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Marital Status, Socioeconomic and Health Situation in Diabetes Patients: A Polish National Study

Anna Abramczyk

Department of Public Health, Epidemiology and Microbiology, Faculty of Medicine, University of Warmia and Mazury, ul. Warszawska 30, 10–082 Olsztyn, Poland,

ABSTRACT

Background: Marital status is considered an important factor related to population health and mortality rates. Despite the ongoing changes in the meaning and importance of marital status, still little is known about the relationship between marital status and health.
This study presents the impact of marital status on the health and socioeconomic status of diabetes patients in Poland.
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.
For the purpose of this work, the research was carried out on the basis of: guided nurse interview, analysis of the medical documentation, anonymous questionnaire, relative assessment of fitness and independence of the patients.
Results: Widowed subjects were most commonly characterized by the highest blood pressure ($p<0,01$) and total cholesterol values ($p<0,05$) as well as by the largest deficits in fitness ($p<0,0001$) and self-reliance ($p<0,0001$). Alcohol consumption ($p<0,0001$) and morbid gynoid obesity ($p<0,0001$) were most common in married patients. Married and unmarried individuals were most commonly free of physical ($p<0,01$) and mental disorders ($p<0,0001$), fully fit ($p<0,0001$) and self-reliant ($p<0,0001$) as well as characterized by better social and material status ($p<0,0001$) and lower demand for professional help ($p<0,0001$) as compared to the divorced and widowed patients.
Conclusion: Marital status significantly differentiates behaviors, health, social and economic status as well as the demand for support in diabetic patients.

KEYWORDS Family Health, Public health.

Introduction

Marital status is considered an important factor related to population health and mortality rates [1]. The importance of marriage and its relationship with health is of particular interest for many researchers [2]. Studies show that married individuals are characterized by less risky health-related behaviors and better social support [2]. However, the quality of intra-marital relationship is very important for health and fitness of patients [3]. The preventive role of marriage is particularly pronounced in males [4]. Non-married individuals are usually characterized by poorer health and higher risk of death compared to married patients [5]. According to research results, divorced, widowed and unmarried individuals are at higher risk of death compared to married individuals [6], while widowed individuals are characterized by poorer health status, probably due to the loss of the spouse [7]. Marital status is also considered to be a factor responsible for differences in the use of professional help. Compared to subjects in marriages and relationships, the divorced are less prone to seek professional help [8]. Despite the ongoing changes in the meaning and importance of marital status, still little is known about the relationship between marital status and health [9].

This study presents the impact of marital status on the health and socioeconomic status of diabetes patients in Poland. Research problem that prompted this work: Is there any relationship between marital status and health, social and economic situation of people with diabetes at the level of primary health care ?

Methods

For the purpose of this work, the research was carried out on the basis of [10,11]:

- 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;
- anonymous questionnaire, focused on obtaining patients' opinions on: access to medical services, satisfaction from health care, life, care;
- analysis of the medical documentation. This included information provided by the GP (family doctor) 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 chi2 test of independence [12]. All the tested hypotheses were verified at the level of significance of $\alpha = 0,05$. Precise values of the significance level p were calculated.

For the purpose of this study, 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.

Results

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. 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.

A little more than one half of the study population lived in marriages (61,3%), while nearly one third of all patients declared widowhood (30,3%). Unmarried (4,7%) and divorced individuals (3,2%) accounted for small percentages of patients. No information on marital status was provided by 0.5% of responders. Married subjects were most common among the residents of Zachodniopomorskie voivodship (73,3%) and the least common among the residents of Dolnoœl¹skie voivodship (48,2%). The percentage of widowed subjects was the highest among the residents of Lubelskie voivodship (41%) and the lowest among the residents of Pomorskie voivodship (19%). The percentage of divorced subjects was the highest among the residents of Dolnoœl¹skie voivodship (10%)) while the percentage of unmarried individuals was the highest in Podkarpackie voivodship (12,3%).

The statistical analysis demonstrated that unmarried individuals (spinsters/bachelors) most often declared the knowledge of their health parameters being examined in this study (p<0,0001). The lack of knowledge of health parameters subject to examination in this study was most common among married subjects. The level of disease awareness was the highest among the unmarried and divorced individuals (p<0,0001). Widows and widowers were most commonly characterized by the lack of disease awareness (p<0,0001), Table 1.

The highest deficits in appropriate health behaviors was observed in widowed patients who washed their entire bodies less often than once in a week (p<0,0001), brushed their teeth and mouth several times a week (p<0,01), were either physically inactive or subject to excessive physical effort (p<0,0001), and did not modify their treatment or measure their blood glucose levels (p<0,0001). Widowed individual were most common to declare alcohol and smoking abstinence (p<0,0001). Numerous abnormalities or lack of foot care was most common among widowed and divorced subjects (p<0,0001). Desired health behaviors with regard to physical activity (p<0,0001), foot care (p<0,01), body hygiene (p<0,0001), oral hygiene (p<0,01) and self-control (p<0,0001) were most common in unmarried subjects. Alcohol consumption and smoking were also most common in this group of patients (p<0,0001). Married subjects most commonly declared recommended adherence to recommendations regarding body hygiene (p<0,0001) and oral hygiene (p<0,01). However, alcohol consumption was observed most commonly in this group of patients (p<0,0001). The divorced patient most commonly declared adherence to recommendations regarding self-control (p<0,0001), physical activity (p<0,0001), body hygiene (p<0,0001), and oral hygiene (p<0,01). Smoking was observed most commonly in this group of patients (p<0,0001), Table 2.

Normal blood pressure (p<0,01) and total cholesterol levels (p<0,05), no reported concomitant diseases (p<0,0001) and no events suggesting glycemic instability (p<0,0001) were most commonly observed among married subjects. Morbid obesity (p<0,0001) of gynoid type (p<0,0001) was also most common in this group of patients. Unmarried subjects were most often characterized by normal range values of body mass (p<0,0001), blood pressure (p<0,01), and total cholesterol (p<0,0001), as well as no reported concomitant diseases (p<0,0001). Incidence of numerous events suggesting glycemic instability was most common in unmarried as well as in divorced subjects (p<0,0001). Five and more disorders requiring treatment were observed most commonly in divorced patients (p<0,0001). Widowed individuals were most commonly characterized by the highest total serum cholesterol levels p<0,05). The highest blood pressure values (p<0,01), and android-type obesity (p<0,0001) were most commonly observed in divorced and widowed patients. Increased risk of metabolic disorders was observed most commonly among married and divorced patients (p<0,0001), Table 3.

Lack of physical (p<0,01) and mental (p<0,0001) disorders, as well as full fitness (p<0,0001) were observed most commonly in married and unmarried individuals. The highest degree of self-reliance was observed in married, divorced and unmarried subjects (p<0,0001). In widowed patients, presence of numerous and very numerous physical (p<0,01) and mental (p<0,0001) disorders, as well as the largest deficits in fitness (p<0,0001) and self-reliance (p<0,0001) were observed most commonly, Table 3.

As revealed by statistical analysis, married as well as unmarried subjects have no problems in adherence to diabetes treatment recommendations. Adherence problems were more often declared by divorced and widowed individuals (p<0,05). As shown by the results of statistical analysis, individuals in marital relationships were usually characterized by the highest level of support (from family, neighbors, social workers) (p<0,001), lack of difficulties in social functioning (p<0,0001), and families highly capable of supporting the diabetes patient in home care setting (p<0,0001). Widowed, divorced and unmarried subjects were most often characterized by lack of social support as well as by lack of family or family's supportive abilities and the lack of social live involvement and satisfaction. Statistical analysis revealed that marital status was a factor that differentiated the socioeconomic status of patients (p<0,0001) as well as their demand for professional help (p<0,0001). More favorable socioeconomic status and lower, moderate demand for professional help was observed in married and unmarried subjects as compared to the divorced and widowed subjects. The statistical analysis revealed that married patients most often declared satisfaction with their marital (p<0,0001), family (p<0,0001), professional (p<0,0001), social(p<0,0001) and personal life (p<0,001). Unmarried subjects were most commonly satisfied with their social and professional involvement. However, they also declared lack of satisfaction with their family, marital and personal life. Divorced and widowed individuals most commonly pointed to deficits in satisfaction with their involvement in all analyzed areas of social (family, marital, professional, friendly) and personal life. Compared to the remaining patient groups, widowed patients most commonly pointed to satisfaction with the care provided by the family physician (p<0,01) and family/community nurse (p<0,01). The statistical analysis revealed that married patients most often expressed their expectations regarding the improvement in the quality of care (p<0,01), education (p<0,0001), and support from the family physician (p<0,0001), and family (p<0,0001), while having no expectations with regard to care provided by the family nurse (p<0,0001). Unmarried and divorced subjects most commonly declared their expectations regarding the improvement in the quality of care (p<0,01). Widowed subjects most commonly expressed their expectations regarding care from the family physician and nurse while not expecting education or support from the family; they also declared no expectations regarding the improvement in the quality of care provided to diabetic patients (p<0,01), Table 4.

Discussion

In contrast to criteria proposed by other authors [13], marital status of subjects was classified into four categories according to the formal/legal status of the relationship: unmarried, married, widowed, and divorced [14], making it difficult to fully

relate the results obtained in the own study to those obtained by other authors. The study subjects were characterized by a somewhat higher percentage of married subjects as compared to the overall rate of marriages in Poland (55,8%). The study subjects declared widowhood (9,6%) more often compared to the overall population; divorce (5%), and being unmarried (28,8%) were declared less often than in the overall population [14]. The largest percentage of divorced subjects in Dolnoląskie voivodship and the largest percentage of unmarried subjects in Podkarpackie voivodship confirm the all-Polish statistics in this matter [14]. According to some authors, non-married individuals are at higher risk of death as compared to married subjects [15], and unfavorable health behaviors and living conditions of individuals living outside marriage increase the mortality, mainly due to alcohol abuse and injuries [13]. In our own studies, smoking and alcohol consumption most commonly encountered in unmarried subjects as well as drinking in married subjects may suggest an increased risk of death from alcohol abuse. However, the combined smoking and alcohol consumption in the unmarried individuals puts these individuals at higher risk than the married subjects [13]. Results obtained in own studies pointed to diverse situations of subjects living outside marriages and the need to individually consider the situation of this group [17]. This may be confirmed by non-smoking and non-drinking behaviors of the widowed subjects. Unfavorable socioeconomic status of widowed and divorced individuals and the favorable socioeconomic status of the unmarried subjects confirm the complexity of situations of individuals living outside marriage and the importance of this factor among the health determinants in diabetes patients [5,16]. In the own studies, the highest deficits of desirable health behaviors important in the treatment of diabetes, the highest values of blood pressure and total cholesterol level, increased risk of metabolic disorders, 3-4 comorbidities, numerous or very numerous physical or psychoemotional disorders, highest deficits in fitness and self-reliance and lack of disease awareness among the widowed patients, determine high and very high demand for professional support and are an evidence of unfavorable situation of this group of subjects [5]. The above may also be used to support the thesis that individuals functioning in poorer socioeconomic conditions are more commonly characterized by poorer health and health care status [18]. The presence of events suggesting glycemic instability, 5 or more diseases requiring treatment and the highest blood pressure and obesity observed among the divorced individuals in the study material may be due to the loss of the preventive effect of marriage or to the deterioration of health and divorce [13]. The unfavorable socioeconomic status, adherence problems and high or very high demand for professional care determined by the multitude of cofactors determining the need for support and the deficit of satisfaction from the involvement in the family, marital, professional, social and personal life, more common in the divorced or the widowed subjects confirm the opinion that the divorce and widowhood are associated with the risk of potentially harmful effects related not only the health [13], but also with the social functioning of patients, the quality of their lives, and to the increasing costs of care and burden to the state budget in the future. Satisfaction with family, marital, professional and social life of married subjects and the more common deficits of social involvement in non-married subjects as observed in the study confirm the opinion that single subjects, as compared to those in relationships, less commonly participate in social life, are at risk of social isolation, loneliness and boredom [19]. The favorable health status and lower need for support in married subjects as observed in the study may be an evidence of positive correlation between marriage and health [3] and the positive impact of family support [2,10,20]. The highest deficit or lack or support in non-married subjects as observed in the study confirms the results obtained in diabetic patients [20]. The correlation between the marital status and the quality of life [21] has been confirmed in the study by satisfaction with one's quality of life, most commonly declared by subjects in marital relationships. The results of the own study, consistent with the results of studies performed abroad, confirmed the relationship between the marital status and the health status [9,13] and socioeconomic status [22] while not confirming any relationship between marital status, widowhood, gender and unfavorable situation of males [4]. The role of gender in the context of the marital status of patients has not been confirmed by the obtained results [20] probably due to the fact that all responders, regardless, of their gender, were patients requiring treatment for their diabetes. Expectations regarding care provided by the family physician and family/community nurse and the lack of openness to education despite awareness gaps in widowed individuals should be particularly considered by the health care organizations and providers when planning the care provided within family physician practices and at the primary health care level. Due to the health-related differences resulting from the socioeconomic status, particularly in divorced and widowed patients, the improvement in health status and health care provided to diabetes patients requires improved distribution of income as necessary for appropriate health care, education and access to health care providers [18]. The obtained results confirmed the role of marital status in the management of chronic diseases such as diabetes [20], determination of demand for support and consequently the risk of increased care costs, as well as the need to include the socioeconomic status of populations in health policy programs. The study identified the areas that require intervention in the process of preventing health problems in diabetic patients depending on their marital status. The problem should be addressed due to the slowly but continually diminishing percentage of individuals remaining in and a decidedly higher percentage of divorcees in Poland [14]. According to many authors, unfavorable health outcomes determined by the marital status, reduced percentage of married individuals combined with the increasing percentages of unmarried, divorced and widowed individuals, may become a serious public health problem not only as related to aging societies, but also to the mortality [13]. Considering the fact that marital status remains an important predicting factor for health and mortality [5], the results of the study provide data allowing for the establishment of an efficient social policy targeting the improvement in public health [23] as well as in the care of diabetic patients.

Conclusion

1. Marital status significantly differentiates behaviors, health, social and economic status as well as the demand for support in diabetic patients.
2. Divorced and widowed patients require special care from health care organizations and providers.
3. Planning and organization of care for diabetic patients as well as the reduction of the costs of this care requires consideration of the marital as well as the socioeconomic status of patients.
4. Smoking and alcohol consumption in diabetic patients, particularly in unmarried patients determine the need for professional support and further studies.

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

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Conflict of interest: none declared.

Key points

- Marital status remains an important predicting factor for health.
- Marital status significantly differentiates behaviors, health, social and economic status as well as the demand for support in diabetic patients.
- The obtained results confirmed the role of marital status in the management of chronic diseases such as diabetes.
- The results of the study provide data allowing for the establishment of an efficient social policy targeting the improvement in public health as well as in the care of diabetic patients.

Table 1. Marital status of diabetic patients vs. the disease awareness and the knowledge of health measures

Tested feature	Marital status			
	married N=1218 61,6%	unmarried N=93 4,8%	divorced N=64 3,2%	widowed N=602 30,4%
Knowledge of health indicators (total cholesterol, fasting glycaemia, glycosuria, body mass, blood pressure, hypoglycaemia):	Chi^2 Pearsona: 34,8210, df=9, (p<0,0001)			
Knows all 6 indicators	65,50%	6,83%	3,17%	24,50%
Knows 3–5 indicators	61,32%	3,72%	3,13%	31,84%
Knows 1–2 indicators	47,10%	3,87%	4,52%	44,52%
Does not know indicators	68,42%	5,26%	2,63%	23,68%
Knowledge (level)	Chi^2 Pearsona: 60,3141, df=6, (p<0,0001)			
Moderate (20.0–13.5 points)	53,16%	15,19%	8,86%	22,78%
Minimal (13.0–6.5 points)	65,89%	4,66%	3,28%	26,17%
None (6–0 points)	55,89%	3,52%	2,57%	38,02%

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

Table 2. Marital status of diabetic patients vs. selected health behaviors

Behavioral patterns within the scope of body hygiene:	Chi^2 Pearsona: 72,0252, df=9, (p<0,0001)			
Washes the whole body every day	66,1%	7,2%	4,4%	22,3%
Washes the whole body several times a week	64,0%	3,0%	4,1%	28,9%
Washes the whole body once a week	56,7%	3,8%	1,5%	37,9%
Washes the whole body less often than once a week	43,7%	2,8%	1,4%	52,1%
Behavioural patterns within the scope of oral hygiene:	Chi^2 Pearsona: 22,5839, df=9, (p<0,01)			
Cleans teeth at least twice a day	64,1%	6,1%	3,6%	26,3%
Cleans teeth once a day	61,6%	3,7%	3,3%	31,4%
Performs oral hygienic behaviours several times a week	56,3%	3,3%	1,3%	39,1%
Never performs any oral hygienic behaviours	54,6%	4,4%	3,3%	37,7%
Patients' physical activity:	Chi^2 Pearsona: 74,3381, df=9, (p<0,0001)			
Regular activity, active recreation	68,12%	6,26%	4,74%	20,87%
Regular activity, passive recreation	70,49%	3,28%	2,73%	23,50%
Irregular activity, passive recreation	63,76%	4,20%	2,95%	29,08%
Lack of activity or excessive effort	50,97%	4,37%	2,43%	42,23%
Addictions:	Chi^2 Pearsona: 118,072, df=9, (p<0,0001)			
Non-smoker and non-drinker (no addictions)	56,63%	4,24%	2,63%	36,50%
Drinker	80,58%	3,40%	4,37%	11,65%
Smoker	69,59%	7,02%	6,43%	16,96%
Drinker and smoker	79,63%	10,19%	4,63%	5,56%
Patients' care of feet hygiene:	Chi^2 Pearsona: 19,2492, df=6, (p<0,01)			
Lack or single disturbances	62,32%	6,28%	2,96%	28,44%
Numerous disturbances	63,03%	3,42%	3,10%	30,45%
Very numerous disturbances	51,56%	4,17%	4,69%	39,58%
Behavioural patterns within the scope of self-control and treatment modification:	Chi^2 Pearsona: 70,5692, df=9, (p<0,0001)			
Modifies treatment and regularly checks blood glucose level	68,44%	8,97%	4,98%	17,61%
Does not modify treatment but regularly checks blood glucose level	73,93%	1,98%	2,31%	21,78%
Does not modify treatment and does not check blood glucose level	57,54%	4,12%	2,81%	35,53%
Does not check blood glucose level but modifies treatment	56,65%	5,58%	4,29%	33,48%

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

Table 3 Marital status and selected health indicators in diabetes patients

Tested feature	Marital status				
	married N=1218 61,6%	unmarried N=93 4,8%	divorced N=64 3,2%	widowed N=602 30,4%	
Body mass index	Chi^2 Pearsona: 41,9992, df=9, (p<0,0001)				
Normal weight; (M < 24,9 ; W < 23,9)	58,5%		12,3%	2,8%	26,5%
Overweight; (M=25-29,9 ; W=24-29,9)	59,9%		4,2%	4,2%	31,8%
Obesity; (30-40)	62,6%		3,1%	2,9%	31,4%
Giant obesity; (>40)	66,9%		4,1%	2,5%	26,4%
WHR :	Chi^2 Pearsona: 88,3168, df=6, (p<0,0001)				
Type AO (M ≥ 1; W ≥ 0.85)	54,7%		4,0%	3,6%	37,8%
Type GO (M < 1; W < 0.85)	71,5%		2,4%	3,1%	23,0%
Does not apply WHR	58,5%		12,3%	2,8%	26,5%
Waist circumference and risk of metabolic complications (waist circumference in men > 94 cm and in women > 80 cm, with BMI > 25):	Chi^2 Pearsona: 31,1836, df=3, (p<0,0001)				
Increased	62,3%		3,0%	3,2%	31,5%
Normal	57,9%		9,4%	3,7%	29,0%
Blood pressure [mm Hg]:	Chi^2 Pearsona: 23,0280, df=9, (p<0,01)				
< 120–130 and < 80–85	63,9%		7,9%	4,1%	24,1%
130–139 and 85–89	63,3%		7,2%	1,7%	27,8%
140–159 and 90–99	61,6%		3,9%	2,6%	31,8%
>160–179/100–109 and ≥ 180/> 100	60,3%		3,5%	4,2%	32,1%

Total Cholesterol [mg/dl]	Chi^2 Pearsona: 13,7930, df=6, (p<0,05)			
< 185 mg/dl	67,8%	7,0%	1,5%	23,8%
185-230 mg/dl	66,7%	3,0%	3,2%	27,1%
> 230 mg/dl	62,0%	3,7%	2,5%	31,8%
Concomitant diseases:	Chi^2 Pearsona: 78,8566, df=9, (p<0,0001)			
No diagnosis of concomitant diseases	76,9%	10,2%	3,1%	9,8%
1-2 concomitant diseases	62,7%	5,0%	2,9%	29,3%
3-4 concomitant diseases	55,8%	3,0%	3,2%	38,0%
5 and more concomitant diseases	58,9%	3,0%	4,4%	33,7%
Glycaemia stability (within last year they required interventions due to hypoglycaemia, hyperglycaemia, hospitalisation and they needed a medical leave of absence based on diabetes):	Chi^2 Pearsona: 60,9657, df=9, (p<0,0001)			
no negative events	63,91%*	3,36	2,58%*	30,15%*
1 event	57,55%*	3,94	3,06%*	35,45%*
2 events	62,64%*	9,81%	3,40%	24,15%*
3 and more events	50,00%*	10,64%	11,70%*	27,66%*
Somatic ailments:	Chi^2 Pearsona: 17,3531, df=6, (p<0,01)			
None	63,8%	5,4%	2,6%	28,2%
Single (1-2)	58,9%	3,2%	4,3%	33,6%
Many (3 and more)	52,9%	5,1%	4,3%	37,7%
Disturbances and symptoms in the psycho-emotional life	Chi^2 Pearsona: 41,3648, df=9, (p<0,0001)			
No ailments	66,4%	5,8%	2,8%	25,0%
1-2 ailments	60,7%	3,2%	3,3%	32,7%
3-4 ailments	51,4%	4,7%	4,2%	39,6%
5 and more ailments	50,4%	3,1%	2,4%	44,1%
Physical fitness:	Chi^2 Pearsona: 106,830, df=9, (p<0,0001)			
Physically fit (7 points)	76,6%	11,2%	2,5%	9,6%
Few limitations of physical ability (8-14 points)	66,2%	4,5%	3,6%	25,6%
Many limitations of physical ability (in at least one factor) (15-21 points)	53,5%	3,3%	2,9%	40,2%
Lack of physical ability in at least one factor (22-28 points)	48,9%	4,3%	3,2%	43,6%
Independence:	Chi^2 Pearsona: 128,976, df=9, (p<0,0001)			
Fully independent (19 points)	77,2%	7,7%	4,6%	10,4%
Insignificant limitations of independence (20-38 points)	67,8%	5,8%	3,3%	23,2%
Marked limitations of independence (partially unable to perform a minimum of 1 activity) (39-57 points)	53,5%	3,0%	3,0%	40,5%
No independence (totally unable to perform a minimum of 10 activity) (58-76 points)	46,3%	3,7%	1,2%	48,8%

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

Table 4. Marital status vs. difficulties in respecting recommendations, social functioning, family efficiency, socio-economic status, demand for care, and satisfaction and expectations of diabetes patients in diabetes patients

Tested feature	Marital status			
	married N=1218 61,6%	unmarried N=93 4,8%	divorced N=64 3,2%	widowed N=602 30,4%
Patients' difficulties in respecting of recommendations:	Chi^2 Pearsona: 17,0200, df=9, (p<0,05)			
No difficulties	62,9%	5,6%	2,9%	28,6%
1-2 difficulties	62,4%	3,1%	4,6%	29,9%
3-4 difficulties	53,6%	4,8%	3,6%	38,1%
5 and more difficulties	60,1%	3,9%	1,9%	34,1%
Social functioning:	Chi^2 Pearsona: 551,158, df=9, (p<0,0001)			
Participates fully in all 5 social activities (without difficulties or limitations)	100,0%	0,0%	0,0%	0,0%
Does not participate in 1-2 social activities (has difficulties or limitations)	84,4%	3,7%	2,2%	9,7%
Does not participate in 3 social activities (has many difficulties or limitations)	50,1%	5,1%	3,3%	41,5%
Does not participate in 4-5 social activities (has a lot of difficulties or limitations)	16,5%	6,7%	7,4%	69,4%
Nursing and care competence of family:	Chi^2 Pearsona: 596,007, df=9, (p<0,0001)			
Fully competent (8 points)	77,6%	4,9%	0,0%	17,5%
Slightly incompetent (9–12 points)	76,4%	2,4%	1,4%	19,7%
Considerably incompetent (13–18 points)	73,5%	2,7%	3,2%	20,6%
Incompetent (19–24 points)	11,5%	11,5%	8,5%	68,4%
Social support (family. neighbourhood. social):	Chi^2 Pearsona: 28,3711, df=9, (p<0,001)			
Optimal (sufficient support in 3 environments)	63,5%	2,7%	2,7%	31,1%
Moderate (sufficient support in 2 environments)	64,6%	4,8%	2,0%	28,6%
Minimal (sufficient support in 1 environment)	61,6%	4,4%	4,0%	30,0%
None (lack of sufficient support in any of the environments)	43,2%	5,6%	6,4%	44,8%
Social situation and living conditions:	Chi^2 Pearsona: 33,0877, df=3, (p<0,0001)			
Very good and sufficient	66,9%	5,1%	2,5%	25,5%
Insufficient and none	55,5%	4,3%	4,0%	36,2%
Need for professional care:	Chi^2 Pearsona: 98,5497, df=3, (p<0,0001)			
Moderate	75,7%	7,0%	2,7%	14,6%
High and very high	56,1%	3,8%	3,4%	36,7%
Patients' expectations regarding education:	Chi^2 Pearsona: 32,0076, df=3, (p<0,0001)			
Present	66,8%	3,8%	3,0%	26,4%
Lack	54,2%	6,0%	3,7%	36,0%

Patients' expectations regarding the GP's care:	Chi^2 Pearsona: 25,4827, df=3, (p<0,0001)			
Present	62,1%	3,8%	3,1%	30,9%
Lack	58,5%	11,0%	4,2%	26,3%
Patients' expectations regarding the Family nurse's care:	Chi^2 Pearsona: 30,5288, df=3, (p<0,0001)			
Present	61,2%	3,5%	2,8%	32,5%
Lack	63,1%	8,2%	4,7%	23,9%
Patients' expectations regarding family care:	Chi^2 Pearsona: 54,0503, df=3, (p<0,0001)			
Present	65,2%	2,7%	2,3%	29,7%
Lack	54,3%	8,9%	5,8%	31,0%
Patients' satisfaction from a GP's care:	Chi^2 Pearsona: 12,4160, df=3, (p<0,01)			
Satisfied	60,8%	4,3%	3,0%	31,9%
Deficiency or lack of satisfaction	64,7%	7,4%	4,7%	23,3%
Patients' satisfaction from a family nurse's care:	Chi^2 Pearsona: 15,0189, df=3, (p<0,01)			
Satisfied	56,6%	3,8%	2,5%	37,2%
Deficiency or lack of satisfaction	68,6%	7,8%	3,9%	19,6%
Patients' satisfaction from participation in family life	Chi^2 Pearsona: 34,8215, df=3, (p<0,0001)			
Satisfied	65,9%	3,9%	2,4%	27,9%
Deficiency or lack of satisfaction	50,7%	5,3%	5,0%	39,0%
Patients' satisfaction from participation in sociable life :	Chi^2 Pearsona: 20,6636, df=3, (p<0,0001)			
Satisfied	65,7%	5,2%	3,0%	26,1%
Deficiency or lack of satisfaction	56,5%	4,4%	3,0%	36,1%
Patients' satisfaction from participation in marital life:	Chi^2 Pearsona: 240,216, df=3, (p<0,0001)			
Satisfied	93,2%	1,4%	0,2%	5,2%
Deficiency or lack of satisfaction	59,2%	2,6%	7,8%	30,4%
Patients' satisfaction from participation in professional life:	Chi^2 Pearsona: 30,7862, df=3, (p<0,0001)			
Satisfied	78,4%	5,2%	2,7%	13,6%
Deficiency or lack of satisfaction	63,1%	4,7%	4,3%	28,0%
Patients' satisfaction from life:	Chi^2 Pearsona: 18,8774, df=3, (p<0,001)			
Satisfied	64,7%	4,6%	2,3%	28,4%
Deficiency or lack of satisfaction	55,4%	5,5%	4,6%	34,4%
Patients' expectations regarding care improvement:	Chi^2 Pearsona: 9,31225, df=3, (p<0,01)			
Present	62,5%	6,1%	5,4%	26,0%
Lack	60,9%	4,7%	2,8%	31,7%

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

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