

# Quality of Life among Patients with Type 2 Diabetes Mellitus

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**Abstract:** A Cross sectional survey was conducted to assess the quality of life (QOL) of patients with type 2 diabetes mellitus. The study was conducted in selected government hospitals of Udupi district, Karnataka. Quality of life was assessed by a standardized tool 'Quality of Life Instrument for Indian Diabetes Patients (QOLID)'. The tool consists of 34 items covering eight domains namely role limitations due physical health, physical endurance, general health, treatment satisfaction, symptom botherness, financial worries, emotional/mental health, and diet satisfaction. Data was collected after obtaining informed consent. QOL was categorized as poor, moderate and good. The finding of the present study showed that most (49%) of the subjects had good and 47% of them had average QOL related to role limitation. Almost 48% of the subjects had average and 46% of them had good QOL related to Physical endurance. Majority (63%) of the subjects had average and 28% of them had good QOL related to general health and 50% of the subjects had average QOL and 41% of them had good QOL related to treatment satisfaction whereas 55% of them had average and 28% of them had good QOL related to symptom botherness. Almost 57% of the subjects had average and 25% of them had good QOL related to financial worries. Most (59%) of the subjects had average and 23% of them had good QOL related to diet satisfaction. Majority (52%) of the subjects had good QOL and 45% of them had average QOL related to mental and emotional health. The present study showed overall QOL average in 59% and good in 41% of the subjects.

**Keywords:** Quality of Life, Type 2 Diabetes Mellitus

## 1. Introduction.

Globally, an estimated 422 million adults were living with diabetes in 2014, compared to 108 million in 1980. Over the past decade, diabetes prevalence has risen faster in low- and middle-income countries than in high-income countries. Diabetes caused 1.5 million deaths in 2012. Higher-than-optimal blood glucose caused an additional 2.2 million deaths, by increasing the risks of cardiovascular and other diseases. The percentage of deaths attributable to high blood glucose or diabetes that occurs prior to age 70 is higher in low- and middle-income countries than in high-income countries. When diabetes is not well managed, complications develop that threaten health and endanger life. Acute complications are a significant contributor to mortality, costs and poor quality of life. This diversification of complications and increased years of life spent with diabetes indicates a need to better monitor the quality of life of people with diabetes and assess the impact of interventions on quality of life<sup>[1]</sup>

## 2. Statement of the Problem

A study to assess the Quality of Life among patients with type 2 diabetes mellitus in selected government hospitals of Udupi, Karnataka.

## 3. Objectives

The objective of the study was to assess the quality of life of patients with type 2 diabetes mellitus.

## 4. Materials and Methods

A cross sectional study was conducted among 100 diabetic patients from selected government hospitals of Udupi, Karnataka. Quality of life was assessed by 'Quality of Life Instrument for Indian Diabetes Patients (QOLID)'. The tool was developed by Jitender Nagpal. et al from Sitaram Bhartia Institute of Science and Research New Delhi. The questionnaire consists of 34 items covering eight domains namely role limitations due physical health, physical endurance, general health, treatment satisfaction, symptom botherness, financial worries, emotional/mental health, and diet satisfaction. For data analysis QOL was categorized as poor, average and good. Data was collected after obtaining informed consent. Data was analyzed using descriptive statistics.

## 5. Results

### 5.1 Distribution of Subjects based on demographic and Clinical Variables

**Table 1:** Distribution of subjects based on demographic and morbidity variables

Demographic variables	Frequency /Percentage	
	f	%
<b>Age in years</b>		
1. 35-40	3	3
2. 41 – 50	24	24
3. 51 – 60	27	27
4. 61 – 70	42	42
5. > 70	4	4
<b>Gender</b>		
1. Male	48	48
2. Female	52	52

<b>Marital status</b>		
1. Married	88	88
2. Widow/ Widower	12	12
<b>Religion</b>		
1. Hindu	84	84
2. Muslim	8	8
3. Christian	8	8
<b>Educational status</b>		
1. Primary	2	2
2. Secondary	40	40
3. High School	20	20
4. Pre University	30	30
5. Graduate	3	3
6. Post graduate	5	5
<b>Occupational status</b>		
1. Unemployed	19	19
2. Unskilled	41	41
3. Semiskilled	29	29
4. Skilled	3	3
5. Shop/ farm owner	1	1
6. Semi professional	7	7
<b>Monthly income in rupees</b>		
1. >5001	21	21
2. 4001-5000	15	15
3. 3001-4000	25	25
4. 2001-3000	26	26
5. <2000	13	13
<b>Duration of diabetes in years</b>		
1. Less than 5 years	54	54
2. 5-10 years	37	37
3. 11- 15 years	6	6
4. Above 15 years	3	3
<b>Treatment</b>		
Oral hypoglycemic agents	98	98
Oral hypoglycemic agents and Insulin	2	2
<b>Body Mass Index</b>		
Normal: 18.5-24.99	44	44
Overweight: 25-29.99	46	46
Obese : above 30	10	10

Emotional/Mental Health	10	25	18.56	3.06	19.00
Diet satisfaction	3	15	9.66	2.53	9.50
Overall QOL	81	166	119.65	15.31	122.50

The data presented in table no:2 shows that mean QOL with regard to Symptom bothersness was  $9.97 \pm 2.54$  whereas mean QOL related to general health was  $10.21 \pm 2.24$  and the mean score of Total QOL was  $119.65 \pm 15.31$ .

### 5.3 Distribution of Subjects based on Domains of QOL.

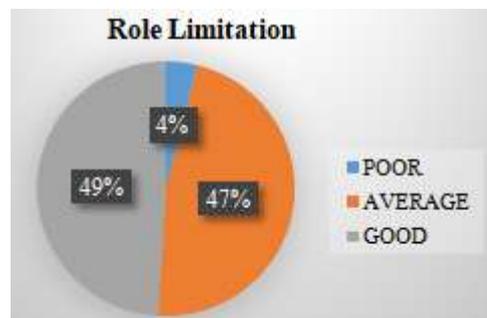


Chart 1: QOL related to Role limitation

The data presented in the above chart reveals that most (49%) of the subjects had good QOL whereas 47% of them had average QOL related to role limitation.

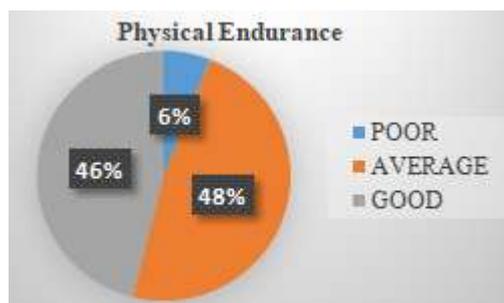


Chart 2: QOL related to Physical Endurance

The data presented in the above chart reveals that most (48%) of the subjects had average QOL whereas 46% of them had good QOL related to Physical endurance

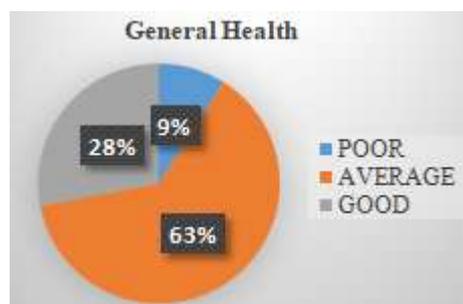


Chart 3: QOL related to General Health

The data presented in the above chart reveals that majority (63%) of the subjects had average QOL whereas 28% of them had good QOL related to general health.

The data presented in table no: 1 shows that most (42%) of the subjects belonged to the age group of 61 to 70 years and 27 of them were between 51 to 60 years. Most (52%) of them were male by gender and 88% of the subjects were married and living with their spouse. Majority (84%) of them were Hindu by religion. Most (40%) of them were with secondary education, and 41% of them were unskilled workers. Most (54%) of them were with duration of illness less than 5 year's duration. Majority (98%) of the subjects were on oral hypoglycemic agents and most (46%) of them were overweight with body mass index between 25-29.9

### 5.2 Distribution of Subjects based on Mean, Median and SD on Domains of QOL.

Table 2: Mean Median and standard deviation of QOL.  
N=100

Domains of QOL	Min Score	Max Score	Mean	SD	Median
Role limitation due to physical health	10	30	22.56	4.76	22.00
Physical Endurance	11	30	21.87	4.56	22.00
General health	5	15	10.21	2.24	10.00
Treatment Satisfaction	5	20	14.62	3.06	15.00
Symptom bothersness	4	15	9.97	2.54	10.00
Financial Worries	7	19	12.20	2.63	12.00

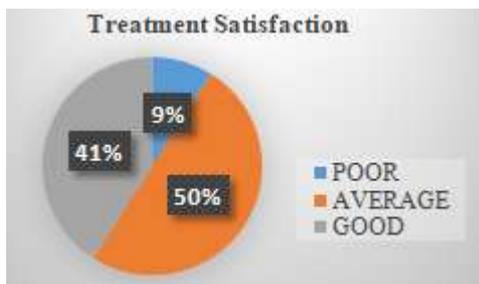


Chart 4: QOL related to Treatment Satisfaction

The data presented in the above chart reveals that most (50%) of the subjects had average QOL whereas 41% of them had good QOL related to treatment satisfaction.

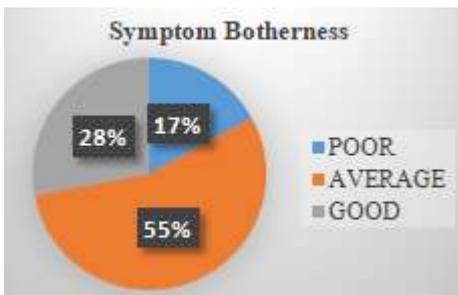


Chart 5: QOL related to Symptom Botherness

The data presented in the above chart reveals that most (55%) of the subjects had average QOL whereas 28% of them had good QOL related to symptom botherness.

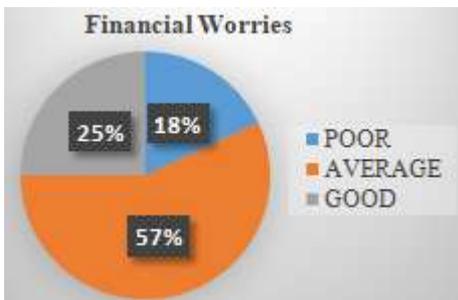


Chart 6: QOL related to Financial Worries

The data presented in the above chart reveals that most (57%) of the subjects had average QOL whereas 25% of them had good QOL related to Financial worries.



Chart 7: QOL related to Emotional/ Mental Health

The data presented in the above chart reveals that most (52%) of the subjects had good QOL whereas 45% of them had average QOL related to mental and emotional health.



Chart 8: QOL related to Diet Satisfaction

The data presented in the above chart reveals that most (59%) of the subjects had average QOL whereas 23% of them had good QOL related to diet satisfaction.

#### 5.4 Distribution of Subjects based on Overall QOL

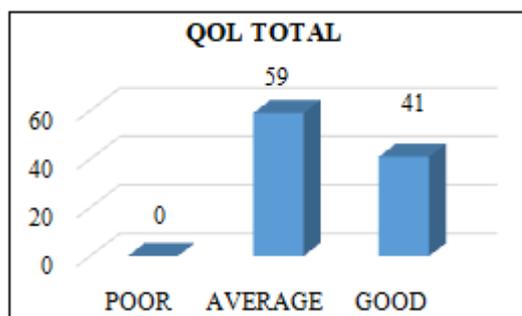


Chart 8: Overall QOL

The data presented in the above chart reveals that overall QOL was average in 59% and good in 41% of the subjects.

## 6. Discussion

In the present study most (49%) of the subjects had good and 47% of them had average QOL related to role limitation. Almost 48% of the subjects had average and 46% of them had good QOL related to Physical endurance. Majority (63%) of the subjects had average and 28% of them had good QOL related to general health. Similar findings were reported in a study in Sydney in which over a third of the subjects were with impeded mobility, 48.5% struggled with personal care and hygiene, 74% experienced difficulties at work, 80% of those incapacitated while attempting to do household chores and more than 75% experienced pain and discomfort.<sup>[2]</sup> A study conducted in Mysore, Karnataka also reported Poor Physical QoL score in 57% of the diabetic patients.<sup>[3]</sup> Another study conducted in Patna also reported 28.2% of the subjects being unsatisfied with their general health.<sup>[4]</sup>

In the present study most (50%) of the subjects had average QOL and 41% of them had good QOL related to treatment satisfaction and 55% of them had average and 28% of them had good QOL related to symptom botherness. Almost 57% of the subjects had average and 25% of them had good QOL related to financial worries. Most (59%) of the subjects had average and 23% of them had good QOL related to diet satisfaction. Similar findings were reported in a study conducted in Shivamogga, Karnataka where 61% of were “moderately satisfied” with, both, the current treatment for

diabetes, as well as the time it takes for management of their diabetes and for regular check-ups. Almost 32% of the patients reported thirst or dry mouth “very frequently” and nearly 60% of them experienced frequent urination “very frequently” while 32% of them perceived the cost involved in management of their diabetes to be “not at all expensive” and 20% as “very expensive”. QOL related to diet satisfaction was reported by 52% of the patients that they have no choice at all while eating meals or snacks away from home and 29% of them always felt a restriction in choosing the foods while they were eating outdoors. Almost 50% of them were “moderately satisfied” and 43% of them were “very satisfied” with themselves and personal relationships<sup>[5]</sup>

In the present study most (52%) of the subjects had good QOL and 45% of them had average QOL related to mental and emotional health. A Study conducted in Sydney reported 73.5% bouts of anxiety and depression due to diabetes.<sup>[2]</sup> Similar findings were also reported in a study conducted in Shivamogga where 45% of them were “moderately satisfied” with the emotional support received from their friends and family.<sup>[5]</sup> A longitudinal study also reported similar findings where reduction in times spent with friends and family, contacts by telephone and attendance at social clubs or religious groups.<sup>[6]</sup>

The present study showed overall QOL average in 59% and good in 41% of the subjects. A longitudinal study also reported fivefold increase in the odds of a subject reporting quality of life had become significantly poorer.<sup>[6]</sup> A study conducted in Patna also reported average QOL in 56.5% and good only in 32.9% of diabetic cases.<sup>[4]</sup> Similar findings were reported in another study where 25% reported good quality of life whereas 48% rated their quality of life as poor.<sup>[7]</sup>

## 7. Recommendations

- 7.1 Interventions aimed at diabetes self management will help to improve quality of life in type 2 diabetes mellitus patients.
- 7.2 Case based management helps to individualize priorities for patients which in turn will help to improve their quality of life

## 8. Conclusion

Diabetes is chronic disorder that affects the quality of life of patients. The findings of the present study suggest that diabetes significantly affects quality of life of patients. Achieving glycemic control through medications, diet, exercise and early identification and prevention of complications is essential in the management of diabetes mellitus. Diabetes and its complications bring about substantial economic loss to people with diabetes and their families and to health systems and national economies through direct medical costs and loss of work and wages. Improving the QOL of patients with diabetes remains a major task for health professionals.

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