Kardiologia Polska 2013; 71, 5: 493–501; DOI: 10.5603/KP.2013.0096 ISSN 0022–9032

ARTYKUŁ ORYGINALNY / *ORIGINAL ARTICLE*

Body mass, behaviours and social/health situation in diabetes patients at the level of primary medical healthcare: a Polish national study

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Abstract

Background: Multiple health and economic consequences related to obesity cause it to be regarded as a problem of social significance; body mass control has become a crucial element in the process of diabetes treatment.

Aim: This paper shows factors differentiating body mass values in diabetes patients.

Methods: The research for this study was carried out among 1,986 patients with diabetes, originating from 61 randomly chosen units of the national primary health care system.

Results: Normal body mass was found only in 12.8% of patients. Normal body mass was found in patients characterised by a better (moderate) level of knowledge about the disease ($p < 0.005$) and with full knowledge of health indicators significant in diabetes treatment ($p < 0.05$). Patients with normal body mass function in families were characterised by a more complete capacity to care and support the patient in the home environment ($p < 0.0001$), a more favourable socio-living situation ($p < 0.05$), with less requirement for professional care ($p < 0.0001$). Persons with normal body mass more frequently showed blood pressure ($p < 0.0001$), triglyceride concentrations ($p < 0.0001$) and total cholesterol concentrations ($p < 0.0001$) close to normal. Obesity was most frequently recognised in patients who declared no physical activity or excessive physical activity (regardless of the recommendation to dose physical effort and activity) ($p < 0.01$).

Conclusions: The obtained results show that the levels of health consciousness, healthy behaviours, and family and socio-living situations differentiate the body mass values defined by body mass index in diabetic patients.

Key words: health behaviours, family, socio-living situation, diabetes

Kardiol Pol 2013; 71, 5: 493–501

INTRODUCTION

Positive energetic balance, influenced by many factors, leads to an undesired increase in body mass and to obesity [1, 2]. More than a billion people worldwide are overweight, including about 300 million obese people [3]. More than 50% of the general population both in Europe and the US is considered overweight [4]. Multiple health and economic consequences of obesity result in obesity being considered as a social problem [5] and many nations aim to decrease the percentage of obese persons to the level of 7% [6].

Counteracting the negative consequences of excessive body mass among diabetes patients means that body mass control is a basic element of treatment [7]. Abdominal obesity, bringing a particular risk of complications, is more frequently found in patients with diabetes type 2 [6].

This paper presents factors differentiating body mass values among diabetes patients.

Research problems that prompted this work:

1. Is there any relationship between the chosen guilds such as: knowledge about the disease and health indicators, behavioural patterns within the scope of oral hygiene, behavioural patterns within the scope of self-control and treatment modification, patients' physical activity, addictions, blood pressure (BP), waist to hip ratio (WHR), waist circumference and risk of metabolic complications, triglycerides, total cholesterol, glycaemia stability, concomitant diseases, physical fitness, independence,

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Received: 05.06.2012 **Accepted:** 06.02.2013

patients' difficulty in respecting recommendations, social situation and living conditions, nursing and care competence of family, need for professional care and the body mass values among patients with diabetes?

2. Do the chosen factors differentiate body mass values among patients with diabetes?

For the purpose of this work, it is accepted that:

1. The relationship between chosen guilds such as: knowledge about the disease and health indicators, behavioural patterns within the scope of oral hygiene, behavioural patterns within the scope of self-control and treatment modification, patients' physical activity, addictions, BP, WHR, waist circumference and a risk of metabolic complications, triglycerides, total cholesterol, glycaemia stability, concomitant diseases, physical fitness, independence, patients' difficulty in respecting recommendations, social situation and living conditions, nursing and care competence of family, need for professional care, exists body mass values among patients with diabetes.
2. The body mass value is differentiated by the chosen factors.

METHODS

For the purpose of this work, the research was carried out on the basis of:

— guided nurse interview, by means of which the following information was obtained: place of living, marital status, source of income, education, psycho-somatic disturbances, social functioning, knowledge of health indicators important in diabetes treatment, knowledge of the disease, health behaviour required in diabetes treatment, family situation, social and living situation, expectations;
— relative assessment of fitness and independence of the patients;
— analysis of the medical documentation. This included information provided by the general practice (GP) as to: age, sex, type of diabetes, duration of illness, treatment methods, self-control, results from tests carried out within the previous 12 months (total cholesterol, cholesterol HDL, fasting glycaemia, glycosuria, microalbuminuria or proteinuria, creatinine, glycated haemoglobin, body mass, height, BP, waist circumference, trochanters), accompanying diseases which require treatment.

A frequency analysis was carried out using the χ^2 test of independence [8]. All the tested hypotheses were verified at the level of significance of $\alpha = 0.05$. Precise values of the significance level p were calculated.

The study was approved by the Ethical Committee at the Medical University of Wroclaw, Poland.

For the purpose of this work, research was carried out on 1,986 patients with diabetes from 61 randomly chosen national primary health care service units, within the scope of NCSR grant no 6P05D02320, managed by the author of this work. Research materials were obtained from patients aged above 16 years, living in the area of work of a social and family nurse, and registered on the list of a local GP. The youngest patient was 17 and the oldest was 96. The majority of the tested population consisted of women (63.4%), persons aged above 65 (59%) and patients living in urban areas (57.7%). The most numerous group of tested patients consisted of pensioners (49.5%). Slightly more than one in three patients indicated disability pension as their source of income (37.2%) and 9.3% of patients indicated a job on a farm as their source of income. The majority of persons interviewed were married (61.3%). Almost every third patient was a widow or widower (30.3%). Most of the patients took only oral drugs (56.8%), every fifth patient took only insulin (20%), and almost every fifth patient took insulin and oral drugs (18.5%); only 4.7% of the patients were on a diet.

Analysis of the medical documentation shows that diabetes type 1 was found in 11.6% of the patients and diabetes type 2 was found in 51.4%, while 32.9% of the patients were treated without defining the type of diabetes. No information about diabetes type was found in the case of 4.1% of the patients. A pronounced majority of the patients were characterised by elementary or incomplete elementary education (56.2%). Vocational education was found in 15.1% of the patients, secondary school education was found in 23.8%, and higher education was found in 4% of the patients. No information about education was found in 0.9% of the patients.

RESULTS

Normal body mass was found only in 12.8% of patients; 36.5% of the patients were overweight and 48.6% were obese. Body mass assessment was not done for 42 (2.1%) patients, due to the lack of measurements. The data is shown in Table 1.

Statistical analysis showed that normal body mass was found in patients who were characterised by a better (moderate) level of knowledge about the disease ($p < 0.005$) and with full knowledge of health indicators significant in diabetes treatment ($p < 0.05$). The data is shown in Table 2.

Expected behaviours involving teeth and oral cavity hygiene ($p < 0.001$), self-checking of blood glucose ($p < 0.001$) and nutrition ($p < 0.001$) were most frequently found in the patients with normal body mass. Normal body mass was most frequently found among smoking and drinking patients ($p < 0.001$); non-smoking and non-drinking patients were overweight ($p < 0.001$), while drinking patients were obese (55.4%). Obesity was most frequently recognised in the patients who declared no physical activity or excessive physical activity (regardless of the recommendation to dose physical effort and activity) ($p < 0.01$). The data is shown in Table 3.

Persons with normal body mass more frequently showed BP ($p < 0.001$), triglyceride concentrations ($p < 0.001$), and total cholesterol concentrations ($p < 0.001$) close to normal. Obese persons were most frequently characterised by the

Table 1. Body mass in body mass index for diabetes patients

Province	Body mass index										Total	
	Normal weight; M < 24.9, W < 23.9		Overweight; M = 25–29.9, W = 24–29.9		Obesity; 30–40		Giant obesity; > 40		No answer			
Lower Silesian (dolnośląskie)	8	9.6%	31	37.4%	34	41.0%	7	8.4%	3	3.6%	83	4.2%
Kuyavian-Pomeranian (kujawsko-pomorskie)	21	12.6%	72	43.1%	64	38.3%	9	5.4%	1	0.6%	167	8.4%
Lublin (lubelskie)	22	13.7%	61	37.9%	72	44.7%	6	3.7%	0	0.0%	161	8.1%
Lubusz (lubuskie)	4	8.3%	17	35.4%	23	47.9%	3	6.3%	1	2.1%	48	2.4%
Łódź (łódzkie)	37	15.2%	95	39.1%	103	42.4%	7	2.9%	1	0.4%	243	12.2%
Lesser Poland (małopolskie)	7	7.3%	35	36.5%	46	47.9%	8	8.3%	0	0.0%	96	4.8%
Masovian (mazowieckie)	13	11.7%	46	41.5%	44	39.6%	8	7.2%	0	0.0%	111	5.6%
Opole (opolskie)	29	18.6%	51	32.7%	65	41.7%	10	6.4%	1	0.6%	156	7.9%
Subcarpathian (podkarpackie)	6	10.5%	25	43.9%	19	33.3%	3	5.3%	4	7.0%	57	2.9%
Podlaskie (podlaskie)	21	16.8%	49	39.2%	50	40.0%	5	4.0%	0	0.0%	125	6.3%
Pomeranian (pomorskie)	6	8.8%	32	47.1%	26	38.2%	4	5.9%	0	0.0%	68	3.4%
Silesian (śląskie)	12	17.2%	17	24.3%	36	51.4%	5	7.1%	0	0.0%	70	3.5%
Świętokrzyskie (świętokrzyskie)	22	15.2%	47	32.4%	60	41.4%	13	9.0%	3	2.0%	145	7.3%
Warmian-Masurian (warmińsko-mazurskie)	25	11.6%	63	29.2%	108	50.0%	18	8.3%	2	0.9%	216	10.9%
Greater Poland (wielkopolskie)	8	7.6%	44	41.9%	42	40.0%	8	7.6%	3	2.9%	105	5.3%
West Pomeranian (zachodniopomorskie)	13	9.6%	40	29.6%	52	38.5%	7	5.2%	23	17.1%	135	6.8%
Total in Poland	254	12.8%	725	36.5%	844	42.5%	121	6.1%	42	2.1%	1,986	100.0%

Table 2. Body mass and knowledge about the disease and health indicators

Tested feature	Body mass index			
	Normal weight; M < 24.9, W < 23.9 N = 254 (13.1%)	Overweight; M = 25–29.9, W = 24–29.9 N = 725 (37.3%)	Obesity; 30–40 N = 844 (43.4%)	Giant obesity; > 40 N = 121 (6.2%)
Knowledge (level)	χ^2 Pearsona: 20.7431, df = 6 (p < 0.005)			
Moderate (20.0–13.5 points)	24.0%	38.0%	36.7%	1.3%
Minimal (13.0–6.5 points)	13.5%	37.6%	43.7%	5.2%
None (6–0 points)	11.2%	36.8%	43.6%	8.4%
Knowledge of health indicators (total cholesterol, fasting glycaemia, glycosuria, body mass, blood pressure, hypoglycaemia):	χ^2 Pearsona: 19.0825, df = 9 (p < 0.05)			
Knows all 6 indicators	15.0%	40.4%	40.6%	4.0%
Knows 3–5 indicators	12.1%	35.0%	45.6%	7.3%
Knows 1–2 indicators	13.3%	43.4%	38.0%	5.3%
Does not know indicators	13.2%	36.8%	39.5%	10.5%

p — level of significance; df — number of degrees of freedom; χ^2 Pearsona — Pearson's chi-squared test

Table 3. Body mass and healthy behaviours in diabetes patients

Tested feature	Body mass index			
	Normal weight; M < 24.9, W < 23.9 N = 254 (13.1%)	Overweight; M = 25–29.9, W = 24–29.9 N = 725 (37.3%)	Obesity; 30–40 N = 844 (43.4%)	Giant obesity; > 40 N = 121 (6.2%)
Behavioural patterns within the scope of oral hygiene:	χ^2 Pearsona: 32.6378, df = 9 (p < 0.001)			
Cleans teeth at least twice a day	16.0%	38.4%	40.5%	5.1%
Cleans teeth once a day	10.8%	38.3%	45.8%	5.1%
Performs oral hygienic behaviours several times a week	9.3%	36.7%	42.7%	11.3%
Never performs any oral hygienic behaviours	13.5%	30.3%	45.0%	11.2%
Behavioural patterns within the scope of self-control and treatment modification:	χ^2 Pearsona: 45.8029, df = 9 (p < 0.001)			
Modifies treatment and regularly checks blood glucose level	23.7%	38.0%	34.3%	4.0%
Does not modify treatment but regularly checks blood glucose level	9.0%	37.9%	47.9%	5.2%
Does not modify treatment and does not check blood glucose level	11.1%	37.8%	44.1%	7.0%
Does not check blood glucose level but modifies treatment	13.9%	33.1%	46.5%	6.5%
Patients' physical activity:	χ^2 Pearsona: 23.2488, df = 9 (p < 0.01)			
Regular activity, active recreation	12.8%	42.3%	41.0%	3.9%
Regular activity, passive recreation	12.1%	37.6%	45.3%	5.0%
Irregular activity, passive recreation	13.8%	37.8%	42.8%	5.6%
Lack of activity or excessive effort	12.6%	32.7%	45.4%	9.3%
Addictions:	χ^2 Pearsona: 52.3969, df = 9 (p < 0.001)			
Non-smoker and non-drinker (no addictions)	10.8%	38.6%	44.1%	6.5%
Drinker	11.9%	32.7%	50.5%	4.9%
Smoker	24.4%	34.9%	33.7%	7.0%
Drinker and smoker	27.6%	32.4%	37.1%	2.9%
Diet:	χ^2 Pearsona: 35,0595, df=6, (p<0,001)			
Single dietary errors (1–3)	16.3%	46.4%	33.1%	4.2%
Many dietary errors (4–7)	13.3%	37.7%	43.8%	5.2%
Numerous dietary errors (8 and above)	10.7%	32.0%	47.5%	9.8%

p — level of significance; df — number of degrees of freedom; χ^2 Pearsona — Pearson's chi-squared test

highest BP (57.7%), aneroid type of obesity ($p < 0.001$), and an increased risk of metabolic disturbances (increased waist circumference in men > 94 cm and in women > 80 cm with body mass index [BMI] > 25) ($p < 0.001$), the highest concentration of triglycerides (62.1%) and total cholesterol (55.5%). The patients with normal body mass most frequently required interventions (within the last year they had required interventions due to hypoglycaemia, hyperglycaemia, hospitalisation and they needed a medical leave of absence based on diabetes), which indicated a lack of glycaemia stability ($p < 0.05$), in contrast to patients with giant obesity. The patients with normal body mass most frequently showed no additional conditions ($p < 0.001$), complete fitness ($p < 0.001$) and the highest level of independence deficiency ($p < 0.001$). The data is shown in Table 4.

In contrast to the persons with excessive body mass, who experienced many difficulties, the body mass closest to normal was found in the patients who reported single difficulties in respecting recommendations required in diabetes treatment ($p < 0.05$). The patients with normal body mass function in families were characterised by a more complete capacity to care and support the patient in the home environ-

Table 4. Body mass and selected health indicators in diabetes patients

Tested feature	Body mass index			
	Normal weight; M < 24.9, W < 23.9 N = 254 (13.1%)	Overweight; M = 25–29.9, W=24–29.9 N = 725 (37.3%)	Obesity; 30–40 N = 844 (43.4%)	Giant obesity; > 40 N = 121 (6.2%)
Blood pressure [mm Hg]:		χ^2 Pearsona: 114.530, df = 9 (p < 0.001)		
< 120–130 and < 80–85	29.5%	36.4%	31.8%	2.3%
130–139 and 85–89	16.1%	45.4%	34.3%	4.2%
140–159 and 90–99	11.6%	37.1%	45.5%	5.8%
>160–179/100–109 and ≥ 180/> 100	7.2%	35.1%	48.8%	8.9%
WHR:		χ^2 Pearsona: 1887.80, df = 6 (p < 0.001)		
Type AO (M ≥ 1; W ≥ 0.85)	0.0%	39.9%	51.7%	8.4%
Type GO (M < 1; W < 0.85)	0.0%	47.9%	47.1%	5.0%
Does not apply WHR	100.0%	0.0%	0.0%	0.0%
Waist circumference and risk of metabolic complications (waist circumference in men > 94 cm and in women > 80 cm, with BMI > 25):		χ^2 Pearsona: 1128.86, df = 3 (p < 0.001)		
Increased	0.0%	37.2%	54.9%	7.9%
Normal	60.1%	37.4%	2.2%	0.3%
Triglycerides [mg/dL]:		χ^2 Pearsona: 28.7936, df = 6 (p < 0.001)		
< 150	18.8%	39.9%	37.0%	4.3%
150–200	8.1%	39.3%	46.1%	6.5%
> 200	9.6%	28.3%	53.5%	8.6%
Total cholesterol [mg/dL]:		χ^2 Pearsona: 33.0331, df = 6 (p < 0.,001)		
< 185	22.0%	35.8%	38.5%	3.7%
185–230	12.4%	38.1%	43.9%	5.6%
> 230	7.7%	36.8%	48.0%	7.5%
Glycaemia stability (within last year they required interventions due to hypoglycaemia, hyperglycaemia, hospitalisation and they needed a medical leave of absence based on diabetes):		χ^2 Pearsona: 18.6514, df = 9 (p < 0.05)		
No negative events	11.9%	37.4%	43.9%	6.8%
One event	11.6%	38.7%	43.3%	6.4%
Two events	17.4%	37.5%	40.5%	4.6%
Three or more events	22.6%	28.0%	46.2%	3.2%
Concomitant diseases:		χ^2 Pearsona: 80,3424, df = 9, (p<0,001)		
No diagnosis of concomitant diseases	31.3%	39.9%	25.3%	3.5%
1–2 concomitant diseases	11.7%	38.6%	43.6%	6.1%
3–4 concomitant diseases	10.9%	35.2%	46.9%	7.0%
Five or more concomitant diseases	9.0%	36.0%	48.3%	6.7%
Physical fitness:		χ^2 Pearsona: 33.6541, df = 9 (p < 0.001)		
Physically fit (7 points)	23.1%	37.4%	35.7%	3.8%
Few limitations of physical ability (8–14 points)	11.9%	40.4%	42.2%	5.5%
Many limitations of physical ability (in at least one factor) (15–21 points)	11.4%	34.2%	46.7%	7.7%
Lack of physical ability in at least one factor (22–28 points)	18.7%	31.9%	43.9%	5.5%

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Table 4. Body mass and selected health indicators in diabetes patients (cont.)

Tested feature	Body mass index			
	Normal weight; M < 24.9, W < 23.9 N = 254 (13.1%)	Overweight; M = 25–29.9, W=24–29.9 N = 725 (37.3%)	Obesity; 30–40 N = 844 (43.4%)	Giant obesity; > 40 N = 121 (6.2%)
Independence:	χ^2 Pearsona: 37.2943, df = 9 (p < 0.001)			
Fully independent	18.3%	45.1%	33.8%	2.8%
Insignificant limitations of independence	13.0%	36.7%	44.8%	5.5%
Marked limitations of independence (partially unable to perform at least one activity)	10.7%	35.9%	45.7%	7.7%
No independence (totally unable to perform at least one activity)	24.4%	33.3%	35.9%	6.4%

p — level of significance; df — number of degrees of freedom; χ^2 Pearsona — Pearson's chi-squared test; WHR — waist to hip ratio; BMI — body mass index

Table 5. Body mass and difficulties in respecting recommendations, social and family situation, need for care and life satisfaction in diabetes patients

Tested feature	Body mass index			
	Normal weight; M < 24.9, W < 23.9 N = 254 (13.1%)	Overweight; M = 25–29.9, W = 24–29.9 N = 725 (37.3%)	Obesity; 30–40 N = 844 (43.4%)	Giant obesity; > 40 N = 121 (6.2%)
Patients' difficulty in respecting recommendations:	χ^2 Pearsona: 20.9123, df = 9 (p < 0.05)			
No difficulties	13.1%	39.2%	42.8%	4.9%
1–2 difficulties	15.6%	31.3%	44.0%	9.1%
3–4 difficulties	10.8%	38.6%	44.0%	6.6%
Five or more difficulties	9.6%	39.6%	44.6%	6.2%
Social situation and living conditions:	χ^2 Pearsona: 9.59060, df = 3 (p < 0.05)			
Very good and sufficient	14.8%	37.9%	42.1%	5.2%
Insufficient and none	11.1%	36.6%	44.9%	7.4%
Nursing and care competence of family:	χ^2 Pearsona: 19.6682, df = 9 (p < 0.05)			
Fully competent (8 points)	21.9%	38.2%	33.9%	6.0%
Slightly incompetent (9–12 points)	12.2%	36.1%	45.5%	6.2%
Considerably incompetent (13–18 points)	12.6%	38.0%	41.9%	7.5%
Incompetent (19–24 points)	11.7%	38.6%	44.6%	5.1%
Need for professional care:	χ^2 Pearsona: 23.3751, df = 3 (p < 0.001)			
Moderate	16.5%	42.3%	36.6%	4.6%
High and very high	11.7%	35.3%	46.1%	6.9%

p — level of significance; df — number of degrees of freedom; χ^2 Pearsona — Pearson's chi-squared test

ment ($p < 0.001$), a more favourable socio-living situation ($p < 0.05$), and with less requirement for professional care ($p < 0.001$). The data is shown in Table 5.

DISCUSSION

Excessive body mass found in 79% of the diabetes patients, including obesity in 48.5% of them, confirms the thesis about the high risk of complications in diabetes [9] and about the necessity to reduce excessive body mass and to counteract obesity in this group of patients [6]. The percentage of obese patients in this study is slightly higher than the numbers found in the DINAMIC 2 study [10], and the numbers of patients with diabetes type 2 found in a US study [11]. These numbers are also higher than those obtained in European

studies of patients with coronary disease (32.8%) [12], for the population included in POL-MONICA BIS studies [13], also in the studies of Italian patients with diabetes (34%) [14]. Obesity, more frequently found in patients with high BP and who were drinking alcohol, confirms opinions about the BP increase together with BMI and alcohol consumption [15]. Expected body mass registered in persons who smoke and drink alcohol may reflect changes in appetite. However, this requires to be confirmed in further research. The values of BP, total cholesterol and triglycerides close to normal, as well as low risk of metabolic disturbances (waist circumference in men < 94 cm and in women < 80 cm with BMI < 25) and lack of additional diseases requiring treatment more frequently found in patients with normal body mass, confirms opinions about the possibility of gaining positive results by decreasing excessive body mass in diabetic patients [6].

The respect shown fordietary recommendations by persons with normal body mass confirms the positive influence of proper nutrition upon the development of a health supporting body mass also among diabetic patients [2]. The body mass closest to the normal one, found in the persons carrying out self-checking, allows us to conclude that self-checking helps not only to gain metabolic control, but also to eliminate improper drugs and to decrease treatment costs due to a lower risk of hospitalisation [16], and to maintain body mass within normal ranges. Therefore, by increasing the autonomy of diabetic patients in the treatment process, it is possible to increase the efficiency of treatment and to decrease the costs of care related to negative consequences of the disease [17]. Deficiency in teeth and oral hygiene, which was more frequently found in obese persons, confirms opinions about the consumption of too many meals, and eating between meals, altogether leading to an increase in body mass [18], taking into account the fact that obese persons more frequently do not respect dietary recommendations. Not respecting recommendations involving nutrition and physical activity as well as an unfavourable socio-living situation were more frequently found in obese persons, which confirms the thesis about the negative and associated influence of these factors upon the development of circulation disorders [19]. High values of BP, total cholesterol and triglycerides found more often in obese persons with an unfavourable socio-living situation confirm the presence of risk factors for circulation disorders and smoking among poorly situated persons [20]. The presence of disorders requiring treatment, more frequently found in obese persons, confirms the need for optimalisation of diabetes treatment results [21] and the need to prevent mortality [22].

Significant limitations in fitness, more frequent in obese persons, who also do not respect recommendations regarding physical activity, confirm opinions about the more frequent presence of disability in persons with physical inactivity and higher BMI values [23]. Independence deficiency among obese persons confirms the negative influence of a higher BMI [23].

The highest independence deficiency found for the persons with normal body mass, despite the fact that they showed complete fitness, could indicate the negative influence of alcohol drinking and smoking upon undertaking everyday life activities.

Multiple difficulties in respecting the recommendations required in diabetes treatment, lack of sufficient preparation, unfavourable socio-living situation, which are more frequently found in diabetes treatment of obese patients, confirm opinions about multiplicity of factors determining respecting recommendations. They indicate the need for an individual recognition of the patient's situation in the process of diabetes support [24].

The criteria taken into account in the process of estimating the need for professional help were aimed at early identification of the persons with the risk of developing diabetes complications, particularly of the angiopathic type, and helped to confirm the presence of a high risk of complications, especially of coronary heart disease [12].

Higher, high and very high requirements for a professional help among obese patients allow us to conclude that obesity has an influence upon the increase of costs of not only treatment, but also of care for diabetic persons. Therefore, counteracting obesity and its treatment should bring health and financial advantages [6].

The results achieved allowed us to obtain data that is helpful in counteracting negative consequences of diabetes caused by excessive body mass. Involvement of the family in the process of care should help obtain support not only for dietary recommendations [25], but also for decreasing the risk of metabolic disturbances, and for a better control of triglycerides and cholesterol concentrations [26]. Taking into account the greater than previously involvement of patients in the care process, education and informing about the results of treatment (health indicators), encouragement of active lifestyle and support in unfavourable socio-living situation should allow for modification of risks related to: obesity, improper nutrition, lack of physical activity, hyperlipidaemia, hypertension, smoking and drinking in diabetic patients [19].

CONCLUSIONS

1. The relationship between chosen guilds such as: knowledge about the disease and health indicators, behavioural patterns within the scope of oral hygiene, behavioural patterns within the scope of self-control and treatment modification, patients' physical activity, addictions, BP, WHR, waist circumference and risk of metabolic complications, triglycerides, total cholesterol, glycaemia stability, concomitant diseases, physical fitness, independence, patients' difficulty in respecting recommendations, social situation and living conditions, nursing and care competence of family, need for professional care, exists body mass values among patients with diabetes.

2. Optimalisation of the body mass in diabetic patients requires a multi-factorial intervention.
3. The drinking and smoking problem in patients with a normal body mass requires further studies.

Acknowledgements

This study was carried out within the scope of SCSR grant no 6P05D02320, directed by the author of this paper.

Conflict of interest: *none declared*

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Masa ciała, zachowania i sytuacja zdrowotno-społeczna chorych na cukrzycę na poziomie podstawowej opieki zdrowotnej: w świetle badań ogólnopolskich

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Streszczenie

Wstęp: Liczne konsekwencje zdrowotne i ekonomiczne wynikające z otyłości powodują, że uznano ją za problem o znaczeniu społecznym, a kontrola masy ciała stała się zasadniczym elementem procesu leczenia cukrzycy.

Cel: W pracy przedstawiono czynniki różnicujące wielkość masy ciała wśród chorych na cukrzycę .

Metody: Badania przeprowadzono wśród 1986 pacjentów z losowo wybranych 61 zakładów podstawowej opieki zdrowotnej w kraju.

Wyniki: Prawidłową masę ciała ustalono jedynie u 12,8% chorych — pacjentów, których charakteryzował korzystniejszy (umiarkowany) poziom wiedzy o chorobie ($p < 0,005$) i pełna znajomość wskaźników zdrowia istotnych w leczeniu cukrzycy ($p = 0,05$). Pacjenci z masą ciała w granicach normy częściej funkcjonują w rodzinie charakteryzującej się pełną wydolnością w zakresie opieki i wspomagania chorego w środowisku domowym ($p < 0,0001$), korzystniejszą sytuacją socjalno-bytową ($p < 0,05$), mniejszym, umiarkowanym zapotrzebowaniem na profesjonalną opiekę ($p < 0,0001$). Wśród osób z prawidłową masą ciała częściej stwierdzano najbliższe normie ciśnienie krwi ($p < 0,0001$), stężenie triglicerydów ($p < 0,0001$) i cholesterolu całkowitego ($p < 0,0001$). Otyłość najczęściej ustalono wśród chorych, którzy deklarowali brak aktywności fizycznej lub podejmowania nadmiernego wysiłku fizycznego (nie respektowali zaleceń w zakresie dozowania wysiłku i aktywności fizycznej) ($p < 0,01$).

Wnioski: Przeprowadzone badania wykazały, że poziom świadomości zdrowotnej, zachowania zdrowotne, sytuacja rodzinna i socjalno-bytowa różnicują wielkość masy ciała określoną wskaźnikiem masy ciała u chorych na cukrzycę.

Słowa kluczowe: zachowania zdrowotne, rodzina, sytuacja socjalno-bytowa, cukrzyca

Kardiol Pol 2013; 71, 5: 493–501

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Praca wpłynęła: 05.06.2012 r. **Zaakceptowana do druku:** 06.02.2013 r.