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ARAŞTIRMA / RESEARCH

Relationship between family support and quality of life in individuals with diabetes

Diyabetli bireylerde aile desteği ile yaşam kalitesi arasındaki ilişki

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Abstract

Purpose: This study aimed to investigate the relationship between family support and quality of life in individuals with diabetes.
Materials and Methods: The universe of the study consisted of individuals receiving treatment in the Endocrinology Clinic of Balıkesir State Hospital. On the other hand, the sample of the study was made up of 260 individuals with diabetes who met the inclusion criteria and volunteered to participate in the study. Data collection forms included a questionnaire form, Hensarling's Diabetes Family Support Scale, and the Diabetes-Specific Quality of Life Scale.
Results: A statistically significant relationship was found between the family status score, which is the sub-dimension of the Quality of Life Scale, and the total score of Hensarling's Diabetes Family Support Scale and its sub-dimension scores. As the family status score increased, the total score of the Hensarling's Diabetes Family Support Scale increased as well. There was no statistically significant relationship between the scores of other subscales.
Conclusion: As the score of the family status subscale of the Quality of Life Scale of the individuals with diabetes increased, the total score of the Family Support Scale and its subscales increased as well.
Keywords: Diabetes, family support, quality of life

Öz

Amaç: Bu çalışmada diyabetli bireylerde aile desteği ile yaşam kalitesi arasındaki ilişkinin incelenmesi amaçlanmıştır.
Gereç ve Yöntem: Araştırmanın evrenini, Balıkesir Devlet Hastanesi Endokrinoloji Kliniği'nde tedavi gören bireyler; araştırmanın örneklemini ise araştırmaya dahil edilme kriterlerine uyan ve araştırmaya katılmaya gönüllü olan 260 diyabetli birey oluşturmuştur. Veri toplama formları olarak; Anket Formu, Hensarling'in Aile desteği ölçeği, Diyabete Özgü Yaşam Kalitesi Ölçeği kullanılmıştır.
Bulgular: Yaşam Kalitesinin alt boyutu olan aile durumu puanı ile Hensarling'in Diyabet Aile Destek Ölçeği toplam puanı ve alt boyut puanlarıyla arasında istatistiksel olarak anlamlı ilişki vardır. Aile durumu puanı arttıkça Hensarling' in Diyabet Aile Destek Ölçeği toplam puanı da artmaktadır. Diğer alt boyut puanlar arasında istatistiksel olarak anlamlı ilişki bulunmamaktadır.
Sonuç: Diyabetli bireylerin Yaşam Kalitesi alt boyut puanı olan aile durumu puanı arttıkça Aile Desteği Ölçeği toplam puanı ve alt boyut puanları artmaktadır.

Anahtar kelimeler: Diyabet, aile desteği, yaşam kalitesi

INTRODUCTION

Diabetes Mellitus (DM) is an extremely serious and progressive chronic metabolic disease that leads to disorders of carbohydrate, protein, and fat metabolism as a result of absolute and relative insufficiency of insulin secretion and/or insulin effect due to the interaction of genetic, environmental factors, and lifestyle changes[1,2].

DM is a critical health problem that can cause acute and chronic complications when hyperglycemic control cannot be achieved, has high morbidity and

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mortality rates, has high prevalence in all over the world and in our country, reduces individuals' life quality and compliance with treatment, brings about a burden on the family and society due to treatment and care, and leads to high costs[1,3,4].

Diabetes is recognized as an epidemic disease and a global danger in all developed and developing societies with rapid changes in lifestyle. With the addition of genetic, environmental, behavioral, socioeconomic, and cultural factors, the prevalence of particularly Type 2 diabetes is rapidly increasing and is still one of the main causes of death. At the same time, it is an important public health problem since it causes problems such as blindness, nerve damage, and renal failure, which negatively affect individuals' life quality, and social and professional life[5,6,7,8,9,10,11,12]. Studies report that 415 million individuals worldwide have diabetes and this number is predicted to increase to 642 million by 2040[13].

Diabetes is one of the chronic diseases that adversely affect individuals' life quality[3,14]. In the majority of studies aiming to determine the quality of life in diabetic patients, quality of life has been shown to decrease as the duration of DM increases. The quality of life is influenced negatively by the presence of complications, lack of adequate metabolic control, the presence of other chronic diseases, and previous psychiatric disorders[7,15]. Primary assistants of individuals with diabetes in the management of diabetes are their family and immediate environment. The disease affects individuals with diabetes as well as their family[16,17]. The presence of family support in individuals with diabetes contributes to an increase in self-care, a decrease in morbidity, and an increase in their life quality and even the life quality of their family members[18,19].

This study aimed to investigate the relationship between family support and quality of life in individuals with diabetes.

MATERIALS AND METHODS

The universe of the study consisted of individuals who received treatment in the Endocrinology Clinic of Balıkesir State Hospital between 30 November 2015 and 30 September 2016, whereas the sample of the study involved 260 individuals with diabetes who met the inclusion criteria of the study and volunteered to participate in the study. The criteria for inclusion in the study are having a diagnosis of Diabetes Mellitus for at least 6 months, not requiring urgent treatment, not having sensory losses such as hearing and speech that prevent communication, not having consciousness and psychiatric problems, and being willing to participate in the study.

At the outset, the permissions of the researchers who conducted the validity and reliability study of the scales (Hensarling's Diabetes Family Support Scale and the Diabetes-Specific Quality of Life Scale) were obtained. Also, the institutional approval of the Public Hospitals Association of Balıkesir Province and the ethics committee approval of the Ethics Committee of Balıkesir University Faculty of Medicine Clinical Research (date: 09.03.2016, number: 2016/47) were obtained. Also, written and verbal consent of the participants were obtained.

Measures

Data were collected through face-to-face interviews and medical records were utilized. The data collection tools included a questionnaire form, Hensarling's Diabetes Family Support Scale (HDFSS), and the Diabetes-Specific Quality of Life Scale (Quality of Life Index Diabetes Version-III).

Survey Form

Survey Form has questions about characteristics related to socio-demographic and diabetes.

HDFSS

HDFSS was developed by Janice Hensarling to measure the level of family support in adult individuals with Type 2 diabetes in 2009, and it was found to have validity and reliability. The Turkish validity and reliability study of the scale was conducted by Akın (2011)[17]. The 24-item Diabetes Family Support scale was determined to have four sub-dimensions[17,20]. The lowest and highest scores that can be obtained from Hensarling's Diabetes Family Support Scale range between 0 and 96, respectively[17,20]. In our study, the internal consistency coefficient of Hensarling's Diabetes Family Support Scale was determined as 0.98.

Diabetes-Specific Quality of Life Scale (Quality of Life Index Diabetes Version-III)

To determine the quality of life of patients with type 2 diabetes, "Ferrans and Powers Quality of Life Scale - Diabetes Version" consisting of 2 sections, each of which has 34 questions, was used. The Diabetes-Specific Quality of Life Scale, which was found to provide valid and reliable measurement, was

developed by Ferrans and Powers in 1985 and its reliability and validity study for the Turkish context was conducted by Özer and Efe (2006)[21]by administering it to individuals with diabetes. This scale measures the quality of life regarding satisfaction and importance. Questions of the scale are divided into 4 groups as health and functional status, social and economic status, physiological and spiritual status, and family status[21,22]. In our study, the internal consistency coefficient of the Diabetes-Specific Quality of Life Scale was determined to be 0.86.

Statistical analysis

The data of the study were analyzed using SPSS 20 software package. Shapiro-Wilks test was used for analyzing the normality of variables due to the unit numbers; Mann-Whitney U and Kruskal Wallis-H tests were employed for differences between the groups; post-hoc multiple comparison test was utilized in cases where significant differences were observed in Kruskal Wallis-H Test; and Spearman's Correlation Coefficient was used while examining the relationships between variables that did not belong to a normal distribution.

Table 1. Demographic characteristics and distribution of diabetes-related of the participants

Variable		**n**	**%**
Gender	Female	206	79.23
	Male	54	20.77
Age groups	45 and younger	9	3.46
	46-55	65	25
	56-65	106	40.77
	66 and older	80	30.77
Marital status	Married	211	81.15
	Widowed	42	16.15
	Single	3	1.15
	Divorced	4	1.54
Education	Illiterate	33	12.69
	Literate	13	5
	Elementary	180	69.23
	Secondary	16	6.15
	University	7	2.69
	High school/associate degree	11	4.23
Profession	Housewife	186	71.54
	Retired	59	22.69
	Other	15	5.76
Family type	Nuclear	119	45.77
	Extended	141	54.23
Length of the disease	<5 year	57	21.92
	5-9 year	58	22.31
	10-14 year	45	17.31
	15-19 year	43	16.54
	20> year	57	21.92
Other chronic disease	Yes	182	70
	No	78	30
Diabetes-related complications	Yes	60	23.08
	No	200	76.92

RESULTS

Of the individuals with diabetes who participated in the study, 79.23% were female and 20.77% were male. When the age groups were examined, with a 40.77% rating, individuals in the 56-65 age group were found to rank the first. On the other hand, 81.15% of the participants with diabetes were married. The majority of the participants (69.23%) were found to have a primary school education. As for the occupational status of the participants, 71.54% were housewives, and 22.69% were retired. Also, 54.23% of individuals had an extended family structure, and 45.77% had a nuclear family structure.

Table 1 shows the demographic characteristics of the participants.

The examination of the length of diabetes in the participants indicated that 22.31% had diabetes for 5-9 years; 21.92% less than 5 years and more than 20 years; 17.31% between 10-14 years; and 16.54% between 15-19 years. On the other hand, 70% of individuals with diabetes had another chronic disease. Hypertension had the highest rate with 39.67%. While 23.08% of the participants had diabetes-related complications, 76.92% had no complications at all (Table 1).

The mean total score of participants with Type 2 diabetes obtained from Hensarling's Diabetes Family Support Scale was 48.18 ± 25.42. The lowest and highest scores that can be obtained from this scale vary from 0 to 96, respectively. The closer the Hensarling's Diabetes Family Support Scale total score is to 96, the higher the individual's perceived family support is expected to be. The closer the Hensarling's Diabetes Family Support Scale total score is to 0 points, the less the individual's perceived family support is. Scale result is moderate. (Table 2).

The examination of the relationship between the total score that the participants with Type 2 diabetes obtained from Hensarling Diabetes Family Support Scale and its sub-dimensions and the length of the disease and the presence of another chronic disease was examined, no significant difference was found in terms of Hensarling's Diabetes Family Support Scale and the total subscale scores ($p > 0.05$). Although not statistically significant, participants who had the disease for 15-19 years had higher total scores from the Hensarling Diabetes Family Support Scale and its subscales (Table 3).

There was a statistically significant difference between the participants' total score obtained from Hensarling's Diabetes Family Support Scale and the presence of complications ($p < 0.05$). There were also significant differences between the presence of complications and the scores of the empathetic support and participative support subscales of Hensarling's Diabetes Family Support Scale ($p < 0.05$). The empathetic support and participative support scores of those who did not have any complications were significantly lower than those who had complications (Table 3).

The mean life quality score of the participants with Type 2 diabetes was 20.92 ± 3.45. The lowest and highest scores that can be obtained vary between 10.88 and 28.68, respectively (Table 4). There was a statistically significant difference between the length of the disease and the total scores that the individuals with diabetes obtained from the Quality of Life Scale and its two subscales, namely health and functioning and family status ($p < 0.05$). The total Quality of Life score of participants who had the disease for over 20 years was significantly lower than those who had the disease less than 5 years, between 5-9 years, and between 10-14 years (Table 5).

A statistically significant difference was determined between the presence of other chronic diseases and the total score of participants that they obtained from the Quality of Life scale and its subscales ($p < 0.05$). The total Quality of Life scores of patients with other chronic diseases were significantly lower than those with no other chronic diseases (Table 5).

There was a statistically significant difference between the presence of complications and the total Quality of Life Scale score and the health and functioning subscale scores ($p < 0.05$). The total Quality of Life scores of those with complications were significantly lower than those with no complications (Table 5).

Table 2. The total and sub-dimension scores obtained from Hensarling's Diabetes Family Support Scale

Sub-dimension	n	Mean±Ss	Min	Max
Empathetic support	260	20.77±10.72	0	36
Encouragement	260	10.79±6.70	0	28
Facilitative support	260	12.03±6.43	0	24
Participative support	260	4.58±2.46	0	8
Total score from Hensarling's Diabetes Family Support Scale	260	48.18±25.42	0	96

Table 3. Comparison of the total Hensarling's Diabetes Family Support Scale score and subscale scores with the length of the disease, the presence of other chronic diseases, the presence of complications

		How long have you had diabetes?							
		n	**Mean**	**SD**	**Min.**	**Max.**	**Average Rank**	**Test value**	**P**
Empathetic support score	<5	57	19.98	10.11	0	36	121.56	3.686	0.45
	5-9	58	19.84	11.08	0	36	123.15		
	10-14	45	20.62	10.91	0	36	130.44		
	15-19	43	22.79	10.48	0	36	147.34		
	20>	57	21.11	11.11	0	36	134.26		
Encouragement score	<5	57	9.28	5.14	0	21	110.61	8.151	0.086
	5-9	58	10.28	6.76	0	28	123.93		
	10-14	45	10.71	6.42	0	24	132.92		
	15-19	43	12.44	7.50	0	28	147.59		
	20>	57	11.63	7.39	0	28	142.26		
Facilitative support score	<5	57	11.21	5.79	0	24	116.34	9.103	0.059
	5-9	58	11.07	6.55	0	24	117.10		
	10-14	45	12.20	6.47	0	24	132.52		
	15-19	43	13.79	6.31	0	24	154.92		
	20>	57	12.37	6.87	0	24	138.27		
Participative support score	<5	57	4.44	2.35	0	8	123.61	3.567	0.468
	5-9	58	4.28	2.50	0	8	121.08		
	10-14	45	4.58	2.47	0	8	128.98		
	15-19	43	5.00	2.48	0	8	144.70		
	20>	57	4.74	2.54	0	8	137.47		
Total score from Hensarling's Diabetes Family Support Scale	<5	57	44.91	22.63	0	85	116.65	6.881	0.142
	5-9	58	45.47	26.06	0	96	120.66		
	10-14	45	48.11	25.53	0	92	130.41		
	15-19	43	54.02	25.65	0	96	151.12		
	20>	57	49.84	27.07	0	96	138.89		
Empathetic support score	Yes	182	20.20	11.00	0	36	126.89	-1.187	0.235
	No	78	22.10	9.98	0	36	138.92		
Encouragement score	Yes	182	10.64	6.91	0	27	128.24	-0.741	0.458
	No	78	11.14	6.19	0	28	135.76		
Facilitative support score	Yes	182	11.63	6.58	0	24	125.56	-1.624	0.104
	No	78	12.96	6.01	0	24	142.03		
Participative support score	Yes	182	4.43	2.47	0	8	125.42	-1.697	0.09
	No	78	4.95	2.41	0	8	142.36		
Total score from Hensarling's Diabetes Family Support Scale	Yes	182	46.90	26.09	0	95	126.84	-1.20	0.23
	No	78	51.15	23.69	0	96	139.04		
Empathetic support score	Yes	60	23	11.99	0	36	152.90	-2.641	0.008
	No	200	20.10	10.24	0	36	123.78		
Encouragement score	Yes	60	12.37	8.05	0	28	143.72	-1.558	0.119
	No	200	10.32	6.18	0	28	126.54		
Facilitative support score	Yes	60	12.88	7.11	0	24	143.88	-1.577	0.115
	No	200	11.78	6.21	0	24	126.49		
Participative support score	Yes	60	5.05	2.74	0	8	149.82	-2.313	0.021
	No	200	4.44	2.36	0	8	124.71		
Total score from Hensarling's Diabetes Family Support Scale	Yes	60	53.30	29.00	0	96	150.59	-2.362	0.018
	No	200	46,64	24,11	0	96	124,47		

*The data in the table were analyzed with Kruskal Wallis H Test and Mann Whitney U Test

Table 4. Distribution of mean Life Quality Scale score and subscale scores

Subscales	n	Mean±ss	Min	Max
Health and functioning	260	20,70±4,35	8,31	30
Social and economic status	260	16,34±3,24	8,25	26,50
Physiological/spiritual status	260	22,34±4,07	8,14	30
Family status	260	25,96±3,66	15	30
The Status of Life Quality	260	20,92±3,45	10,88	28,68

According to the correlation test results of individuals with Type 2 diabetes who participated in the study group, there was a statistically significant relationship between the family status subscale score of the Quality of Life Scale and the total Hensarling's Diabetes Family Support Scale score and its subscale scores. This relationship was weak and had a similar direction in terms of Hensarling's Diabetes Family Support Scale total score (r = 0.234). As the family status score increased, the total Hensarling's Diabetes Family Support Scale score was observed to increase, too. There was no statistically significant relationship between the other subscale scores (p> 0.05) (Table 6).

Table 5. Comparison of the total Quality of Life score and subscale scores with the length of the disease, the presence of other chronic diseases and the presence of complications

		How long have you had diabetes?							
		n	M	SD	Min	Max	Average Rank	Test value	p
Health and functioning status	<5	57	20.98	4.62	11.54	29.08	136.57	11.011	**0.026**
	5-9	58	21.49	4.47	10.54	28.69	145.07		
	10-14	45	21.42	4.50	11	30	142.69		
	15-19	43	20.56	4.04	12.15	29.85	125.13		
	20>	57	19.16	3.75	8.31	28.31	104.04		
								5-2**	
Social and economic status	<5	57	16.39	2.83	10.13	25.88	128.99	7.642	0.106
	5-9	58	16.62	3.32	9.38	22.75	139.19		
	10-14	45	16.79	3.52	8.75	25.88	140.28		
	15-19	43	16.74	2.70	12.13	23	140.85		
	20>	57	15.36	3.59	8.25	26.50	107.64		
Physiological and spiritual status	<5	57	22.08	4.37	8.14	30	125.85	9.057	0.06
	5-9	58	23.09	4.09	15.14	30	144.97		
	10-14	45	22.92	4.28	13.14	30	144.03		
	15-19	43	22.58	3.64	15	30	133.05		
	20>	57	21.22	3.75	10.86	29.57	107.82		
Family status	<5	57	26.32	3.69	16.80	30	139.62	10.646	**0.031**
	5-9	58	26.23	3.94	15	30	139.67		
	10-14	45	26.3	3.75	15	30	138.42		
	15-19	43	26.32	3.35	16	30	135.40		
	20>	57	24.77	3.36	16.80	30	102.10		
								5-4 5-3 5-2 5-1**	
Quality of Life	<5	57	21.02	3.50	13.56	28.47	132.04	10.365	**0.035**
	5-9	58	21.48	3.62	12.97	27.32	143.04		
	10-14	45	21.51	3.70	13.65	28.62	144.30		
	15-19	43	21.08	2.87	14.71	28.68	132.49		

	20>	57	19.66	3.19	10.88	27.88	103.81		
								5-1 5-2 5-3 **	
Health and functioning status	Yes	182	19.96	4.18	8.31	29.85	117.76	-4.174	**0.001**
	No	78	22.42	4.27	10.54	30	160.23		
Social and economic status	Yes	182	15.97	3.12	8.25	26.5	122.62	-2.582	**0.01**
	No	78	17.21	3.37	10.38	25.88	148.89		
Physiological and spiritual status	Yes	182	21.87	3.89	10.86	30	121.48	-2.955	**0.003**
	No	78	23.45	4.30	8.14	30	151.54		
Family status	Yes	182	25.41	3.73	15	30	118.75	-3.873	**0.001**
	No	78	27.23	3.17	17.80	30	157.92		
Quality of Life	Yes	182	20.36	3.33	10.88	28.68	118.43	-3.953	**0.001**
	No	78	22.23	3.39	12.97	28.62	158.66		
Health and functioning status	Yes	60	19.27	5.01	8.31	29.85	110.42	-2.359	**0.018**
	No	200	21.13	4.04	10.54	30	136.53		
Social and economic status	Yes	60	15.74	3.44	8.25	26.50	117.05	-1.58	0.114
	No	200	16.52	3.17	8.75	25.88	134.54		
Physiological and spiritual status	Yes	60	21.54	4.46	10.86	30	114.66	-1.861	0.063
	No	200	22.58	3.93	8.14	30	135.25		
Family status	Yes	60	25.75	3.24	17.80	30	121.56	-1.057	0.291
	No	200	26.02	3.79	15	30	133.18		
Quality of Life	Yes	60	20.00	3.75	10.88	28.68	112.62	-2.10	**0.036**
	No	200	21.20	3.31	12.97	28.62	135.87		

*The data in the table were analyzed with Kruskal-Wallis H Test and Mann-Whitney U Test.
** Groups with differences were determined with Post Hoc multiple comparisons.

Table 6. The relationship betweenthe total Quality of Life score and its subscale scores and the total Hensarling's Diabetes Family Support Scale score and its subscale scores

		Empathetic support score	Encouragement score	Facilitative support score	Participative support score	Total Hensarling's Diabetes Family Support Scale score
Health and functioning status	r	0.003	-0.016	0.033	-0.015	-0.005
	p	0.965	0.803	0.601	0.81	0.935
Social and economic status	r	-0.075	-0.078	-0.034	-0.026	-0.06
	p	0.229	0.209	0.586	0.671	0.335
Physiological and spiritual status	r	-0.013	0.021	0.025	-0.047	-0.002
	p	0.832	0.733	0.69	0.454	0.974
Family status	r	.243**	.175**	.252**	.237**	.234**
	p	0	0.005	0	0	0
Quality of Life	r	0.016	0.006	0.056	0.006	0.018
	p	0.802	0.921	0.366	0.921	0.771

Pearson'sCorrelation Analysis *p< 0,05, **p<0,01

According to the correlation test results of individuals with Type 2 diabetes who participated in the study group, there was a statistically significant relationship between the family status subscale score of the Quality of Life Scale and the total Hensarling's Diabetes Family Support Scale score and its subscale scores. This relationship was weak and had a similar direction in terms of Hensarling's Diabetes Family

Support Scale total score (r = 0.234). As the family status score increased, the total Hensarling's Diabetes Family Support Scale score was observed to increase, too. There was no statistically significant relationship between the other subscale scores (p> 0.05) (Table 6).

DISCUSSION

In our study, 70.0% of the patients with diabetes had another diagnosed chronic disease. In the study of Güzel (2014)[23], 70.50% of the patients were determined to have an additional disease besides diabetes. Our study results were consistent with the findings of Güzel's study.

In our study, no complications were found to develop in 76.92% of the participants with diabetes. Güzel (2014)[23]reported that 27.70% of patients were found to have diabetes-related complications. In their study conducted with individuals with Type 2 diabetes in South Ethiopia, Teklay et al. (2013)[24]found that 72% of patients had diabetes-related complications. Our results were in line with the study findings of Güzel and Teklay et al.[23,24]

Although not statistically significant, the total Hensarling's Diabetes Family Support Scale scores of those who had the disease for 15-19 years were higher. According to the results of our study, family support was higher in participants who had the disease for 15-19 years. In the study of Akın (2011)[17], the comparison of the duration of the diagnosis of the disease and the total scale scores indicated that the mean total Hensarling's Diabetes Family Support Scale scores of those who had the diseases for 0-3 years and 4-7 years were significantly higher than those who had the disease for 8-11 years. The mean total scale scores of participants who had the disease for 12 years and more were significantly higher than participants who had the disease for 0-3 years, 4-7 years, and 8-11 years. Besides, the comparison of the length of the disease and the subscales of Hensarling's Diabetes Family Support Scale indicated that no significant difference existed between empathetic support, facilitative support, and participative support scores. According to the results of the present study, the increase in the length of the disease was observed to increase the support of the individuals in the family. This situation is thought to be due to the need for more intensive treatment and care as the duration of diabetes increased, the increase in the need of the patient for family support and the increase in family support. Our results were consistent with those of Akın.

The total Hensarling's Diabetes Family Support Scale score of those who did not have any complications was significantly lower than those with complications. Also, there was a statistically significant difference between the presence of complications and the empathetic support score and participative support score. The empathetic support score and participative support score of those without complications were significantly lower than those with complications. On the other hand, Akın (2011)[17]compared Hensarling's Diabetes Family Support Scale total scores of 107 cases with diabetes-related complication status and found no significant difference between the mean total scale scores of those who had complications and the mean total scale scores of those without complications. However, in contrast to the findings of our study, the mean empathetic support and facilitative support subscale scores were significantly higher in participants who had no complications compared to those with complications. According to the results of the present study, it is thought that families exhibit a participative and empathetic approach to individuals who develop complications, individuals with diabetes are more interested in the disease, families give more support to the individuals with diabetes in complying with their disease and treatments, and this support increases with the presence of complications.

In the present study, there was a statistically significant difference between the length of the disease and the total Quality of Life score. The total Quality of Life score of the participants who had the disease for over 20 years was significantly lower than those with disease duration less than 5 years, between 5-9 years, and between 10-14 years. The quality of life is thought to decrease as the duration of the disease increases with the worsening of the disease course, and as the need for intensive treatment and care increases due to complications. Özdemir et al. (2011)[25]observed that the quality of life decreased as the duration of the disease prolonged. Çıtıl et al. (2010b)[3]found that the longer the duration of the disease was, the lower the quality of life got. On the other hand, Redekop et al. (2002)[26] determined that the duration of the disease did not affect the quality of life and showed that this was stemmed from the fact that those with longer disease duration had more adaptation to diabetes and consequently the disease had less effect on their daily life. Our study results

were consistent with the findings of Özdemir et al. and Çıtıl et al., but contrasted the findings of Redekop et al. This was thought to be due to the difference in mean age and duration of diabetes in patients included in the studies.

The total quality of life scores of participants with other chronic diseases were significantly lower than those with no other chronic diseases. Papadopoulos et al. (2007)[27] determined that the presence of other chronic diseases decreased the quality of life. The addition of other diseases to diabetes and the struggle of the individuals with their diseases make it difficult for individuals to adapt to the disease, and consequently, the quality of life of the individuals decreases.

The total quality of life scores of the participants with complications were significantly lower than those with no complications. Studies conducted so far have reported that quality of life decreases with the presence of complications[25,26,28,29,30,31,32]. Quality of life in individuals with type 2 diabetes varies depending on complications, presence of other diseases, and the duration of the disease[33,34,35]. In our study, 70% of the individuals with diabetes had an additional chronic disease. As the number of chronic diseases increases in individuals, compliance to treatment gets difficult, treatment and care needs increases, and more complications show up. Consequently, quality of life decreases.

In our study, a statistically significant relationship was found between the family status score of the individuals' quality of life scale and the total score of Hensarling's Diabetes Family Support Scale and the scores of empathetic support, encouragement, facilitative support, and participative support subscales. For Hensarling's Diabetes Family Support Scale total score, this relationship was weak and was in a similar direction. As the score of the family status subscale of the Quality of Life scale of Individuals with diabetes increased, the total score of the Family Support Scale and its subscales increased as well. Families tend to support a family member with chronic diseases in every aspect. This situation increases the compliance of the individual to the disease and the treatment and decreases the incidence of complications and psychological problems. Accordingly, the quality of life of individuals increases. Social support is becoming much more important issue on diabetes because diabetes is a multifactorial disease. A person or family with a chronic disease face with loss of self-confidence and respect, family status and independence, rejection and hopelessnesswith feelings and big personal and emotional losses. All these problems disrupt the patient's compliance with the treatment and make worsen life quality18.

Some studies have found increased marriage quality leads to enhanced diabetes-related quality of life[36,37]. Trief et al. (2002) determined for insulin-treated adults with diabetes, quality of marriage prospectively predicts diabetes-related quality of life[36]. Social support is one of the emotion-oriented coping mechanisms with the potential power for influencing life quality[38].

Perceiving social support increases the level of self-care and self-confidence, positively affects physical, mental, and social conditions and improves life quality. It is stated that family individuals' (family support) participation and cooperation to treatment and control processes facilitates the work of the healthcare team and brings the patient to high quality of life and health[39]. Yamin and Mambang Sari determined there is no significant relationship between social support and self-management and quality of life in their study[40].

As the score of the family status subscale of the Quality of Life Scale of the individuals with diabetes increased, the total score of the Family Support Scale and its subscales increased as well. No statistically significant relationship was determined between the total score and the subscale scores of the Family Support Scale and the scores of other subscales of the Quality of Life Scale. The health and happiness of the family is related to the family support of the family status which is associated with the spiritual support received. In conclusion, the quality of life of the individuals increases as the family support increases in individuals with diabetes.

Accordingly, families' support diabetic individuals in all aspects of diabetes treatment (diet, exercise, medication, sugar monitoring, foot care, education, etc.), and families' active participation in their treatment throughout their lives, increases the quality of life of individuals. In addition, it can be suggested to increase studies about examining the effect of family support on the quality of life in individuals with diabetes and to improve solution proposals for the problems.

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