

# Quality of Life of Kashmiri Diabetic Patients

Nazia Amin<sup>1</sup>, Shawkat Ahmad Shah<sup>2</sup>

<sup>1</sup> Research Scholar, Department of Psychology,  
University of Kashmir, Srinagar, (India)

<sup>2</sup> Head of the Department, Department of Psychology,  
University of Kashmir, Srinagar, (India)

## ABSTRACT

The present study investigates the quality of life of diabetic patients in Kashmir Valley. The population of diabetics are growing throughout and our state is no exception. The study was conducted on a sample of 300 (114 male & 186 female) indoor (IPD) and outdoor (OPD) diabetic patients from Shri Maharaja Hari Singh Hospital (SMHS), Srinagar. The mean ( $\pm$  SD) age of participants was 46.55 (SD=9.89) years, ranging from 24 to 65 years. As for, duration of diabetes, the sample included in the range of 1- 26 years with mean duration of 5.83 (SD = 5.04) years. Baseline Characteristic Questionnaire was constructed to obtain information regarding age, gender, diabetes status, including type of medication and duration. The World Health Organization Quality of Life BREF Assessment (WHOQOL-BREF) was translated into urdu language and the Cronbach alpha was calculated. For the overall WHOQOL-BREF-urdu version alpha coefficient was .95 and was therefore, used to assess quality of life in diabetic patients. Results revealed that 12% of diabetic patients had low level of quality of life, 77.33% had medium level and 10.66% had high level of QOL. Further revealing that male ( $M = 87.79$ ,  $SD = 12.98$ ) had better quality of life as compare to female patients ( $M = 80.46$ ,  $SD = 13.51$ ) and with respect to duration. Post hoc test revealed that diabetic patients suffering from 1-5yrs differ significantly from patients who suffer from 11-26 yrs.

**Key words:** Diabetes, Females, Males, Quality of Life

## INTRODUCTION

Diabetes Mellitus is undoubtedly one of the most challenging health problems of the 21<sup>st</sup> century. WHO[1], in 1999 describes the term *Diabetes Mellitus (DM)*, as a metabolic disorder of multiple etiologies characterized by chronic hyperglycemia with disturbance of carbohydrate, fat and protein metabolism resulting from defects in insulin action or both. This metabolic dysregulation causes secondary patho-physiologic changes in multiple organ systems that impose a tremendous burden on the individual with diabetes and on the health care systems.

According to International Diabetes Federation [2] (IDF, 2015) 415 million people worldwide of adults, are estimated to have diabetes and if these trends continue, by 2040, some 642 million people will have diabetes. So far as India is concerned according to IDF-2015 some 69.1 million of the adult population will have diabetes. And in these growing trends, Kashmir is not left behind, as mentioned by Ahmad, et al., [3] 6.05% of population have diabetes. Dar, Dar, Bhat, Kamili & Mir in 2015 [4] assessed the prevalence of type 2 diabetes mellitus in the Kashmir valley of Jammu & Kashmir (J & K) State within the range from 40 years and above. The sample was collected from two districts, i.e., Anantnag (rural) and Srinagar (urban). Results revealed that the total prevalence of type 2 diabetes is 6.31% with a higher prevalence in the urban than in the rural areas. Other study done by Singh and Kumar in 2015 [5] estimated the prevalence of diabetes in rural population of Jammu only and found it to be 4.85%. Such growing figures of diabetes emphasizes the importance of measuring health outcome from the perspective of the patient as it affect life expectancy and/or quality of life (Kaplan & Ries, 2008 [6]). Moreover, innovative treatments (such as insulin therapy in diabetes) have successfully extended length of life (Strauss & Glaser, 1975 [7]) that also has highlighted the need to consider not only survival, but also the quality of life (Beard, 1971 [8]).

WHO [1] define Quality of Life in 1995 as:

*“individual’s perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations and standards and concerns. It is a broad ranging concept affected in the complex way by the person’s physical health, psychological state, level of independence, social relationships, personal beliefs and their relationships to salient features of their environment.”*

Literature reveal that the quality of life of diabetic patients is poor, for example, 78.7% of Saudi diabetic patients had negative quality of life scores. Personal characteristics include female gender, and being married were associated with worse QOL (Al-Shehri, 2014 [9]). Mata, Roset, Badia, Antonanzas & Ragel, [10] conducted a study on 1041 diabetic patients and found type-2 diabetes is associated with worse health related quality of life especially those patients who have complications, poor glycemic control and who are under insulin therapy. Studies indicate that the end-stage complications of diabetes have the greatest perceived burden on quality of life; however, comprehensive diabetes treatments also have significant negative quality-of-life effects (Huang, Brown, Ewigman, Foley, & Meltzer, 2007 [11]).

However, other studies somewhat shows different results. For example, Manjunath, et al., [12] conducted a study in Tamil Nadu using WHOQOL-BREF instrument and analyzed Quality of Life of 100 diabetic patients. Results revealed that 68% of the patients has good overall Quality of Life score. Domain wise analysis showed that 63% had good physical, 69% had good psychological, 27% had good social and 85% had good environmental quality of life scores. Further, results revealed that male patients, currently married had statistically better QOL compared to females. Mathew, et al., in 2014 [13] conducted a study at Mangalore, India on 100 type-2 diabetic patients and found that only 1% of diabetic patients had poor Quality of life score. The results showed that the majority of subjects that is, 57% had moderate, 38% had good and 4% of patients had very good Quality of Life scores.

But, generally research depicts poor picture of diabetic patients. Penckofer, et al., in 2012 [14] suggested that greater glycemic variability is associated with lower quality of life and negative moods. They also suffer from physical problems like vascular and alzheimer's dementias (Seaquist, 2010[15]; Brands, Biessels, De Haan, Kappelle, & Kessels, 2005[16]). The diagnosis of diabetes may cause psychological problems like depression and anxiety (Goldney, Phillips, Fisher, & Wilson, 2004[17]; Kruse, Schmitz & Thefeld, 2003[18]). From the perspective of individual patient, diabetes is an equally important problem from social aspect also as it poses great demands on patients' family lives, as well as on their relationships with other people (Aono, et al., 2000[19]).

So in recent years, researchers and professionals in the field of psychology, health and social science have increasingly focused on quality of life of diabetic patients. Keeping in view the above mentioned problems of diabetic patients, the purpose of present study is to look into the Quality of life of Kashmiri population. Further, the study tries to study the significant difference in Quality of life with respect to gender and duration of time.

## II.METHODOLOGY

### 2.1Sample

The sample of the study comprised of 300 diabetic patients selected purposively from the Shri Maharaja Hari Singh Hospital (SMHS) Srinagar, Kashmir. As the SMHS is centrally located leading government hospital in Kashmir Valley, patients of various areas throughout the Kashmir visit the hospital.

The inclusion criteria for the selection of sample group was:

- a) Diabetic patients who were willing to participate in the study.
- b) Diabetic patients who had diagnosis of at least one year.
- c) Diabetic patients who were taking medications or on insulin therapy.
- d) Diabetic patients, who were in the age range of 24 years to 65 years.

### 2.2Research Instruments

Following research instruments were used for the data collection.

1. Baseline Characteristic Questionnaire was constructed to obtain information regarding age, gender, diabetes status, including type of medication and duration.
2. The World Health Organization Quality of Life BREF Assessment (WHOQOL-BREF; The World Health Organization; 2004) was used to assess quality of life in diabetic patients. WHOQOL-BREF is a cross-culturally valid assessment tool. It consists of 26 items, measuring four dimensions of quality of life namely physical, psychological, social and environmental on 5 point scale. The items inquire 'how much', 'how completely', 'how often', 'how good' or 'how satisfied' the respondent felt in the last 2 weeks. The WHOQOL-BREF produces a quality of life profile also.

### 2.3 Translation process

As urdu is the local and official language of Kashmiri citizen, the questionnaire was translated into urdu language first by bi-linguist and then was back translated in English language, to ensure equivalence, with the help of another bi-linguist who had no prior knowledge of the original English version. It has been suggested that the process of using both forward and backward translations improve the reliability and validity of the translated questionnaire (Argimon, Flores, Jimenez, Pujol, Foz, & Bundo, 2009[20]).

### 2.4 Reliability Testing

The reliability of the translated Urdu versions of WHOQOL-BREF was calculated using Cronbach Alpha Method. The internal consistency seemed to be highly promising for the tool. The alpha coefficient for the overall WHOQOL-BREF-urdu version score was .95. The alpha coefficients, in the present study, for the dimension of WHOQOL-BREF-U subscales were as follows: physical, .87; psychological, .83; social, .85; and environmental, .85.

**Table 1: Scale Characteristics and Reliability Analysis of the Measures (N= 300)**

Measure	Sub-Scales	Items	Response Range	M	SD	Cronbach's alpha ( $\alpha$ )
WHOQOL-BREF	Physical	7	1 - 5	22.40	4.91	.87
	Psychological	6	1 - 5	21.09	2.88	.83
	Social	3	1 - 5	11.46	2.32	.85
	Environmental	8	1 - 5	28.31	4.72	.85
	Overall QOL	26	1 - 5	89.42	14.97	.95

## III. RESULTS

### 3.1 Assessment of Baseline characteristics of Participants

This section deals with the data pertaining to the baseline characteristics of the participants with respect to age, gender, diabetic status including type of medication and duration.

Effective responses were obtained from 300 patients, consisting of 114 (38%) male and 186 (62%) female participants. The mean ( $\pm$  SD) age of participants was 46.55 (9.89) years, ranging from 24 to 65 years. With respect to type of medication, 84 (28%) of the participants were insulin dependent patients and 216 (72%) of participants were non-insulin dependent patients. As for, duration of diabetes, the sample included in the range of 1 year to 26 years of patients with Mean duration of = 5.83(SD = 5.04) years.

**Table 2: Frequency distribution of Quality of Life among diabetic patients**

Variables		Low%	Medium%	High%
Total QOL score		36 12	23277.3	32 10.6
Dimensions of QOL	Physical	45 15	208 69.3	47 15.6
	Psychological	44 14.6	227 75.6	29 9.6
	Social	47 15.6	195 65	58 19.3
	Environmental	48 16	220 73.3	32 10.6

**Table 3: Comparison of mean scores of Quality of Life with respect to gender (N=300)**

	Sub-Scales	Gender	N	M	SD	df	t-value
Total QOL score	Quality of Life	Male	114	87.79	12.98	298	4.63**
		Female	186	80.46	13.51		
Dimensions of QOL	Physical	Male	114	23.92	4.87	298	4.32**
		Female	186	21.46	4.69		
	Psychological	Male	114	22.09	3.76	298	3.60**
		Female	186	20.46	3.82		
	Social	Male	114	12.00	2.04	298	3.22**
		Female	186	11.12	2.42		
	Environmental	Male	114	29.78	4.36	298	4.36**
		Female	186	27.40	4.71		

\*\* $P \leq 0.01$ 

From the above table it is evident that male and female diabetic patients differ significantly on total Quality of Life score as well on its dimensions. On the basis of mean scores it is also clear that male diabetic patients have higher Quality of Life scores as compared to the females.

**Table 4: Representing descriptive statistics of diabetic patients with respect to duration of diabetes**

Duration (in years)	N	M	SD
1 to 5	186	85.07	14.60
6 to 10	66	80.96	11.38
11 to 26	48	79.31	12.22

On the basis of mean it is quite clear from the above table that as the duration of diabetes increases the Quality of Life of diabetic patient decreases. To analyze further difference between the three age groups, one way Anova was used.

**Table 4: One way Anova showing weather QOL differs with respect to duration of diabetes.**

	Sum of squares	df	Mean square	F
Between groups	1707.05	2	853.526	4.61**
Within groups	54929.19	297	184.947	
Total	56636.25	299		

\*\*P < 0.01.

It is quite clear from the above table that Quality of Life of diabetic patients (F = 4.61, p=0.01) differs significantly with respect to duration of diabetes. However, to identify further difference, Tukey's test was administered.

**Table 5: Tukey's test showing further difference in Quality of Life with respect to duration of diabetes.**

Variable	Duration (i)	Duration (j)	(i-j)	sig
Quality of life	1-5	6-10	4.10 <sup>NS</sup>	.09
		11-26	5.76*	.02
	6-10	11-26	1.65 <sup>NS</sup>	.79

\*p<0.05, NS=Not significant

The above table clearly indicates that Quality of life of patients having diabetes from 1-5 years differs significantly from the patients having diabetes from 11–26 years. However, no significant difference was found in Quality of Life of patients suffering from 1- 5 yrs and 6–10 yrs. Furthermore, revealing that patients suffering from 6- 10 yrs and 11 -26yrs did not differ significantly.

#### IV.CONCLUSION

The present study aimed to examine the Quality of Life of diabetic patients with respect to demographic variables, in Kashmir valley of Jammu & Kashmir state. The results revealed that 12% of diabetic patients have low level of quality of life, 77.33% have medium level and 10.66% have high level of QOL. In physical dimension of QOL, 15% of patients lie at low level, 69.3% lie at medium level and 15.6% lie at high level. In psychological dimension, 14.6% lie at low level, 75.6% lie at medium level and 9.6% lie at high level. In social dimension, 15.6% lie at low level, 65% lie at medium level and 19.3% lie at high level. In environmental

dimension of QOL 16% lie at low level, 73.3% lie at medium level and 10.6% lie at high level. The study also revealed that there is significant positive difference in QOL and in its dimensions with respect to gender. Further revealing that males have better QOL in comparison with female diabetic patients. The study also explains that QOL differs with respect to the duration of diabetes. The study reveals that with increase in duration of diabetes, QOL decreases. Post hoc test, revealed that diabetic patients suffering from 1-5yrs differ significantly from patients who suffer from 11-26 yrs. The study gave a general idea of quality of life of diabetic patients living in Kashmir valley. The study proves that diabetic patients living in Kashmir are no exception from other states of India, as similar results are found with respect gender and duration. The results of study adds to the literature and draws attention of health professionals towards people living with diabetes especially towards females and who are living with this chronic illness from past 11-26 years. So the study highlights the need to improve the QOL of such patients. So far as the limitations of study are concerned, the variables of study are studied in short duration, longitudinal research for further research are suggested. The sample for the present studied is taken from single hospital, larger sample from broad cross section of hospitals will provide greater generalization which will further validate the findings. In addition to this, self-selection of participants could influence the results. Random sampling with experimental design may provide more causal interpretability of the results.

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