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A CROSS-SECTIONAL STUDY OF QUALITY OF LIFE IN OF DIABETIC PATIENTS ATTENDING THE OUTPATIENT SERVICES - A HOSPITAL BASED STUDY IN TELANGANA

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ABSTRACT

Background: Diabetes mellitus is one of major disease of the world today causing significant morbidity and mortality. The perception of wellbeing of the patient of the diabetes is usually negatively impacted. 'Wellbeing' of the person is subjective and depends on the personal perception and is difficult to measure. Therefore, the quality of life is considered as the overall measure of the wellbeing of a person. **Objectives:** The present study was carried out in order to know the quality of life of the diabetics which include their physical, mental, and social wellbeing. **Materials and Methods:** The present study is a hospital-based cross-sectional study. A pre-designed, pre-tested, and semi-structured questionnaire, "MOS SF-36 v 2" was used to determine the quality of life of the study participants. **Results:** MALE participants had higher quality of life scores, when compared to female participants with 68.54 ± 15.41 and 53.87 ± 14.12 scores respectively. This difference was found to be statistically significant.The quality of life was higher in patients with normal BMI when compared with patients with obesity or over weight which was statistically significant. The quality of life in patients with longer duration of the diabetes was poorer when compared to the patients with shorter duration of diabetes. The quality of life in patients with comorbidities was poorer when compared to the patients with shorter duration of diabetes. **Conclusions:** The quality of life is compromised in the diabetics who were females and had co morbidities, with longer duration of diabetes and the patients who were overweight

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INTRODUCTION

Diabetes mellitus is one of major disease of the world today causing significant morbidity and mortality. According to the World Health Organization (WHO), India makes up the majority of the diabetics in the world. During the decade of 1990s there were around 19.3 million diabetics in India it is expected to rise to 57.2 million by the year 2025 (World Health Organization, 1998). Diabetes is a disease which chronically affects multiple systems of the body and is related to lifestyle of the person.The perception of wellbeing of the patient of the diabetes is usually negatively impacted. 'Wellbeing' of the person is subjective and depends on the personal perception and is difficult to measure. Therefore, the quality of life is considered as the overall measure of the wellbeing of a person. Various aspects, such as the social support, adequate and proper treatment, health education and psychological support in diabetes play an important role and influence the quality of life. The WHO defines the quality of life as 'an individual's perception of their position in life in the context of culture and value system in which they live and relation to their goals, expectations, standards, and concerns (Somappa *et al.*, 2014). The present study is carried out in order to know the quality of life of the diabetics which include their physical, mental, and social wellbeing.

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MATERIALS AND METHODS

the present study is a hospital-based cross-sectional study. It was carried among the patients attending the diabetic clinics of

hospital in Telangana. The study was carried for a period of two months.

INCLUSION CRITERIA

Patients with established Type 2 diabetes mellitus since last one year 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 150 was obtained after considering the prevalence of diabetes as 10.22% [2], Sample size was calculated using the formula, n = 4pq/L2. n = 146 with 5% permissible error. The total sample size of 146 was obtained which was rounded off to 150patients. Personaldetails, treatment history, and relevant clinical history was collected during the interview.Later general physical and systemic examination was also conducted.

TOOLS FOR ASSESSMENT OF QUALITY OF LIFE

A pre-designed, pre-tested, and semi-structured questionnaire, "MOS SF-36 v 2" was used to determine the quality of life of the study participants.There are eight domains in this questionnaire,whichinclude Physical Functioning (PF), Role Physical (RP), Bodily Pain (BP), General Health (GH), Vitality (VT), Social Functioning (SF), Role Emotional (RE), and Mental Health (MH). These domains were scored on a scale of 0–100, '0' indicating the worst possible status and '100' the best possible status (Ware, 1992).

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 Students t test. Variables show that statistically significant association with the outcome variable ($P < 0.005$) was considered as potential determining factors.

RESULTS

In the present study, out of the 150 respondents, 96 were females and 54 were males. The mean age of the respondents was 48.7 ± 12.65 years. Majority of the participantsi.e. about seventy-fivepercent of the respondents were in the age-group of 40–60 years. The more than half of the study participants i.e 57.5% were from the middle socioeconomic status (SES); 38.0% belonged to the lower SES according to the modified Kuppuswamy's socioeconomic status scale (Sharma, 2017). Of the 150 respondents, majority of them,i.e.80% were married; 72.6 % belonged to nuclear families, and 27.4 % belonged to joint families. 43.4% of male participantsand 6.8 % of female respondents had some form of habit either in form of alcohol consumption or tobacco consumption. The mean duration of diabetes was 7.46 ± 6.14 years. The majority (74.66%) of respondents were on oral hypoglycemic agents. The most (36.8%) common comorbidity was hypertension. Majority of the female participants i.e.60.2% and a large proportion of the male participantsi.e. 48.6% of them were either overweight or obese [Table 1]. Only 48.5% of the study participants did regular physical activity.one of the major indicator of risk factor for coronary heart disease is a waist/hip ratio (WHR) of more than 0.95 in males and 0.85 in females. In he present study 56.5% of the male and 69.4 % of the female respondents had high risk for CHD. The mean body mass index (BMI) of males was 24.23 ± 4.05 kg/m^2 and of females 28.04 ± 6.48 kg/m^2, while the mean WHR was 0.94 ± 0.21 among male participants and 0.87 ± 0.11 among females participants.

In the present study out of eight domains in the SF-36 questionnaire, General health andVitality domains had lowest score when compared to other domains. Social functioning and Emotional role were least affected [Table 2].Male participantshadhigher quality of life scores, when compared to female participantswith 68.54 ± 15.41 and 53.87 ± 14.12 scores respectively. This difference was found to be statistically significant (P = 0.0001). The quality of life was higher in patients with normal BMI when compared with patients with obesity or over weight with 68.34± 16.45 and 59.45± 18.65 scores respectively, this was statistically significant p value of 0.016. The quality of life in patients with longer duration of the diabetes was poorer when compared to the patients with shorter duration of diabetes with 58.55± 17.65 and 65.44± 15.45 and scores respectively, although this was not statistically significant. The quality of life in patients with comorbidities was poorer when compared to the patients with shorter duration of diabetes with 54.65± 15.65 and 62.84± 16.35 and scores respectively, although this was not statistically significant [Table 3].

DISCUSSION

In the present study, seventy-five percent of the respondents were in the age-group of 40–60 years.This distribution of diabetes in a particular the age group is in agreement of the age group pattern of diabetes observed in the developing countries (World Health Organization, 1998).The mean duration of diabetes was 7.46 ± 6.14 years. The mean body mass index (BMI) of males was 24.23 ± 4.05 kg/m^2 and of females 28.04 ± 6.48 kg/m^2, while the mean WHR was 0.94 ± 0.21 among male participants and 0.87 ± 0.11 among females participants. Many studies had similar findings , Okanovic et al [5]in study in Croatia and Subratty et al. (2003) in another study in Mauritius reported in their study that the mean duration of diabetes in their study subjects was 10.2 ± 6.2 years and 9.3 ± 7.7 years, respectively. In a study done by Jacobson et al. (1994) the authors found that about 48.8% of their study subjects had neuropathy. In another study by Mayou and Bryant (Mayou, 1990), it was found to be found to be 20% , in another study conducted by Weinberger et al. (1994) found that 24% of their study population had neuropathy, in the

Table 1. showing the gender, mean age and duration of diabetes, age group and comorbidities and type of treatment in study participants

PARTICULARS		
GENDER	MALE	FEMALE
	54(36%)	96(64%)
MEAN AGE OF PARTICIPANTS	48.7 ± 12.65 Years	
MEAN DURATION OF DIABETES	7.46 ± 6.14 Years	
AGE GROUP		
20-40	(11%)	
41-60	(74.5%)	
60-80	(14.5%)	
BMI	NORMAL	OBESE OR OVER WEIGHT
	66 (44%)	84 (56%)
CO MORBITITES	PRESENT	ABSENT
	102(68%)	48 (32%)
TYPE OF TREATMENT	ORAL HYPOGLYCEMIC AGENTS	ORAL HYPOGLYCEMIC AGENTS AND INSULIN
	112(74.6%)	38 (26.4%)

Table 2. Showing the mean SF-36 scores under each domain

SF -36 DOMAIN	SCORE (MEAN ± STD DEV)
PHYSICAL FUNCTIONING	64.63 ± 22.63
ROLE PHYSICAL	56.43 ± 26.64
ROLE EMOTIONAL	67.41 ± 27.21
BODILY PAIN	54.81 ± 22.27
GENERAL HEALTH	44.43 ± 13.64
VITALITY	47.78 ± 15.55
SOCIAL FUNCTIONING	68.08 ± 23.60
MENTAL HEALTH	54.12 ± 17.14
OVER ALL SF 36 SCORE	57.47 ± 15.70

Table 3. Comparing the mean SF-36 scores according to gender, BMI, presence of comorbidities and duration of diabetes

	MEAN ± STD DEV	MEAN ± STD DEV		
GENDER OF PARTICIPANTS	MALES	FEMALES	T SATISTICS	P VALUE
	68.54 ± 15.41	53.87 ± 14.12	4.90	<0.001
BMI OF PATIENTS	NORMAL	OVERWEIGHT OR OBESE		
	68.34± 16.45	59.45± 18.65	2.44	0.016
DURATION OF DIABETES	<5 YEARS	> 5 YEARS		
	65.44± 15.45	58.55± 17.65	1.30	0.378
COMORBIDITIES	PRESENT	ABSENT		
	54.65± 15.65	62.84± 16.35	1.09	0.781

present study 24.2% of the study participants had signs of neuropathy . In the present study it was found that the SF-36 score was lower in females than in males and this difference was statistically significant, which shows that the quality of life of males was better than females. it was also interesting to note that the male participantshad higher scores than females in all eight domains.

A crossectional study in Australia, conducted byChittleborough et al. (2006) had similar findings where the QOL scores among males were higher in all domains, with exception in General Health and Vitality domains. In a study conducted by Gulliford and Mahabir (1999) found that the SF-36 scoreswere more in male'sparticipants.in study done in united kingdom by Woodcock et al. (2001) better scores were seen for males in all domains, the only exception was Body pain in the present study subjects with 5 years or longer duration of diabetes, had lower scores in all domains except in General health and Mental health. Woodcock et al.[12]also noted that subjects with more than 5 years' duration of diabetes had better scores in all domains, except in Body pain . The SF-36 score, i.e the quality of life was lower among respondents with complications as compared to respondents with no complication; similar findings were noted by Woodcock et al. (2001) who observed better scores in those patients without complications.

LIMITATIONS OF THE STUDY

The current study is a hospital based study, therefore the findings cannot be generalized

CONCLUSIONS

The quality of life is compromised in the diabetics who were females and had co morbidities, with longer duration of diabetes and the patients who were overweight**.**

RECOMMENDATIONS

Adequate measures should be taken by the treating medical team to improve the quality of life in patients, treatment should also include aspects of mental and social health. Adequate counseling and measures to improvesocial support system must be taken.

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