ORIGINAL ARTICLE

CONTENTS

Age-related characteristics of patients' satisfaction with medical care provided by general practitioners – family doctors

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ABSTRACT

Aim: to investigate the age-related characteristics of patients' satisfaction with the quality and accessibility of primary health care provided by general practitioners-family doctors (GPs) in Kyiv.

Materials and Methods: A survey of 510 patients assessed satisfaction with the accessibility and quality of medical care provided by GPs using a 5-point Likert scale (4 and 5 points were considered as positive responses to the questions [«satisfaction»]; 1-3 – as negative [«dissatisfaction»]; and 0 – as undecided ones).

Results: The study demonstrated the significant trends in the opposite responses to certain survey questions across the different respondents` age groups. In particular, we revealed the advancing age-related (from <30 to >60 years group) trends toward satisfaction rate decrease with respect to the organization of an appointment with one`s GP, and satisfaction rate increase – regarding the availability of obtaining prescriptions for medicines. Patient dissatisfaction with the quality of medical care provided by GPs was influenced by three factors: appointment organization, accessibility of referrals to specialists, and the doctor's attitude toward the patient (AUC for logistic regression model: 0,965 [95 % CI: 0,946-0,979]).

Conclusions: The presence of age-related features of patients` satisfaction with the quality of medical care has been established, which should be taken into account when planning measures to improve the management of medical care quality in healthcare facilities. The key factors influencing the level of patients` dissatisfaction with the quality of primary healthcare were the organization of appointment scheduling, the availability of referrals to specialists, and the attitude of the GP towards the patient during the appointment.

KEY WORDS: general practitioner, patient satisfaction, primary care

Wiad Lek. 2025;78(6):1033-1038. doi: 10.36740/WLek/207361 DOI

INTRODUCTION

Primary health care (PHC) centres are the first point of contact between patients and the health system [1, 2]. PHC plays a key role in the sustainability of healthcare, providing a comprehensive range of services, from prevention to treatment and rehabilitation [3].

The World Health Organization emphasises the importance of the doctor-patient relationship in delivering quality healthcare [4]. A key component of quality healthcare is patient satisfaction, particularly with the primary care physician—general practitioners/family doctors—who are the first point of contact with the health service [5, 6].

Patient satisfaction is an important factor in determining the success of a healthcare facility [7]. Health systems based on primary health care have demonstrated effectiveness in reducing morbidity, mortality, and promoting equitable patient access to healthcare worldwide [8].

Patient satisfaction is also a significant indicator for evaluating health systems and predicting health outcomes [9]. Patient opinions and satisfaction with the services provided are essential for assessing service quality [10]. Satisfaction can be influenced by ethnic, regional, and socio-demographic differences, as well as age-related characteristics, which are determined by disparities in service quality and communication between the patient and doctor [5].

Thus, the issue of studying patient satisfaction with the quality of medical care, taking into account age differences, is highly relevant.

AIM

The aim of the study was to investigate the age-related characteristics of patients' satisfaction with the quality and accessibility of primary healthcare provided by general practitioners – family doctors (GPs).

MATERIALS AND METHODS

A survey of 510 patients was conducted using a questionnaire to study their satisfaction with the availability and quality of medical care provided by general prac-

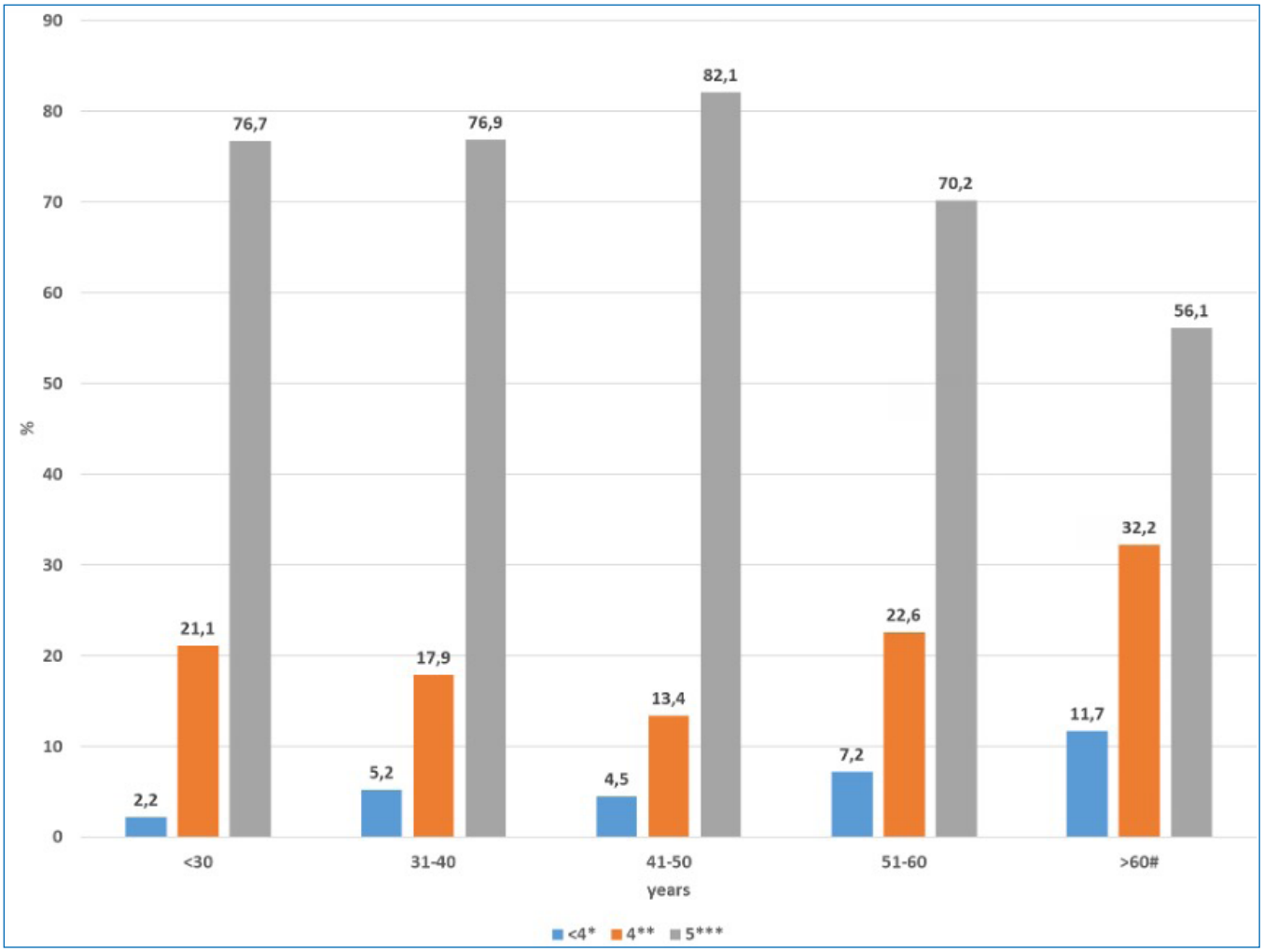

Fig. 1. The frequency of answers to the question № 1 (<4, 4 and 5 scores) in different age groups. * – p_{trend} = 0,003; ** – p_{trend} = 0,011; *** – p_{trend} <0,001; # – including 1 patient with 0 score, being conventionally assigned to the «<4» group

titioners-family doctors in primary care centers in Kyiv. The questionnaire was developed at the Department of Health Care Management of the Bogomolets National Medical University and contained 8 questions, including questions about the assessment of the organization of an appointment with GP, the quality of medical care provided, the possibility of obtaining necessary laboratory and diagnostic tests, the possibility of receiving referrals to narrow specialists and inpatient treatment, the availability of obtaining prescriptions for medications, and the doctor's attitude during the appointment.

The distribution of survey participants by age is as follows: under 30 years old — 90 (17,7 %) people, aged 31-40 years old — 78 (15,3 %) people, aged 41-50 years old — 112 (22,0 %) people, aged 51-60 years old — 84 (16,4 %) people, over 60 years old — 146 (28,6 %) people. The enrolled sample included 186 (36,5 %) males and 324 (63,5 %) females.

To assess the results of the survey, a Likert scale was used, in which patients rated the degree of their agreement or disagreement with each statement, from "very bad" to "very good" on a 5-point scale. Scores of 4 and 5 were considered positive responses to the question, 1-3 points were considered negative responses to the question, and 0 points were considered as undecided.

Statistical data analysis was conducted by the use of MedCalc v. 23.1.7 (MedCalc Software Ltd., Belgium). The frequency of certain patients` responses to the proposed questions across the studied age groups was analyzed by the $\chi^2$ test for trend. The uni- and multivariate logistic regression analysis was used to study the factors influencing the patients` assessment of the quality of medical care. To assess the degree of influence of each factor in the logistic regression model, the odds ratio (OR) and its 95% CI (confidence interval) were calculated. Receiver operating characteristic curve (ROC) analysis was used to assess the quality of the logistic regression model (with the calculation of area under curve [AUC] with 95 % CI). A p-value <0,05 was considered statistically significant.

COMPLIANCE WITH ETHICAL STANDARDS

The study was conducted in accordance with the principles of the World Medical Association's Helsinki

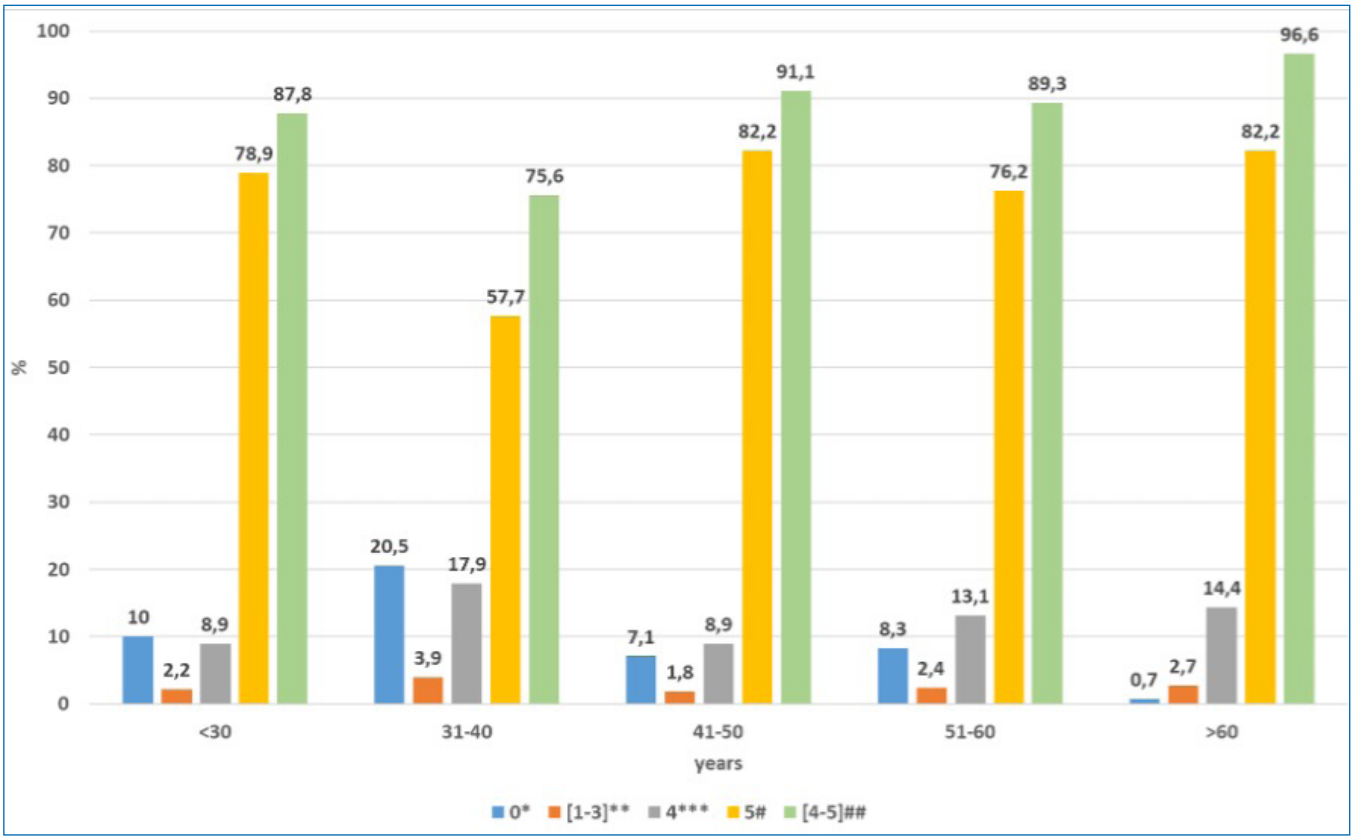

Fig. 2. The frequency of answers to the question № 7 (0, [1-3], 4, 5 and [4-5] scores) in different age groups. * – p_{trend} <0,001; ** – p_{trend} = 1,000; *** – p_{trend} = 0,452; # – p_{trend} = 0,058; ## – p_{trend} <0,001

Declaration, «Ethical Principles for Medical Research Involving Human Subjects» (2000). The survey was carried out with respect for confidentiality and anonymity, and all collected data were entered into the database in a de-identified form for further analysis.

RESULTS

The study data analysis demonstrated the significant trends in the positive and negative responses to the proposed questions, related to the certain aspects of patients` satisfaction with the quality and availability of medical care provided by GPs, across the different age groups of respondents.

Particularly, the data regarding the answers to the question № 1 («How would you rate the organization of an appointment with your GP?») on the assessment of the organization of an appointment with a GP revealed the significant trends in the frequency of responses of respondents of different age. The vast majority of patients positively assessed the organization of an appointment with their GP. In particular, the share of those satisfied with the organization of an appointment in the group under 30 years of age is 97,8% (4 and 5 points), of which 76,7% rated it with the maximum score (5 points). In the group over 60 years of age, the share of those satisfied is 88,3%, of which 56,1% rated it with the maximum score. In the group aged 31-40 years, the share of those satisfied is 94,8%, in the group aged 41-50 years – 95,5%. It is worth noting that in the group of respondents over 60 years of age, only 56,1% gave the maximum score, which is the lowest indicator among all age groups (Fig. 1).

At the same time, the results of the study of respondents' answers to question № 2 («Evaluate the quality of medical care provided to you by a doctor») did not reveal a significant trend regarding the frequency of the negative responses across different age groups. Importantly, the share of those satisfied with the availability of medical care by a doctor ranged from 96,4% in the 51-60 age group to 98,6% in the over-60 age group. In the under-30 age group, this figure was 97,8%, in the 31-40 age group – 97,4%, and in the 41-50 age group – 98,2% (p_{trend} = 0,747).

The respondents' answers to the question № 3 («How would you rate the availability of obtaining the necessary laboratory tests from your GP») were mostly satisfactory. In the group of patients under 30 years of age, the proportion of satisfied patients was 93,4%, in the group of 31-40 years of age – 89,7%, in the group of 41-50 years of age – 92,8%, in the group of 51-60 years of age – 92,9%, and in the group over 60 years of age – 87,7% (p_{trend} = 0,228). Among respondents

Table 1. The factors affecting the risk of negative assessment of the quality of medical care for question № 2 «Evaluate the quality of medical care provided to you by a doctor» (univariate analysis)

Factor (question score)	β ± m	p	OR (95 % CI)
№ 1 «Would you rate the organization of an appointment with your GP?»	–0,81±0,26	0,002	0,44 (0,27-0,74)
№ 3 «Assess the availability of necessary laboratory tests from your GP»	–0,57±0,20	0,005	0,57 (0,38-0,84)
№ 4 «Assess your availability for diagnostic examinations (ECG, ultrasound, X-ray)»	–0,56±0,19	0,003	0,57 (0,39-0,83)
№ 5 «Assess your availability for referrals to specialist doctors»	–0,98±0,21	<0,001	0,38 (0,25-0,56)
№ 6 «Assess your availability for receiving a referral for inpatient treatment»	–0,19±0,14	0,178	0,83 (0,63-1,09)
№ 7 «Assess the availability of prescriptions for medications»	–0,26±0,15	0,081	0,77 (0,57-1,03)
№ 8 «Rate the doctor's attitude towards you during the appointment»	–2,65±0,55	<0,001	0,07 (0,02-0,21)

Note: β – β-coefficient; m – standard error; OR – odds ratio; CI – confidence interval

Table 2. The factors affecting the risk of negative assessment of the quality of medical care for question № 2 «Evaluate the quality of medical care provided to you by a doctor» (multivariate analysis)*

Factor (question score)	β ± m	p	OR (95 % CI)
№ 1 «Would you rate the organization of an appointment with your GP?»	–0,92±0,45	0,040	0,40 (0,17-0,96)
№ 5 «Assess your availability for referrals to specialist doctors»	–1,14±0,35	0,001	0,32 (0,16-0,63)
№ 8 «Rate the doctor's attitude towards you during the appointment»	–2,48±0,60	<0,001	0,08 (0,03-0,27)

Note: AUC 0,965 (95% CI: 0,946 – 0,979)

over 60 years of age, the proportion of dissatisfied patients with the availability of obtaining laboratory tests was 11,6%, while among patients under 30 years of age – 4,4%.

When studying the respondents' answers to question 7 («How would you rate the availability of obtaining prescriptions for medicines»), it was found that the most satisfied group is patients over 60 years of age, of whom 96,6% were satisfied. Among patients aged 31-40, the proportion of satisfied patients is 75,6%, among patients under 30 – 87,8%, in the group of 41-50 – 91,1%, and in the group of 51-60 – 89,3%. It is noteworthy that 10% of respondents under 30 and 20,5% of respondents aged 31-40 could not assess the accessibility of obtaining prescriptions, while among respondents over 60 this proportion is only 0,7% (Fig. 2).

In addition, no significant trends were found for the frequency of responses` to the question № 4 «Evaluate the availability for you of diagnostic examinations (ECG, ultrasound, X-ray)», question № 5 «Evaluate the availability for you of referrals to specialist doctors», question № 6 «Evaluate the availability for you of referrals for inpatient treatment», and question № 8 «Evaluate the attitude of the doctor towards you during the appointment».

To determine the strength and direction of the influence of factor characteristics on patients' dissatisfaction with the availability and quality of medical care provided by primary care physicians in primary care centers in Kyiv, we used the method of constructing and analyzing of the logistic regression models (uni- and multivariate analysis). We assessed the impact on the result of the answer to question № 2, which concerned the assessment of the quality and availability of medical care, based on the answers to questions № 1, №№ 3-8 of the questionnaire.

Initially, the univariate analysis was conducted to assess the impact of each individual characteristic (answers to questions № 1, №№ 3-8) on the risk of dissatisfaction with the quality of medical care provided by a primary care physician.

The univariate analysis revealed the presence of a significant negative relationship between the responses to the questions № 1, №№ 3-5, № 8 and the risk of negative assessment of the quality of medical care (according to the question № 2) (Table 1).

According to respondents' answers (multivariable analysis), the quality of medical care is influenced by the following factors: organization of an appointment with a GP (question № 1), availability for a patient of referrals to specialist doctors (question № 5) and the doctor's attitude towards the patient during the appointment (question № 8) (Table 2).

The quality assessment of the logistic regression model (ROC analysis) is that the AUC 0,965 (95% CI: 0,946 – 0,979), which indicates an excellent relationship with the three-factor model of predicting the risk of a negative assessment of the level of satisfaction with the quality of medical care by GPs.

DISCUSSION

Globally, primary health care is becoming increasingly important in meeting the needs of patients and the population [8,11]. However, it is difficult to identify a single factor that is directly related to low or high levels of patient satisfaction with health services. A number of factors can influence patient satisfaction, including age, gender, socioeconomic status, health status, appointment conditions, treatment, and waiting times [12, 13]. Health systems are constantly changing and improving, so it is important to assess patient satisfaction outcomes to ensure the effective functioning of the health system and improve the quality of health care delivery [13]. The assessment of the quality of health care services depends largely on patient satisfaction and is an important indicator in assessing the health system and predicting health outcomes [5, 10].

Timely access to primary health care enhances patient satisfaction and the overall quality of medical care provided [14]. Patient satisfaction with medical services is a critical factor for the success of healthcare institutions [13]. According to our study, the majority of patients rated the organization of an appointment with their GP positively. In the group of respondents under 30 years of age, 97.8% were satisfied, with 76.7% giving the maximum score. Among patients over 60 years of age, 88.3% were satisfied, with 56.1% rating it the highest. Satisfaction in the 31-40 and 41-50 age groups was 94.8% and 95.5%, respectively. Notably, only 56.1% of respondents over 60 years old gave the maximum score, the lowest rate among all age groups.

Laboratory test results have an important impact on patient care, as they influence doctors' decisions about prescribing medications and monitoring and treating the vast majority of conditions [14]. Respondents' responses regarding the availability of necessary laboratory tests from their GP were mostly satisfactory. Among respondents over 60 years of age, the proportion of those dissatisfied with the availability of laboratory tests was 11,6%, compared with 4,4% among patients under 30 years of age. This suggests that older patients may face greater difficulties in accessing laboratory tests, which may affect the quality of their healthcare.

Many patients who present to GPs with chronic diseases and comorbidities are elderly [11, 12]. Our study found that the group most satisfied with the availability of prescriptions from a GP for chronic diseases were patients over 60 years of age (96.6%). It is noteworthy that 10% of respondents under 30 years of age and 20,5% of respondents aged 31-40 years were unable to assess the accessibility of obtaining prescriptions. This may be due to the fact that respondents in these groups are less likely to encounter the need to obtain prescriptions.

Based on the multivariate logistic analysis after stepwise inclusion/exclusion of variables into the predictive model for the risk of dissatisfaction with the quality of medical care, three factors were included in the model: the organization of the appointment, the availability of referrals to specialist doctors, and the doctor's attitude towards the patient.

It was established that the more satisfied the patients` were with the quality of appointment organization, the availability of referrals to specialists, and the doctor's attitude during the appointment, the less likely they were to be dissatisfied with the quality of medical care. This emphasizes the importance not only of the doctor's medical skills but also the organizational aspects of the healthcare facility's operations, including the accessibility of referrals to specialists, which can significantly improve the overall patient satisfaction with medical services. Based on these data, healthcare institutions can more effectively allocate resources to improve patient satisfaction [14]. Implementing changes based on this feedback is crucial for the modernization of the healthcare system and achieving optimal patient satisfaction [13].

CONCLUSIONS

The presence of age-related features of the formation of patient satisfaction with the quality of medical care has been established, which must be taken into account when planning measures to improve the management of the quality of medical care in health care facilities. The key factors that influence the level of patient dissatisfaction with the quality of primary healthcare are the organization of appointment scheduling, the availability of referrals to specialists, and the attitude of the GP towards the patient during the appointment.

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CONFLICT OF INTEREST

The Authors declare no conflict of interest

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RECEIVED: 09.01.2025
ACCEPTED: 02.06.2025