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Original Research Article

Health Control Status among Diabetic Patients and Compare with Normoglycemic Subjects.

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Abstract:

Background & Methods: The aim of the study is to study Health control status among diabetics patient. It is important that the sample must possess almost all the qualities and characteristics of the population or the universe selected for the investigation. The sample of the present study comprised of 200 type 2 diabetic patients.

Results: There was significant difference found between patients who are suffering with diabetic complications and patients who do not have diabetes complications on internal health locus of control (t=2.05) significant at .05 level of significance. Findings also revealed that patients without diabetes complications scored significantly higher in terms of mean score on internal health locus of control than those patients who are suffering with diabetic complications.

Conclusion: Diabetic patients scored higher on resilience as compared to insulin takers, no difference was found on dimensions of health locus of control and dimensions of perceived social support between insulin dependent and tablet takers diabetic patients. Significant difference was found on physical functioning, role physical, general health and mental health dimensions of health status with tablet takers diabetics scoring higher than insulin dependent.

Keywords: Health, Control, & Diabetics Patient.

Study Design: Observational Study.

Introduction

In chronic diseases health status (health related quality of life) is a major concern. Diabetes mellitus is a chronic disease which has a great impact on health status (Health related quality of life) of the patients [1]; it is an important cause of death, illness and disability across the world. Diabetes greatly increases the risk of developing blindness, lower limbs amputations, end-stage renal disease, coronary artery disease, cerebrovascular disease or peripheral vascular disease thus in other words diabetes mellitus affects the health status (health related quality of life) of diabetic patients [2].

Diabetes Mellitus one of the most prevalent chronic diseases is a condition in which a person has a high blood sugar (glucose) level as a result of the body either not producing enough insulin or because body cells do not properly respond to insulin that is produced [3]. In other words diabetes is a condition where the body is unable to regulate blood glucose levels, resulting in too much glucose in the blood, the body cells do not absorb the glucose, the glucose accumulate in the blood(hyperglycemia), leading to various potential medical complications [4].

Type 2 diabetes poses serious threats to physical as well as mental health of the individual. According to UK Prospective Diabetes Study type 2 diabetes is a complex multifactorial disease. It is associated with progressive deterioration of Beta cell function and insulin resistance [5]. In India there is serious threat to health care with fast rising rate of diabetes, chronic diabetes causes several microvascular and macrovascular complications which in turn affect health related quality of life of the patients. Diabetes is considered as one of the most psychologically demanding of the chronic medical illnesses as it needs strict daily management of the treatment by the patients [6]. Diabetes is found to affect the health related quality of life of patients in several studies. Psychological factors play an equally important role in the management of diabetes. According to resources for effective coping includes baseline health, positive beliefs,

social skills and support and material resources to cope with the disease. Insulin treatment, age, duration of diabetes reduces health related quality of life of the patients or they have no effect on the health related quality of life of the patients [7].

The concept of locus of control was developed from Rotter's social learning theory and has been extended to cover the multidimensional aspect of health-related behaviour. Locus of control was found to be a dominating factor in determining person's behaviour. The locus of control construct is an integral part of social learning theory [8]. Locus of control determines how a person will react to social, physical and emotional stressors and it can serve as a coping strategy for an individual in a crisis [9].

Material and Methods

Methodology is the key element in carrying out any kind of research. It is of a great importance in any scientific inquiry, as the validity and reliability of the facts primarily depends upon the system of investigation. Sample is the portion of the entire population or universe of a certain kind of objects. It is important that the sample must possess almost all the qualities and characteristics of the population or the universe selected for the investigation. The sample of the present study comprised of 200 type 2 diabetic patients.

Inclusion criteria

- Diagnosis of type 2 diabetes with treatment initiated at least 01 year prior to the study.
- Patients aged more than 30 years.
- Patients who were co-operative for the interview.

Exclusion criteria

- Patients less than 30 years of age.
- Having any co-morbidities (it refers to any chronic disease not related to diabetes but patients having complications were not excluded).
- Pregnancy at the time of the survey.
- Patients who were not co-operative for the interview.

Result

Table 1: Showing the difference between the mean scores of educated and uneducated diabetic patients on health status.

Dimensions of Health Status	Uneducated		Educated		t Value
	Mean	SD	Mean	SD	
Physical Functioning	63.29	27.94	75.43	25.09	3.23**
Role Physical	67.97	29.89	75.30	26.37	1.84
Bodily Pain	61.23	26.72	70.94	26.54	2.57*
General Health	48.10	24.10	55.87	21.69	2.39*
Vitality	49.35	16.93	56.43	17.55	2.89**
Social Functioning	75.64	25.08	83.00	20.69	2.27*
Role Emotional	75.69	26.88	83.49	25.32	2.11*
Mental Health	61.39	21.58	69.80	18.10	2.99**

Educated and uneducated diabetic patients differ significantly on most of the dimensions of health status except one that is Role Physical. Results showed both the groups differ significantly on Physical Functioning (t=3.23), Vitality (t=2.89) and Mental Health (t=2.99) found to be significant at .01 level of significance. Similarly, Bodily Pain (t=2.57), General Health (t=2.39), Social Functioning (t=2.27) and Role Emotional (t=2.11) found to be significant at .05 level of significance. Furthermore, findings also revealed that educated diabetic patients scored significantly higher in terms of mean scores on Physical Functioning, Bodily Pain, General Health, Vitality, Social Functioning, Role Emotional and Mental Health dimensions of health status than uneducated diabetic patients.

Table 2: Showing difference between the mean scores of insulin and tablet taking diabetic patients on health locus of control.

Dimensions of Health Locus of Control	Insulin Dependent		Tablet Takers		t Value
	Mean	SD	Mean	SD	
Internal Health Locus of Control	23.90	3.82	24.66	3.63	1.26
Chance Health Locus of Control	21.26	2.94	21.14	2.37	0.29
Powerful Others Health Locus of Control	24.42	2.13	23.75	2.07	1.95

There was no significant difference found between insulin and tablet taking diabetic patients on all the dimensions of health locus of control i.e. Internal health locus of Control, Chance health locus of control and Powerful others health locus of control.

Table 3: Showing difference between the mean scores of insulin and tablet taking Diabetic Patients on Perceived Social Support

Dimensions of Health Locus of Control	With Complications		Without Complications		t Value
	Mean	SD	Mean	SD	
Friends' Support	15.14	8.37	16.61	8.11	1.10
Family Support	23.18	5.30	22.99	5.84	0.20
Significant Others	24.36	5.05	24.06	5.34	0.34

There was no significant difference found between insulin and tablet taking diabetic patients on all the dimensions of perceived social support that is friends, family and significant others.

Table 4: The mean scores of patients with complications of diabetes and patients without complications of diabetes on health locus of control

Dimensions of Health Locus of Control	With Complications		Without Complications		t Value
	Mean	SD	Mean	SD	
Internal Health Locus of Control	23.76	4.36	24.87	3.19	2.05*
Chance Health Locus of Control	21.28	2.61	21.10	2.47	0.49
Powerful Others Health Locus of Control	23.82	1.92	23.97	2.20	0.49

There was significant difference found between patients who are suffering with diabetic complications and patients who do not have diabetes complications on internal health locus of control (t=2.05) significant at .05 level of significance. Findings also revealed that patients without diabetes complications scored significantly higher in terms of mean score on internal health locus of control than those patients who are suffering with diabetic complications.

Discussion

Educated diabetic patients scored higher than uneducated diabetic patients on internal health locus of control. In a study done by Morowatisharifabad et al. (2010) [10] they also found that internal locus of control is increased as educational level rises and chance locus of control decreases as educational level rises. Morowatisharifabad et al. (2010) [10] highlighted that chance locus of control decreases as education level rises and in this study we also found that on chance health locus of control uneducated diabetic patients scored higher than educated diabetic patients.

In this study educated diabetic patients scored significantly higher than uneducated diabetic patients on resilience, according to Cambell-Sills, Forde and Stein (2009) [11] females, individuals with lower levels of education and income, and individuals with histories of childhood maltreatment reported diminished resilience overall. On perceived social support significant difference was found on friends' support with educated diabetic patients scoring higher than uneducated, the possible explanation could be that education makes a person broad minded, enhances personality and grooms the person, education makes a person thoughtful. An educated person can better understand the needs of others and can develop a good rapport with others; this could be the reason that educated diabetic patients scored higher than uneducated diabetic patients on friends support dimension of perceived social support. Significant difference was found on all the dimensions of health status except role physical with regard to educated and uneducated diabetic patients. In other words educated diabetic patients know more about the disease, they are more aware about how to cope with the disease and negative effects of high blood sugar levels. Educated diabetic patients are more responsive to the doctor's advice and they follow the treatment and advice regularly as compared to uneducated diabetic patients, thus educated diabetic patients have better health status than uneducated diabetic patients.

According to Kalichman et al. (2000) [12] the ability to read and understand health information has been identified as a critical factor in maintaining independent activities of daily living. Low status groups are faced with a double burden, first by increased levels of health impairments, and second by lower levels of health related quality of life once health is impaired.

Diabetic patients scored higher on resilience than insulin dependent diabetic patients, the possible explanation could be that individuals having higher resilience are better able to manage their diabetes and so, they do not require insulin injections rather they only depend on tablets for managing their diabetes.

No significant difference was found on any dimension of perceived social support with regard to mode of treatment.

Significant difference was found on internal health locus of control, dimension of health locus of control with patients without complications scoring higher than patients with complications.

According to Aalto, Uutela and Aro (1997) [13] greater distress was related to multiple diabetic complications, lower availability and adequacy of general social support, more criticizing diabetes-related support, lower internal diabetes locus of control, higher chance, significant others and professionals diabetes locus of control, lower perceived net benefits of regimen adherence, higher perceived threat of complications and poorer perceived health. [14] Diabetic patients with strong beliefs that their own behaviour is responsible for the course of the disease and weak beliefs in chance and luck were metabolically better regulated than participants who exhibited other health locus of control patterns. This implies that participants high on internal health locus of control better manage their diabetes and thus, they have less or no complications of diabetes [15].

Conclusion

Educated diabetic patients have higher mean scores than uneducated diabetic patients on resilience. Educated diabetic patients scored higher on internal health locus of control and uneducated diabetic patients scored higher on chance health locus of control. On dimensions of perceived health locus of control no difference was found on family and significant others' support but educated diabetic patients scored higher on friends' dimension of perceived social support than uneducated diabetic patients. On health status educated diabetic patients scored higher on all the dimensions except rolephysical.

Diabetic patients scored higher on resilience as compared to insulin takers, no difference was found on dimensions of health locus of control and dimensions of perceived social support between insulin dependent and tablet takers diabetic patients. Significant difference was found on physical functioning, role physical, general health and mental health dimensions of health status with tablet takers diabetics scoring higher than insulin dependent.

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