Quality of Human Life with Diabetes-Related Complications

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ABSTRACT

Understanding how individuals weigh the quality of life associated with complications is important in assessing the economic value of diabetes care and may provide insight into treatment adherence. The quantify patients' utilities (a measure of preference) for the full array of diabetes-related complications. The study conducted on 50 male and 50 female diabetic patients of the age range 20 to 45 years and education at least up to high school has been selected from various hospital and clinics of Varanasi district. WHOQOL-BREF (Mahatnirunkul et al, 1998) used as psychological measure. These patients have been selected by the quota

sampling technique. Another group of 50 male 50 female normal controls of the same age

range. Results revealed significantly similar scores in diabetic male patient as compared to normal male and significant difference in male and female diabetic patients as the moderator of the interaction variance. It has been suggested that type 2 diabetic patients who correctly control sugars in their daily meal plan improve their perceived quality of life. End-stage complications have the greatest perceived burden on quality of life; however, comprehensive diabetes treatments also have significant negative quality-of-life effects.

Introduction

Diabetes is a typical chronic medical condition that places serious constraints on patients' activities. There is a need for extensive education and behavior change to manage the conditions. Lifestyle changes must incorporate careful dietary planning, use of medication, and home blood glucose monitoring techniques for all diabetic patients (Al Hayek AA, et al., 2014). Among those diagnosed with the disease, at least half still do not achieve satisfactory glycemic control, despite the availability of effective treatments. As a consequence, millions of people with diabetes are at elevated risk of suffering needlessly from serious complications of the disease (Skovlund SE, Peyrot M, 2005). The risk of complications is associated with genetics, and it increases with the duration of hyperglycemia (4-6). Chronic complications of diseases are responsible for high morbidity and mortality of diabetes and significantly reduce the quality of life of patients (The Diabetes Control and Complications Trial Research Group, 1993).

To achieve these objectives is not easy unless there is a good cooperation from patients. However, if these objectives can be achieved, diabetic patients may obtain the same quality of life as healthy people. The goals of this investigation were to explore the quality of life (QOL) of type 2 diabetic patients and relate QOL to compliance.

Methods Sample-

50 male and 50 female diabetic patients of the age range 20 to 45 years and education at least up to high school has been selected from various hospital and clinics of Varanasi district. These patients will be selected by the quota sampling technique. Another group of 50 male 50 female normal controls of the same age range and education has also been included in the sample should not have any history of psychiatric, psychosomatic or internist problems and they should possess normal physical health.

Psychological measure:

The participants of the study were allocated to 2 groups (Diabetic and normal groups) using WHOQOL-BREF (Mahatnirunkul et al, 1998). The WHOQOLBREF- is a Indian version of a QOL (as an individual's perception of their position in life) assessment instrument developed by the WHO (Harper and Power, 1998). Subjects with scores ≥ 96 were classified as having good QOL. Each subject gave written consent to participate in the study after details of the study were described. A face to face interview was conducted and the weight and height were measured by trained health staff.

Result & Discussion

The mean, SD and SE values for the four group- 2 types of group (Diabetic and normal) and 'gender' (men and female) on WHO Quality of Life Scale are given in Table-1.1. The summery of 2x2 ANOVA (2 gender x 2 group) quality of life measure is given in Table 1.2. Results revealed significant group effect on diabetic patients on quality of life scale. The diabetic male patient (M=101.9) indicated similar effect as compare to Non diabetic male (M=101.9) on quality of life scale. The diabetic female patient (M=66.1) indicated low score as compare to normal female (M=98.74) on locus of control scale. The '2 gender x 2 group' interactions on both the numbers of support available of quality of life scale. The patterns of mean differences in these interaction variances are respectively given in Table -1.2.

Table 1.1 : Mean, SD and Standard error values for male and female (Diabetic and Normal) on Quality of Life Scale.

Scale	Groups	Gender	N	Mean	Std. Deviation	Std. Error
QOL	Diabetic	Male	50	101.90	4.362	0.617
		Female	50	66.10	2.426	0.343
	Normal	Male	50	101.90	4.362	0.617
		Female	50	98.74	6.558	0.927
		Total	200	92.16	15.830	1.119

Table 1.2 : Results of 2x2 ANOVA (2 Gender x 2 Groups) on Quality of Life Scale.

Source	Some of Square	df	Mean Square	F	P
Gender (A)	13897.24	1	13897.235	533.87	0.000
Group (B)	18518.77	1	18518.774	711.41	0.000
A x B	12937.1	1	12937.097	486.98*	0.000
Error	5102.08	196	26.031		

*p<.01 level

The HSD (Tucky test) applied to discern the pattern of mean differences in '2 gender x 2 group' interaction on the number of support available measure (Table -1.2) revealed significantly similar scores in diabetic male patient as compared to normal male, and significant difference in male and female diabetic patients as the moderator of the interaction variance. Similar analysis of '2 gender x 2 group' interaction on component of quality of life revealed significantly low scores in female diabetic patient as compare to normal female and significantly difference in diabetic patients males and female emerged as the moderator of the interaction variance (F=486.98, p<.01).

A number of studies reported that diabetes mellitus is more common in females than males (Wild et al, 2004; Akinci et al, 2008). Females were reported as more interested in their health than males. DM patients here were classified by their QOL. Even though the monthly family income was not significantly associated with QOL, it was found that a higher QOL was positively associated with a higher monthly family income, which is in agreement with some reports that indicated that poverty was an important indicator for health status (Chrvala and Bulger, 1999; Guillausseau, 2005). Those with duration of DM > 5 years, FPG > 160 mg/dl, systolic BP > 140 mg/dl or diastolic BP > 90 mg/dl were less likely to have a QOL than those with normal levels, but the difference was not significant. Good compliance was associated

with a higher QOL which is in agreement with a number of other authors (Honish et al, 2006; Huang and Hung, 2007; Wattana et al, 2007). In particular, compliance with dietary control, exercise, and medication use were positively associated with QOL, while foot-care was not associated with QOL. A possible reason for this finding is that the majority of participants were new patients having DM less than 5 years and with no complications. The results of logistic regression indicate that good compliance in various aspects results in a higher QOL than poor compliance; however exercise and foot-care had no statistically significant association with QOL. It has been suggested that type 2 diabetic patients who correctly control sugars in their daily meal plan improve their perceived quality of life (Nadeau et al, 2001). Efforts focused on DM patients are needed to encourage greater compliance. Regular education of patients with DM is an important strategy which may lead to improved compliance and better quality of life (Glasgow etal, 2006). End-stage complications have the greatest perceived burden on quality of life; however, comprehensive diabetes treatments also have significant negative quality-of-life effects. Acknowledging these effects of diabetes care will be important for future economic evaluations of novel drug combination therapies and innovations in drug delivery.

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