ASSESSMENT OF THE QUALITY OF LIFE AMONG DIABETIC PATIENTS OF DISTRICT SHAHEED BENAZIRABAD PAKISTAN.

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Abstract

Introduction: Diabetes mellitus (DM) has arrived at epidemic extents. Epidemic of diabetes is apparent as indicated by the World Health Organization (WHO), which is unequivocally identified with change of economy and lifestyle. **Objective:** To determine the quality of life among diabetic patients of District ShaheedBenazirabad Pakistan. **Methods:** Data was collected from 110 respondents with diabetes during July to December 2019 at Peoples Medical College Hospital District ShaheedBenazirabad Pakistan by using a well-designed questionnaire consisting of three sections, first was about socio-demographic characteristics (age, sex, marital status, education level, family history), second section was about disease profile (diabetes control/management/treatment and co-morbidities) and third section was about the quality of life (Social life, travelling, work, general/mental/emotional health, treatment satisfaction and symptom botherness). Data was analyzed through SPSS version 23.0 and Mann Whitney-U test was also applied. **Results**: The meanage of the patients was 52.45±19.57. The most prevalent diabetic co-morbidities were hypertension (56.4%), impotence (29.1%), hyperlipidemia (25.5%) ischemic heart disease (15.5%), neuropathy (12.7%) and cerebrovascular disease (11.8%). These diabetics reported lack of general health, treatment satisfaction and progressive symptoms with a median score of 16, 25 and 21 respectively compared to those responded positively in these domains but with no statistical significant difference (p=0.1000). **Conclusion:** These results have significance for health promotion in District ShaheedBenazirabad Pakistan. It was concluded that the Quality of life of diabetic patients in District ShaheedBenazirabad Pakistan was significantly poor to moderate. To promote quality of life, it is apparently necessary to prevent complications of diabetes and to manage the co-morbid conditions. Modifying medical interventions and designing educational programs for the patients can emerge as right steps for future direction.
Keywords: Quality of life, Diabetes, Mann Whitney-U test.

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Introduction

Diabetes mellitus (DM) has arrived at epidemic extents. Epidemic of diabetes is apparent as indicated by the World Health Organization (WHO), which is unequivocally identified with change of economy and lifestyle.[1] Pervasiveness of 439 million individuals with diabetes has been predicted in 2030.[2] Over the previous four decades various socio-economic changes have happened in Saudi Arabia. The maturing of populaces, together with fast development of socio-economy (dynamic urbanization, decreased newborn child mortality and increased expectancy of life) and gigantic changes in lifestyle to the westernized design reflected by nutritional changes, decreased physical activity, propensity to increased smoking and obesity, has brought about the increased prevalence of diabetes.[3] 23.7% prevalence of DM was reported in Saudi Arabia among the adults.[4] Quality of life (QoL) is a significant wellbeing result in its own right, which is the vital objective of all wellbeing interventions.[5] QoL is an intriguing emotional idea since it gives information, independent of clinical information, on how the patient feels.[6] It is progressively perceived that psychosocial factors in diabetes importantly affect self-care, acknowledgment of success of treatment and regimens and that, metabolic measurements like glycemic control are ineffectively correlated with the QoL.[7] Complications of Diabetes are the most significant determinants of Quality of Life. Complications of Diabetes adversely influence QoL as happened in Depression, obesity and hypoglycemia.[8] The primary

objective of the Diabetes treatment is to prevent complications of diabetes and to improve the QoL of the patients. The QoL improvement benefits patients as well as decreases the psychological and socio-economical burden identified with Diabetes. In the population of District ShaheedBenazirabad Pakistan, Obesity and Overweight is very common, which contribute essentially to the poor hypertension and diabetes control influencing the QoL. The lack of information identified with QoL in District ShaheedBenazirabad Pakistan, has provoked us to assess the QoL of patients with diabetes and its complications. Thus, the aim of this study was to assess the QoL among diabetic patients of District ShaheedBenazirabad Pakistan.

Materials and Methods

Peoples Medical College Hospital is the largest tertiary care hospital in District ShaheedBenazirabad Pakistan. A total of 110 Diabetic patients aged 18 and above were selected by universal sampling from the Hospital during the period of June to December 2019. Data were collected using a validated questionnaire consisting of socio-demographic characteristics (age, sex, marital status, education level, family history), disease profile (diabetes control/management/treatment and co-morbidities), and third section was about the quality of life (Social life, travelling, work, general/mental/emotional health, treatment satisfaction and symptom botherness).

Statistical analyses of all collected data were carried out using the statistical package for social sciences (SPSS) software version 23.0. Mann Whitney-U test was applied to compare the summary scores and the median score for each domain between both groups.

Results

Results reported that there were male 71.8% (n=79) and female 28.2% (n=31) and there was mean age, 52.5±1.9 years, for entire sample. 30.9% (n=34) of the patients were unmarried and 69% (n=76) were married. Average duration was 10.54 years regarding the Diabetes. In our study the origin of diabetes in 47.2% (n=52) of patients was first degree and 26.4% (n=29) was second degree. The majority of the patients were reported with another chronic non-diabetic condition which were hypertension (56.4%), hyperlipidaemia (25.5%), impotence (29.1%), ischemic heart disease (15.5%) and cerebrovascular disease (11.8%). Complications of Diabetes were also prevalent which were, 12.7% neuropathy, 4.5% from diabetic foot, 6.4% from diabetic ketoacidosis and 39.1% weight gain. Finally, few patients control their diabetes via diet 7.2%, 38.18% of patients by oral hypoglycemic agents, 27.2% with oral hypoglycemic agents and insulin and 27.2% with only insulin (Table-1).

Summary statistics on quality of life is also represented in this study (Table-2).

In total 46.3 % (n=51) of patients had poor QoL with respect to social life, work and travel with least median score of 7.50 compared with 53.6% (n=59) patients whose response was positive, with a median score of 24.5 and these median scores were statistically different (p=0.002) (Table-3).

50% (n=55) of patients expressed that their general health was poor with a median score of 16 compared to 50% (n=55) patients with a positive response on general health characterized by a median score of 9, however the median scores were not statistically different (p=0.1000) (Table-4).

With respect to patients treatment satisfaction query 77.2% (n=85) of the respondents indicated that they were not satisfied with the treatment with a median score of 25 compared with 22.7% (n=25) of patients with positive response to treatment satisfaction. However the median scores did not show statistically significant difference when compared (p=0.1000) (Table-5).

77.2% (n=85) indicated that the symptoms bothered them affecting the QoL with a median score of 21 compared those 22.7% (n=25) patient who indicated that symptoms never bothered them without any impact on QoL with median score of 3, the median difference between these two groups of patients were not statistically significant (p=0.1000). 30% (n=33) of patient indicated poor emotional and mental health with a median score of 7 compared to 70% (n=77) with a positive response and median score of 26.5 which was statistically different (p=0.0286) (Table-6).

Table-1: Socio-demographic characteristics of the Diabetic patients (N =110).

Socio-demographics		n (%)	Datarelated to Diabetes	n (%)
Gender	Male Female	79 (71.8) 31 (28.2)	Prevalence of diabetic complications	
			Microvascular	
			Neuropathy	14 (12.7)
			Diabetic foot	5 (4.5)
			Diabetic ketoacidosis	7 (6.4)
Age (mean ± SD)		52.45±19.57	**Macrovascular**	
			Comorbidities	
			Hypertension	62 (56.4)
			Hyperlipidemia	28 (25.5)
			Impotence	32 (29.1)
			Ischemic heart disease	17 (15.5)
			Cerebrovascular disease	13 (11.8)
Educational Status	Illiterate	30 (27.2)	**Duration of Diabetes**	
	Primary level	59 (53.6)	1-5 years 41 (37.2)	
	Secondary level	15 (13.6)	6-10 years 24 (21.8)	
	University level	6 (5.4)	> 10 years 45 (40.9)	
			mean ± SD	**10.54±9.15**
Family Status	Married Unmarried	76 (69) 34 (30.9)	**Diabetes control method**	
			Diet	8 (7.2)
			Oral hypoglycemic agent	42 (38.1)
			Oral hypoglycemic agent +Insulin	30 (27.2)
			Insulin alone	30 (27.2)

Table-2: Summary statistics on quality of life.

Domain	n	Items[a]	Mean[b]	SD	Min	Max
Social life, work, travelling	110	6	16.75	11.66	6	32
General health	110	3	13.33	7.07	5	24
Treatment satisfaction	110	4	19	13.19	8	45
Symptom botherness	110	3	11	10.37	3	24
Emotional / mental health	110	4	18	13.78	2	36

Note: summary statistics are based on summated scales.
[a] denotes number of questions in a domain.
[b] denotes mean values based on summated and average scores

Table-3: Score of Domain 1 in two groups of patients.

Domain 1	Diabetic patients with poor SL, W, T experience Median (IQR) n=51	Diabetic patients with good SL, W, T experience Median (IQR) n=59	p value (Mann-Whitney test)
Social life, work, travelling	7.50 (12.25-5.75)	24.5 (30.50-20.25)	*0.0022**

*Values are expressed as Median IQR (Interquartile range = 75th - 25th percentiles), ** p < 0.05 then medians are considered significantly different, SL, W, T= Social life, work, travelling*

Table-4: Score of Domain 2 in two groups of patients.

Domain 2	Diabetic patients with Poor GH Median (IQR) n=55	Diabetic patients with Excellent GH Median (IQR) n=55	p value (Mann-Whitney test)
General health	16 (24-15)	9 (11-5)	*0.1000 ns*

Values are expressed as Median IQR (Interquartile range = 75th - 25th percentiles),, ns (non-significant) p < 0.05 then medians are considered significantly different, GH=General health

Table-5: Score of Domain 3 in two groups of patients.

Domain 3	Diabetic patients with Poor TS Median (IQR) n=85	Diabetic patients with Excellent TS Median (IQR) n=25	p value (Mann-Whitney test)
Treatment satisfaction	25 (45-15)	10 (11-8)	*0.1000 ns*

Values are expressed as Median IQR (Interquartile range = 75th - 25th percentiles), ns (non-significant)p < 0.05 then medians are considered significantly different , TS=Treatment satisfaction

Table-6: Score of Domain 4 & 5 in two groups of patients.

Domain 4	Diabetic patient with SB Median (IQR) n=85	Diabetic patients without SB Median (IQR) n=25	p value (Mann-Whitney test)
Symptom botherness	21 (24-10)	3 (6-2)	0.1000 ns
Domain 5	Diabetic patient with poor EMH Median (IQR) n=33	Diabetic patients with Good EMH Median (IQR) n=77	p value (Mann-Whitney test)
Emotional-mental health	7 (15.50-2.25)	26.5 (34.25-22.5)	0.0286*

*Values are expressed as Median IQR (Interquartile range = 75th - 25th percentiles), ns (non-significant)p < 0.05 then medians are considered significantly different,*p < 0.05 then medians are considered significantly different SB= Symptom botherness, EMH= Emotional-mental health*

Discussion

QoL shows the impact of an ailment on patient, as noticed by the patient, and yields corresponding data to epidemiological or clinical information, it is frequently utilized as results estimation. QoL has likewise been described as "a definitive objective of all wellbeing interventions".[9] Diabetes is a chronic metabolic disorder with grave long term and short term ramifications for the beset. Diabetes can cause complications related to microvascular in long term (for example, neuropathy and retinopathy) and complications related to macrovascular (for example, angina pectoris, myocardial infarction and stroke). Furthermore, in addition to complications related to Diabetes, hypoglycaemia fear, hypoglycaemia episodes, long term consequences fear and life style change results in reduced QoL.[10] Studies showed significant inverse correlation between wellbeing and diabetes mellitus related QoL.[11] In our examination a cohort of 110 Diabetic patients was followed. We utilized both diabetes-explicit and generic QoL instruments to examine the QoL. This examination did not indicate any significant difference among patients as far as all sub-scales and general wellbeing part as for co-morbidities presence. These findings are in agreement with previous study by Cheah et al, unlike other studies which found negative impact of the co-morbidities presence on the QoL compared to without co-morbidities.[12,13] The presence of one or other co-morbidities might have contributed to the non-significant median scores for QoL between two different respondent groups. The complications found in our study, reflect the lifestyle of these diabetic patients. Categorically, a poor lifestyle leads to a meager metabolic control, which is recognized to be a vital factor of risk for the onset of complications in diabetic patients. Additionally, almost one third (39.09% n=43) of the patients studied were overweight, which is an important element in the development of complications. Diabetes duration was reported as related with decreased QoL. 45 (40.90%) patients who had longer Diabetes duration greater than 10 years are associated with poor QoL. Comparable studies were notified conducted by Riaz et al, who reported that patients having diabetes duration over 5 years had lower scores in all aspects aside from emotional/mental health and general health.[14] In the present study 30% of patients received insulin. While insulin treatment (intensive) has been effective in accomplishing diabetes complications and physical symptoms control, patients report was varied and had effective on their QoL, this issue needs to be considered when shifting the patient to insulin therapy.[15] Furthermore, helping the patients balance control of disease and burden of treatment is a basic objective for health care professionals. Education of patient make able them to self-manage the Diabetes and has become a foundation of Diabetic care.[16] Our study population constituted 59% of the patient with primary education and 30% of illiterates, this might have been the reason for poor QoL experienced by the study population indicated by less median score in all the domains. According to a study, in Uganda, the education at minimum level associated with better QoL among patients with diabetes is secondary.[17] While, it is 15% in this study. Regarding marital status, being widows had negative effect on both physical and psychological domains of QoL. LSD test in a study by Hussein et al, clarified that widowed patients were affected physically more than psychologically.[18] However in our study population the absence of widows probably might have shown a significant difference on QoL for two domains in positive direction i.e. mental and emotional health (p= 0.0286) and social life (p=0.0022) was associated with better QoL. Many studies indicated that presence of complications affects satisfaction in diabetic patients.[19] In the present study the there was no statistically significant difference in this domain between negative and positive respondents (p=0.1000). This might be because cohort of patients had one or other complication and also likely due to the small size. hospital admissions and Emergency visits were typically because of increased Diabetes symptoms and hyperglycemia. Increased Diabetes

symptoms were reported as related with decreased QoL.[20] In our study there was no statistically significant difference(p=0.1000) about the symptom botherness among positive and negative respondents in this domain, thus indicating poor QoL. There are some limitations of this study. This particular population of patients might not be the representative of all Diabetic patients. Also the impact of economically diversity was not evaluated on QoL of diabetic patients.

Conclusion

It was concluded that the Quality of life of diabetic patients in District ShaheedBenazirabad Pakistan was significantly poor to moderate. With Diabetic Education programs organized by the health care team on regular basis would encourage the diabetic patients to adopt new lifestyles that would have a positive impact on their health and well-being. This can be achieved by educating them to visit doctor as scheduled on regular basis, achieve and maintain an ideal weight, practicing physical exercise as age permit and maintain strict glycemic control and aggressive management of hyperlipidemia, albuminuria and blood pressure not only prevent complications related to diabetes, however prevent also irreversible decay of wellbeing related QoL in patients with diabetes.

Disclaimer: None.

Conflict of Interest: None.

Source of Funding: None.

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