

## COMPARISON OF QUALITY OF LIFE IN TYPE II DIABETIC PATIENTS: A CASE CONTROL STUDY

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### ABSTRACT

**Background:** Quality of life (QOL) is an intellectual concept consisting of positive and negative aspects of an individual's life and indeed it demonstrates the method by which a person perceives the health condition as well as the other aspects of his/her life and reacts to them. Currently, assessment of QOL is more considered because of the increased prevalence of chronic diseases.

**Aims and Objectives:** The main aim of the study is to compare the quality of life in type II Diabetic patients who had regular blood glucose level monitoring.

**Methodology:** A case-control study was conducted to compare the quality of life in type II Diabetic patients in rural areas near tadikonda village in Guntur district. Type II Diabetic patients who met the inclusion criteria were informed consented and included in the study and relevant data was collected using QOLID questionnaire.

**Results:** A total of 212 patients were taken and out of them 199 patients who met the inclusion criteria were included in the study and were divided into two groups named as Intervention group and control group. On reviewing the data it was found that quality of life in interventional group was increased with a significant P value of 0.001 compared to control group with a P value of 0.03.

**Conclusion:** Based on the results obtained our study strongly concluded that quality of life score of patients in intervention group was improved (140.9) with a significant P value of 0.001.

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### INTRODUCTION

Diabetes is the increasingly growing metabolic threat of our contemporary era. Diabetes was first described[1] in an Egyptian manuscript from 1500 BC, mentioning "too great emptying of the urine"[2]. Later on, Indian physicians described also the disease and classified it as honey urine by the fact that ants were attracted by patient's urine[2]. The term "diabetes" or "to pass through" was first used in 250 BC by the Greek Apollonius of Memphis[2]. Diabetes type 1 and 2 were recognized for the first time as separate conditions by the Indian physicians Sushruta and Charaka in 400-500 BC, linking type 1 diabetes with youth and type 2 with obesity[2,3]. The term "mellitus" or "from honey" was added by Thomas Willis in the late 1600s because of the sweet taste that urines from diabetic patients had[4]. The first complete clinical description of diabetes was given by the Ancient Greek physician Aretaeus of Cappadocia (1<sup>st</sup> century AC), who also noted the excessive amount of urine a typical sign of diabetes[5].

According to United States Centers for Disease Control and Prevention (CDC) QoL is a multidimensional concept that includes evaluations of both positive and negative aspects of a person's life. Since the 1980s, the term health-related quality of life (HRQoL) has comprised those aspects of QoL that can be shown to affect physical or mental health[6-9]. HRQoL includes physical and mental health perceptions (health conditions, social and socioeconomic status) and community-level resources, conditions (practices that influence health perceptions and functional status). According to the above, CDC has defined HRQoL as "an individual's or group's perceived physical and mental health over time"[10-13]. The WHO defines quality of life (QoL) as "an individual's perception of their position in life in the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards and concerns." [14] In measuring QoL, therefore, the WHOQoL group takes the perspective that it is significant to be aware of how contented or disturbed people are by essential features of their life, and this analysis will be a highly individual matter. Diabetes is a serious public health problem that threatens the QoL. Hyperglycemia revealed a pathogenic role in microvascular diseases

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(nephropathy, retinopathy, and neuropathy) and accelerates macrovascular complications [cardiovascular disease (CVD) such as stroke and coronary heart disease] associated with diabetes. In fact, CVD is the leading cause of premature death among individuals with diabetes.[15] People with chronic disease, such as type 2 diabetes, have to face many problems, which may pose an impact on their health related quality of life (HRQoL). Several studies have demonstrated that diabetes shows a strong negative impact on the HRQoL, especially in the presence of complications.[16] Taking all this into account, the study was planned with an objective to know the QoL of diabetic patients.

**Aim and Objectives**

**Aim**

The main aim of the study is to compare the quality of life in type II diabetic patients who had regular glucose level monitoring.

**Objectives**

To compare the quality of life of patients between intervention group and control group.

**Methodology:**

**Study Design:** Case-control study was conducted.

**Study Period:** The study was conducted within a time period of 6 months i.e., from 1<sup>st</sup> September 2018 to February 28<sup>th</sup> 2019.

**Study Site:** The study was conducted in rural areas near tadikonda village in Guntur district.

**Sample Size:** A total of 212 patients were taken and out of them 199 patients who met the inclusion criteria were taken into the study.

**Materials Used**

- Patient consent form.
- QOLID questionnaire.

**Inclusion criteria**

- Patients who are diagnosed with Type II Diabetes Mellitus
- Patients with FBS > 200mg/dl.
- Patients who are using oral hypoglycemic agents more than a year.
- Patients who are concerned to participate in the study & willing to give informed consent.
- Those who can understand English / local language.
- Patients of either gender & age between 30-65 years.

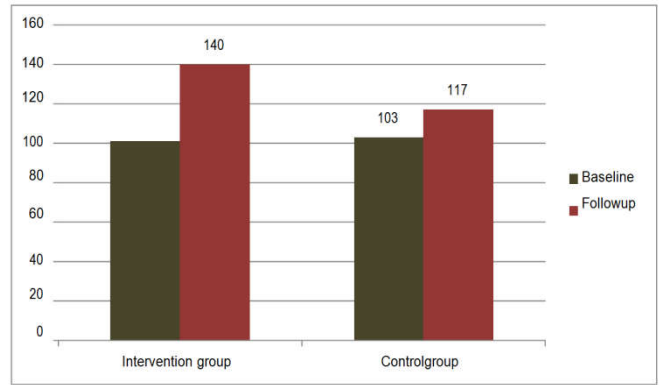
**Exclusion criteria**

- Patients with organic mental disorders.
- Pregnant women
- Patients with Type I Diabetes Mellitus.
- Diabetic patients under Insulin treatment.
- Patients with FBS < 200mg/dl

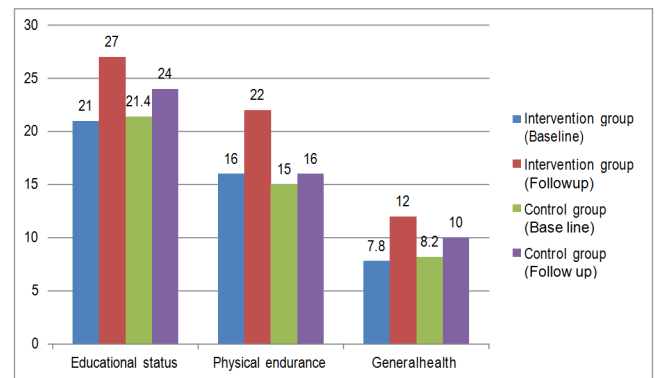
**Statistical Analysis**

Student t test was performed between baseline and follow-up for both intervention and control group using SPSS Version 17.

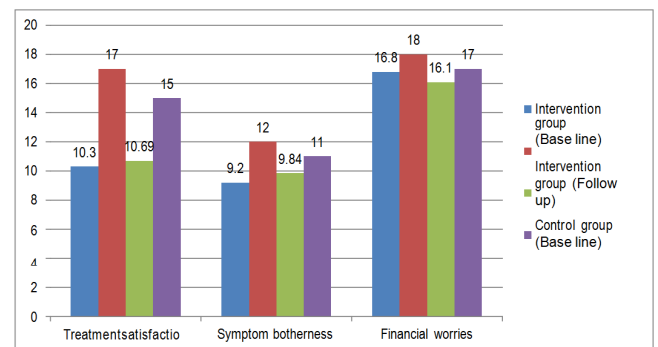
**RESULTS**



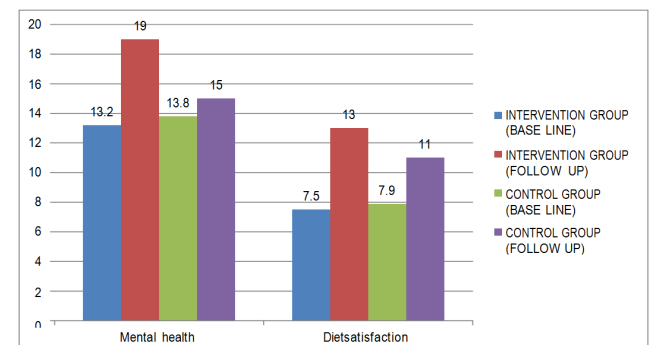
**Figure 1** Comparison of Quality of life (Intervention group vs Control group)



**Figure 2** QOL parameters (intervention group vs control group)



**Figure 3** QOL parameters (intervention group vs control group)



**Figure 4** QOL parameters (intervention group vs control group)

**Table 1** QOL parameters (Intervention group vs Control group)

S.NO	Parameters	Intervention Group		Control Group	
		Base Line	Follow UP	Base Line	Follow UP
1.	Educational status	21 ± 2.5	27 ± 2.4	21.4 ± 2.7	24 ± 3.4
2.	Physical endurance	15.9 ± 1.7	22 ± 2.8	15 ± 3.4	16 ± 1.8
3.	General health	7.8 ± 1.3	12 ± 0.7	8.2 ± 1.4	10 ± 1.8
4.	Treatment satisfaction	10.3 ± 1.4	17 ± 2.0	10.69 ± 1.9	15 ± 1.8

5.	Symptom botherness	9.2 ± 1.0	12 ± 1.8	9.84 ± 1.1	11 ± 4.2
6.	Financial worries	16.8 ± 1.2	18 ± 0.7	16.1 ± 1.2	17 ± 1.3
7.	Mental health	13.2 ± 1.8	19 ± 2.7	13.81 ± 2.0	15 ± 1.9
8.	Diet satisfaction	7.5 ± 1.5	13 ± 1.8	7.9 ± 1.4	11 ± 2.8

## DISCUSSION

A case control study was carried out on comparison of quality of life in type II diabetic patients. A total of 212 patients were taken and out of them 199 patients who met the inclusion criteria were included in the study. The data obtained was tabulated and analysed. In this study there are eight parameters that decide the patient quality of life. The Quality of life scale was dependent on QOLID questionnaire. These eight parameters were Educational status, Physical endurance, general health, treatment satisfaction, symptom botherness, financial worries, mental health and diet satisfaction. All the values were tabulated at [Table 1 and figures 2,3,4]. Disease education helped many subjects in improving their quality of life. Patients were divided into two groups i.e intervention group and control group. For intervention group patient counselling was provided and blood glucose levels were monitored every month for three months and for control group only patient counselling was provided. In the intervention group the fasting blood sugar value for baseline was 251±48.9 and for follow up is 195±39.8 and the difference between these two was 56. In control group the values were 243.33±44.2 and 212 ± 50.3 for baseline and follow up respectively. The difference between these two was 31. After the study period the intervention group quality of life score was increased to 140±10.8 from a baseline score of 101.6±7.0 out of 169 score which is due to frequent monitoring of blood glucose levels. Therefore, regular monitoring of blood glucose levels were helpful in improving the quality of life. Meanwhile, the control group scored 117.2±9.0 from a baseline of 103.1±9.7 out of 169 score. The difference between these two groups were due to frequent monitoring of blood glucose. In this study, treatment satisfaction was also assessed and the score in the intervention group was 17±2.0 from the base line of 10±1.4 and in the Control group it was found out to be 15±1.8 from the base line of 10±1.9.

## CONCLUSION

Based on the results obtained our study strongly concluded that quality of life score of patients in intervention group was improved (140.9) with a significant P value of 0.001. This was due to frequent monitoring of blood glucose levels.

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