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The Quality of Primary Health Care for Chronically Ill Patients – a Cross-Sectional Study*

Jakość wizyt dla przewlekle chorych pacjentów – badanie przekrojowe

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Abstract

Background. Patients with at least one chronic disease requiring regular contact with their GP, additional tests and systematic use of medicines constitute one of the challenges for the future of primary medical care.

Objectives. To evaluate correlations between patients' characteristics and their assessments of the quality of health care and to identify the primary factors influencing the quality of care for chronically ill patients.

Material and Methods. The sample for the current analysis included 232 chronically ill adult patients of primary care clinics in Poland. The patients' opinions regarding subjective and objective examinations, their participation in clinical decision-making processes, psychosocial factors, contact with the doctor in emergency situations and confidence in the doctor were investigated.

Results. The strongest correlations defining the quality of care for the chronically ill were identified as the occurrence of hypertension (0.248, $p < 0.001$), the patient's gender (0.271, $p < 0.001$), the patient's level of education (0.169, $p < 0.01$) and the patient's age (0.155, $p = 0.018$). The results of the ANOVA test were statistically significant ($p < 0.05$) for the occurrence of myocardial infarction, hypertension, type 2 diabetes, psoriasis, multiple sclerosis, the doctor's gender, the patient's gender, age and education.

Conclusions. The areas that the participants gave the highest ratings to are subjective and objective examinations, kindness and willingness to help. The strongest correlations between high assessments of the quality of care provided for chronically ill patients at primary care clinics were observed in the following variables: gender, age, level of education, frequency of visits, therapy conducted by a doctor at a specialist clinic, arterial hypertension, COPD and/or myocardial infarction (*Adv Clin Exp Med* 2013, 22, 4, 501–511).

Key words: chronic illness, interpersonal communication, health services, holistic care, primary care, quality of care.

Streszczenie

Wprowadzenie. Przyszłość opieki podstawowej to wyzwania stawiane przez pacjentów z co najmniej jedną chorobą przewlekłą wymagającą regularnych kontaktów z lekarzem rodzinnym, wykonywania badań dodatkowych i systematycznego zażywania leków.

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Cel pracy. Ocena związku między charakterystyką pacjentów i oceną jakości opieki oraz określenie głównych czynników wpływających na jakość opieki dla pacjentów chorych przewlekle.

Materiał i metody. Grupę badawczą stanowiło 232 dorosłych pacjentów chorych przewlekle z ośrodków opieki podstawowej w Polsce. Określono opinię pacjentów na temat: badania podmiotowego i przedmiotowego, współudziału w decyzjach klinicznych, czynników psychologicznych, kontaktu z lekarzem w sytuacjach nagłych, zaufania do lekarza.

Wyniki. Najsilniejszy związek między oceną jakości opieki nad chorymi przewlekle określono dla zmiennych, takich jak: obecność u pacjenta nadciśnienia tętniczego (0,248; $p < 0,001$), płeć (0,271; $p < 0,001$), poziom edukacji pacjenta (0,169; $p < 0,01$), wiek pacjenta (0,155; $p = 0,018$). Wyniki ANOVA były statystycznie istotne ($p < 0,05$) dla zmiennych: rozpoznanie zawału mięśnia sercowego, nadciśnienia, cukrzycy typu 2, łuszczycy, stwardnienia rozsianego, płeć lekarza oraz płeć, wiek i edukacja pacjenta.

Wnioski. Najwyżej ocenionymi domenami były: badanie podmiotowe i przedmiotowe, uprzejmość i gotowość do pomocy. Najsilniejsze korelacje między wysoką oceną wizyt dla przewlekle chorych pacjentów obserwowano w przypadku następujących zmiennych: płci, wieku, poziomu edukacji, częstości wizyt, terapii prowadzonej przez lekarza poradni specjalistycznej, obecności nadciśnienia tętniczego, p.o.ch.p. i zawału mięśnia sercowego (*Adv Clin Exp Med* 2013, 22, 4, 501–511).

Słowa kluczowe: choroby przewlekle, komunikacja interpersonalna, usługi medyczne, opieka holistyczna, opieka podstawowa, jakość opieki.

It is estimated that 133 million people worldwide suffer from chronic diseases, and this number is expected to increase to 177 million by 2030 [1–3]. According to WHO, 75% of the general population suffer from at least one chronic disease, and nearly half of these suffer from at least two diseases that require regular contact with health care providers. The cost of care for the chronically ill now constitutes 78% of all health care expenses in the US [4–6]. With the health care system focused on their proper management, the treatment of chronically ill patients may be the most expensive health problem ever. The current study is based on this premise and the goal is to determine ways to control costs by increasing the quality of care for chronically ill patients.

According to a number of studies, 80% of all primary-care consultations are related to chronic diseases, and 60% of hospitalizations are associated with the treatment of chronic diseases or their complications. Studies conducted in Australia, Canada, Germany, Netherlands, New Zealand, the UK and the USA have shown that care for the chronically ill should be based on an information infrastructure focusing on the quality of care [7–9].

To allow health care systems to provide the best care for chronically ill patients, there is a need for studies that gather information along with an analysis of the patients' current clinical status. It is also essential to involve patients in their own disease management, in setting goals and solving emerging problems, as well as using clinical interventions to promote changes in the patients' health-related habits. The goal is to prevent complications and help patients optimize disease control and improve their well-being, and to provide evaluation during follow-up exams, which would decrease the costs of care for chronically ill patients. In this model, the quality of health care services is attested

by the bio-psycho-social exponents during chronically ill patients' consultations with their primary care providers [10–12].

Patients with at least one chronic disease requiring regular contact with their GP, additional tests and systematic use of medicines constitute one of the challenges for the future of primary medical care. To date, no studies have been published describing the most important factors in increasing the quality of care for the chronically ill and also taking specific chronic conditions into account.

The present study was aimed at evaluating associations between patients' characteristics, including their chronic diseases, with their assessments of the quality of care, and to determine the main factors influencing the quality of care for chronically ill patients. The study focuses on the process of determining the model of care for chronically ill patients in the primary care setting [13].

Material and Methods

The Participants

The sample for the current analysis included 232 patients of primary care clinics in Poland. To be eligible for this study, patients had to be at least 18 years of age and have at least one chronic disease. The average age was 50.9 years (SD 14.9, median 53). Women were the majority (54.86%, 124); 45.13% (102) were men ($p = 0.14$). In terms of place of residence: 44.05% (100) patients came from villages; 20.70% (47) came from towns with a population over 100 thousand inhabitants; the same percentage (20.70%, 47) were from towns with a population under 100 thousand inhabitants; and 14.54% (33) were from provincial capitals ($p < 0.001$).

Most of the patients (64.7%, 150) had at least secondary education.

The Questionnaire

A validated multi-item self-report questionnaire was used to assess patient satisfaction with care provided by the doctor whom they had consulted most frequently due to chronic illness in the previous 12 months (Table 1).

The survey tool was based on the same principles as the EUROPEP Questionnaire [14, 15], the Medical Interview Satisfaction Scale developed by S. Williams of the Department of General Practice and Primary Care at London University [16], the Quality Assurance Program Questionnaire of the Columbia Medical Plan [17], the Questionnaire for Patients of the American Society of Internal Medicine, Family Practice Clinic – Patient Satisfaction Questionnaire of the University of Oregon, USA [18]. The questionnaire used in the current study was developed through the work of focus groups and the validation was carried out in a primary care patient population [19, 20].

Table 1. The frequency of chronic illness(es) during the previous 12 months

Tabela 1. Występowanie choroby przewlekłej w ciągu ostatnich 12 miesięcy

Chronic illness (Choroba przewlekła)	% (N)
circulatory system:	62.9 (146)
hypertension	76.7 (112)
ischemic heart disease	34.9 (51)
myocardial infarction	13.7 (20)
stroke	6.2 (9)
chronic respiratory diseases	21.6 (50)
asthma	72 (36)
COPD	28 (14)
cystic fibrosis	6 (3)
musculoskeletal disorders	65.5 (152)
arthrosis	88.2 (134)
spinal injury	17.1 (26)
diabetes (type 2)	18.5 (43)
chronic gastrointestinal diseases	22 (51)
gastric ulcer/duodenal ulcers	60.8 (31)
irritable bowel syndrome (IBS)	33.3 (17)
inflammatory bowel disease (ulcerative colitis, Lesniowsky-Crohn disease)	19.6 (10)
chronic skin disorders	9.5 (22)
atopic dermatitis	59.1 (13)
psoriasis	36.4 (8)
vitiligo	22.7 (5)
chronic neurological conditions	3.4 (8)
multiple sclerosis (MS)	50 (4)
Parkinson's disease (PD)	87.5 (7)

The patients' opinions regarding the following areas were determined (Table 2): subjective and objective examination during the visit (11 questions, domain 1 – D1), the patient's co-participation in the processes of their own diagnosis and therapy (9 questions, domain 2 – D2), psychosocial factors (5 questions, domain 3 – D3), contact with the doctor in emergency situations (2 questions, domain 4 – D4), and confidence in the doctor and the primary health center medical staff (3 questions, domain 5 – D5). The patients indicated their opinions by answering *sometimes*, *no* or *yes*.

The questions were supplemented with information about the patients' demographic data, chronic diseases occurring in the 12 months preceding the doctor's appointment and the availability of diagnostic tests and specialist clinics.

The Procedure

Patients who agreed to participate in the study anonymously signed an informed consent form. They were informed that their replies would remain anonymous to the doctor. As noted above, the patients' responses related to the doctor whom they visit most frequently due to chronic disease. The questionnaires specified three types of clinics: public primary care clinics/GP practices (operating under national health insurance; visits do not entail fees to the patient), public specialist clinics (operating under national health insurance; visits do not entail fees to the patient), and private specialist clinics (visits involve fees to the patient, and are not reimbursed by national health insurance).

From June 2010 through November 2011, questionnaires were given to 500 patients to complete at home and return in a stamped envelope. There was a 49% response rate. Due to exclusion of questionnaires with missing data, the responses from 232 patients were analyzed.

Ethical Approval

The study was fully approved by the Ethics Committee of Wrocław Medical University (approval number KB-608).

Statistics

The Shapiro-Wilk test and chi-squared test were used, with a significance level of 0.05. In order to assess the strength and direction of the relationship between the variables under investigation, because of their distribution differed from normal distribution, Spearman's rank correlation coefficient, Pearson's chi-squared test for independence,

Table 2. Distribution of patients' evaluations of visits to doctors**Tabela 2.** Rozkład ocen wizyt dokonanych przez pacjentów

Patients' opinions regarding the doctor (Ocena pacjenta na temat lekarza)	SOMETIMES		NO		YES		p
	%	No	%	No	%	No	
D1: Subjective and objective examinations during the visit							
respects patient privacy	9.3	21	1.3	3	89.3	201	< 0.001
is gentle during the examination	11.0	25	1.8	4	87.3	199	< 0.001
provides information about the date of the next visit	9.3	21	8.9	20	81.8	184	< 0.001
gives the name of the disease	12.8	29	8.4	19	78.8	178	< 0.001
listens attentively	18.1	41	3.5	8	78.4	178	< 0.001
carries out the examination carefully	18.4	42	5.7	13	75.9	173	< 0.001
devotes sufficient time during the visit	17.1	39	11.4	26	71.5	163	< 0.001
provides information in a manner understandable to the patient	24.5	55	7.6	17	67.9	152	< 0.001
explains the cause of the symptoms	16.8	38	15.5	35	67.7	153	< 0.001
remembers the patient's earlier visit(s)	18.0	41	14.5	33	67.5	154	< 0.001
talks to the patient as long as he/she expects	24.3	55	17.3	39	58.4	132	< 0.001
D2: Patient's participation in diagnosis and therapy							
The doctor explains the results of additional tests	17.3	39	12.8	29	69.9	158	< 0.001
explains the aim of additional tests	17.7	40	14.2	32	68.1	154	< 0.001
explains the method of treatment	18.6	42	13.3	30	68.1	154	< 0.001
provides information about the further course of disease and treatment	23.6	53	12	27	64.4	145	< 0.001
explains how serious the health problem is	15.6	35	20.5	46	63.8	143	< 0.001
explains how important it is to follow the doctor's instructions	18.5	42	20.3	46	61.2	139	< 0.001
allows the patient to decide on the type of treatment and further proceedings	17.9	40	28.1	63	54	121	< 0.001
The patient's opinion about the disease is important to the doctor	26.9	61	22.5	51	50.7	115	< 0.001
The doctor provides information about the side effects of medicines taken	25.7	58	33.6	76	40.7	92	< 0.001
D3 – Psychosocial factors							
The doctor asks the patient about the symptoms of the disease	16.2	36	33.8	75	50	111	< 0.001
helps the patient to cope with health-related fears and concerns	23.9	54	33.2	75	42.9	97	< 0.001
is interested in the patient's material situation (provides information about cheaper medicines, the possibility of social assistance)	16.3	37	56.4	128	27.3	62	< 0.001
shows interest in the patient's personal situation (specifies the source of social support)	24.4	55	51.6	116	24	54	< 0.001
is interested in other members of the patient's family (their health, contact among family members)	22.8	51	54	121	23.2	52	< 0.001

Table 2. Distribution of patients' evaluations of visits to doctors – cont.**Tabela 2.** Rozkład ocen wizyt dokonanych przez pacjentów – cd.

Patients' opinions regarding the doctor (Ocena pacjenta na temat lekarza)	SOMETIMES		NO		YES		p
	%	No	%	No	%	No	
D4: Contact with the doctor in emergency situations							
When the patient reports difficulties in coping with the disease, the doctor tries to help	0.0	0	17.3	39	82.7	186	< 0.001
possibilities of talking to the doctor and obtaining clarification by telephone	20.4	46	48.2	109	31.4	71	< 0.001
D5 – Trust, kindness, willingness to help							
The doctor related kindly to the patient	18.9	43	0.4	1	80.6	183	< 0.001
The nurses are kind and helpful	21.1	48	2.6	6	76.3	174	< 0.001
confidence in the doctor	23.1	52	6.7	15	70.2	158	< 0.001

the Kruskal-Wallis ANOVA and Fisher's exact test were used. For each pair of variables, the correlation coefficient was calculated and the null hypothesis was verified in a way that the coefficient is zero (i.e., the variables are independent) at the significance level of 0.05.

Cronbach's alpha was used to assess internal consistency [21, 22]. Values above 0.60 are generally considered to indicate satisfactory internal consistency. Those above 0.80 indicate high internal consistency.

All the analyses were carried out using the R language ver. 2.10.1 for Mac OS X Cocoa GUI (The R Foundation for Statistical Computing, Vienna, Austria).

Results

The results indicated that 73.5% of the patients (164) most often turn to their GP for advice about chronic diseases; 44.8% (100) go to a doctor at a public specialist clinic operating under national health insurance, and 16.1% (36) are treated privately. In the study group, the average number of visits to a doctor in the previous 12 months was 5.77 (SD 5.54, median 4.0, range 0–35.0). Patients wait an average of 9.45 days to see a doctor dealing with their chronic disease; patients treated in specialist clinics wait an average of 14.7 days for a consultation (SD 19.1, median 6.0, range 0–91.0), while patients treated in primary care centers wait an average of 7.56 days (SD 14.81, median 1.0, range 0–90.0, $p < 0.001$). For 29.1% of the patients (64), the waiting time is too long, feeling that it is unacceptable to wait longer than an average of 9.74 days. A majority (60.4%) of the respondents stated that the date of the visit suited them, as opposed to

13.7% (31 patients) who stated that the date of the visit did not suit them ($p < 0.001$). For 77.2% of the patients (176) the doctor's gender is not important; 14% (32) prefer to be treated by a woman, and 8.8% (20) prefer to be treated by a man ($p < 0.001$). The majority (83.4%, 191 patients) did not have difficulty getting a referral to a specialist from their GP; only 16.6% (38 patients) had such difficulties ($p < 0.001$). Similarly, 84.4% (190 patients) did not have any difficulty getting a referral for additional tests (blood tests, X-rays, ultrasound, etc.) related to a chronic disease (as opposed to 15.6%, 35 having such difficulties, $p < 0.001$).

The analysis of patient satisfaction with visits to the doctor dealing with their chronic disease is shown in Table 2.

The measures of internal consistency showed a strong total reliability – Cronbach's alpha was 0.81, and the standardized Cronbach's alpha was 0.87 (Table 3).

Correlations were identified between the answers to questions about the quality of care for the chronically ill (Table 2) and variables such as the presence of a chronic disease, the type of doctor, patient preferences regarding the doctor's gender, the frequency of visits in the previous 12 months, the patient's gender, age, education and place of residence (Table 4).

The statistically significant results ($p < 0.05$) of the Kruskal-Wallis ANOVA for each domain are presented in Table 5.

Discussion

As Vedsted and Heje wrote: „The definition of family medicine emphasizes the patient-centered approach, communication skills, continuity, and

Table 3. Descriptive statistics and the internal consistency of latent domains**Tabela 3.** Statystyka opisowa i wewnętrzna spójność utajonych domen

Domain (Domena)	Mean	SD	Median	Min	Max	Cronbach's alpha	Standardized Cronbach's alpha
D1: Subjective and objective examinations during the visit	17.88	4.55	19	4	22	0.73	0.82
D2: Patient's participation in diagnosis and therapy	12.18	4.88	13	1	18	0.70	0.82
D3: Psychosocial factors	4.06	3.33	4	0	10	0.76	0.86
D4: Contact in emergency situations	2.46	1.31	2	0	4	0.81	0.85
D5: Trust, kindness, willingness to help	5.10	1.17	6	1	6	0.82	0.86
Total	41.64	12.92	44	11	60	0.81	0.87

Points/Answers: 0 – no, 1 – sometimes, 2 – yes.

Punkty/odpowiedzi: 0 – nie, 1 – czasem, 2 – tak.

Table 4. Spearman correlations between the quality of care, the chronic illness and other variables**Tabela 4.** Korelacja Spearmana między jakością opieki, chorobą przewlekłą i innymi zmiennymi

Variables (Zmienne)	%	r_s	p
D1: Subjective and objective examinations during the visit			
Conducting the physical examination in a gentle way	94.64	0.248	<0.001
hypertension	90.20	0.154	0.019
male patients	100.00	-0.138	0.035
post-graduate education	14.29	-0.135	0.039
without Parkinson's disease			
Conducting the examination carefully	84.31	0.225	<0.001
male patients	82.14	0.165	0.012
hypertension	80.85	0.156	0.017
respondents from cities with a population of more than 100 thousand inhabitants	77.67	0.149	0.023
atopic dermatitis	37.50	-0.132	0.045
without psoriasis	50.00	-0.201	0.002
without multiple sclerosis			
Respect for privacy	93.14	0.217	<0.001
male patients	94.59	0.201	0.002
hypertension	100.00	0.182	0.005
therapy conducted by a doctor at a specialist clinic			
A sense of the doctor's commitment during the visit	77.50	0.170	0.009
male patients	83.72	0.163	0.013
diabetes	76.89	0.132	0.045
hypertension			
Explaining the reasons for the symptoms	74.30	0.166	0.011
male patients	90.00	0.144	0.028
myocardial infarction			
Providing information in an understandable way	71.57	0.147	0.025
male patients	69.85	-0.136	0.039
without injury	69.59	-0.199	0.002
without Parkinson's disease			
The doctor talks with the patient as long as expected	63.40	0.146	0.026
hypertension	63.70	0.145	0.027
male patients			

Table 4. Spearman correlations between the quality of care, the chronic illness and other variables – cont.**Tabela 4.** Korelacja Spearmana między jakością opieki, chorobą przewlekłą i innymi zmiennymi – cd.

Variables (Zmienne)	%	r_s	P
Attentive listening by the doctor			
hypertension	83.78	0.143	0.029
diabetes	88.37	0.140	0.03
male patients	81.37	0.132	0.044
without psoriasis	25.00	-0.154	0.019
Information about the date of the next visit			
therapy conducted by a doctor at a specialist clinic	97.06	0.138	0.036
The doctor remembered previous visits			
patients who preferred to be treated by male doctors	80.00	0.137	0.036
without Parkinson's disease	68.80	-0.137	0.036
without psoriasis	69.10	-0.183	0.005
D2: Patient's participation in diagnosis and therapy			
The doctor provides information about the course of the disease and treatment			
male patients	76.47	0.271	<0.001
myocardial infarction	85.00	0.142	0.03
without injury	67.00	-0.158	0.016
The doctor provides information about how important it is to follow the doctor's recommendation			
COPD	100.00	0.200	0.002
male patients	70.60	0.179	0.006
age over median (53 years)	70.40	0.156	0.018
patients from cities with a population over 100 thousand inhabitants	68.10	0.138	0.035
without injury	63.90	-0.181	0.006
The feeling that the patient's opinion about the disease is important to the doctor			
age over median (53 years)	61.10	0.176	0.007
without IBS	53.30	-0.180	0.006
asthma	34.30	0.168	0.01
Explanation from the doctor about the purpose of the additional tests			
male patients	72.50	0.162	0.01
patients from cities with a population less than 100 thousand inhabitants	75.60	0.137	0.038
Explanation from the doctor about the seriousness of the patient's health problem			
male patients	70.60	0.157	0.017
Information about the side effects of medicines			
male patients	49.00	0.154	0.019
patients from cities with a population less than 100 thousand inhabitants	60.00	0.140	0.03
incomplete higher education	50.00	0.129	0.049
without injury	42.80	-0.151	0.02
without stroke	41.90	-0.181	0.006
Clarification of the results of additional tests			
patients from cities with a population less than 100 thousand inhabitants	75.60	0.142	0.03
Participation in decision-making about the type of treatment and further proceedings			
male patients	60.00	0.138	0.036
D3: Psychosocial factors			
Interest in the patient's personal situation			
incomplete higher education	37.50	0.169	0.01
therapy conducted by a doctor at a specialist clinic	41.20	0.135	0.04
Interest in the patient's material situation			
patients who report to the doctor more than four times a month (median)	31.90	0.149	0.02
Doctor's support in dealing with health-related fears and concerns			
myocardial infarction	60.00	0.130	0.048
without injuries	44.80	-0.134	0.04

Table 4. Spearman correlations between the quality of care, the chronic illness and other variables – cont.**Tabela 4.** Korelacja Spearmana między jakością opieki, chorobą przewlekłą i innymi zmiennymi – cd.

Variables (Zmienne)	%	r _s	p
Interest in other members of the patient's family without spinal pain syndromes	28.10	-0.140	0.03
D4: Contact in emergency situations			
Possibility of talking to the doctor and seeking clarification by telephone hypertension	35.30	0.139	0.035
without coronary heart disease	35.20	-0.132	0.045
D5: Trust, kindness, willingness to help			
Nurse's kindness and willingness to help age over median (53 years)	83.49	0.155	0.018
patients who preferred to be treated by male doctors	75.00	0.136	0.038
without psoriasis	77.73	-0.140	0.03
Doctor's kindness hypertension	84.82	0.150	0.02
without psoriasis	81.74	-0.129	0.049
without Parkinson's disease	81.82	-0.151	0.02
without injuries	82.67	-0.152	0.02
Trust to the doctor therapy conducted by a doctor at a specialist clinic	78.79	0.140	0.03
hypertension	76.36	0.135	0.04

Table 5. Statistically significant results ($p < 0.05$) of the Kruskal-Wallis ANOVA for each domain**Tabela 5.** Wyniki istotne statystycznie ($p < 0,05$) testu ANOVA Kruskala-Wallisa dla każdej domeny

Variables (Zmienne)	MI	HT	D	P	MS	DG	PG	PA	PE
Domain (Domena)									
D1	0.04134	0.007974		0.01952	0.04780		0.003039	0.01275	
D2		0.01822	0.002691			0.02422	0.006965		
D3		0.02366	0.03704				0.005767		
D4									0.02770
D5				0.002173					
Total		0.007624	0.02438				0.003676	0.04873	

D1: Subjective and objective examinations during the visit; **D2:** Patient's participation in diagnosis and therapy; **D3:** Psychosocial factors; **D4:** Contact with the doctor in emergency situations; **D5:** Trust, kindness, willingness to help; **MI:** myocardial infarction; **HT:** hypertension; **D:** diabetes; **P:** psoriasis; **MS:** multiple sclerosis; **DG:** doctor's gender; **PG:** patient's gender; **PA:** patient's age; **PE:** patient's education.

D1: subiektywne i obiektywne badanie podczas wizyty; **D2:** udział pacjenta w diagnostyce i terapii; **D3:** czynniki psychospołeczne; **D4:** kontakt z lekarzem w sytuacjach nadzwyczajnych; **D5:** zaufanie, życzliwość, chęć pomocy; **MI:** zawał serca; **HT:** nadciśnienie tętnicze; **D:** cukrzyca, **P:** łuszczyca; **MS:** stwardnienie rozsiane; **DG:** płeć lekarza; **PG:** płeć pacjenta; **PA:** wiek pacjenta, **PE:** wykształcenie pacjenta.

clinical skills. Recommending the GP to others was most strongly associated with the 'emphatic', 'patient-oriented', 'informative and coordinating', and 'competent/skilled' GP and to a lesser degree with accessibility to general practice" [23].

The analysis of the results of the current study shows that factors of clinical management that the patients regard as very important include respect for the patient's privacy, gentleness during physical examinations, information about the date of

the next visit, the name of the disease, attentive listening and attentiveness during physical examinations. Devoting sufficient time during the visit was important to the patients. Areas in need of improvement are the doctor's interest in the patient's symptoms and health-related fears and concerns, information on the side effects of medicines, interest in the patient's material situation, interest in other members of the patient's family, the patient's personal situation, and the opportunity to talk to the doctor and to seek clarification by telephone.

As in the current study, the analyses carried out by Petek et al. (2011) also showed high overall levels of patient satisfaction but low levels of satisfaction with the waiting time for an appointment [24].

Correlations were found between a high rating of the quality of care for chronically ill patients within each domain and the following variables (the strongest correlations are marked with an asterisk):

D1: Subjective and objective examinations during the visit:

- **Chronic diseases:** the presence of hypertension*, type 2 diabetes and/or myocardial infarction in the medical history; the absence of psoriasis, the absence of atopic dermatitis, the absence of Parkinson's disease and the absence of stroke in the medical history;

- The patient's gender*, therapy conducted by a doctor at a specialist clinic, the patient's education, the patient's place of residence, the patient having a preference regarding the doctor's gender;

The statistically significant results of the D1 ANOVA ($p < 0.05$) were the presence of myocardial infarction in the medical history, hypertension, psoriasis, multiple sclerosis, the patient's gender and age.

D2: The patient's participation in diagnosis and therapy:

- **Chronic diseases:** COPD*; myocardial infarction in the medical history; no stroke, injury, irritable bowel syndrome (IBS) or asthma in the medical history;

- The patient's gender*, age*, place of residence and level of education;

The statistically significant results of the D2 ANOVA ($p < 0.05$) were hypertension, type 2 diabetes, patient's preferences regarding the doctor's gender and the patient's gender.

D3: Psychosocial factors:

- **Chronic diseases:** myocardial infarction*, no injuries, no spinal pain syndromes;

- Education*, the frequency of visits*, therapy conducted by a doctor at a specialist clinic;

The statistically significant results of the D3 ANOVA ($p < 0.05$) were hypertension, type 2 diabetes and the patient's gender

D4: Contact with the doctor in emergency situations:

- **Chronic diseases:** hypertension*, without ischemic heart disease

The only statistically significant result of the D4 ANOVA ($p < 0.05$) was the patient's education

D5: Trust, kindness, willingness to help:

- **Chronic diseases:** hypertension*, no psoriasis, no Parkinson's disease, no injury;

- The patient's age*, therapy conducted by a doctor at a specialist clinic*, preferences regarding the doctor's gender

The only statistically significant result of the D4 ANOVA ($p < 0.05$) was psoriasis.

The results of the ANOVA show that the occurrence of hypertension and type 2 diabetes, the patient's gender and age are statistically significant in relation to the overall ranking of visits to doctors.

There have been no other studies analyzing all the above variables exclusively in the chronically ill population. However, in investigations of the general population of primary care patients, similar results were obtained by other researchers, who have reported (for example) more positive evaluations among older patients or those at a certain level of education, among residents of small towns, those reporting to doctors more often, and patients with less pain/discomfort and chronic diseases [25–27].

In the present study there was no correlation between the level of the patient's education and indicators of the quality of care, which differs from results reported by Heje et al. [27]. It is worth noting that those authors conducted their study in the general population of primary care patients.

Brief consultations, which are a consequence of providing assistance in acute cases, predominate in the current health care system. According to people dealing with care for patients with chronic diseases, in the future consultations will turn into sessions of negotiation of further clinical and social management between the patient, his/her family and multidisciplinary teams of professionals [3,28, 29]. The data presented in the current study are the beginnings of a foundation for a system tailored to the expectations of particular groups of chronically ill patients, which may lead to an increase in the quality of care for such patients, and in their quality of life and clinical status [27, 30–32].

Limitations

Several limitations of the current study should be noted. Due to the nature of the project and the study group, random sampling was not applied. The aim of the study was not randomized observation, but rather investigation of phenomena in the general population of chronically ill primary care patients who were willing to cooperate with the researchers, which ensured reliable fulfillment of the research tools. The responses to the (standardized and validated) questionnaires are, however, self-evaluation by nature: The results provide a picture of the phenomena only from the standpoint of the patient.

The authors concluded that the top-rated domains are subjective and objective examination,

kindness and willingness to help. Average scores were obtained in the domain evaluating the patient's participation in the processes of diagnosis and therapy, and the lowest scores were in psychosocial factors and the possibilities of obtaining assistance in emergencies.

High ratings of visits to the doctors correlated most strongly with the following variables: the patient's gender, age and education, the frequency of visits, therapy conducted by doctors at specialist clinics, the presence of arterial hypertension, COPD, and myocardial infarction. According to the results of the ANOVA, the following are statistically significant for the overall ranking of visits to doctors: the occurrence of hypertension and type 2 diabetes, the patient's gender and age.

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