

**AN OBSERVATIONAL STUDY ON EVALUATING THE  
IMPACT OF PATIENT COUNSELLING IN ENHANCING  
THE KNOWLEDGE, ATTITUDE, PRACTICE AND QUALITY  
OF LIFE AMONG DIABETES PATIENTS**

**Agilesh N V\*, Anju Mariya Joy, Deepak P, Rahul M**

Padmavathy College of Pharmacy, Dharmapuri, Tamil Nadu, India

**ABSTRACT**

Diabetes mellitus (DM) is a heterogeneous group of metabolic disorders characterized by hyperglycemia. It is associated with abnormalities in carbohydrate, fat, and protein metabolism and may result in chronic complications including microvascular, microvascular and neuropathic disorders. Patient Counselling is a key component of Patient Care. Objective: The objective was to study the patient demographic details and evaluate the patient's Knowledge, Attitude & Practice and Quality of Life among select Diabetic Patients and to improve them by providing Patient Counselling. Materials & Methods: An Observational study was carried out at a tertiary care hospital in Krishnagiri, Tamil Nadu for a period of 6 months. 52 patients were included in the study based on inclusion and exclusion criteria. Knowledge, Attitude & Practice and Quality of Life were assessed using validated Questionnaires and the score thus obtained before counselling was compared with the corresponding score obtained after counselling. Results: At the end of the study, there was a significant improvement in the Knowledge, Attitude & Practice (KAP) and Quality of Life (QoL) among the patients ( $p < 0.05$ ). Conclusion: We conclude that Patient counselling is a key part of Diabetic care. Patient Counselling stressing the importance of lifestyle Management, Drug therapy and knowledge of the disease can improve Quality of Life and prevent further Complications.

**Correspondence**

**Agilesh NV**

Department of Pharmacy Practice  
Padmavathy College of Pharmacy,  
Periyannahalli, Dharmapuri, Tamil Nadu,  
India

✉ agilesh.14995@gmail.com

**Keywords**

Diabetes, Knowledge, Attitude &  
Practice (KAP), Quality of Life  
(QoL), Patient Counselling.

**Received**

16/07/2019

**Reviewed**

18/07/2019

**Revised/ Accepted**

22/07/2019

## INTRODUCTION

The prevalence of diabetes mellitus (DM) has significantly increased over the past two decades. It is a silent disease and is more prevalent with increase in age. <sup>[1]</sup> The economic burden of DM approximated \$174 billion in 2007, including direct medical and treatment costs as well as indirect costs attributed to disability and mortality. DM is the major cause of blindness in adults aged 20 to 74 years, and the major contributor to development of end stage renal disease. It also accounts for approximately 71,000 lower extremity amputations annually. Finally, two-thirds of deaths in individuals with type 2 DM, occur due to a cardiovascular event. <sup>[14]</sup> Moreover, a study by American Diabetes Association reports that India will harbour most number of people diagnosed with diabetes by 2030 <sup>[4]</sup>.

Patient Counselling is an important process that improves patient's ability to keep up with their disease and make decisions regarding lifestyle and therapy. It helps patients to keep themselves motivated about dietary and lifestyle habits. <sup>[5]</sup> There are virtually no epidemiological studies from Krishnagiri district of India assessing the level of awareness of DM among the diabetic population. Hence, this research on

disease awareness and the vital role of counselling in the management of DM. This study aims to identify the levels of knowledge, attitude & practice and Quality of life of diabetic patients visiting a tertiary care hospital. The results were used to develop a counselling program and to assess whether Patient Counselling could produce any improvement in diabetes awareness and practices.

## OBJECTIVE

The objective was to study the patient demographic details and evaluate the patient's Knowledge, Attitude & Practice and Quality of Life among select Diabetic Patients.

## MATERIALS AND METHODS

**Study site:** The study was conducted at the Department of General Medicine at both male and female General ward and with Out-patients in Govt. Headquarters Hospital, Krishnagiri. The study was approved by Institutional Human Ethics Committee (IHEC).

**Study population:** Inpatient and outpatient with Diabetes, visiting Govt. Head Quarters Hospital, Krishnagiri were considered for this study. A batch of 107 patients were screened and obtained their consent in native

Tamil language for studies. Based on the inclusion and exclusion criteria 84 patients were selected and were assessed out of which only 52 patients visited the hospital for follow up for the next month.

**Study period:** The study was conducted for a period of 6 months from February 2018 to July 2018.

#### **Data source**

- Patient data collection form
- Knowledge, Attitude and Practice questionnaire
- Quality of Life questionnaire

#### **Inclusion criteria**

- Both male and female diabetic patients
- Both Type I and Type II Diabetic Patients (IP & OP).

#### **Exclusion criteria**

- Paediatric patients
- Pregnant women
- Patients under the age of 18
- Patients with uncontrolled complications

**Study tools:** Knowledge of the patients were assessed by using patient Knowledge, Attitude and Practice Questionnaire and Patient's Quality of Life were assessed using SF – 36 Questionnaire. Patients were

educated and counselled orally and by using Patient Information Leaflet.

**Statistical analysis:** All Collected data were analyzed using IBM SPSS Version 25.0. The results were expressed in percentage and mean. The Statistical significance was taken at 95% confidence interval ( $p < 0.05$ ).

#### **RESULTS**

A total of 52 patients were included in this study. As per the results, maximum subjects (38.52%) were in the age group 50-59 years, similar results were obtained from a study at Nepal by Dinesh *et al.*,<sup>[6]</sup> and P. Maheshwari *et. al.*<sup>[7]</sup>, followed up by 60-69 years (26.9%). Among them 22 patients (42.3%) were male and 30 patients (57.7%) were female. Most of the patients had primary level education (46.2%).

BMI wise, it was also observed that most of the patients (36.5%) were overweight and (32.7%) of them were normal weight followed by a (26.9%) of the patients being Obese. Social status wise 12 patients had the habit of smoking and 14 patients had the habit of Alcohol consumption. Out of 52 patients studied, 24 patients had a family history of diabetes which shows that diabetes could have been inherited genetically in them. A total of 53.8% (n=28) patients did not have any family history of

diabetes but 46.2% (n=24) had family history of diabetes. The distribution of diabetic patients according to the socio demographic characteristics is shown in Table 1.

**Table 1: Socio demographic details of Patients**

<b>Patient Characteristics</b>	<b>No. of patients</b>	<b>Percentage</b>
<b>Sex</b>		
Male	22	42.3%
Female	30	57.7%
<b>Age (years)</b>		
<30	3	5.8%
30-39	4	7.7%
40-49	5	9.6%
50-59	20	38.52%
60-69	14	26.9%
>70	6	11.5%
<b>Education level</b>		
Illiterate	4	7.7%
Primary schooling	24	46.2%
Secondary schooling	16	30.8%
Any Degree	8	15.4%
<b>DM history in family</b>		
Present	24	46.2%
Absent	28	53.8%
<b>BMI</b>		
Normal	17	32.7%
Overweight	19	36.5%
Obese	14	26.95%
Severely Obese	2	3.8%
<b>Smoking status</b>		
Yes	12	23.1%
No	40	76.9%
<b>Alcohol consumption</b>		
Yes	14	26.9%
No	38	73.1%

### Assessing KAP AND QoL:

The questionnaire for assessment of KAP's regarding diabetes covered three areas: Knowledge, Attitude & Practice. There was a total of 25 questions in the KAP (knowledge - 18, attitude – 4, and practice - 3 questions) with some questions having multiple correct answers. Patients were given marks based on the number of correct answers they provide for such questions. The questionnaire was prepared such that there was 35 marks for knowledge and 15 marks for Attitude and Practice with a total of 50 marks in all. This questionnaire was filled in at a face-to-face interview with the participant after obtaining a proper consent from the patients.

We tried to improve the knowledge of the respondents by providing the counselling regarding lifestyle and medications. Final review was taken a month after, when they arrived at the hospital for refilling their medications. Mean scores obtained by all patients regarding knowledge, Attitude & Practice during baseline review and during follow up are summarized in table 2.

The means were analyzed with paired samples t-test using IBM SPSS. The results obtained from paired samples t-test using IBM SPSS shows a statistically significant

improvement in KAP of the patients (p < 0.05).

**Table 2. Mean scores obtained during baseline review and follow up**

K.A.P.	Mean	P -value
<b>Knowledge</b>		
Baseline Review	23.65	0.001
Final Review	24.75	
<b>Attitude &amp; Practice</b>		
Baseline Review	8.71	0.015
Final Review	9.17	
<b>Total score</b>		
Baseline Review	32.37	0.00026
Final Review	34.12	

Similarly, Quality of Life among Diabetes patients were assessed using SF-36 Questionnaire which included 36 Questions covering various aspects like Pain, Social and Psychological factors. Mean scores obtained are summarized in Table 3.

**Table 3: Mean Quality of life scores obtained before and after counselling.**

Score	Mean		p-value
<b>QoL before counselling</b>	54.71		0.014
<b>QoL after counselling</b>	56.70		

**DISCUSSION**

Our study evaluated the impact of patient counselling in improving KAP and QoL among diabetes patients. The management of DM requires implementation of nutritional and drug regimen along with intensive counselling and education of the patient about the Disease and lifestyle. [2] For patients with chronic diseases like Diabetes, home is the major site of illness management where they spend the most amount of time. And so, there is a need for the patients to have knowledge about their illness in order to manage it properly. [5]

Diabetes Mellitus has negative impact on the patient’s quality of life. Due to lack of awareness and proper Glycaemic control, Diabetic Patients produce other complications quickly. There are many evidences to suggest that patient education is the most effective way to reduce the complications of diabetes. [10] Proper knowledge about diabetes is the key for decisions about diet, exercise, weight control, blood glucose monitoring, and alcohol consumption, use of medications, foot and eye care, and prevention of microvascular complications. [9] In our study, the responses to the practice questions indicates that the participants were

unaware of the need for regular health check-ups, which may otherwise lead to further complications and increase the economic burden to the patients. In case of chronic diseases like diabetes, drug therapy solely cannot produce definite cure. Thus, controlling the symptoms and reducing the pace of further progression of the disease and improvement in the function becomes important in the management of Diabetes. [3] The pharmacist can monitor and keep track of patients' blood glucose levels.

While contacting the pharmacist, patients can clear their queries that they might have been hesitating to ask their physicians. In general, it is responsibility of the pharmacist to help patients to keep up with their disease. [11] It is essential to allot an appropriate amount of time for the patients to achieve improved patient counselling. The amount of time spent with the patient depends on many aspects such as patient's interest, patient's schedule, number of medications needed, the seriousness of the medical condition, and the pharmacist's work schedule.

Lack of time and language act as major barriers to providing counselling [12]. Pharmacists' involvement in patient care has

resulted in lowered number of hospital admissions and emergency department visits, as well as improved health status of patients. As evidenced from our results, the KAP score and the QoL of the patients improved significantly ( $P < 0.05$ ) after patient counselling by the pharmacist, with significant improvement in all parameters of the analysis, viz., knowledge, Attitude & Practice and Quality of Life.

## CONCLUSION

The study concluded that the improved knowledge and attitude clearly indicates the benefits of pharmacist-provided Patient counselling.

The pharmacist is in a highly noticeable and accessible position to answer patient concerns and queries about their drugs, disease and lifestyle. It is important for clinical pharmacists to provide appropriate, understandable and correct information and answers to patients about their drugs and lifestyle changes. Patient counselling by the clinical pharmacist plays an important role in incorporating education to the diabetic patients. We conclude that pharmacist provided patient counseling is a useful tool for decision-making in planning and monitoring disease and is a part of management of Diabetes.

**BIBLIOGRAPHY**

1. Adepu R, Rasheed A, Nagavi BG, 2007. Effects of patient counselling on quality of life in Type-2 diabetes Mellitus patients in two selected South Indian community pharmacies: A study. *Int J Pharm Sci.*v 69.I4, 519-524.
2. Ajin k George, Jewel vg, Meenu manohar. 2017. Impact of patient counselling on knowledge, attitude, and practices of patients with type 2 diabetes mellitus at a tertiary care teaching hospital. *Asian j pharm clin res.* v10.I5, 293-296.
3. Mounica bollu, kranthi koushik, Nalluri, ambhi, 2015. Study of knowledge, attitude, and practice of general population of Guntur toward silent killer diseases: hypertension and diabetes. *Asian j pharm clin res,* v8.I4, 74-78.
4. Mohanan V, Sandeep S, Deepa R, Shah B, 2007. Epidemiology of type 2 diabetes: Indian scenario. *Indian Journal of medical research.* v125.I3, 217-230.
5. Lewis RK, Lasack NL, Lambert BL, 1997. Patient counseling: A focus on Maintenance therapy. *Am J Health Syst Pharm* v54.I18, 2084–2095.
6. Upadhyay DK, Palaian S, Shankar R, Mishra P, 2008. Knowledge, attitude and Practice about diabetes among diabetes patients in Western Nepal. *Rawal Med J.* V33.I1. 8-11
7. P Maheshwari, 2016. Impact of Patient Counselling on Health-Related Quality of Life in Diabetic and Hypertensive Patients. *International Journal of pharmtech Research.* V9.II. 23-27.
8. Murata GH, Shaha JH, Adam KD, Wendel CS, Bokhari SU, Solvas PA,2003. Factors affecting diabetes knowledge in Type 2 diabetic veterans. *Diabetologia,* V46.I8. 1170-1178.
9. Shah VN, Kamdar PK, Shah N. 2009. Assessing the knowledge, attitudes and practice of type 2 diabetes among patients of Saurashtra region, Gujarat. *Int J Diabetes Dev Ctries,* V29.I3.118-122.
10. Gourley DR, 2000. Textbook of Therapeutics: Drug and Disease Management, 7th ed. Philadelphia: Lippincott Williams & Wilkins; 377–406.
11. Raisch DW, 1993. Barriers to providing cognitive services. *Am Pharm,* V33.I12? 54–58.
12. Textbook of Pharmacotherapy A pathophysiologic Approach, Joseph T Dipiro, 8<sup>th</sup> Edition's, 1256 – 1260.