

Factors associated with Physical Quality of Life in Diabetes Mellitus

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Abstract—Diabetes is a disease of development involving multisystem so intend to affect quality of life of patients in many ways i.e. Physical, Mental, Social and environmental. So this study was conducted on 250 Diabetes Mellitus patients to study their physical quality of life and its associating factors. It was found that 9.6% of diabetes patients had poor physical quality of life in this study. This physical quality of life is associated with education and socio-economic status of patient but not with age, sex and occupation. Physical quality of life was observed more poor in either illiterates or in secondary educated patients than their other counterparts. Likewise physical quality of life was observed more poor in Class III and IV than Class I, Class II and Class V.

Keywords— Diabetes Mellitus, Physical Quality of Life.

I. INTRODUCTION

Diabetes and its management are increasing health problems with major morbidity and mortality burdens, both nationally and globally and consequent implications for social welfare and healthcare delivery and cost.

The prevalence of diabetes mellitus has increased significantly over the past two decades.¹ Recent estimates project around 285 million people with diabetes around the world presently, and this number is set to increase to 438 million by the year 2030.^{2,3,4} According to the World Diabetes Atlas, India is projected to have around 51 million people with diabetes.²

“India leads the world in the looming epidemic of diabetes”, was told in the 20th annual World Diabetes Congress of International Diabetic Federation (IDF)⁴. WHO has also acknowledged that India has the maximum number of diabetic patients? India is thus the “Diabetic Capital of World”.² According to Diabetes Atlas published by the International Diabetes Federation (IDF), there were 7.12% (of their adult populations) with diabetes in India in 2007.⁵

People with diabetes often feel challenged by their disease and its day-to-day management demands. A survey on national diabetes programs, reported in National Diabetes Programs, found that psychological and behavioral issues received less attention than other aspects of diabetes care. This section summarizes a review of studies of diabetes and depression, and shows the significance of depression in affecting both the quality of life of people with diabetes and how well diabetes is controlled.⁶

Several studies have demonstrated that diabetes has a strong negative impact on HRQOL, especially in the presence of complications.⁷⁻¹⁰ However; most of the studies on diabetes and HRQOL have been conducted in developed countries where there is access to better health care facilities. However, studies of the HRQOL in diabetic patients in developing countries are rare.^{12,13} Hence, a study was planned to study the quality of life diabetic patients.

Patient's perception about their quality of life and their satisfaction about their health was studied in our previous study¹⁴ and in this study was conducted to find out the physical quality of life of Diabetes Mellitus patients and its associating factors.

II. METHODOLOGY

This study was conducted on patients attending at endocrinology outdoor of Sawai Man Singh (SMS) Hospital, Jaipur (Rajasthan) India. The study was observational and descriptive case series type of study. Data collection was started from 1st March 2010 to October 2010 till 250 cases (i.e. equal to sample size) of eligible diabetic cases. For among diagnosed diabetes mellitus by endocrinologist were within the age group of 16 years to 64 years to avoid complications of extreme ages of life¹ and were with duration of diabetes more than one year were included in this study but those who were seriously ill, diabetes with the other acute and chronic illness and pregnant women were excluded from this study.

2.1 Sample Size

Sample size was calculated 225 subjects at 95% confidence limit and 5% absolute allowable error assuming proportion of poor physical quality of life in Diabetes patients 10%. So for this study **250** eligible diabetes mellitus cases were included.

2.2 Study Tools

A predesigned proforma is being used for the study. This **proforma** was divided into two parts:

Part I – This part is having introductory data of the patient with observations of detailed history and examinations. This part of proforma was filled by the investigator..

Part II – This part is “WHOQOL – BREF”¹⁵ questionnaire.

Hindi version of the proforma was used for investigation. It was introduced to the patients and filled by them only. If the patient was not able to read or write *Hindi* with understanding his/her companion or investigator had filled the same in accordance of patient and in his/her presence.

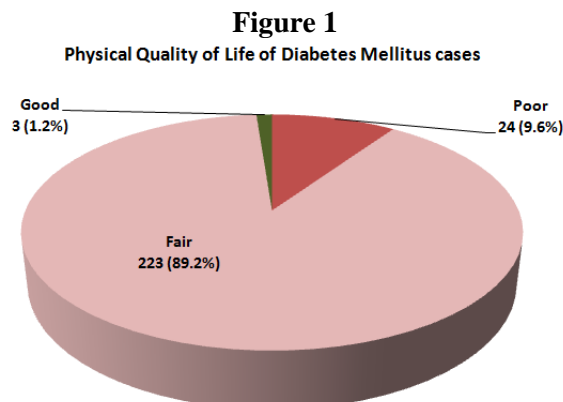
There are seven facets in physical domain, including activities of daily living, dependence on medicinal substances and medical aids, energy and fatigue, mobility, pain and discomfort, sleep, rest and work Capacity.

Data collected were summaries and analyzed in percentage and proportions on MS Excel and Chi-square was used to find out association.

III. RESULTS

Study population for this study was in the age group of 18 year to 60 years with mean age 46.24 ± 10.06 years with slight male preponderance. Majority were graduate followed by secondary & illiterates. Majority were unemployed followed by professionals and likewise and majority were of socio-economic status Class II followed by Class III, Class I, Class IV and Class V. (Table 1)

Out of total 250 diabetes patients, physical quality of life was observed good only in 3 (1.2%) patients otherwise 223 (89.2%) were having fair physical quality of life. And out of 250 cases 24 (9.6%) were having poor physical quality of life. (Figure 1)



When bio-socio-demographic variable were analyzed in association with physical quality of life, it was observed that only educational status and socio-economic status were found to be associated with physical quality of life otherwise it was not found to be associated with age, sex and occupation.(Table 1)

Physical quality of life was observed more poor in either illiterates or in secondary educated patients than their other counterparts. (Table 1)

Regarding socio-economic status, physical quality of life was observed more poor in Class III and IV than Class I, Class II and Class V. (Table 1)

Table No. 1
Bio-Socio-demographic Factors Associated with Diabetes Mellitus (N = 250)

Bio-Socio-demographic Variable	Total Cases	Physical Quality of Life Domain			Chi-square test	
		Poor (N=24)	Fair (N=223)	Good (N=3)	P Value	LS
Age wise distribution of cases						
16-30 Years	23	4	19	0	4.360 at 4 DF 0.359 NS	
31-45 Years	87	5	81	1		
46-60 Years	140	15	123	2		
Sex wise distribution of cases						
Female	108	13	93	2	2.053 at 2 DF 0.358 NS	
Male	142	11	130	1		
Education						
Illiterate	41	4	36	1	36.011 at 10 DF P<.001 LS=HS	
Up-to Primary	24	4	20	0		
Middle	18	2	15	1		
Secondary	41	5	36	0		
Graduate	101	8	92	1		
Postgraduate	25	1	24	0		
Occupation						
Unemployment	99	12	85	2	10.853 at 12 DF P= 0.542 LS=NS	
Unskilled	29	1	28	0		
Semiskilled	10	2	8	0		
Skilled	17	1	15	1		
Semiprofessional	26	2	24	0		
Professional	60	4	56	0		
Farmer	9	2	7	0		
Socio-economic Status						
Class I	46	2	44	0	19.752 at 8 DF P=0.011 LS=S	
Class II	115	14	100	1		
Class III	50	4	46	0		
Class IV	37	4	31	2		
Class V	2	0	2	0		

Age range=18 years to 60 years

IV. DISCUSSION

In the present study, it was found that 9.6% of diabetic patients had poor quality of life where as another study conducted in Manglore India¹⁶ reported only 1% had poor quality of life. Although this study showed little less proportion of patient having poor quality of life than present study but majority of studies^{12,13,16} reported that diabetes affects the quality of life even when no complications are present.

Present study observed that only educational status and socio-economic status were found to be associated with physical quality of life otherwise it was not found to be associated with age, sex and occupation.

Various author had varied opinion regarding association of age with quality of life in diabetes cases. H.E. Hart et al showed that younger the age lower MCS scores.¹⁶ Whereas other studies^{17,18} showed that older patients reported a lower quality of life.

In contrast to present study other studies reported that women had lower quality of life than males in their studies.¹⁷⁻²⁰ But in resonance with the present study, Jain V et al¹² used the same WHOQOL-Bref questionnaire in their study and found no significant difference in mean scores of male and female diabetic patients i.e. mean scores and 95% confidence intervals of males was 22.16 (21.6-22.72) and for female was 21.38 (21.84-21.92) with P=0.06.

In the present study, association of quality of life with education level was found significant only in the physical domain. Where, it was found that poor quality of life was associated with those having primary education and quality of life was better in those having post-graduation. Another study supports that regular education of patients with DM is an important strategy which may lead to improved compliance and better quality of life.²¹ Thus, it can be concluded that education is an essential factor in understanding self-care and management of diabetes, glycemic control and perception of self worth. Educated patients have a better quality of life because they can manage life better way due to understanding of the disease.

It was also found in present study that socioeconomic status affects quality of life. Similarly Richard Rubin et. al²³ it also observed that higher income had better quality of life. Glasgow et also observed that improved socioeconomic status had fair quality of life.²² So, it can be concluded that better income provides resources for proper management of quality of life.

V. CONCLUSION

It was concluded from this study that about one tenth of diabetes patients had poor physical quality of life. This physical quality of life is associated with education and socio-economic status of patient but not with age, sex and occupation.

CONFLICT

None declared till date.

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