

“Evaluation of the Psychosocial Aspects of Diabetic Patients”

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Abstract

Background: Patients with diabetes need psychological support throughout their life span from the time of diagnosis. So for the treatment and rehabilitation of diabetic patients study on the psychosocial aspects of diabetic patients are very much important. But there are very few data we have regarding this vital issue in our locality.

Aim of the study: The aim of this study was to evaluate the psychosocial aspects of diabetic patients.

Methods: This prospective observational study was conducted in the Department of Medicine, at Shaheed Monsur Ali Medical College Hospital, Dhaka, Bangladesh during the period from November 2018 to November 2019. The Problem Areas in Diabetes (PAID) scale, the Diabetes Distress Scale (DDS), and the Diabetes Fatalism Scale (DFS) were used after translating them in native language. They were distributed anonymously to patients with diabetes and were then analyzed.

Result: According to the results of the PAID questions the main concerns displayed by diabetic patients include complications of the condition, adverse effects of low blood sugar levels on health and the effect of glycemic control on their mood. As per DDS scores the main stressor for patients was the constant feeling that they were unable to control their regimen well enough. The DFS results showed that, the patients felt that diabetes interferes with their lives causing distress and frustration, and they feel upset about it.

Conclusion: In fact, diabetic patients perceive this disease as a weighty and difficult condition with which they must live. Understanding their concerns can enable the dental team in appeasing fears, catering to their patients' frustrations and ultimately helping them cope and take control of their oral and overall health.

Key words: Psychosocial aspect, Diabetic patients, DM, PAID.

Date of Submission: 08-07-2020

Date of Acceptance: 23-07-2020

I. Introduction

Patients with diabetes are in need of psychological support throughout their life span from the time of diagnosis. At the first Oxford International Diabetes Summit (2002),¹ virtually all (98%) the participants representing medicine, politics, nursing, and patient groups called for psychosocial aspects of diabetes to be included in national guidelines. They put forward that psychosocial factors are critical to successful outcomes in diabetes management. This summit was prompted by the results of the milestone DAWN Study² (Diabetes Attitudes, Wishes and Needs) on the psychosocial dimensions of diabetes. The DAWN Study was the world's largest international psychosocial study in persons with diabetes. It included 5000 people with diabetes and 3000 diabetes healthcare professionals across 13 countries. The results of the DAWN Study showed that as many as 41% of the patients had poor psychological well-being. These psychological problems were recognized by providers as affecting patients' diabetes self-care. However, despite this, only about 10% of these patients received psychological care. This study also showed that across the world, the relationships that patients have with family members, colleagues at their workplace, or groups of friends, is a critical factor in improving the patient's sense of well-being, and leads to more effective self-management of diabetes. Quality of life is difficult to define. It is further complicated by related terms being used interchangeably, such as well-being,

health status, and satisfaction. How is quality of life measured? Generic quality of life instruments give a broad picture of health and illness.³ A variety of validated forms are available specifically for diabetes: diabetes quality of life measure, well-being questionnaire, diabetes treatment satisfaction questionnaire, psychological adjustment to diabetes, diabetic-specific health beliefs, perceived control over diabetes, barriers to diabetes self-healthcare, etc.⁴ Diabetes is known to have an impact on life expectancy and quality of life because it has prolonged and severe complications, and this causes a great deal of worry and fear in the affected patients⁵. In 2008, Fisher and colleagues defined diabetes distress as “patient concerns about disease management, support, emotional burden, and access to care”⁶. Previous work has proposed that psychological distress occurring in patients with diabetes is overwhelmingly related to the struggle of keeping a strict daily regimen and to concerns about its complications⁷. Psychological distress can be a burden because it can suppress the self-care behaviors of patients, which can lead to compromise glycemic control⁸. Fisher and colleagues reported that in the US, diabetes distress occurs in association with inadequate physical exertion, inadequate glycemic control, a poor dietary plan, and a negative attitude toward medication and that outside the US, it occurs in association with inadequate glycemic control, overweight, signs of depression, and poor quality of life⁹. Living with this disease can be difficult and challenging; in the face of such exacting and complicated self-care directives, patients may become frustrated, irritated, and weighed down¹⁰. Sometimes, they may become fatalistic: According to Powe and Weinrich, fatalism is defined as “a complex psychological cycle characterized by perceptions of hopelessness, worthlessness, meaninglessness, powerlessness, and social despair”¹¹. Fatalism is a worldwide belief also shared by Muslims¹². Some fatalistic patients believe they are incapable of managing their condition¹³. Poor management and the occurrence of complications may be attributed to fatalism by these patients, resulting in the loss of willingness to commit to their instructions¹⁴. Sometimes, such fears are unwarranted and may add to the burden of diabetes. With such complicated changes to normal life, many patients may feel overwhelmed, becoming unwilling to follow a diabetes regimen, and this in turn increases the risk of depression¹⁵. Recognizing sign of stress and frustration in patients can go a long way in helping them deal with their condition. A community that rallies around the concerns of such patients can greatly improve their health outcomes¹⁶. The main objective of this study was to evaluate the psychosocial aspects of diabetic patients. So all the steps of this intervention was done to fulfill the main objective.

II. Objectives

General Objective:

- To evaluate the psychosocial aspects of diabetic patients.

Specific Objective:

- To analysis the demographic status of diabetic patients.

III. Methodology & Materials

This prospective observational study was conducted in the Department of Medicine, at Shaheed Monsur Ali Medical College Hospital, Dhaka, Bangladesh during the period from November 2018 to November 2019. The Problem Areas in Diabetes (PAID) scale, the Diabetes Distress Scale (DDS), and the Diabetes Fatalism Scale (DFS) were used after translating them in native language. They were distributed anonymously to patients with diabetes and were then analyzed. The aim of the study was to evaluate psychosocial problems faced by diabetic patients in Bangladesh. To assess such problems, we used three well-known questionnaires that assess how patients perceive their condition, how it impacts their lives, and whether socio-economic factors such as sex, marital or family status, and level of education affects such perceptions. The mentioned questioners were Problem Areas in Diabetes (PAID), Diabetes Distress Scale (DDS), and Diabetes Fatalism Scale (DFS). The PAID is a 20 item questionnaire where statements are given a score ranging from 0 (Not a problem) to 4 (A serious problem). The DDS is a 17 item questionnaire that uses a Likert scale with each item, scored from 1 (No distress) to 6 (Serious distress). The DFS is a 12 item questionnaire that also uses a Likert scale, with scores ranging from 6 (Strongly agree) to 1 (Strongly disagree). Patients of both sexes were included. Incomplete questionnaires and patients less than 18 years of age were excluded. In total of 189 participants completed all the tasks were finalized as study population. Simple descriptive statistics were used to describe demographics. On account of the complexity of the questionnaires and their shared themes, Principal Component Analysis (PCA), was the method of choice in analyzing the results. This enabled us to convert a set of observations into ‘principal components’. The PAID contained statements about four domains of quality of life: emotional distress, complications, satisfaction, and lack of social support. The DDS contained three domains: coping with the disease, the doctor’s role, and lack of social support. Finally, the DFS contained three domains: emotional distress, religious and spiritual coping issues, and perceived self-efficacy issues. Because the PAID questionnaire had 4 subsets, it is referred to as Q1D1/2/3/4 (Table II) where “Q” signifies “questionnaire”, D1/2/3 and 4, signify the respective “domains”; the DDS is referred to as Q2D1/2/3 (Table III), and the DFS as Q3D1/2/3 (Table IV). Based on PCA, the domains of all three questionnaires were grouped according to the

consistency of responses and the meanings of the questions, meaning that they highlighted consistency throughout the domains. Finally, both the *t*-test and one-way ANOVA were used to compare differences in demographics among continuous domain variables in each of the three questionnaires. All factor domain measures were converted to a 100-point scale. Statistical significance was recognized when $p < 0.05$. The analysis was carried out using SPSS version 20.

IV. Result

In this study in analyzing the demographic data we found among total 189 study population 53.44% were male and 46.56% were female. So male were dominating in number. In age distribution we found most of the cases (56.08%) were from >36 year's age group and the rest 43.92% were from 18-35 year's age group. Among total participants 54.50% were married and 45.50% were unmarried or single. According to the employment status most of the cases (63.49%) were un-employed whereas 36.51% were employed. The highest 41.80% participants were from <10000 BDT/Month family income group. On the other hand, 26.98%, 22.22% and 8.99% cases were from 10-30 Thousand BDT/Month, 30000-1 Lac/Month and more than 1 Lac/Month family income group respectively. Of the questionnaires distributed, Finally 189 patients were finalized for this intervention who had completed all the tasks of this study as participants. In analyzing the demographic data we found, the participants were about equally distributed across the sexes, age ranges, and marital status. These results showed that age was a factor that affected the level of worry and fear felt by diabetic patients towards complications of diabetes. In Q1D2, patients under 35 showed a significant difference in their worry of developing complications where p value was found less than 0.05. Both gender and employment status played a role in the patient's perceived support from family or friends. In fact, in Q1D4, most patients who described little or no support from family and friends were female, and were unemployed or retired ($p = 0.013$). Gender was also a significant factor in the patient's perceived difficulty in coping (Q2D1 and Q2D3) ($p = 0.025$). Marital status was found to affect the general satisfaction with the condition including the treatment regimens. In fact, marital status played a significant role in the results of several domains, including Q1D3, Q1D4, Q2D1 and Q2D3 showing a higher dissatisfaction and unhappiness among single patients.

Table I: Demographic data of participants (N=189)

Demographic data		n	%
Sex:	Female	88	46.56
	Male	101	53.44
Age (years):	18- 35	83	43.92
	>36	106	56.08
Marital status:	Married	103	54.50
	Single	86	45.50
Job status	Employed	69	36.51
	Unemployed	120	63.49
Monthly family income in BDT	<10000	79	41.80
	10000-30000	51	26.98
	30000-1 Lac	42	22.22
	>1 Lac	17	8.99

Table II: Problem areas in diabetes questionnaire (Q1) statements assembled into themes (D1, D2, D3, and D4) referred to as Q1D1/2/3/4

Statements	Component			
	D1	D2	D3	D4
6- "Feeling depressed"	0.781			
5- "Feeling deprivation regarding food"	0.769			
7- "Feeling angry"	0.748			
3- "Feeling scared"	0.709			
1- "Feeling overwhelmed by your diabetes"	0.677			
9- "Not accepting your diabetes"	0.591			
15- "Feeling of guilt or anxiety"	0.512			
2- "Feeling discouraged with treatment plan"				
14- "Worrying about complications"		0.789		
12- "Worrying about low blood sugar reactions"		0.701		
8- "Concerned about food and eating"		0.529		
13- "Coping with complications"		0.511		
16- "Unsatisfied with diabetes physician"			0.797	
17- "Diabetes is taking up too much energy"			0.689	
10- "Mood related to your diabetes"			0.627	
20- "Feeling burned out"			0.611	
18- "Feeling alone with your diabetes"			0.562	
11- "Not having clear and concrete goals"			0.519	
4- "Uncomfortable social situation"				0.723

19- “Feeling that others are not supportive”				0.661
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Table III: Diabetes Distress Scale questionnaire (Q2) statements assembled into themes (D1, D2, and D3) referred to as Q2D1/2/3

Statements	Component		
	D1	D2	D3
11- “Feeling that I will end up with serious long- term complications, no matter what I do”	0.823		
10- “Not feeling confident in my day-to-day ability to manage diabetes”	0.747		
14- “Feeling overwhelmed by the demands of living with diabetes”	0.743		
8- “Feeling that diabetes controls my life”	0.721		
1- “Feeling that diabetes is taking up too much of my mental and physical energy every day”	0.681		
3- “Feeling angry, scared and/or depressed when I think about living with diabetes”	0.629		
12- “Feeling that I am not sticking closely enough to a good meal plan”	0.577		
6- “Feeling that I am often failing with my diabetes regimen”	0.501		
16- “Not feeling motivated to keep up my diabetes self-management”			
2- “Feeling that my doctor doesn't know enough about diabetes an diabetes care”		-0.871	
9- “Feeling that my doctor doesn't take my concerns seriously enough”		-0.867	
4- “Feeling that my doctor doesn't give me clear enough directions on how to manage my diabetes”		-0.859	
15- “Feeling that I don't have a doctor who I can see regularly about my diabetes”		-0.725	
7- “Feeling that friends or family are not supportive enough of my self-care efforts (planning activities that conflict with my schedule, encouraging me to eat the ‘wrong’ foods)”			0.869
17- “Feeling that friends or family don't give me emotional support that I would like”			0.736
13- “Feeling that friends or family don't appreciate how difficult living with diabetes can be”			0.647
5- “Feeling that I am not testing my blood sugars frequently enough”			

Table IV: Diabetes Fatalism Scale questionnaire (Q3) statements assembled into themes (D1, D2, and D3) referred to as Q3D1/2/3

Statements	Component		
	D1	D2	D3
3- “I get frustrated with having to live with diabetes”	0.868		
2- “I feel down when I think about my diabetes”	0.852		
4- “Diabetes is a disease that makes life more difficult”	0.839		
1- “I get upset when I think about my diabetes”	0.822		
5- “Diabetes causes a lot of suffering for me”	0.767		
6- “trusting in God has helped me better deal with my diabetes”		0.833	
8- “I believe God can completely cure my diabetes”		0.809	
7- “ I believe God does not give me more than I bear”		0.736	
9- “I have prayed about my diabetes so I am not going to worry about it anymore”		0.647	
11- “If I do everything my doctor tells me, I can prevent the complications of diabetes like blindness, amputations, kidney failure, etc”			-0.805
10- “I believe I am able to control my diabetes the way my doctor expects”			-0.768
12- “I believe that diabetes is controllable”			-0.699

V. Discussion

In this study in analyzing the demographic data we found among total 189 study population 53.44% were male and 46.56% were female. So male were dominating in number. In age distribution we found most of the cases (56.08%) were from >36 year’s age group and the rest 43.92% were from 18-35 year’s age group. Among total participants 54.50% were married and 45.50% were unmarried or single. According to the employment status most of the cases (63.49%) were un-employed whereas 36.51% were employed. The highest 41.80% participants were from <10000 BDT/Month family income group. On the other hand, 26.98%, 22.22% and 8.99% cases were from 10-30 Thousand BDT/Month, 30000-1 Lac/Month and more than 1 Lac/Month family income group respectively. Of the questionnaires distributed, Finally 189 patients were finalized for this intervention who had completed all the tasks of this study as participants. In analyzing the demographic data we found, the participants were about equally distributed across the sexes, age ranges, and marital status. These results showed that age was a factor that affected the level of worry and fear felt by diabetic patients towards complications of diabetes. In Q1D2, patients under 35 showed a significant difference in their worry of developing complications where p value was found less than 0.05. Both gender and employment status played a role in the patient’s perceived support from family or friends. In fact, in Q1D4, most patients who described little or no support from family and friends were female, and were unemployed or retired (p = 0.013). Gender was also a significant factor in the patient’s perceived difficulty in coping (Q2D1 and Q2D3) (p = 0.025) . Marital status was found to affect the general satisfaction with the condition including the treatment regimens. In fact, marital status played a significant role in the results of several domains, including Q1D3, Q1D4, Q2D1 and Q2D3 showing a higher dissatisfaction and unhappiness among single patients.

Limitations of the study

This was a single centered study with a small sized sample. So the findings of this study may not reflect the exact scenario of the whole country.

VI. Conclusion and recommendations

In fact, diabetic patients perceive this disease as a weighty and difficult condition with which they must live. For getting more specific findings we would like to recommend for conducting more studies regarding the same issue with larger sized sample.

References

- [1]. The Oxford International Diabetes Summit: implications of the DAWN study. *PractDiabInt* 2002; 19: 187–92.
- [2]. Peyrot M, Rubin RR, Lauritzen T, et al. Psychosocial problems and barriers to improved diabetes management: results of the Cross-National Diabetes Attitudes, Wishes and Needs (DAWN) Study. *Diabetic Medicine* 2005; 22: 1379–85.
- [3]. Sridhar GR, Madhur K. Psychosocial and cultural issues in diabetes mellitus. *CurrSci* 2002; 83: 1556–64.
- [4]. Bradley C. (ed.). *Handbook of Psychology and Diabetes*. Switzerland: Hardwood Academic Publishers, 1994.
- [5]. Jacobson AM. The psychological care of patients with insulin- dependent diabetes mellitus. *N Engl J Med*. 1996;334:1249–1253. DOI: 10.1056/NEJM199605093341907.
- [6]. Egede LE, Dismuke CE. Serious psychological distress and diabetes: A Review of the literature. *Curr Psychiatry Rep*. 2012;14(1): 15–22. doi: 10.1007/s11920-011-0240-0.
- [7]. Polonsky WH, Anderson BJ, Lohrer PA, Welch G, Jacobson AM, Aponte JE, et al. Assessment of diabetes-related distress. *Diabetes Care*. 1995;18(6):754-760.
- [8]. Mazze RS, Lucido D, Shamoon H. Psychological and social correlates of glycemic control. *Diabetes Care*. 1984;7(4):360–366.
- [9]. Fisher L, Glasgow R, Strycker L. The relationship between diabetes distress and clinical depression with glycemic control among patients with type 2 diabetes. *Diabetes Care*. 2010;33(5):1034– 1036. doi: 10.2337/dc09-2175
- [10]. Egede LE, ZhengD. Independent factors associated with major depressive disorder in a national sample of individuals with diabetes. *Diabetes Care*. 2003; 26(1):104–111. DOI:http://dx.doi.org/10.2337/ diacare.26.1.104
- [11]. Powe BD, Weinrich S. An intervention to decrease cancer fatalism among rural elders. *OncolNurs Forum*.1999; 26(3):583–588.
- [12]. Ahmed A. Cultural aspects of diabetes mellitus in Sudan. *Pract Diabetes Int*.2003;20(3):226–229.
- [13]. Hjelm K, Isacson A, Apelqvist J. Healthcare professionals’ perceptions of belief about health and illness in migrants with diabetes. *Pract Diabetes Int*. 1998;15:233–237. DOI: 10.1002/pdi.1960150808.
- [14]. Khoury S. Cultural approach to diabetes therapy in Middle East. *Diabetes Voice*. 2001;46:23–25.
- [15]. Nichols GA, Brown JB. Unadjusted and adjusted prevalence of diagnosed depression in type 2 diabetes. *Diabetes Care*. 2003; 26(3):744–749. DOI: dx.doi.org/10.2337/diacare.26.3.744.
- [16]. McDermott RA, Schmidt B, Preece C, Owens V, Taylor S, et al. Community health workers improve diabetes care in remote Australian Indigenous communities: results of a pragmatic cluster randomized controlled trial. *BMC Health Services Research* . 2015;15:68-75. doi: 10.1186/s12913-015-0695-5.
- [17]. Faro B. The effect of diabetes on adolescents’ quality of life. *PediatrNurs* 1999; 25: 247–53.
- [18]. Hoey H, Aanstoot HJ, Chiarelli F, et al. Good metabolic control is associated with better quality of life in 2,101 adolescents with type 1 diabetes. *Diabetes Care* 2001; 24: 1923–8.
- [19]. Shamsaei F, Cheraghi F, Allahverdipour H. Depression in diabetic patients. *J Res Health Sci*. 2004;6: 39-43.
- [20]. HuisIn‘T Veld EMJ, Makine C, Nouwen A, Karşıdağ Ç, Kadioğlu P, et al. Validation of the Turkish version of the problem areas in diabetes scale. *Cardiovasc Psychiatry and Neurol*. 2011: 1-6. DOI:dx.doi.org/10.1155/2011/315068
- [21]. Lustman PJ, Anderson RJ, Freedland KE, de Groot M, Carney RM, Clouse RE. Depression and poor glycemic control: A meta analytic review of the literature. *Diabetes Care*. 2000; 23(7): 934–942.
- [22]. Sulaiman N, Hamdan A, Tamim H, Mahmood DA, Young D. The prevalence and correlates of depression and anxiety in a sample of diabetic patients in Sharjah, United Arab Emirates. *BMC FamPract*. 2010;11:80. doi: 10.1186/1471-2296-11-80.
- [23]. Lioyd CE, Dyer PH, Barnet AH. Prevalence of symptoms of depression and anxiety in a diabetes clinic population. *Diabetic Med*. 2000;17(3):198-202.
- [24]. Taloyan M, Wajngot A, Johansson SE, Tovi J, Sundquist J. Poor self-rated health in adult patients with type 2 diabetes in the town of Södertälje: A cross-sectional study. *Scand J Prim Health Care*. 2010; 28(4):216–220. doi: 10.3109/00016349.2010.501223.

- [25]. Spencer MS, Kieffer EC, Sinco BR, Palmisano G, Guzman JR, James SA, et al. Diabetes-specific emotional distress among African Americans and Hispanics with type 2 diabetes. *J Health Care Poor Underserved*. 2006;17(2): 88-105.
- [26]. Sandberg GE, Sundberg HE, Fjellstrom CA, Wikblad KF. Type 2 diabetes and oral health: A comparison between diabetic and non- diabetic subjects. *Diabetes Research and General Practice* . 2000;50 (1): 27-34.

Dr. Rajee Mahmud Talukder, et. al. “Evaluation of the Psychosocial Aspects of Diabetic Patients.” *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 19(7), 2020, pp. 19-24.