values, monitored during the study is given in Table I.

Table I : Mean Fasting blood glucose levels of the subjects

S. No	Duration in days	Mean fasting blood glucose values (mg/dl)
1.	Initial	178± 29.48
2.	15	163.3± 30.8
3.	30	149.23± 25.6
4.	45	137.43± 24.8

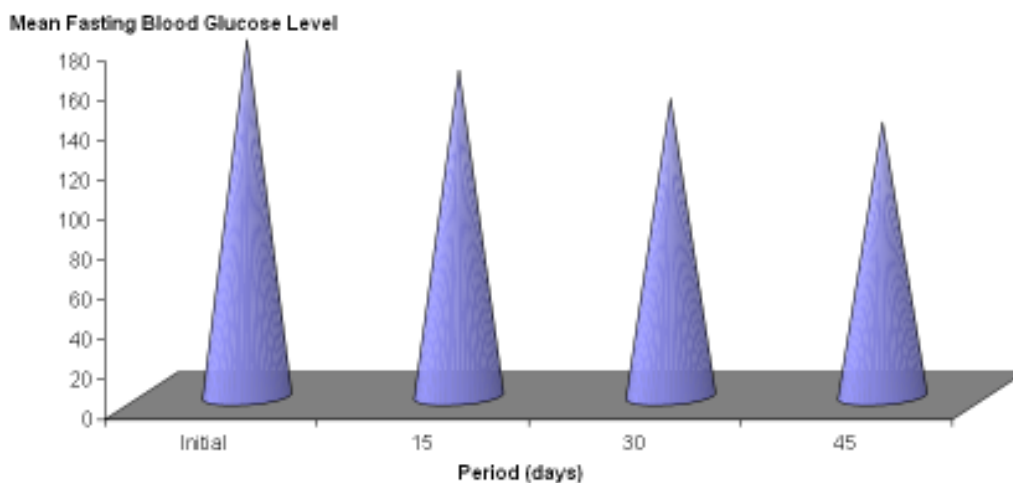


Table II and Figure 3a and b depicts the significant changes in Fasting and Post prandial blood glucose levels. When compared with the standards it was found out that the difference was at *5 per cent level of significance.

Table II
Impact of Supplementation on Blood Glucose levels of Selected NIDDM subjects.

Particulars	Parameters	Standard value	Mean \pm Standard Deviation Before	Mean Standard Deviation After	t-value	Level of Significance
Control group (n ₁ =30)	Fasting blood glucose	70 -110 g/ dl	183.64 \pm 27.62	198 \pm 31.20	1.699	N.S
	Post prandial blood glucose	Below 140 g/ dl	243.84 \pm 35.81	255 \pm 31.81	1.699	N.S
Experimental group (n ₂ =30)	Fasting blood glucose	70 -110 g/ dl	178.7 \pm 29.02	134.44 \pm 32.86	1.699	*
	Post prandial blood glucose	Below 140 g/ dl	242.1 \pm 27.07	209 \pm 31.64	1.699	*

- 5 percent level of significance
- NS Not Significant

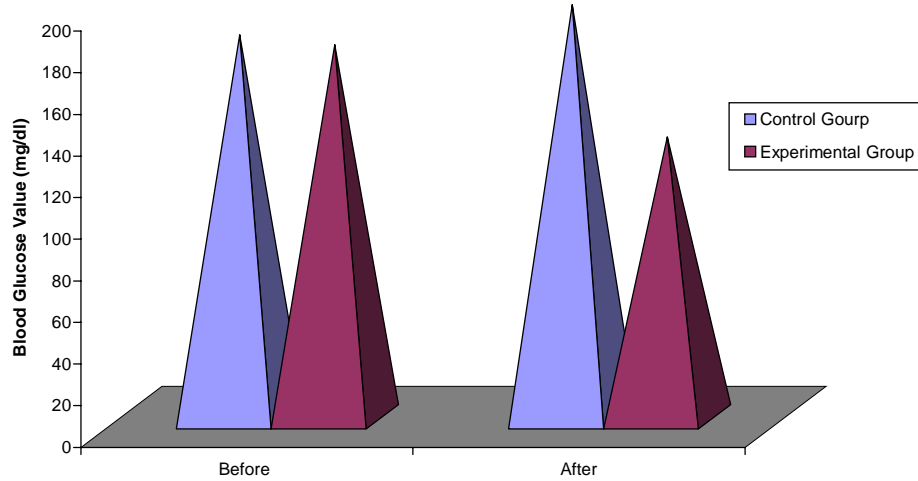


Figure - 3a
Impact of Supplementation on Fasting Blood Glucose of Selected NIDDM Subjects (n=60)

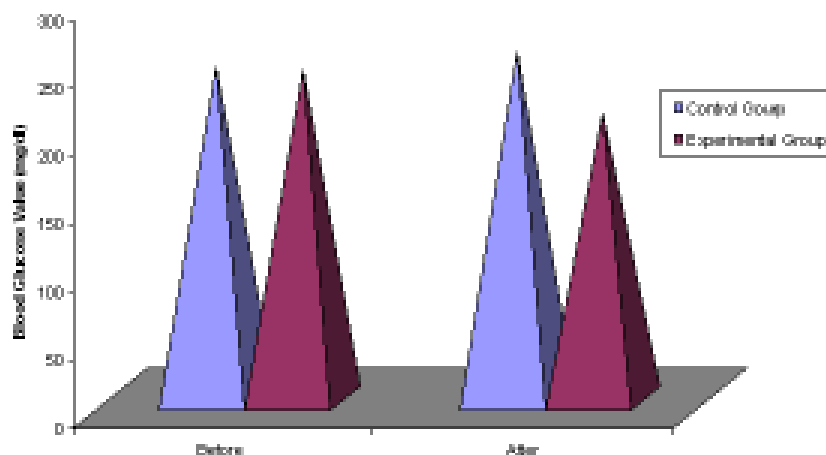


Figure - 3b
Impact of Supplementation on Post Prandial Blood Glucose of Selected NIDDM Subjects (n=60)

Summary And Conclusion :

Diabetes is the major life style disorder that is a causative factor, reducing the life expectancy of the human race. With the advent of modern medical science and research findings, combating disease and disorders is not a difficult affair. The role of alternative medication like Ayurveda, Siddha and

Yunani is also finding equal importance like Allopathy. The effort taken in the current study is a progressive step to prove that consistent use of herbs as a part of our daily diet minimizes the incidence and early manifestation of diabetes.

References:

1. Mukharjee.S.K, "Scope and use of Indigenous Herbal Drugs in Madhumeha - An Indian Scenario", Internationa seminar on Free Radicals mediated diseases and Ayurveda, Faculty of Ayurveda, (1996), Pp - 2 - 4.
2. Ramachandran, "Prevalence of diabetes in India, Journal of Clinical Nutrition", Vol 32, Pg: 48, 2002.
3. Rana.T.S, Singh K.K. Rao, R.R, " Some Interesting report on Indigenous Herbal remedies for Diabetis Mellitus in India", 4th International Conference of Ethnobiology, Vol 47, Pp: 17 - 2, 1998.
4. Vani.T et al, "Antioxidant properties of the Ayurvedic Formulation of Triphala and its Constituents", International Journal of Pharmacology, Vol 35, No 35, Pp: 313 - 314, 1997.
5. Indian Council of Medical research, "Recommended Dietary Allowance for Indians", published and edited by the National Institute of Nutrition, Edited by Ramashastry. B.C and C.P. Balasubramaniam, Pp: 92 - 94.