A Cross-sectional Study on Quality of Life among Diabetic Patients Attending Tertiary Care Hospital in Bagalkot City, Karnataka

Jayaraj R. Mhetri, A. S. Dorle

Department of Community Medicine, S. Nijalingappa Medical College, Bagalkot, Karnataka, India

INTRODUCTION

World Health Organization defines the quality of life (QOL) as individuals’ perceptions 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. QOL assessment is one of the important measures of outcome in management of chronic diseases. Among the diabetic patient’s psychological and social factors such as depression are strong predictors of outcomes such as hospitalization and death than the physical and metabolic factors such as body mass index, hemoglobin A1C level, or other complications. Furthermore, in diabetic patients, psychosocial factors have an important impact on self-care, acceptance of therapeutic regimens, treatment success, and QOL. Diabetes, which is a chronic non-communicable disease, leads to many complications which further lead to disability. Complications in diabetes and other comorbidities lead to poor patients’ QOL.

According to World Health Organization, 300 million people will be affected from Diabetes by 2025. In the world, India has the largest diabetic patients, and it is expected to be 69.9 million by 2025. The prevalence of Type 2 diabetes mellitus is steadily increasing in India; therefore, it is important for the health-care providers to assess the QOL of diabetics for providing better care and treatment. This study was conducted with the objectives to assess the QOL among diabetic patients.

MATERIALS AND METHODS

Study Setting

The present study is a hospital-based cross-sectional descriptive study. It was undertaken in patients attending outpatient department of tertiary care hospital in Bagalkot. Study duration was for 2½ months (75 days) from August 10, 2016 to October 25, 2016.

ABSTRACT

Background: India has the large number of diabetic patients, and the number is expected to raise to 69.9 million by 2025. “Quality of life (QOL)” evaluation has emerged as an important outcome measure for chronic disease management. In diabetes, psychosocial factors have an important impact on self-care, acceptance of therapeutic regimens, treatment success, and QOL. Aims and Objectives: The aim of the study was to find out the QOL among the diabetic patients attending the outpatient department of tertiary care hospital in Bagalkot city. Methodology: It is a cross-sectional descriptive study, which was undertaken at a tertiary care hospital in Bagalkot city. The duration of the study was from August 10, 2016 to October 25, 2016. A sample size of 180 was obtained after considering the prevalence of diabetes in Karnataka as 10.22%. Patients attending the hospital for outpatient services were interviewed in their own language after obtaining the consent. QOL instrument for Indian Diabetes Patients questionnaire was used it is a reliable, valid, and sensitive tool for the assessment of diabetes-specific QOL in Indian subjects. Statistical analysis was done using Microsoft Excel 2010 and SPSS 20.1 trial version. Chi-square and Fisher’s exact test was used. Results: The mean age of study participants was 58.14 ± 13.46 years. 31.8% of the study participants were on insulin therapy. 52.3% of the males in the study had good QOL. The patients who were obese had poorer QOL than the patients with overweight and normal body mass index; this was statistically significant. Married participants had better QOL. In participants with comorbidities, QOL was poorer when compared to those without comorbidities; this difference was statistically significant.

Key word: Diabetes, quality of life instrument for Indian diabetes patients, quality of life
Inclusion Criteria
Patients with established Type 2 diabetes mellitus were considered for the study.

Exclusion Criteria
Patients who did not give consent non-respondents were excluded from the study. Patients who were not willing to participate in the study were excluded from the study. Patients with pre-existing psychiatric illness or those who are currently on anti-depressants, pregnant women, and seriously ill patients were excluded from the study.

Consent
Informed and written consent was obtained from all the study participants. The participants were explained about the study in their own language and interviewed after taking informed consent. Confidentiality was maintained at all times.

Sample Size
A sample size of 170 was obtained after considering the prevalence of diabetes in Karnataka as 10.22%.\(^{[6]}\) Sample size was calculated using the formula, \(n = 4pq/L^2\). \(n = 146\) with 5% permissible error. Expecting 10% noncompliance the total sample size of 161 was obtained which was rounded off to 170 patients.

Tools for Assessment of QOL
A pre-designed, pre-tested, and semi-structured questionnaire “QOL Instrument for Indian Diabetes Patients (QOLID)” was used. It consists of 34 items covering 8 domains - role limitations due to physical health, physical endurance, general health, treatment satisfaction, symptom frequency, financial worries, mental health, and diet advice satisfaction. QOLID is a reliable, valid, and sensitive tool for the assessment of diabetes-specific QOL in Indian subjects.\(^{[1]}\) The participants who scored >50% of the total score were considered to have good QOL.

Scoring
The questionnaire was scored on a Likert scale of 1–5 based on the verbal response of the participant, 50% of maximum possible score, i.e., 87.5 (total score 175) was taken as cutoff value to divide subjects with good or poor QOL. Total scores were considered for comparing different group of participants. The group having higher score was considered to have better QOL than the other group.

Statistical Analysis
Data were entered into the excel spreadsheet. Data were expressed in terms of proportion or percentages. The association of each of the variables with depression was assessed using Fisher’s exact and Chi-square test, ANOVA. Variables show that statistically significant association with the outcome variable \((P < 0.005)\) was considered as potential determining factors.

RESULTS
In the present study, 50.6% of the participants were males and 49.6% were female patients. Maximum patient belonged to the age group of 61–70 years (30.6%), followed by 51–60 years (22.5%). Most of the patients, i.e., (44.1%), belonged to the Class 2 SES of modified BG Prasad classification, followed by Class 3 (30.6%). 68.2% of the patients were on oral hypoglycemic agents (OHAs), and 31.8% were on both insulin and OHAs.

Nearly 45.9% of the total study participants were overweight, 12.4% were obese, and 41.8% had normal body mass index (BMI). A total of 37.6% of the participants had some form of habits. 50.6% of the study participants had good QOL, and 49.4% of the participants had poor QOL \[(Table 1)\].

Male participants had better QOL with mean score of 76.6 ± 14.08, whereas female participants had mean score of 75.45 ± 13.7, the patients who were obese had poorer QOL than the patients with overweight and normal BMI, this was statistically significant \[(Table 1)\].

<table>
<thead>
<tr>
<th>Table 1: Comparison of QOL among study subjects according to gender, BMI, and socio economic class</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comparison of QOL among study subjects according to gender distribution</strong></td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td><strong>Comparison of QOL among study subjects according to body mass index</strong></td>
</tr>
<tr>
<td>BMI</td>
</tr>
<tr>
<td>Normal</td>
</tr>
<tr>
<td>Overweight</td>
</tr>
<tr>
<td>Obese</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

**Comparison of QOL among study subjects according to modified BG Prasad socioeconomic class**

<table>
<thead>
<tr>
<th>SES</th>
<th>(n)</th>
<th>Mean±SD</th>
<th>(t)</th>
<th>(P)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>32</td>
<td>78.7±14.3</td>
<td>4.068</td>
<td>0.01</td>
</tr>
<tr>
<td>2</td>
<td>74</td>
<td>77.54±10.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>52</td>
<td>72.6±16.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>11</td>
<td>65.18±13.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

QOL: Quality of life, SD: Standard deviation, BMI: Body mass index
Participants who were obese scored lower scores on all the domains of QOLID when compared to overweight and obese patients. Patients belonging to Class 4 socioeconomic class (BG Prasad classification) had poorer QOL compared to the other groups, this was statistically significant [Table 1].

Married participants had better QOL. In participants with comorbidities, QOL was poorer when compared to those without comorbidities; this difference was statistically significant. Patients having some form of habits had poorer QOL when compared to those without any habits, this was statistically significant. Patients who were on both insulin and OHA had poorer QOL when compared to those who were on OHA only; this was significant statistically [Table 2].

DISCUSSION

In the present study, the QOL was better in males, Rubin[2] also found similar results, whereas in study done by Somappa et al.,[6] it was better in female participants. In the present study, QOL was better in patients on OHA, Wexler et al.[7] found similar results, whereas Akinci et al.[8] found patients on insulin had better QOL. In the present study, patients with comorbidities had poor QOL, Somappa et al.[6] and Wexler et al.[7] had similar findings in their studies.

QOL was poor in patients with some form of habits in the present study. Hlatky et al.[9] and Peyrot et al.[10] had similar findings, whereas study by Nvanzi et al.[11] found that patient with no habits had poor QOL.

CONCLUSION

QOL is affected by various factors, and QOL is one of the very important outcome measurements of the success of treatment, the QOL was affected by many factors such as BMI, comorbid conditions, and type of treatment. In our study, QOL was poorest in obese patients, those belonging to Class 4 SES, those with comorbidities and habits and those patients who were on both insulin and OHA. Therefore, it is important to improve QOL of the diabetics with appropriate treatment considering all the factors influencing the QOL.

Recommendation

Approach to the treatment of diabetes should be holistic and various factors such as physical, emotional, social, and financial factors should also be considered while treating patients with diabetes. Multi-pronged approach including education of patients regarding the diabetes and its complications, counseling regarding the exercise and diet, and stopping of habits should be included as a measure to improve QOL of the diabetic patients.

ACKNOWLEDGMENT

Authors sincerely thank Dr. Manjula R, Associate Professor, S Nijalingappa Medical College, Bagalkot, and all the patients.

Limitations and Implications

As this study was conducted in a tertiary care hospital, the results may not hold good to patients in the community.

There may be individual differences of the relative importance attached to various life domains leads, which may not be recognized, which can lead to underestimation of QOL and may have has serious implications.

REFERENCES


