

**ASSESSMENT THE INFLUENCE OF PATIENT COUNSELING ON QUALITY OF LIFE IN TYPE-II DIABETES MELLITUS PATIENTS.****SOURAV GHOSH \*, AJEET KUMAR RAJVANSHI AND SHRI KISHUN**

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**ABSTRACT**

This study was carried out to assess the influence of patient counseling on patients perception about the disease management and quality of life in type II diabetes mellitus patients. A randomized controlled study was carried out over a period of forty five days in medicine department of S.D medical Hospital, Uttar Pradesh, India. A total of 22 patients were taken, out of them 72% was male and 28% was female. The patients were distributed into two groups (Control and test) and where each group was contained nine patients. Our study showed that Patients with type II diabetes mellitus of age above 50 years (77.8%) was predominant than age below 50 years (22.2%) and diabetic history of onset of diabetes above 10 years (77.7%) was more than those with the age of 10 years (22.2%) below. The control value of Fasting Plasma Glucose level (FPG) and Postprandial Plasma Glucose level (PPG) was reduced significantly upto  $180 \pm 2.597$  ( $p < 0.05$ ) and  $194 \pm 2.596$  ( $p < 0.01$ ) respectively after 45 days of patient follow up. The result of the study suggest that community-based patient counseling regarding Disease, medication and Life style modification for type 2 diabetic patients, can be effectively implemented in developing nations and that important health indicators significantly improve.

**KEYWORDS**

Patients counseling, Quality of life, Diabetes Mellitus, Pharmacist

**INTRODUCTION**

The role of pharmacist has changed dramatically over the past three decades. Traditionally pharmacists were viewed as individuals who dispensed medicine to the public. The pharmacist role was slowly changed into one which involved more in development of drugs. The later stage of 1960s revealed the growth of a new development, that changed the concept of pharmacy from a product oriented to a patient focused one, called clinical pharmacy. Pharmacists are now becoming

indispensable in monitoring patient drug therapy [1]. Patient counseling involves the pharmacist's decision to avoid, initiate, maintain, or discontinue drug therapy, both of prescription and nonprescription drugs. It is thus practiced in collaboration with patients, physicians, nurses, and other health care workers. The ultimate goal of the pharmaceutical care is to optimize a patient's quality of life. These outcomes can be achieved by influencing the cure of the disease, progress, prevention and diagnosis of disease or

desired alterations in the physiological process [2]. Patient counseling is defined as providing medication related information orally or in written form to the patient or their representatives, on topics like direction of use, advice on side effects, precautions, storage, diet and life style modification [3].

Diabetes mellitus is a chronic metabolic disorder characterized by hyperglycemia and altered metabolism of carbohydrates, lipids and proteins. It is a common condition affecting 1-2% of population with a strong hereditary tendency. The role of self-management behavior is clear even in studies that address relationships between pharmacologic treatment and outcomes at the physiologic level. For example, both the Diabetes Control and Complications Trial (DCCT) [4] and the United Kingdom Prospective Diabetes Study, (UKPDS) [5] required patients to adhere to complex and intensive treatments over long periods of time. The primary goal of diabetes management is to reduce the risk of micro vascular and macro vascular disease complications, to ameliorate symptoms, to reduce mortality, and to improve quality of life [6]. Prolonged hyperglycemia results in various complication including atherosclerosis retinopathy, nephropathy and gangrene of the limbs. Studies have confirmed that the complications of diabetes can be reduced by proper control of blood glucose [7]. It depends on the patient's adherence to medications, life style modifications, frequent monitoring of blood glucose, etc and can be influenced by proper education and counseling of the patient [8]. Pharmacists, being one of the indispensable members of the health care team, have an immense responsibility of counseling the patients. Overall, it is the role of pharmacist to help diabetic patients in the possible way to cope with their disease [9].

### Study subjects and Methods

A randomized controlled study was carried out over a period of forty five days in medicine department of S.D medical Hospital, of Patients with type II diabetes mellitus was taken for the study. A total of 22 patients were taken, out of which 4 patients were not continue the study.

Inclusion criteria: Patients with Type II diabetes on oral hypoglycemic drugs were included in the study.

Exclusion criteria: Pediatric patients, pregnant women and patients with uncontrolled diabetes were excluded from the study.

### Study Procedure

**Research subjects:** Subjects with type 2 diabetes had been diagnosed, established through chart review and consultation with treating physicians, were recruited. All study subjects gave written and oral informed consent.

**Patient enrollment:** Those patients, who met the inclusion criteria, were enrolled into the study after their informed consent was obtained. These patients were randomized into two groups, one was control and another was test. Each groups were contain 9 patients. Patient demographics like age, socio-economic status, family history, dietary habits, past and present medical and medication history were collected and recorded in the proforma (for both test and control patients). During each visit patients random capillary blood glucose level was measured by using a standard glucometer. Patients in the test group received counseling and patient information leaflets from the pharmacist where as the control group received counseling and patient information leaflets at the end of the study.

**Patient counseling and Follow up:** The all patients were counseled regarding disease, medication, nutrition, exercise, insulin, foot care, eye care, personal hygiene, self monitoring of glucose and self care. The patients were counseled in the presence of concern physician Hospital. At the time of counseling also provided information leaf late covering all essential points and Diabetic identity cards. The patients were asked to come back for follow-up once a week, for a period of 45 days. During each follow-up, the pharmacist, educated patients to each group, regarding their disease, medication and life style modification. Feed back question were asked to assess patients understanding of what was taught. Initially, base line blood glucose level was noted

for test and control patients. Then capillary blood glucose level was recorded in test patients as well as control group after the follow up of 45 days. Statistical analysis of patient medication knowledge was assessed by comparing the capillary blood glucose level of the test group and control.

## RESULT

According to the inclusion and exclusion criteria, a total of twenty two patients were involved in the

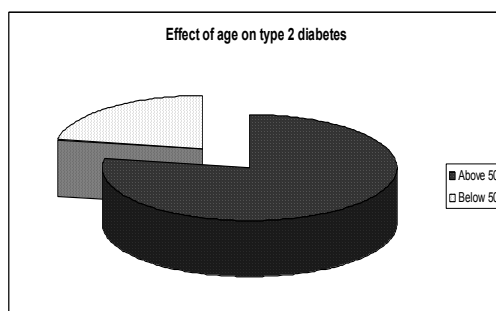
study, out of which four patients were not continue the study. The patients were distributed into two groups (Control and test) and where each groups were contained nine patients. .

Patients with type II diabetes mellitus of age above 50 years (77.8%) was predominant than age below 50 years (22.2%).

Diabetic history of onset of diabetes above 10 years (77.7%) was more than those with the age of 10 years (22.2%) below. The result is demonstrated in table 1 & fig 1

**Table 1.**  
**Demographic details of patients**

Variables	No. of patients	Percentages
Sex		
Male	13	72
Female	05	28
Age in years		
40-50	04	22.2
50-60	09	50
>60	05	27.8
Onset of diabetes in years		
1-10	04	22.2
10-20	06	33.3
>20	08	44.4



**Fig1. Effect of age on type II diabetes.**

Table 2 demonstrated that the average value of Fasting Plasma Glucose level ( FPG) and Postprandial Plasma Glucose level (PPG) at the time of patient enrollment.

**Table 2.**  
**Estimation of blood glucose at the time of patient enrollment.**

Time of estimation	Avg. Blood glucose level (mg/dl)
FPG	227±1.283
PPG	291±1.423

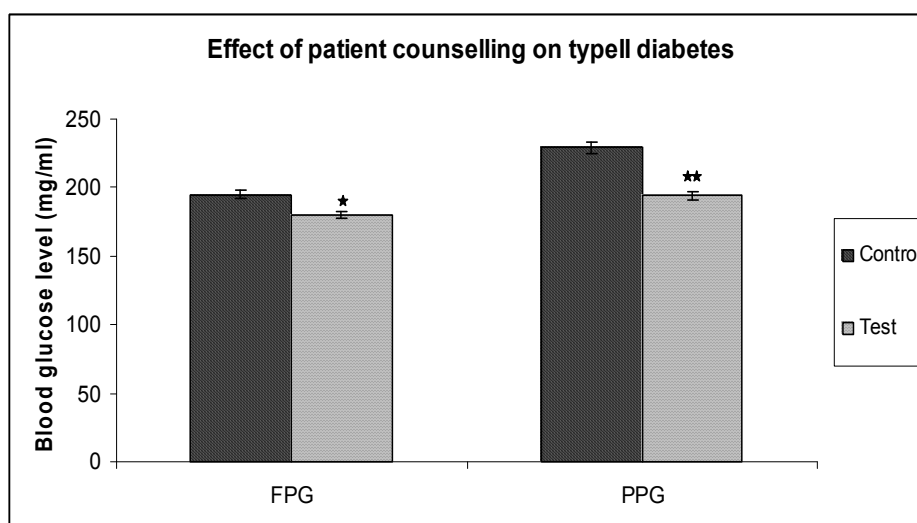
**Effect of counseling on Fasting Plasma Glucose level (FPG) and Postprandial Plasma Glucose level (PPG)**

(Given in Table No.3):

The control group of without counseling FPG and PPG value was  $195 \pm 3.239$  and  $229 \pm 4.246$ . The control value of FPG and PPG was reduced significantly upto  $180 \pm 2.597$  and  $194 \pm 2.596$  respectively after 45 days of patient follow up.

**Table 3.**  
**Effect of patient counseling on type II diabetes patients.**

Estimation Time	Avg. blood glucose level.(mg/dl)	
Control	FPG	$195 \pm 3.239$
	PPG	$229 \pm 4.246$
Test	FPG	$180 \pm 2.579$
	PPG	$194 \pm 2.596$



**Fig 2.**

**Effect of patient counseling on typell diabetes. \* $p < 0.05$ , \*\* $p < 0.01$  as compared with control.**

## DISCUSSION

The management of Diabetes Mellitus not only requires the prescription of the appropriate nutritional and pharmacological regimen by the physician but also intensive education and counseling of the patient. Diabetes is a chronic disease with altered carbohydrate, lipid and protein metabolism. The chronic complications of diabetes are known to affect the quality of life of diabetic patients. Various factors like understanding of the patients about their disease, socioeconomic factors, dietary regulation, self-monitoring of blood glucose are known to play a vital role in diabetes management. [10], [11], [12], [13]

The present study was carried out for 45 days. At first blood glucose level was estimated at the time of patient enrollment (Table 2). Selected patients were categorized into two groups. In one group (test group), 9 patients were selected for treatment and counseling regarding disease, medication, personal hygiene, diet and exercise at hospital and another group (control) was selected for only treatment.

Table 3 and Fig 2 shows that there was significant reduction of blood glucose level (FPG & PPG) in test group as compared than control group. So, we can tell that control group has no awareness about Diabetes disease, self monitoring of glucose, diet and exercise

## CONCLUSION

Diabetes is a chronic illness that requires a combination of pharmacological and nonpharmacological measures. Patient adherence to medication and lifestyle modifications plays an important role in diabetes management. The majorities of individuals with type 2 diabetes were overweight, did not engage in recommended levels of physical activity, and did not follow dietary guidelines for fats, fruits and vegetable consumption. Additional measures are needed to encourage regular physical activity and improve dietary habits in this population.

This study provides evidence that a community-based patient counseling regarding Disease, medication and Life style modification for

type 2 diabetic patients, can be effectively implemented in developing nations and that important health indicator significantly improve.

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