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The Impact of Life Satisfaction on Self-Care Engagement Among Patients with Type 2 Diabetes

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Abstract

Introduction: Self-care in type 2 diabetes refers to the daily management of the disease by the patient, that is, the actions patients take to control the disease and maintain their health. It includes, among other things, glucose monitoring, following a diet, taking medications, engaging in physical activity, and attending regular medical visits and follow-up examinations. Life satisfaction, on the other hand, is a subjective sense of contentment with one's own life. Among people with type 2 diabetes, it depends on health status, disease control, mental well-being, and social support.

Objective of the Study: The objective of the study was to investigate the relationship between life satisfaction and the level of engagement in self-care among patients with type 2 diabetes.

Materials and Methods: The study was conducted on a group of 100 patients at the “Vita” Health Clinic in Kamesznica between September of 2025 and January of 2026. The study was conducted using a diagnostic survey method. The researchers used a self-designed questionnaire and standardized Self-Care of Diabetes Inventory (SCODI), and the Satisfaction with Life Scale (SWLS).

Results: It was demonstrated that patients with type 2 diabetes exhibit greater autonomy in self-care with regard to self-confidence, and the lowest level of autonomy in terms of controlling their health status. The extent of glucose control and health behaviors are at a moderate level. In the study group, life satisfaction was average, with a tendency toward lower scores. The results also showed that the higher the level of life satisfaction, the higher the level of self-care among patients in all areas—namely, health behaviors, health status control, and glucose control—as well as a higher level of self-confidence.

Conclusions: A higher level of life satisfaction promotes good self-care in type 2 diabetes. Both sociodemographic and clinical factors influence patients' life satisfaction and engagement in self-care.

Keywords: type 2 diabetes, engagement in self-care, life satisfaction

Introduction

Diabetes is a group of metabolic disorders characterized by hyperglycemia. This dysfunction is associated with a problem in the proper functioning of insulin in the body or with its secretion itself. This disease can lead to vision problems, cause kidney dysfunction, or affect the cardiovascular system. There are several types of diabetes. The vast majority of all patients—as many as 90%—suffer from type 2 diabetes. It primarily affects older and middle-aged adults. Nearly one-third of the population over the age of 65 has this condition. However, the highest number of diagnoses occurs among people between the ages of 50 and 59. Diabetes is very often diagnosed only after it has been present for several years. Many people remain unaware that they have the disease for a very long time [1,2,3,4].

Treatment for diabetes focuses on regulating blood sugar levels. This is a chronic condition. A complete cure is not possible. The goal of treatment is to improve patients' quality of life and prevent potential complications of the disease. The patient plays a decisive role in this process. Without the patient's commitment, it is difficult to expect positive treatment outcomes. It is the patient who monitors their own blood sugar levels and makes decisions about their lifestyle. A patient's failure to accept this condition can result in inappropriate behavior, neglect, and a deterioration in the patient's health. In contrast, life satisfaction fosters greater motivation and commitment. The patient is in better mental health, has no trouble self-monitoring blood sugar levels, self-observing, or following medical recommendations. There is a strong connection between the somatic and psychological aspects of diabetes [3,5,6,7].

Life satisfaction is a cognitive process in which a person evaluates their quality of life based on their own criteria and experiences over a given period of time. Factors influencing life satisfaction can be divided into those independent of the individual—such as external conditions—and those dependent on the individual's own activity and actions. Diabetes, being a chronic disease that causes negative effects not only psychologically, can negatively affect the life satisfaction of patients with diabetes [8]. The patient's involvement in self-care throughout the course of the disease plays a key role in treatment, as this chronic condition requires daily engagement in activities aimed at maintaining normal blood glucose levels and preventing unwanted complications. Self-care in diabetes involves not only following medical recommendations but also actively making health-related decisions in everyday situations, such as choosing meals, planning physical activity, or responding to fluctuations in glucose levels [9,10].

Materials and Methods

Organization of the Research Process

The study was conducted from September 1st, 2025, to January 31st, 2026, at the “Vita” Health Clinic in Kamesznica among patients with type 2 diabetes. The director of the Health Clinic provided written consent to conduct the study. The study included individuals with type 2 diabetes aged 40–90 who voluntarily agreed to complete the questionnaires. Participants were informed about the purpose of the study and that it was anonymous. A total of 100 people were included in the study.

Research Methods

The study employed a diagnostic survey method using research techniques. The study employed research methods such as: a self-designed questionnaire and standardized scales: SCODI and SWLS. The self-designed questionnaire was developed specifically for this study and consists of 19 questions. It included closed-ended single-choice and multiple-choice questions, as well as semi-open-ended questions.

The questionnaire covered areas such as: sociodemographic data, life and family situation, social support, disease course, health behaviors, daily functioning and perceived symptoms, use of healthcare services, and the level of access to medical information. The questionnaire was designed to collect data necessary to characterize the study group of patients and to analyze factors influencing functioning during the course of the disease.

To assess the level of self-care, the SCODI Diabetes Self-Care Inventory for Diabetes (SCODI), which is used to measure behaviors related to self-management of the disease. It covers four main areas: maintaining self-care (12 questions), monitoring health status (8 questions), managing symptoms (9 questions), and confidence in self-care (11 questions)[11].

To assess life satisfaction, the SWLS Questionnaire was used, consisting of 5 statements rated by the study participants on a 7-point Likert scale. The responses obtained subjectively reflect an overall assessment of life satisfaction with life and can classify participants into appropriate levels of satisfaction[12].

Statistical Methods

All statistical calculations were performed using the R-4.5.2 statistical package and Microsoft Excel 365. Variables measured on a quantitative scale were characterized using, among other things, the arithmetic mean and standard deviation, while qualitative variables measured on a nominal scale were presented using frequencies and percentages. The significance of differences between two groups (unrelated variables model) was examined using a significance test, i.e., Student's t-test for two groups and analysis of variance (ANOVA) for at least three groups, provided that the assumptions of normal distribution and homogeneity of variances within groups were met. If these assumptions were not met, the Mann-Whitney U test was used for two groups and the Kruskal-Wallis test for at least three groups, respectively. The relationship between two variables measured on a quantitative scale was examined using Kendall's tau correlation coefficient, Pearson's linear correlation coefficient, and Spearman's rank correlation coefficient. In all calculations, a p-value of < 0.05 was set as the level of significance.

Sociodemographic Characteristics of the Study Group

The study included a group of 100 individuals aged 40–90, comprising an equal number of women and men, each accounting for 50%. The average age of the respondents was approximately 64 years, with the largest groups consisting of those under 60 and over 70 (36% each). Most respondents live with their family (47%) or spouse (38%). Households consisting of 1–2 people were the most common (47%). Detailed data are presented in Table I.

Table I. Sociodemographic Characteristics of the Study Group

Overview (N=100)		Total		Female		Male	
		n	%	n	%	n	%
Gender	Female	50	100.0	50	100.0	0	0.0
	Male	50	100.0	0	0.0	50	100.0
Age	under 60	36	36.0	21	42.0	15	30.0
	60–69	28	28.0	15	30.0	13	26.0
	70 and older	36	36.0	14	28.0	22	44.0
	Mean ± SD	64.5±10.8		62.4±10.4		66.6±10.8	
The person you live with	Alone	15	15.0	5	10.0	10	20.0
	With a spouse	38	38.0	18	36.0	20	40.0
	With family	47	47.0	27	54.0	20	40.0
Number of people in the household	1–2 people	47	47.0	20	40.0	27	54.0
	3–4 people	35	35.0	19	38.0	16	32.0
	5 or more people	18	18.0	11	22.0	7	14.0

Clinical Characteristics of the Study Group

The largest proportion of study participants has had type 2 diabetes for more than 10 years (37%), a significant portion of the group (71%) reports hypertension as a comorbid condition; all patients monitor their blood sugar levels, but the largest group of participants (46%) does so daily; according to the responses, the most commonly used treatment method is diet (71%). Dietary recommendations are followed sometimes (66%), and physical activity is performed several times a week (37%). According to the data, diabetes has a moderate impact on daily functioning (40%), and a lack of energy is felt sometimes (52%). People with diabetes visit a doctor once every few months (41%); they see a specialist—such as a neurologist, vascular surgeon, ophthalmologist, cardiologist, or nephrologist—once a year (63%); podiatrists and dietitians are not considered when choosing specialists (69%). Follow-up exams are performed every 3–6 months (44%), and access to follow-up exams is very easy (59%). Most respondents receive support from loved ones in coping with their illness (45%) and receive answers to their questions regarding the illness (70%). Detailed data are presented in Table II.

Table II. Clinical Characteristics of the Study Group

		Total		Female		Male	
		n	%	n	%	n	%
Duration of illness	1–3 years	19	19.0	13	26.0	6	12.0
	4–5 years	18	18.0	8	16.0	10	20.0
	6–10 years	26	26.0	10	20.0	16	32.0
	>10 years	37	37.0	19	38.0	18	36.0
	Mean ± SD	9.88 ± 7.15		9.36 ± 7.31		10.40 ± 7.02	
Comorbidities	Hypertension	71	71.0	33	66.0	38	76.0
	Atherosclerosis	35	35.0	13	26.0	22	44.0
	Heart attack	19	19.0	9	18.0	10	20.0
	Stroke	8	8.0	3	6.0	5	10.0
	Obesity	38	38.0	21	42.0	17	34.0
	Insulin resistance	6	6.0	2	4.0	4	8.0
	Chronic kidney disease	15	15.0	9	18.0	6	12.0
Frequency of blood sugar testing	Daily	46	46.0	25	50.0	21	42.0
	A few times a week	40	40.0	22	44.0	18	36.0

	Once a week	14	14.0	3	6.0	11	22.0
	I don't have control	0	0.0	38	76.0	33	66.0
Treatment Methods	Diet	71	71.0	22	44.0	13	26.0
	Physical activity	35	35.0	32	64.0	25	50.0
	Oral antidiabetic drugs	57	57.0	18	36.0	23	46.0
	Insulin therapy	41	41.0	33	66.0	38	76.0
Adherence to dietary recommendations	Yes, always	18	18.0	12	24.0	6	12.0
	Sometimes	66	66.0	33	66.0	33	66.0
	Rare	16	16.0	5	10.0	11	22.0
	Not at all	0	0.0	4	8.0	4	8.0
Frequency of physical activity	Daily	8	8.0	22	44.0	15	30.0
	A few times a week	37	37.0	14	28.0	16	32.0
	Once a week	30	30.0	10	20.0	15	30.0
	Less frequently	25	25.0	12	24.0	6	12.0

		Total		Female		Male	
		n	%	n	%	n	%
The Impact of Diabetes on Daily Life	Yes, to a very large extent	27	27.0	10	20.0	17	34.0
	Yes, to a moderate extent	40	40.0	20	40.0	20	40.0
	Slightly	32	32.0	19	38.0	13	26.0
	No	1	1.0	1	2.0	0	0.0
A noticeable lack of energy associated with the illness	Yes, often	34	34.0	15	30.0	19	38.0
	Sometimes	52	52.0	27	54.0	25	50.0
	Rarely	13	13.0	7	14.0	6	12.0
	No	1	1.0	10	20.0	17	34.0
Frequency of doctor visits	Once every few months	41	41.0	26	52.0	15	30.0
	Once a year	35	35.0	15	30.0	20	40.0
	Less than once a year	22	22.0	9	18.0	13	26.0
	I don't go	2	2.0	0	0.0	2	4.0
A visit at least once a year to doctors such as a neurologist, vascular surgeon, ophthalmologist, cardiologist, and nephrologist	Yes	63	63.0	37	74.0	26	52.0
	No	37	37.0	13	26.0	24	48.0
Visits to specialists such as a podiatrist or a dietitian	Yes	31	31.0	22	44.0	9	18.0
	No	69	69.0	28	56.0	41	82.0

Frequency of follow-up visits	Every 3–6 months	44	44.0	29	58.0	15	30.0
	Once a year	35	35.0	12	24.0	23	46.0
	Less than once a year	21	21.0	9	18.0	12	24.0
	I don't get checkups	0	0.0	34	68.0	25	50.0
Access to follow-up exams	Very easy	59	59.0	10	20.0	16	32.0
	Sometimes there are difficulties with access	26	26.0	6	12.0	9	18.0
	I have significant difficulty accessing	15	15.0	29	58.0	15	30.0
Support from loved ones in coping with the illness	Yes	45	45.0	28	56.0	17	34.0
	Somewhat yes	41	41.0	19	38.0	22	44.0
	No	9	9.0	3	6.0	6	12.0
	Probably not	5	5.0	0	0.0	5	10.0
Get answers to your questions about the disease	Yes	70	70.0	42	84.0	28	56.0
	Partially	23	23.0	7	14.0	16	32.0
	No	7	7.0	1	2.00	6	12.0

Assessment of the Satisfaction with Life Scale (SWLS) in Patients with Type 2 Diabetes

Table III presents descriptive statistics for the results of the Satisfaction (SWLS) in the study group of patients with type 2 diabetes. The mean raw score is 18.4, with values ranging from 6.0 to 28.0. The median is 19.0, indicating a moderate level of life satisfaction in the study group. Converted to steni, the mean score is 4.8, with a range from 0 to 8 steni. The median of 5.0 indicates an average level of life satisfaction in the study group. Detailed information is presented in Table III.

Table III. Level of life satisfaction in the study group (SWLS)

	M	SD	Min	Max	Q1	Me	Q3
SWLS (raw score)	18.4	5.3	6.0	28.0	15.0	19.0	22.0
SWLS (sten)	4.8	1.8	1.0	8.0	4.0	5.0	6.0

M – mean; SD – standard deviation; Min – minimum value; Max – maximum value; Q1 – 25th percentile; Me – median; Q3 – 75th percentile

The largest percentage of respondents reported an average level of life satisfaction (44%), followed by a low level (39%), while the smallest percentage reported a high level of satisfaction (17%). Detailed data are presented in Table IV.

Table IV. Distribution of life satisfaction levels in the study group (SWLS)

Level of life satisfaction (SWLS)	n	%
low	39	39.0
average	44	44.0
high	17	17.0

n – number of people, % – percentage

Determining whether the level of life satisfaction (SWLS) varies depending on sociodemographic factors

The results did not show any statistically significant differences in life satisfaction levels based on gender, the person with whom the respondent lives, or the number of people living with them; however, they did show statistically significant differences based on age and support from loved ones. Detailed data are presented in Table V.

Table V. Level of life satisfaction (SWLS) by gender, age, the person with whom one lives and their number, as well as support from loved ones

		SWLS (raw score)		
		Mean ± SD	Me	Q1–Q3
Gender	Women	19.2±5.1	20.0	16.0–23.0
	Men	17.58±5.38	18.0	14.0–22.0
		p = 0.1556		
Age		r = -0.450, p < 0.0001		
Person you live with	Alone	17.13 ± 6.95	15.0	13.0–25.0
	with a spouse	18.16 ± 5.44	19.0	15.0–22.0
	with family	18.98±4.53	20.0	17.0–22.0
		p = 0.4746		
Number of people in the household	1–2 people	17.83±6.04	19.54 ± 3.72	17.61 ± 5.6
	3–4 people	18.0	19.0	18.5
	5 or more	13.0–22.0	18.0–22.0	12.0–21.0
		p = 0.2920		
Support from loved ones in coping with the	Yes	18.87–5.12	19.5	16.0–22.0
	No	15.43–5.46	15.0	13.0–18.0
		p = 0.0169		

illness

M – mean; SD – standard deviation; Q1 – 25th percentile; Me – median; Q3 – 75th percentile

r – Pearson's linear correlation coefficient; p – significance level

Assessment of the Impact of Clinical Factors on Life Satisfaction

The results indicate a statistically significant relationship between disease duration and life satisfaction. The longer the disease duration, the lower the level of life satisfaction. A detailed summary of the data is presented in Table VI.

Table VI. Relationship between disease duration and life satisfaction (SWLS)

Duration of illness	Correlation coefficient	Significance level
SWLS (raw score)	R = -0.401	p<0.0001
SWLS (sten)	R = -0.428	p<0.0001

r – Pearson's linear correlation coefficient, R – Spearman's rank correlation coefficient, p – significance level

The results showed statistically significant differences in life satisfaction levels based on the presence of comorbidities such as hypertension, atherosclerosis, and stroke. Participants who, in addition to diabetes, have hypertension, atherosclerosis, or have also suffered a stroke have a lower level of life satisfaction than those without these comorbidities. Detailed data are presented in Table VII.

Table VII. Level of life satisfaction (SWLS) by comorbidities

Comorbidities		Comorbidities					
		SWLS (raw score)			SWLS (standardized)		
		Yes	No	p	Yes	No	p
Hypertension	Mean ± SD	17.08±4.64	21.59±5.44	<0.0001²	4.39 ± 1.55	5.83 ± 1.83	0.0001²
	Me	18.00	23.00		5.00	6.00	
	Q1–Q3	14.00–20.00	19.00–23.00		3.00–5.00	5.00–7.00	
Atherosclerosis	Mean ± SD	15.86 ± 4.75	19.75 ± 5.07	0.0003¹	3.89±1.62	5.31±1.63	0.0005²
	Me	17.00	20.00		4.00	5.00	
	Q1–Q3	11:00–20:00	16.00–23.00		2.00–5.00	4.00–6.00	
Heart attack	Mean ± SD	17.95 ± 6.76	18.49 ± 4.91	0.6866 ¹	4.74±2.28	4.83±1.63	0.8502 ²

	SD						
	Me	18.00	19.00		5.00	5.00	
	Q1–Q3	12:00– 24:00	15:00– 22:00		3.00–7.00	4.00–6.00	
Stroke	Mean ± SD	12.75 ± 4.37	18.88 ± 5.08	0.0013¹	2.88 ± 1.36	4.98 ± 1.69	0.0025²
	Me	12.50	19.00		2.50	5.00	
	Q1–Q3	10.00– 15.50	15.50– 22.00		2.00–4.00	4.00–6.00	
Obesity	Mean ± SD	19.26 ± 5.50	17.85 ± 5.11	0.1842 ²	5.11 ± 1.77	4.63±1.74	0.1739 ²
	Me	20.00	18.00		5.00	5.00	
	Q1–Q3	15.00– 23.00	15.00– 21.00		4.00–7.00	4.00–6.00	
Insulinoo porous	Mean ± SD	19.50±6.41	18.32±5.23	0.5976 ¹	5.33±2.16	4.78±1.74	0.8503 ²
	Me	17.00	19.00		4.50	5.00	
	Q1–Q3	15.00– 27.00	15.00– 22.00		4.00–8.00	4.00–6.00	
Chronic kidney disease	Mean ± SD	16.73 ± 6.84	18.68 ± 4.94	0.1886 ¹	4.27 ± 2.25	4.91±1.65	0.2927 ²
	Median	16.00	19.00		4.00	5.00	
	Q1–Q3	12:00– 22:00	15:00– 22:00		3.00–6.00	4.00–6.00	

M – mean; SD – standard deviation; Q1 – 25th percentile; Me – median; Q3 – 75th percentile

¹Student's t-test, ²Mann-Whitney U test, p – significance level

The results showed a statistically significant correlation between the frequency of visits to a doctor (diabetologist) and the level of life satisfaction. The more frequently a participant visits a doctor (diabetologist), the higher their level of life satisfaction. Detailed data are presented in Table VIII.

Table VIII. Relationship between the frequency of visits to a doctor (diabetologist) and the level of life satisfaction (SWLS)

Frequency of visits to a doctor (diabetologist)	Correlation coefficient	Significance level
SWLS (raw score)	tau=0.188	0.0055
SWLS (sten)	tau=0.201	0.0030

tau – Kendall's tau correlation coefficient, p – significance level

The results showed statistically significant differences in life satisfaction levels based on regular visits to specialists such as podiatrists or dietitians. Respondents who have regular visits with medical specialists report higher levels of life satisfaction. Detailed data are presented in Table IX.

Table IX. Differences in life satisfaction (SWLS) based on regular visits to specialists

		SWLS (raw score)			SWLS (Sten)		
		Yes	No	p	Yes	No	p
A visit at least once a year to doctors such as a neurologist, vascular surgeon, ophthalmologist, cardiologist, and nephrologist	M±SD	18.16–5.38	18.78–5.14	0.5700 ¹	4.73–1.76	4.95–1.76	0.5113 ²
	Me	18.00	20.00		5.00	5.00	
	Q1–Q3	15.00–22.00	16.00–22.00		4.00–6.00	4:00–6:00	
Appointments with specialists such as a podiatrist or a dietitian	M±SD	20.9–4.4	17.26–5.27	0.0011¹	5.68–1.45	4.42–1.75	0.0009²
	Me	22.00	18.00		6.00	5.00	
	Q1–Q3	18.00–25.00	14.00–21.00		5.00–7.00	3.00–6.00	

M – mean; SD – standard deviation; Q1 – 25th percentile; Me – median; Q3 – 75th percentile

¹Student's t-test, ²Mann-Whitney U test, p – significance level

The results showed statistically significant differences in life satisfaction levels based on treatment methods. Participants who follow a diet, engage in physical activity, and take oral antidiabetic medications have higher levels of life satisfaction than those who do not use these treatment methods. Participants who use insulin therapy have lower levels of life satisfaction than those who use these treatment methods. Table X presents the detailed data.

Table X. Life Satisfaction Level (SWLS) by Treatment Method

Treatment methods		Treatment method					
		SWLS (raw score)			SWLS (standardized)		
		Yes	No	p	Yes	No	p
Diet	M±SD	19.58–4.61	15.48–5.74	0.0003¹	5.21–1.52	3.83–1.93	0.0009²
	Me	20.00	15.00		5.00	4.00	

	Q1–Q3	17.00–23.00	11.00–20.00		4.00–6.00	2.00–5.00	
Physical activity	Mean $\pm$ SD	21.09–4.92	16.94–4.91	0.0001¹	5.71–1.64	4.32–1.63	0.0002²
	Me	22.00	18.00		6.00	5.00	
	Q1–Q3	18.00–25.00	15.00–20.00		5.00–7.00	4.00–5.00	
Oral antidiabetic drugs	M $\pm$ SD	19.81–4.35	16.51–5.84	0.0016¹	5.28–1.4	4.19–1.99	0.0018²
	Me	20.00	16.00		5.00	4.00	
	Q1–Q3	18.00–23.00	12.00–21.00		5.00–6.00	3.00–6.00	
Insulin therapy	Mean $\pm$ SD	15.41–5.29	20.46–4.20	<0.0001¹	3.8–1.79	5.51–1.36	<0.0001²
	Me	15.00	20.00		4.00	5.00	
	Q1–Q3	11.00–20.00	18.00–24.00		2.00–5.00	5.00–7.00	

M – mean; SD – standard deviation; Q1 – 25th percentile; Me – median; Q3 – 75th percentile

¹Student's t-test, ²Mann-Whitney U test, p – significance level

Assessment of the Level of Engagement in Self-Care Among Patients with Type 2 Diabetes

The highest level of engagement was observed in self-confidence (M = 73.34), while the lowest was in health management (M = 65.91), indicating a weaker area requiring support. Detailed data are presented in Table XI.

Table XI. Level of engagement in self-care (SCODI)

SCODI	M	SD	Q1	Me	Q3	Min	Max
SCODI A: Health Behaviors	68.94	18.12	60.42	72.92	83.33	18.75	97.92
SCODI B: Health Check	65.91	20.49	51.56	67.19	81.25	6.25	100.00
SCODI C: Glucose Level Monitoring	67.86	18.74	58.85	72.22	80.56	18.75	100.00
SCODI D: Self-confidence	73.34	17.16	67.05	75.00	85.23	25.00	100.00

M – mean; SD – standard deviation; Min – minimum value; Max – maximum value; Q1 – 25th percentile; Me – median; Q3 – 75th percentile

Determining the Impact of Sociodemographic Factors on the Level of Self-Care (SCODI)

The results showed statistically significant differences in the level of health behaviors, health monitoring, and self-confidence based on gender. Women exhibit a higher level of health behaviors, monitor their health more frequently, and demonstrate greater self-confidence than men. Table XII presents a detailed summary of the data.

Table XII. Level of engagement in self-care (SCODI) by gender

Parameter		Gender		t/Z	p
		Women	Men		
SCODI A: Health Behaviors	Mean ± SD	72.92±16.15	64.96±19.24	2.147	0.0318²
	Median	75.00	68.75		
	Q1–Q3	64.58–83.33	54.17–79.17		
SCODI B: Health Check*	Mean ± SD	68.75±17.71	63.06±22.76	1.394	0.1663 ¹
	Median	71.88	64.06		
	Q1–Q3	59.38–81.25	50.00–78.13		
SCODI C: Glucose Level Monitoring*	M±SD	71.62±16.58	64.11±20.15	2.034	0.0446¹
	Median	75.00	67.71		
	Q1–Q3	62.50–84.38	50.00–77.78		
SCODI D: Self-Confidence	Mean ± SD	78.00±14.70	68.68±18.30	2.744	0.0061²
	Median	77.27	72.73		
	Q1–Q3	75.00–86.36	59.09–84.09		

M – mean; SD – standard deviation; Q1 – 25th percentile; Me – median; Q3 – 75th percentile

¹ Student's t-test, ² Mann-Whitney U test, p – significance level

Statistical analysis revealed a statistically significant relationship between age and the assessment of self-care levels in diabetes, particularly in the areas of health behaviors, health monitoring, and self-confidence. The levels of these three dimensions of self-care decline with age. Table XIII provides a detailed summary of the data.

Table XIII. Correlation between age and the level of self-care in diabetes

Parameter	Age	
	R	p
SCODI A: Health Behaviors	-0.311	0.0016
SCODI B: Health Monitoring	-0.244	0.0143
SCODI C: Glucose monitoring	-0.191	0.0574
SCODI D: Self-confidence	-0.286	0.0039

R – Spearman's rank correlation coefficient, p – significance level

The results showed statistically significant differences in the level of glucose control depending on who the participant lives with. This means that who the participant lives with (alone, with a

spouse, or with family) influences the level of glucose control. Table XIV contains a detailed summary of the data.

Table XIV. Relationship between living arrangement and self-care level (SCODI)

Parameter		People you live with			F/M	p
		alone	with a spouse	with family		
SCODI A: Health Behaviors	Mean ± SD	60.14±20.35	72.64±18.2	68.75±16.66	5.193	0.0745 ⁴
	Me	70.83	76.04	72.92		
	Q1–Q3	39.58–75.00	66.67–87.50	60.42–79.17		
SCODI B: Health Check*	Mean ± SD	57.92±22.65	70.56±17.37	64.69±21.55	2.258	0.1100 ³
	Me	59.38	73.44	65.63		
	Q1–Q3	34.38–78.13	59.38–84.38	50.00–81.25		
SCODI C: Glucose Level Monitoring	Mean ± SD	57.04±20.03	73.02±17.41	67.15 ± 18.15	7.836	0.0199⁴
	Me	52.78	75.00	66.67		
	Q1–Q3	40.63–75.00	65.63–84.38	59.38–77.78		
SCODI D: Self-confidence	M±SD	66.67±18.75	77.51±15.89	72.11±7.12	5.013	0.0816 ⁴
	Me	68.18	78.41	75.00		
	Q1–Q3	45.45–84.09	72.73–88.64	68.18–84.09		

M – mean; SD – standard deviation; Q1 – 25th percentile; Me – median; Q3 – 75th percentile ³ analysis of variance (ANOVA), ⁴ Kruskal-Wallis test, p – significance level

The results showed statistically significant differences in the level of self-care among patients with diabetes depending on support from loved ones. Participants who are supported by loved ones in managing their condition have higher levels of self-care in the areas of health behaviors, health status monitoring, and glucose control, and exhibit greater self-confidence compared to those who lack such support. Details are provided in Table XV.

Table XV. Relationship between support from loved ones and the level of self-care (SCODI)

Parameter				Support from loved ones		Z	p
				Yes	No		
SCODI A: Health Behaviors	M±SD	71.54–16.65	52.98–19.19	3.194	0.0014 ²		
	Me	75.00	51.04				
	Q1–Q3	62.50–83.33	37.50–70.83				
SCODI B: Health Check		Mean ± SD	68.31–19.63	51.12–20.13	2.791	0.0052 ²	

SCODI C: Glucose Level Monitoring	Me	71.88	45.31	2.930	0.0034²
	Q1–Q3	59.38–84.38	34.38–75.00		
	Mean ± SD	70.37–17.51	52.48–19.33		
	Me	75.00	46.88		
	Q1–Q3	61.11–81.25	36.11–72.22		
	Mean ± SD	75.45–16.06	60.39–18.61		
SCODI D: Self-Confidence	Me	75.00	63.64	2.901	0.0037²
	Q1–Q3	70.45–86.36	45.45–72.73		
	Mean ± SD	75.45–16.06	60.39–18.61		

M – mean; SD – standard deviation; Q1 – 25th percentile; Me – median; Q3 – 75th percentile

² Mann-Whitney U test, p – significance level

Determining the Impact of Clinical Factors on the Level of Self-Care

Statistical analysis revealed a statistically significant relationship between disease duration and the level of self-care among patients with diabetes in terms of health behaviors. The longer the disease duration, the lower the level of health behaviors. Details are provided in Table XVI

Table XVI. Relationship between disease duration and the level of self-care (SCODI)

Parameter	Duration of the disease	
	R	p
SCODI A: Health-related behaviors	-0.235	0.0185
SCODI B: Health Monitoring	-0.136	0.1771
SCODI C: Glucose monitoring	-0.126	0.2103
SCODI D: Self-confidence	-0.194	0.0536

R – Spearman's rank correlation coefficient, p – significance level

The results showed statistically significant differences in the level of self-care in patients with diabetes due to the additional presence of atherosclerosis. Participants who have atherosclerosis in addition to diabetes exhibit lower levels of self-care in the areas of health behaviors, health status monitoring, and glucose control, and have lower self-confidence compared to those without atherosclerosis. Table XVII presents the detailed data.

Table XVII. Differences in self-care levels (SCODI) based on the presence of atherosclerosis

Parameter				Atherosclerosis		From	p
				Yes	No		
SCODI A: Health Behaviors	A: Health	M±SD		61.96–18.51	72.69–16.88	2.920	0.0035²
		Me		64.58	75.00		

	Q1–Q3	54.17–77.08	66.67–87.50		
	Mean ± SD	58.30–20.71	70.00–19.31		
SCODI B: Health Check	Me	59.38	75.00	2.815	0.0049²
	Q1–Q3	43.75–78.13	59.38–84.38		
	Mean ± SD	62.56–18.62	70.72–18.32		
SCODI C: Glucose Level Monitoring	Me	65.63	75.00	2.038	0.0416²
	Q1–Q3	50.00–75.00	62.50–84.38		
	M±SD	65.91–16.68	77.34–16.17		
SCODI D: Self-Confidence	Me	72.73	79.55	3.378	0.0007²
	Q1–Q3	52.27–75.00	70.45–88.64		

M – mean; SD – standard deviation; Q1 – 25th percentile; Me – median; Q3 – 75th percentile

²Mann-Whitney U test, p – significance level

The results showed statistically significant differences in the level of glucose control based on the presence of a previous myocardial infarction. Individuals who had experienced a myocardial infarction had a lower level of glucose control than those who had not. Table XVIII presents the detailed data.

Table XVIII. Differences in self-care levels (SCODI) depending on the occurrence of a heart attack

Parameter		Heart Attack		t/Z	p
		Yes	No		
SCODI A: Health Behaviors	Mean ± SD	60.64–23.34	70.88–16.23	1.612	0.1069 ²
	Me	72.92	72.92		
	Q1–Q3	35.42–75.00	62.50–83.33		
SCODI B: Health Check*	Mean ± SD	58.88–23.32	67.55–19.56	1.676	0.0970 ¹
	Me	59.38	71.88		
	Q1–Q3	40.63–81.25	59.38–81.25		
SCODI C: Glucose Level Monitoring	Mean ± SD	57.07–19.89	70.40–17.65	2.574	0.0100²
	Me	61.11	75.00		
	Q1–Q3	38.89–75.00	61.11–81.25		
SCODI D: Self-Confidence	M±SD	65.67–19.9	75.14–16.07	1.748	0.0804 ²
	Me	65.91	75.00		
	Q1–Q3	50.00–84.09	70.45–86.36		

M – mean; SD – standard deviation; Q1 – 25th percentile; Me – median; Q3 – 75th percentile

¹ Student's t-test, ² Mann-Whitney U test, p – significance level

The results showed a statistically significant relationship between the level of self-care among patients with diabetes and the frequency of blood glucose testing. The more frequently blood glucose levels were monitored, the higher the level of self-care among patients in all areas—namely, health behaviors, health status monitoring, and glucose level monitoring—and the higher their level of self-confidence. Table XIX presents the complete detailed data.

Table XIX. Relationship between the frequency of blood glucose monitoring and the level of self-care (SCODI)

	Correlation with the frequency of blood glucose testing	
	tau	p
SCODI A: Health behaviors	0.271	0.0001
SCODI B: Health Monitoring	0.190	0.0051
SCODI C: Glucose monitoring	0.198	0.0035
SCODI D: Self-confidence	0.278	0.0000

tau – Kendall’s tau correlation coefficient, p – significance level

The results showed statistically significant differences in the level of self-care in patients with diabetes based on dietary treatment. Participants who follow a diet have higher levels of self-care in the areas of health behaviors, health status monitoring, and glucose control, and they have higher self-confidence compared to those who do not follow a diet. Table XX presents the full detailed data.

Table XX. Differences in self-care levels (SCODI) depending on the use of diet as a treatment method

Parameter			Treatment methods: Diet		From	p
			Yes	No		
SCODI A: Health Behaviors	Mean ± SD	74.82–14.64	54.53–17.95	-4.877	<0.0001 ²	
	Me	75.00	60.42			
	Q1–Q3	66.67–85.42	37.50–68.75			
SCODI B: Health Check	Mean ± SD	71.70–17.49	51.72–20.65	-4.140	<0.0001 ²	
	Me	71.88	50.00			
	Q1–Q3	59.38–87.50	34.38–71.88			
SCODI C: Glucose Level Monitoring	Mean ± SD	72.76–16.05	55.88–19.70	-3.661	0.0003 ²	
	Me	75.00	58.33			
	Q1–Q3	62.50–84.38	38.89–75.00			
SCODI D: Self-Confidence	M±SD	78.59–14.59	60.50–16.40	-4.744	<0.0001 ²	
	Me	79.55	59.09			
	Q1–Q3	72.73–88.64	47.73–75.00			

M – mean; SD – standard deviation; Q1 – 25th percentile; Me – median; Q3 – 75th percentile

²Mann-Whitney U test, p – significance level

The results showed statistically significant differences in the level of self-care in patients with diabetes depending on treatment with oral anticoagulants. Participants taking oral anticoagulants exhibited higher levels of self-care in the areas of health behaviors, health status monitoring, and glucose control, and reported higher self-confidence compared to those not taking such medications. Table XXI presents the full detailed data.

Table XXI. Differences in self-care levels (SCODI) based on the use of oral anticoagulants

Parameter		Treatment methods: Oral anticoagulants		From	p
		Yes	No		
SCODI A: Health Behaviors	M±SD	72.40–18.63	64.34–16.52	2.618	0.0088²
	Me	75.00	70.83		
	Q1–Q3	62.50–87.50	54.17–75.00		
SCODI B: Health Check	Mean ± SD	69.46–20.35	61.19–19.94	2.158	0.0309²
	Me	75.00	65.63		
	Q1–Q3	59.38–84.38	40.63–78.13		
SCODI C: Glucose Level Monitoring	Mean ± SD	71.33–18.96	63.28–17.63	2.179	0.0293²
	Me	75.00	66.67		
	Q1–Q3	62.50–84.38	50.00–75.00		
SCODI D: Self-Confidence	Mean ± SD	76.28–17.83	69.45–15.59	2.346	0.0190²
	Me	75.00	72.73		
	Q1–Q3	72.73–88.64	59.09–84.09		

M – mean; SD – standard deviation; Q1 – 25th percentile; Me – median; Q3 – 75th percentile

² Mann-Whitney U test, p – significance level

The results showed statistically significant differences in the level of self-care among patients with diabetes based on insulin therapy. Participants who used insulin therapy had lower levels of self-care in the areas of health behaviors, health status monitoring, and glucose control, and they also had lower self-confidence compared to those taking other types of medication. Table XXII presents the full detailed data.

Table XXII. Differences in self-care levels (SCODI) based on insulin therapy use

Parameter		Treatment methods: Insulin therapy	From	p
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		Yes	No		
SCODI A: Health Behaviors	M±SD	61.99–16.61	73.76–17.67	3.658	0.0003²
	Me	68.75	75.00		
	Q1–Q3	50.00–72.92	64.58–87.50		
SCODI B: Health Check	Mean ± SD	59.07–19.21	70.66–20.15	3.105	0.0019²
	Me	59.38	75.00		
	Q1–Q3	43.75–71.88	59.38–84.38		
SCODI C: Glucose Level Monitoring	Mean ± SD	63.01–17.55	71.24–18.94	2.292	0.0219²
	Me	66.67	75.00		
	Q1–Q3	52.78–75.00	62.50–84.38		
SCODI D: Self-Confidence	M±SD	67.96–15.21	77.08–17.57	3.175	0.0015²
	Me	72.73	49.55		
	Q1–Q3	59.09–77.27	72.73–88.64		

M – mean; SD – standard deviation; Q1 – 25th percentile; Me – median; Q3 – 75th percentile

²Mann-Whitney U test, p – significance level

The results showed a statistically significant relationship between the level of self-care among patients with diabetes and the frequency of adherence to dietary recommendations. The more frequently dietary recommendations are followed, the higher the level of self-care among patients in all areas—i.e., health behaviors, health status monitoring, and glucose control—and the higher the level of self-confidence. Detailed data are presented in Table XXIII.

Table XXIII. Relationship between the frequency of adherence to dietary recommendations and the level of self-care (SCODI)

	Correlation with the frequency of adherence to dietary recommendations	
	tau	p
SCODI A: Health behaviors	0.465	<0.0001
SCODI B: Health Check	0.389	<0.0001
SCODI C: Glucose Level Monitoring	0.406	<0.0001
SCODI D: Self-confidence	0.417	<0.0001

tau – Kendall's tau correlation coefficient, p – significance level

The results showed a statistically significant relationship between the level of self-care among patients with diabetes and the frequency of physical activity. The more frequent the physical activity, the higher the level of self-care among patients in all areas—i.e., health behaviors,

health status monitoring, and glucose control—and the higher the level of self-confidence. Detailed data are presented in Table XXIV.

Table XXIV. Relationship between the frequency of physical activity and the level of self-care (SCODI)

	Correlation with the frequency of physical activity	
	tau	p
SCODI A: Health behaviors	0.417	<0.0001
SCODI B: Health Monitoring	0.410	<0.0001
SCODI C: Glucose monitoring	0.362	<0.0001
SCODI D: Self-confidence	0.379	<0.0001

tau – Kendall’s tau correlation coefficient, p – significance level

The results showed a statistically significant relationship between the level of self-care among patients with diabetes and the degree to which diabetes affects daily functioning. The greater the impact of diabetes on daily functioning, the lower the level of self-care among patients in all areas—namely, health behaviors, health monitoring and glucose levels, as well as a lower level of self-confidence. Detailed data are presented in Table XXV.

Table XXV. Relationship between the degree to which diabetes affects daily functioning and the level of self-care (SCODI)

	Correlation with the degree to which diabetes affects daily functioning	
	tau	p
SCODI A: Health-related behaviors	-0.221	0.0012
SCODI B: Health Monitoring	-0.193	0.0043
SCODI C: Glucose monitoring	-0.202	0.0028
SCODI D: Self-confidence	-0.248	0.0003

tau – Kendall’s tau correlation coefficient, p – significance level

The results showed a statistically significant relationship between the level of health-related behaviors and the frequency of experiencing illness-related fatigue. The more frequently patients experienced illness-related fatigue, the lower their level of self-care in the area of health behaviors. Table XXVI presents the detailed data.

Table XXVI. Relationship between the frequency of experiencing a lack of energy and the level of self-care (SCODI)

	Correlation with the frequency of experiencing a lack of energy associated with the illness	
	tau	p
SCODI A: Health-related behaviors	-0.135	0.0463
SCODI B: Health Monitoring	-0.097	0.1516
SCODI C: Glucose monitoring	-0.119	0.0796
SCODI D: Self-confidence	-0.132	0.0525

tau – Kendall’s tau correlation coefficient, p – significance level

The results showed a statistically significant correlation between the level of self-care among patients with diabetes—in terms of health behaviors, health monitoring, and self-confidence—and the frequency of visits to a doctor (diabetologist). The more frequent the contact with a doctor (diabetologist), the higher the level of self-care among patients in the aforementioned areas. Table XXVII presents detailed data.

Table XXVII. Relationship between the frequency of visits to a diabetologist and the level of self-care (SCODI)

	Correlation with the frequency of visits to a doctor (diabetologist)	
	tau	p
SCODI A: Health behaviors	0.178	0.0087
SCODI B: Health Monitoring	0.163	0.0162
SCODI C: Glucose monitoring	0.112	0.0978
SCODI D: Self-confidence	0.168	0.0133

tau – Kendall’s tau correlation coefficient, p – significance level

The results showed statistically significant differences in the level of self-care among patients with diabetes based on whether they visited a doctor at least once a year. Participants who visited specialists such as a neurologist, vascular surgeon, ophthalmologist, cardiologist, or nephrologist at least once a year exhibited higher levels of self-care in the areas

of health behaviors, health monitoring, and glucose control, and reported greater self-confidence compared to those who visited a doctor less frequently. Detailed data are presented in Table XXVIII.

Table XXVIII. Differences in the level of self-care (SCODI) depending on regular visits to medical specialists

Parameter		Visits at least once per year with specialists such as: neurologist, vascular surgeon, ophthalmologist, cardiologist, nephrologist		t/Z	p
		Yes	No		
SCODI A: Health Behaviors	M±SD	74.14–13.94	60.08–20.97	3.263	0.0011²
	Me	75.00	60.42		
	Q1–Q3	68.75–83.33	41.67–77.08		
SCODI B: Health Check	Mean ± SD	71.83–15.61	55.83–23.86	4.053	0.0001¹
	Me	71.88	50.00		
	Q1–Q3	59.38–84.38	37.50–78.13		
SCODI C: Glucose Level Monitoring	Mean ± SD	72.35–14.20	60.22–22.88	3.276	0.0015¹
	Me	75.00	62.50		
	Q1–Q3	62.50–81.25	40.63–77.78		
SCODI D: Self-Confidence	M±SD	78.28–10.94	64.93–22.10	2.974	0.0029²
	Me	75.00	68.18		
	Q1–Q3	72.73–86.36	45.45–84.09		

M – mean; SD – standard deviation; Q1 – 25th percentile; Me – median; Q3 – 75th percentile

¹ Student's t-test, ² Mann-Whitney U test, p – significance level

The results showed statistically significant differences in the level of self-care among patients with diabetes based on visits to specialists such as a podiatrist or dietitian. Participants who visit these specialists have higher levels of self-care in the areas of health behaviors, health status monitoring, and glucose control, and they exhibit greater self-confidence compared to those who do not visit these specialists. Table XXIX provides a detailed summary of the data.

Table XXIX. Differences in the level of self-care (SCODI) depending on the use of specialist services (podiatrist, dietitian)

Parameter			Visits to specialists such as a podiatrist or dietitian		t/Z	p
			Yes	No		
SCODI A: Health Behaviors	M±SD		82.26–9.31	62.95–17.96	-4.871	<0.0001²
	Me		83.33	66.67		
	Q1–Q3		75.00–87.50	50.00–75.00		
SCODI B: Health Check	Mean ± SD		79.33–13.13	59.87–20.40	-5.303	<0.0001¹
	Me		81.25	62.50		
	Q1–Q3		71.88–87.50	43.75–75.00		
SCODI C: Glucose Level Monitoring	Mean ± SD		79.03–12.66	62.85–18.93	-3.842	0.0001¹
	Me		81.25	65.63		
	Q1–Q3		71.88–87.50	50.00–75.00		
SCODI D: Self-Confidence	Mean ± SD		83.36–9.68	68.84–17.92	-4.338	<0.0001²
	Me		84.09	72.73		
	Q1–Q3		75.00–90.91	54.55–81.82		

M – mean; SD – standard deviation; Q1 – 25th percentile; Me – median; Q3 – 75th percentile

¹ Student's t-test, ² Mann-Whitney U test, p – significance level

The results showed a statistically significant relationship between the level of self-care among patients with diabetes and the frequency of follow-up visits. The more frequent the follow-up visits, the higher the level of self-care among patients in all areas—i.e., health behaviors, health status monitoring, and glucose control—as well as a higher level of self-confidence. Table XXX presents a detailed summary of the data.

Table XXX. Relationship between the frequency of follow-up visits and the level of self-care (SCODI)

	Correlation with the frequency of follow-up visits	
	tau	p
SCODI A: Health behaviors	0.323	0.0000

SCODI B: Health Monitoring	0.315	0.0000
SCODI C: Glucose monitoring	0.200	0.0031
SCODI D: Self-confidence	0.250	0.0002

tau – Kendall’s tau correlation coefficient, p – significance level

The results showed a statistically significant relationship between the level of self-care among patients with diabetes and access to follow-up examinations. The easier the access to follow-up examinations, the higher the level of self-care among patients in all areas—that is, health behaviors, health status monitoring, and glucose control—and the higher their level of self-confidence. Table XXXI provides a detailed summary of the data.

Table XXXI. Relationship between access to follow-up examinations and the level of self-care (SCODI)

	Correlation with access to follow-up examinations	
	tau	p
SCODI A: Health behaviors	0.495	<0.0001
SCODI B: Health Monitoring	0.408	<0.0001
SCODI C: Glucose monitoring	0.406	<0.0001
SCODI D: Self-confidence	0.370	<0.0001

tau – Kendall’s tau correlation coefficient, p – significance level

Assessment of the Relationship Between Life Satisfaction and Specific Dimensions of Self-Care

The results showed a statistically significant relationship between the level of life satisfaction and the level of self-care among patients with diabetes. The higher the level of life satisfaction, the higher the level of self-care among patients in all areas—namely, health behaviors, health status monitoring, and glucose control—as well as a higher level of self-confidence. Detailed information is presented in Table XXXII.

Table XXXII. Correlation between life satisfaction (SWLS) and self-care (SCODI)

	SWLS (raw scores)		SWLS (scores)	
	R	p	R	p
SCODI A: Health Behaviors	0.396	<0.0001	0.391	0.0001
SCODI B: Health Monitoring	0.304	0.0021	0.295	0.0029

SCODI C: Glucose Level Monitoring	0.298	0.0026	0.277	0.0052
SCODI D: Self-confidence	0.370	0.0001	0.379	0.0001

R – Spearman's rank correlation coefficient, p – significance level

Discussion

Diabetes is a group of metabolic disorders characterized by hyperglycemia resulting from a defect in insulin secretion or action. It is one of the most serious diseases in the world today, as it is incurable, progressive, and unpredictable; this means we cannot be certain of the disease's long-term consequences, and its progression depends largely on the patient's quality of life and lifestyle. Older adults are at risk for metabolic disorders due to changes in diet, reduced physical activity, decreased muscle mass, and reduced insulin secretion. This disease requires patients to engage in self-care, take active steps, and make lifestyle changes in order to achieve the best possible treatment outcomes [13,14]. The studies presented in this paper identify factors influencing the level of engagement in self-care through the impact of life satisfaction among people with type 2 diabetes aged 40–90. To assess the patients' level of self-management, the Diabetes Self-Care Inventory (SCODI) was used, which allows for the analysis of functioning in four areas: health behaviors, health monitoring, glucose control, and self-efficacy. Additionally, the study incorporated the Satisfaction with Life Scale (SWLS), which measures the participants' subjective level of life satisfaction. The inclusion of this tool made it possible to examine the relationship between life satisfaction and the level of engagement in self-care, which provides an important context for assessing patients' functioning in their daily management of type 2 diabetes.

Assessment of overall life satisfaction using the SWLS scale

Our own study, involving 100 participants and using the SWLS questionnaire, showed that the study group's level of life satisfaction is average, but with a clear tendency toward lower scores. The mean scores and their distribution suggest that most respondents do not achieve a high level of life satisfaction, and a significant percentage of people experience a low level of it. The results obtained may indicate the impact of type 2 diabetes on the subjective assessment of quality of life. Respondents struggling with this chronic disease must follow various recommendations, such as adhering to a diet, taking medication, and monitoring their glucose levels daily. All of these measures can be burdensome for the patient and affect their well-being. As a result, people with the condition may experience dissatisfaction more frequently, which translated into lower scores in the surveys. Therefore, it is important not only to treat the

disease itself, but also to provide psychological support and improve quality of life. Research conducted by Tomczyszyn et al.[15] among young and older adults with diabetes. The presented research results indicate that life satisfaction among people with diabetes most often remains at an average level, regardless of the age of the participants. This means that patients generally do not rate their lives as either good or poor, but remain at a moderate level of satisfaction, which is consistent with the results of our own research. The obtained results are consistent with the results of our own research.

Assessment of Life Satisfaction Based on Sociodemographic Factors

According to our own research using the SWLS Questionnaire, the results show that gender does not have a significant impact on the level of life satisfaction. This means that both women and men may experience life satisfaction to a similar degree. The results, however, indicate a clear relationship between age and life satisfaction. The older the respondents were, the lower their level of satisfaction. This may be due to various factors, such as deteriorating health, reduced physical fitness, or limitations in daily functioning. Social relationships may also change with age, which can further affect well-being. No significant differences were found depending on who the participants lived with or the size of their household. This suggests that the mere number of people in one's surroundings or living arrangement (e.g., living alone or with family) does not determine the level of life satisfaction. What seems more important is the nature of the relationships the respondents have with other people. This is confirmed by the findings regarding support from loved ones. People who received support in coping with their illness had a significantly higher level of life satisfaction than those who did not receive such support. This demonstrates how important the presence and assistance of others are in difficult situations. A study by Rosiek et al.[16] was conducted on a group of 50 patients from the Kuyavian-Pomeranian Voivodeship using the Satisfaction with Life Scale (SWLS). The analyses indicate that the level of life satisfaction in patients with type 2 diabetes varies by gender, which contradicts the findings of our own study. Women score lower, meaning they are less likely to report higher life satisfaction. Men, on the other hand, are generally more satisfied, which may be related to greater engagement in health-promoting behaviors that contribute to both a better disease course and a positive assessment of quality of life. These findings differ from those of our own study.

Assessment of life satisfaction based on clinical factors

The results of our own study, based on responses from 100 participants using the SWLS questionnaire, show that the longer the illness lasts, the lower the level of life satisfaction. The presence of comorbidities, such as hypertension, atherosclerosis, or stroke, also contributes to lower life satisfaction. However, no significant differences were found in the case of heart attack, obesity, insulin resistance, or chronic kidney disease. Conversely, people who visit a diabetologist more frequently and seek help from specialists (such as a dietitian or podiatrist) report higher levels of life satisfaction. The same is true for people who follow a diet, engage in physical activity, and take oral medications—their life satisfaction is high. In contrast, people treated with insulin have lower level of satisfaction, which may be due to a more severe course of the disease. However, no correlation was found between the frequency of follow-up visits and life satisfaction. The results of a study conducted by Jafari et al.[17] among 300 respondents with type 2 diabetes in Gonabad, Iran, in 2021, using the SWLS Questionnaire. The study demonstrated that the duration of diabetes has a significant impact on both patients' quality of life and their self-care behaviors, which is consistent with the results of our own research. At the same time, it was found that life satisfaction is an important factor influencing quality of life—a high level of life satisfaction is associated with better functioning and greater satisfaction with daily life. It was also noted that life satisfaction is inversely related to stress, anxiety, and depression. Additionally, individuals who are more satisfied with their treatment achieve a high level of well-being, which is partly consistent with the results of our own research, which show higher levels of life satisfaction through regular visits to specialists. The results are similar to those of our own research.

Assessment of the Overall Level of Self-Care Using the SCODI Questionnaire

Our own research, involving 100 participants, indicates that the level of self-care is moderate, with clear variations across the four domains of the SCODI questionnaire. The highest scores were recorded in the area of self-confidence, suggesting that participants rate their ability to cope with their illness highly. However, the study also indicates that the lowest level of health self-management may point to difficulties in monitoring symptoms and taking appropriate actions. Other areas, such as health behaviors and blood sugar control, show intermediate results, and the wide variation in the results points to individual differences within the study group. The findings suggest a need for support, particularly in the area of health management through appropriate educational interventions. The findings reported by Krzemińska et al.[18] were based on a group of 100 participants diagnosed with type 2 diabetes. The study was conducted at the St. Hedwig of Silesia County Hospital in Trzebnica in 2018. The Diabetes

Self-Care Inventory (SCODI) was used in the study. The results suggest that patients were most successful in adhering to healthy behaviors, which contradicts the findings of our own study. According to the study by Krzemińska et al., patients had the most difficulty controlling their glucose levels, which also contradicts our own research. The results obtained do not align with those from our own study. The findings reported by Ausili et al. [19] were conducted at six outpatient diabetes clinics in Italy, and the study group consisted of as many as 540 patients. A standardized questionnaire was used in the study: the Self-Care in Diabetes Inventory (SCODI). The results indicate that patients fared best in terms of health behaviors and self-confidence, which suggests consistency with the results obtained in our own study. However, patients fared worst in terms of blood sugar control, which contradicts with our own research. The data obtained are partially similar to those from our own study.

Assessment of Self-Care Based on Sociodemographic Factors

We conducted our own study analyzing the impact of sociodemographic factors (gender, age, the person you live with, and the number of people in the household) on the level of self-care as measured by the standardized SCODI Questionnaire. The study showed that women score well in terms of health behaviors, glucose control, and self-confidence, which likely increases their commitment to taking care of their own health. Another factor is age; as it increases, levels of health-related behaviors, health management, and self-confidence decrease. Housing situation is also significant; individuals living with a spouse scored higher in glucose control than those living alone. The only sociodemographic factor that does not influence the level of self-care is the number of people in the household. The studies by Krzemińska

et al.[18] included 100 respondents and utilized the Self-Care of Diabetes Inventory (SCODI). The study found that health behaviors and self-confidence are higher among women, which is consistent with the results of our own research. Another sociodemographic factor—housing situation—showed that people living with a spouse have higher self-confidence, which does not align with the results of our own study. The data obtained are partially consistent with our own study. The study by Ausili et al.[19] involved 540 participants with type 2 diabetes. This study found that men have lower self-confidence and engage in less self-care monitoring than women, which is consistent with the results of our own research. Age is also a factor that reduces self-care management and self-confidence, which is likewise consistent with the results of our own study. The data obtained are entirely consistent with our own study.

Assessment of self-care based on clinical factors

This study analyzed the impact of clinical factors on the level of self-care, including: duration of the disease, comorbidities, treatment methods, blood sugar control, frequency of visits to specialists, and follow-up examinations. The study was conducted using the standardized SCODI Questionnaire.

After analyzing our own research, we conclude that the level of self-care among patients with type 2 diabetes depends on many factors. A longer duration of the disease results in a lower level of health-promoting behaviors, which may be due to the patient's fatigue from coping with diabetes. A lower level of self-care is observed in individuals with comorbidities such as atherosclerosis and a history of heart attack. In contrast, a high level of self-care is observed in individuals who measure their blood sugar more frequently, follow a diet, are physically active, and regularly visit their doctor and undergo medical tests. In contrast, patients treated with insulin have lower scores, which may be due to a more severe course of the disease; however, they achieved the highest scores in health-related behaviors. The results of a study conducted by Krzemińska et al.[18]—conducted using the SCODI Questionnaire with 100 participants—showed that autonomy in health behaviors increased with the duration of the disease, which is completely at odds with the results of our own study. Among individuals who had been ill for less than 10 years, autonomy in health behaviors, glucose control, and self-confidence increased over time. In contrast, among individuals who had been ill for more than 10 years, autonomy in health behaviors, health management, and self-confidence increased over time. Our own study showed that the longer the duration of the disease, the lower the level of health behaviors; therefore, the results differ on this point. Research has shown that patients treated with diet, oral medications, and insulin achieve better results in health management and have greater self-confidence. An analysis of our own research indicated that patients following a diet have a higher level of self-care, which, in this regard, shows that the results are consistent. Insulin therapy is associated with greater autonomy in health management and higher self-confidence, which contradicts the results of our own research. The data obtained are partially consistent with our own research. The findings reported by Ausili et al.[19] were based on a survey of 540 participants using the Self-Care in Diabetes Inventory (SCODI). Lower levels of self-care monitoring and lower self-confidence are more common among individuals who have had diabetes for less than 10 years. In our own study, we found that a longer duration of the disease had a negative impact on the level of health behaviors, which shows a discrepancy. Additionally, reduced self-confidence also applies to

patients with comorbidities, which may hinder effective disease management. In our own study, comorbidities did not affect the level of self-care, with the exception of atherosclerosis and a history of myocardial infarction, which is partially consistent. The data obtained are partially similar to those from our own study.

Conclusions

Life satisfaction among patients with type 2 diabetes remains at an average level, though with a clear tendency toward lower ratings. The level of self-care among patients with type 2 diabetes is moderate, though it is not consistent across all analyzed areas. The participants rate their self-confidence in managing with the disease, while the greatest difficulties were related to managing their health.

Both sociodemographic and clinical factors influenced the level of self-care and life satisfaction among patients with type 2 diabetes.

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