BMC Health Services Research

RESEARCH

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Sociodemographic factors determining the choice of pharmacy and the level of trust in pharmacists – a 2024 cross-sectional pilot survey in Poland

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Abstract

The role of pharmacists and pharmacies has changed in Poland. Since 2021, a pharmacist can provide health services as part of pharmaceutical care. For this reason, we conducted an analysis of the perception of pharmacies and pharmacists by Polish society, focusing on factors influencing the choice of a pharmacy and trust in pharmacists.The cross-sectional study was conducted on May 10–13, 2024, on a representative nationwide sample of 1,126 adults.

Sociodemographic factors influenced the choice of pharmacy and trust in it. Younger people (18–24 years old) gave priority to price, married people considered both price and location. Rural residents placed emphasis on product availability, and people who often buy medicines looked for pharmacies near physician's offices. Trust in pharmacists was higher among older people, married people and people with higher education. Logistic regression analysis showed that age 65 years and older ($p < 0.001$), financial status ($p < 0.001$) and frequency of medicine purchase ($p < 0.001$) influenced trust in pharmacists. Marriage ($p < 0.01$) and rural residence ($p < 0.01$) were associated with choice of pharmacies based on location. Price was influenced by age (30–39 years) ($p < 0.05$), marital status ($p < 0.05$) and frequency of medicine purchase ($p < 0.001$). More than half of respondents perceived pharmacies as places of health care, indicating a change in their role. However, convenience and price were dominant factors, with 61.8% choosing pharmacies due to proximity and 40.9% due to low prices. The survey found that 79.9% of respondents trusted pharmacists, but only 11.5% chose a pharmacy based on trust.

Keywords Pharmacists, Community pharmacies, Public health infrastructure, Trust, Poland, Socioeconomic factors

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Background

According to the World Health Organization (WHO), collaboration between medical professionals in patient care promotes the creation of health care systems that respond effectively to change, are resilient to crises and can change structures or processes to better cope with current conditions [1]. In the chain of this collaboration, community pharmacies can become an important link [2]. As part of the collaboration, medical professionals share their knowledge, skills and experience and together can achieve a higher quality of patient care than each of them individually [3]. Such collaboration is visible in many countries, including Australia, Canada, England, the Netherlands, Scotland and the USA, where community pharmacies change the paradigm from facilities dealing with dispensing medicines to activities related to pharmacist care for the patient [4].

According to the definition by Hepler and Strand, pharmaceutical care is the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient's quality of life [5]. It is a documented process in which the pharmacist collaborates with the patient and other members of the healthcare team in developing, implementing and monitoring a treatment plan [6]. This involves recognizing, solving and preventing real and potential drug problems. Pharmaceutical care is organized in various ways. In many contries, including the USA and Australia [7], services for the elderly are well developed, and in Europe, e.g. Great Britain [8], pharmaceutical care has developed pharmaceutical services within primary care.

The development of primary care is key to building a crisis-resistant health care system that responds effectively to change [1].

In Poland, there is potential to build a crisis-resistant system, because access to pharmacies is easier than access to primary health care clinics (PHCs) [9]. This results from the fact that there were on average 2,956 people per one public pharmacy and pharmacy point (a facility fulfilling similar functions to a pharmacy, but in a rural area) [10]. In countries with a GDP per capita similar to Poland, the number of people per pharmacy is much higher [9]. However, in Poland, as in many other countries, the professional group of pharmacists is not used effectively. The optimal use of human resources consists in "delegating tasks" traditionally performed by physicians to other health care workers trained in specific activities [11]. In Poland, the concept of pharmaceutical care has existed as a professional philosophy for almost 20 years [12]. The 1990 Act on Pharmaceutical Chambers contained the first regulations on pharmaceutical care, but little has been done to use these provisions in practice [13]. It was only the coronavirus (COVID- 19) pandemic and the associated increase in the number of patients using public pharmacies [14] and the introduction of vaccinations against COVID- 19 and influenza to pharmacies [15] that encouraged the government to seek and create new health services provided as part of pharmaceutical care. This was facilitated by the Act on the profession of pharmacist adopted in 2020 [16]. According to these regulations, a pharmacist is a person practicing a medical profession who provides health services. Currently, in Poland, the scope of services provided by pharmacists includes not only the dispensing of drugs and medical devices, but also pharmaceutical care.

The Act indicates the following pharmaceutical care services: pharmaceutical consultations, performing drug reviews together with the assessment of pharmacotherapy, developing an individual pharmaceutical care plan, performing diagnostic tests, issuing prescriptions as part of the continuation of a medical order. Currently, some services, e.g. some vaccinations for adults, are offered in the public system, while other services are not. For this reason, the development of pharmaceutical care in Poland is fragmented. Compared to other countries, which, such as the USA, Great Britain and Australia [7, 8], have highly developed pharmaceutical care services in pharmacies, in Poland it is still in the growth phase. Therefore, there is a need to train Polish pharmacists [16]. According to the regulations, every pharmacist with the right to practice the profession can provide pharmaceutical care. The exception are diagnostic tests that constitute pharmaceutical care, because pharmacists who want to provide pharmaceutical care in this area are required to complete additional training or a qualification course organized by the Center for Postgraduate Medical Education (CMKP) [17]. Additional qualifications are required to perform tests of basic vital parameters, such as blood pressure, heart rate, pulse and blood saturation; measurement of body weight, height and waist circumference; calculation of BMI (body mass index) and WHR (waist-to-hip ratio); blood glucose testing; lipid panel control (cholesterol, HDL and LDL fractions and triglycerides); and rapid antigen tests for detecting influenza, group A Streptococcus; and antigen test for SARS-CoV- 2. This set of skills is part of the primary health care competencies.

Therefore, there is a need for changes that will firstly include the pharmacist in the primary health care team and secondly encourage patients to use the clinical skills of community pharmacists within this team. These changes are necessary on several levels: legal, team cooperation, resources, IT solutions and patient attitudes. Patient opinions are valuable predictors of management and planning of health services and contribute to achieving high quality care [18]. A systematic review of the literature from 2005 to 2018, shows that when choosing a pharmacy, patients pay attention to the relationship with a friendly and competent pharmacist and convenience

(i.e. convenient location of the pharmacy, low price of medicines, opening hours, waiting time and availability of stocks) [19]. Moreover, previous studies conducted in Poland (in 2014) showed that when choosing a pharmacy by patients, only such factors as the location of the pharmacy, professional and high-quality service and low price of medicines are important [20]. These results underscore the need for research that considers factors beyond price and location to fully leverage the potential of pharmacists in the Polish healthcare system. However, there is no up-to-date nationwide data on how society perceives pharmacies and pharmacists in Poland. This study aimed to assess sociodemographic factors associated with pharmacy choice and trust in pharmacists.

Methods

Research methodology

This study was carried out following a cross-sectional design and a self-prepared questionnaire. Computer-assisted web-interview (CAWI) technique was chosen as a data collection tool. Data were collected by a public opinion survey company (Nationwide Research Panel Ariadna) [21]. This decision was motivated by a willingness to obtain nationwide representative data. Participants were selected from over 100,000 registered users available in the database of the research panel.

The selection of the study sample was based on non-probability quota sampling methods. The following variables were included in the sampling model to provide representativeness of the study sample: gender, age, and place of residence (regional distribution throughout Poland), based on data from the Statistics of Poland [22]. Inclusion criteria included age 18 and over and willingness to participate in the study. Exclusion criteria included lack of Internet access and lack of willingness to participate.

Each participant received a personal invitation with a URL address to the survey via text message and e-mail. The study questionnaire was available online on a dedicated website and could be filled out only once (respondents were obligated to answer all the questions). If someone refused to participate, the next participant was selected following demographic characteristics to maintain the representativeness of the sample.

A total of 1126 adults (18 years and over) filled the questionnaire between May 10–13, 2024. The response rate was estimated at 22%.

The same method was previously used in nationwide cross-sectional studies conducted in Poland, including studies on patients' attitudes from 2018––2023 [23–25].

Measures

Data on sociodemographic characteristics and parameters measuring patient expectations and satisfaction were collected via a closed-ended questionnaire that included 13 questions regarding factors that may influence the choice of a pharmacy and the level of trust in pharmacists (Supplementary file S1). The basis for developing the questionnaire was a literature review [26–28]. A pilot study was conducted on a group of 14 adults in Poland who completed the questionnaire twice within 2 weeks. After the pilot study, 3 questions were revised to simplify the wording in the text. Sociodemographic variables regarding family financial status were self-reported via three categories: good/moderate/poor. Employed or self–employed participants were classified as having an active professional status. Unemployed participants, retirees and students were classified as having an inactive professional status.

Statistics

The data were processed with SPSS version 28 (IBM Corp, Armonk, NY) statistical software to obtain descriptive statistics and crosstabs and perform binary logistic regression. Categorical variables are presented as frequencies and proportions. Crosstabs with chi-square tests were prepared to compare categorical variables. Logistic regression analyses were used to analyse the relationships between sociodemographic variables and (1) sociodemographic differences in factors were associated with influenced pharmacy choice; (2) trust in pharmacists and attitudes toward pharmacies by sociodemographic factors; and (3) factors associated with trust in pharmacists and pharmacy choice. In the bivariate analysis, all the variables were considered independent. Only variables that were statistically significant in the bivariate analysis were included in the multivariate models. The strength of the associations was presented via odds ratios (ORs) and 95% confidence intervals (95% CIs). A value of $p < 0.05$ was used to determine the significance of the results.

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Table 1 Participants' characteristics ($n = 1126$)

Variable	*n*	%
Gender		
Female	602	53.5
Male	524	46.5
Age [years]		
18–29	161	14.3
30–39	225	20.0
40–49	200	17.8
50–59	214	19.0
60+	326	29.0
Educational level		
Primary	22	2.0
Vocational	85	7.5
Secondary	501	44.5
Higher	518	46.0
Married		
Yes	613	54.4
No	513	45.6
Living with children under 18 years		
Yes	349	31.0
No	777	69.0
Place of residence		
Rural	421	37.4
City below 20,000 residents	149	13.2
City from 20,000 to < 100,000 residents	215	19.1
City from 100,000 to < 500,000 residents	185	16.4
City ≥ 500,000 residents	156	13.9
Occupational status		
Active	683	60.7
Passive	443	39.3
Household income class		
Good	542	48.1
Moderate	414	36.8
Bad	170	15.1

The answers "yes" and "rather yes" were combined for the logistic regression analysis.

Results

Characteristics of the group

The study involved 1,126 people aged 18–99, with women aged 18–83 constituting over half (53.3%) of the entire sample (Table 1). The largest group was composed of people over 65 years of age. In terms of place of residence, the largest group (19.1%) were people living in medium-sized cities. Only 9.5% of the participants had less than secondary education.

Table 1 presents the detailed characteristics of the participants.

Public attitudes towards pharmacies, pharmacists and behaviours toward visiting pharmacies

The study revealed that in the three months preceding the survey, almost half of the patients (44%) bought medicines at a pharmacy once a month (Table 2). When purchasing medicines, patients most often choose pharmacies that are located close to their place of residence (61.8%). In some cases, the decisive factor in selecting a pharmacy was the low price of the medicine (40.9%). In addition, patients chose pharmacies where staff and pharmacists they trusted worked, as well as those pharmacies where medicines were in stock and thus immediately available to patients.

Table 2 Public attitudes towards pharmacies and pharmacists ($n = 1126$)

Variable	*n*	%
How often have you bought medicines at a pharmacy in the last 3 months?		
Several times a week	40	3.6
Once a week	113	10.0
Several times a month	328	29.1
Once a month	495	44.0
I have not bought medicines in the pharmacy in the last 3 months	150	13.3
If you go to a pharmacy, what factors influence the choice of pharmacy?		
Distance of the pharmacy from the place of residence	696	61.8
Distance of the pharmacy from the office of the doctor who prescribed the medicines	107	9.5
Pharmacy staff and pharmacist whom I trust	129	11.5
Lowest drug prices	460	40.9
Medicines in stock and availability of medicines in the pharmacy	145	12.9
Do you trust pharmacists?		
Definitely yes	178	15.8
Rather yes	722	64.1
Rather no	60	5.3
Definitely no	21	1.9
I do not know	145	12.9
Do you agree with the statement: "There is time and place at the pharmacy to take care of your health"?		
Definitely yes	125	11.1
Rather yes	454	40.3
Rather no	205	18.2
Definitely no	77	6.8
I do not know	265	23.5

The study revealed that Polish patients trusted pharmacists (79.9%). Many patients declared that the pharmacy is the time and place in which to take care of their health (51.4%).

Sociodemographic differences in the factors were associated with influenced the choice of pharmacy

The study revealed that the product's low price influenced the choice of a pharmacy among young patients (18–24 years old) (Table 3). For married people, not only the product's price but also the distance from the place of residence is important. People who live in the countryside declare that when choosing a pharmacy, they are

Table 3 Sociodemographic differences in the factors that influence the choice of pharmacy ($n = 1126$)

If you go to a pharmacy, what factors influence the choice of pharmacy? (only responses "definitely yes" and "rather yes" are presented)										
	distance of the pharmacy from the place of residence		distance of the pharmacy from the office of the doctor		pharmacy staff and pharmacist whom I trust		lowest drug prices		medicines in stock and availability of medicines in the pharmacy	
Variable	**n (%)**	**p**	**n (%)**	**p**	**n (%)**	**p**	**n (%)**	**p**	**n (%)**	**p**
Gender										
Female	376 (62.5)	0.6	49 (8.1)	0.1	69 (11.5)	0.9	254 (42.2)	0.3	72 (12.0)	0.3
Male	320 (61.1)		58 (11.1)		60 (11.5)		206 (39.3)		73 (13.9)	
Age [years]										
18–29	105 (65.2)	0.2	14 (8.7)	0.02	18 (11.2)	0.5	55 (34.2)	0.01	25 (15.5)	0.5
30–39	145 (64.4)		34 (15.1)		23 (10.2)		77 (34.2)		23 (10.2)	
40–49	111 (55.5)		13 (6.5)		23 (11.5)		84 (42.0)		23 (11.5)	
50–59	140 (65.4)		20 (9.3)		20 (9.3)		105 (49.1)		30 (14.0)	
60+	195 (59.8)		26 (8.0)		45 (13.8)		139 (42.6)		44 (13.5)	
Educational level										
Primary	10 (45.5)	0.4	3 (13.6)	0.6	2 (9.1)	0.6	7 (31.8)	0.7	3 (13.6)	0.4
Vocational	50 (58.8)		7 (8.2)		6 (7.1)		31 (36.5)		16 (18.8)	
Secondary	313 (62.5)		43 (8.6)		59 (11.8)		207 (41.3)		63 (12.6)	
higher	323 (62.4)		54 (10.4)		62 (12.0)		215 (41.5)		63 (12.2)	
Married										
Yes	356 (58.1)	0.01	61 (10.0)	0.6	83 (13.5)	0.02	271 (44.2)	0.01	81 (13.2)	0.7
No	340 (66.3)		46 (9.0)		46 (9.0)		189 (36.8)		64 (12.5)	
Living with children under 18 years										
Yes	224 (64.2)	0.3	41 (11.7)	0.1	44 (12.6)	0.4	132 (37.8)	0.2	39 (11.2)	0.3
No	472 (60.7)		66 (8.5)		85 (10.9)		328 (42.2)		106 (13.6)	
Place of residence										
Rural	263 (62.5)	0.01	45 (10.7)	0.3	49 (11.6)	0.1	147 (34.9)	0.01	69 (16.4)	0.01
City below 20,000 residents	81 (54.4)		18 (12.1)		26 (17.4)		62 (41.6)		12 (8.1)	
City from 20,000 to < 100,000 residents	119 (55.3)		19 (8.8)		21 (9.8)		108 (50.2)		28 (13.0)	
City from 100,000 to < 500,000 residents	123 (66.5)		11 (5.9)		17 (9.2)		81 (43.8)		26 (14.1)	
City ≥ 500,000 residents	110 (70.5)		14 (9.0)		16 (10.3)		62 (39.7)		10 (6.4)	
Occupational status										
Active	428 (62.7)	0.5	68 (10.0)	0.5	67 (9.8)	0.03	279 (40.8)	0.9	73 (10.7)	0.01
Passive	268 (60.5)		39 (8.8)		62 (14.0)		181 (40.9)		72 (16.3)	
Household income class										
Good	337 (62.2)	0.9	45 (8.3)	0.07	69 (12.7)	0.4	227 (41.9)	0.7	72 (13.3)	0.9
Moderate	254 (61.4)		50 (12.1)		44 (10.6)		163 (39.4)		53 (12.8)	
Bad	105 (61.8)		12 (7.1)		16 (9.4)		70 (41.2)		20 (11.8)	
How often have you bought medicines at a pharmacy in the last 3 months?										
Several times a week	29 (72.5)	0.6	3 (7.5)	0.01	7 (17.5)	0.02	17 (42.5)	< 0.001	7 (17.5)	0.1
Once a week	68 (60.2)		20 (17.7)		20 (17.7)		37 (32.7)		8 (7.1)	
Several times a month	198 (60.4)		37 (11.3)		43 (13.1)		138 (42.1)		39 (11.9)	
Once a month	305 (61.6)		37 (7.5)		49 (9.9)		228 (46.1)		64 (12.9)	
I have not bought medicines in the pharmacy in the last 3 months	96 (64.0)		10 (6.7)		10 (6.7)		40 (26.7)		27 (18.0)	

guided by the distance of the pharmacy from the place of residence, the low price of the product and the fact that the medicines are in stock and immediately available in the pharmacy. Professionally active people pay attention to the availability of products in the pharmacy, which guides them when choosing a pharmacy. Patients who buy medicines often (several times a week) tend to select a pharmacy close to the doctor's office and where the price of the medicine is low.

Trust in pharmacists and attitudes towards pharmacies according to sociodemographic factors

The highest level of trust in pharmacists was declared by respondents in the two oldest age groups (86.9% in the 50–96 age group and 86.8% in the 60+-year age group), married people (82.4%) and people with higher education (82.2%) (Table 4). The respondents who trusted pharmacists described their economic status as good and noted that a visit to the pharmacy is a good time and place to

Table 4 Trust in pharmacists and attitudes towards pharmacies by sociodemographic factors

	Do you trust pharmacist? (definitely yes or rather yes)		"There is time and place at the pahramcy to take care of health" (definitely yes or rather yes)	
Variable	**n (%)**	**p**	**n (%)**	**p**
Gender				
Female	479 (79.6)	0.7	297 (49.3)	0.1
Male	421 (80.3)		282 (53.8)	
Age [years]				
18–29	117 (72.7)	< 0.001	86 (53.4)	0.6
30–39	167 (74.2)		124 (55.1)	
40–49	147 (73.5)		102 (51.0)	
50–59	186 (86.9)		110 (51.4)	
60+	283 (86.8)		157 (48.2)	
Educational level				
Primary	11 (50.0)	< 0.001	7 (31.8)	0.3
Vocational	60 (70.6)		41 (48.2)	
Secondary	403 (80.4)		264 (52.7)	
Higher	426 (82.2)		267 (51.5)	
Married				
Yes	505 (82.4)	0.03	316 (51.5)	0.9
No	395 (77.0)		263 (51.3)	
Living with children under 18 years				
Yes	269 (77.1)	0.1	193 (55.3)	0.08
No	631 (81.2)		386 (49.7)	
Place of residence				
Rural	327 (77.7)	0.3	213 (50.6)	0.7
City below 20,000 residents	118 (79.2)		80 (53.7)	
City from 20,000 to < 100,000 residents	175 (81.4)		117 (54.4)	
City from 100,000 to < 500,000 residents	147 (79.5)		95 (51.4)	
City ≥ 500,000 residents	133 (85.3)		74 (47.4)	
Occupational status				
Active	538 (78.8)	0.2	355 (52.0)	0.6
Passive	362 (81.7)		224 (50.6)	
Household income class				
Good	459 (84.7)	< 0.001	299 (55.2)	0.04
Moderate	320 (77.3)		196 (47.3)	
Bad	121 (71.2)		84 (49.4)	
How often have you bought medicines at a pharmacy in the last 3 months?				
Several times a week	32 (80.0)	< 0.001	27 (67.5)	< 0.001
Once a week	98 (86.7)		78 (69.0)	
Several times a month	270 (82.3)		184 (56.1)	
Once a month	402 (81.2)		232 (46.9)	
I have not bought medicines in the pharmacy in the last 3 months	98 (65.3)		58 (38.7)	

take care of one's health. The study revealed that pharmacists are most trusted by patients who bought medicines once a week in the three months preceding the study (86.7%). They also most often declared that the pharmacy is a time and place to take care of one's health (69.0%).

Factors related to trust in pharmacists and the choice of pharmacies

In the multivariate logistic regression model (Table 5), people aged 65 and over (OR: 2.49; [1.48–4.17]; $p < 0.001$), people declaring good financial status [OR: 2.29; [1.49–3.52]; $p < 0.001$) and participants who purchased medicines at a pharmacy at least once a week in the 3 months preceding the study (OR: 2.90; [1.63–5.18]; $p < 0.001$) were more likely to declare trust in pharmacists. Married people (OR: 0.71; [0.56–0.91]; $p < 0.01$) and people living in cities with fewer than 20,000 inhabitants [OR: 0.50; [0.31–0.80]; $p < 0.01$) more often reported that the reason for choosing a pharmacy was the distance from their place of residence. In the two–factor regression model, people aged 30–39 years (OR: 0.70; [0.49–0.99]; $p < 0.05$), married people (OR: 1.36; [1.07–1.73]; $p < 0.05$) and participants who purchased drugs from a pharmacy once a month in the 3 months preceding the study (OR: 2.35; [1.57–3.52]; $p < 0.001$) more often declared that the reason for choosing a pharmacy was the low price of the drug (Table 5).

Discussion

The study revealed that Polish patients trust pharmacists, and most patients agree that the pharmacy is the time and place to take care of their health. A large proportion of the study respondents bought medicines in a pharmacy once a month. Patients most often choose a pharmacy located close to their place of residence. The choice of a pharmacy is also determined by the low price of the product, and only some patients choose a pharmacy because of trust in the pharmacist (Table 2).

A pharmacist is a medical professional. Trust in healthcare professionals is crucial in the healthcare system and is essential for a patient to seek reliable care, disclose confidential information, and follow a specific treatment plan [29]. The results of this study clearly indicate that Polish patients trust pharmacists (Table 2).

Research conducted among pharmacy patients in Nova Scotia, Canada, in November and December 2019 allows for a better understanding of what influences patients' assessment of trust in pharmacists. One of the factors is patients' knowledge of the role of pharmacists in the health care system [29]. Similar situation is observed in the Middle East, where society has a good understanding of the basic duties of a community pharmacist, but there needs to be more awareness of the new role of pharmacists (providing health services) and advanced pharmaceutical services [30].

This is confirmed by the results of previous studies conducted in Poland from 2017-2018. According to these studies, Polish patients trusted pharmacists, and the position of this profession was quite high [29]. Additionally, discussed study revealed that more than half of the respondents believed that the pharmacists were fully competent in providing information about medicines, and the remainder believed that the pharmacists were qualified. Nevertheless, they preferred to ask their doctor how they should take medicines [31]. Another study from 2018 showed that Polish patients did not treat pharmacists as health advisors and reduced their role to that of salespeople dispensing medicines, and sociodemographic variables had no significant impact on the social perception of pharmacists [23].

In many European countries (including Greece and Sweden), pharmacies have become the primary healthcare facility used by patients because of easy access and quick service [2, 32]. In Poland, a similar trend can be observed. The role of pharmacists changed during the COVID- 19 pandemic when patients had limited access to doctors. Not only did they buy medicines, but they were also willing to seek advice at the pharmacy [14, 33].

Community pharmacies have become a place where services, including vaccinations (flu, COVID- 19, pneumococci), are provided [34]. The present study confirms these changes, as more than half of the respondents stated that the pharmacy is the time and place to care for one's health.

It is worth understanding the factors determining the choice of pharmacy to understand social attitudes towards the new role of the pharmacy pharmacist in the healthcare system. The present study shows that the pharmacy is a place often visited by Polish patients. Currently, almost half of Polish patients buy medicines in a pharmacy once a month, 30% a few times a month, and several percent once or a few times a week (Table 2). Similar results have been reported in other countries, including Greece, where more than 30% of patients visit pharmacies once a month and more than 20% visit two to three times a month [32]. It should be emphasized, however, that in Greece, the pharmacist is involved in active, multilevel patient care (pharmaceutical care) [32].

Studies conducted in many different countries, including the USA [35], Great Britain [20], South Africa [36], Ghana, Malta and Qatar [27], Saudi Arabia [37] and Japan [38], have confirmed that the basic criterion for choosing a pharmacy is the availability of specialist knowledge and professional services. In these countries, the pharmacist is the expert in prevention and medical education.

According to this study, which was conducted ten years later, these criteria have not changed. Currently, Polish

Table 5 Factors associated with trust in pharmacists and the selection of pharmacies ($n = 1126$)

	Do you trust pharmacist? (definitely yes or rather yes)		Distance of the pharmacy from the place of residence as a reason for choosing the pharmacy		Lowest drug price as a reason for choosing the pharmacy	
	Bivariable Logistic Regression	Multivariable Logistic Regression	Bivariable Logistic Regression	Multivariable Logistic Regression	Bivariable Logistic Regression	Multivariable Logistic Regression
Variable	**OR (95%CI)**	**OR (95%CI)**	**OR (95%CI)**	**OR (95%CI)**	**OR (95%CI)**	**OR (95%CI)**
Gender						
Female	0.95 (0.71–1.28)		1.06 (0.83–1.35)		1.13 (0.89–1.43)	
Male	Reference		Reference		Reference	
Age [years]						
18–29	Reference	Reference	Reference		0.69 (0.47–1.03)	0.91 (0.60–1.39)
30–39	1.08 (0.69–1.71)	1.05 (0.65–1.71)	0.97 (0.63–1.48)		0.70 (0.49–0.99)*	0.78 (0.55–1.13)
40–49	1.04 (0.65–1.67)	1.01 (0.61–1.67)	0.67 (0.43–1.02)		0.97 (0.68–1.39)	1.09 (0.76–1.57)
50–59	2.50 (1.47–4.23)***	2.53 (1.44–4.46)**	1.01 (0.66–1.55)		1.30 (0.92–1.83)	1.40 (0.98–2.00)
60+	2.48 (1.54–3.97)***	2.49 (1.48–4.17)***	0.79 (0.54–1.18)		Reference	Reference
Higher education						
Yes	1.31 (0.97–1.76)		1.04 (0.82–1.33)		1.05 (0.83–1.33)	
No	Reference		Reference		Reference	
Married						
Yes	1.40 (1.04–1.87)*	1.01 (0.72–1.40)	0.71 (0.55–0.90)**	0.71 (0.56–0.91)**	1.36 (1.07–1.73)*	1.29 (0.99–1.67)
No	Reference	Reference	Reference	Reference	Reference	Reference
Living with children under 18 years						
Yes	0.78 (0.57–1.06)		1.16 (0.89–1.51)		0.83 (0.64–1.08)	
No	Reference		Reference		Reference	
Place of residence						
Rural	Reference	Reference	0.70 (0.47–1.04)	0.74 (0.50–1.10)	0.81 (0.56–1.19)	0.79 (0.54–1.16)
City below 20,000 residents	1.09 (0.69–1.73)	1.11 (0.69–1.78)	0.50 (0.31–0.80)**	0.52 (0.32–0.83)**	1.08 (0.68–1.71)	1.11 (0.69–1.77)
City from 20,000 to < 100,000 residents	1.26 (0.83–1.90)	1.15 (0.75–1.77)	0.52 (0.34–0.80)**	0.54 (0.35–0.83)**	1.53 (1.01–2.32)*	1.53 (1.01–2.34)
City from 100,000 to < 500,000 residents	1.11 (0.73–1.70)	1.06 (0.68–1.65)	0.83 (0.52–1.31)	0.87 (0.55–1.38)	1.18 (0.77–1.82)	1.20 (0.77–1.87)
City ≥ 500,000 residents	1.66 (1.01–2.74)*	1.60 (0.96–2.69)	Reference	Reference	Reference	Reference
Occupational status						
Active	0.83 (0.61–1.12)		1.10 (0.86–1.40)		1.00 (0.78–1.28)	
Passive	Reference		Reference		Reference	
Household income class						
Good	2.34 (1.49–3.36)***	2.29 (1.49–3.52)***	1.02 (0.71–1.45)		1.03 (0.73–1.46)	
Moderate	1.38 (0.92–2.06)	1.26 (0.83–1.93)	0.98 (0.68–1.42)		0.93 (0.65–1.33)	
Bad	Reference	Reference	Reference		Reference	

Table 5 (continued)

	Do you trust pharmacist? (definitely yes or rather yes)		Distance of the pharmacy from the place of residence as a reason for choosing the pharmacy		Lowest drug price as a reason for choosing the pharmacy	
	Bivariable Logistic Regression	Multivariable Logistic Regression	Bivariable Logistic Regression	Multivariable Logistic Regression	Bivariable Logistic Regression	Multivariable Logistic Regression
Variable	**OR (95%CI)**	**OR (95%CI)**	**OR (95%CI)**	**OR (95%CI)**	**OR (95%CI)**	**OR (95%CI)**
Visiting pharmacy in the last 3 months						
At least once a week	3.00 (1.72–5.23)***	2.90 (1.63–5.18)***	0.97 (0.61–1.56)		1.50 (0.92–2.45)	1.37 (0.83–2.26)
Several times a month	2.47 (1.59–3.84)***	2.06 (1.30–3.27)**	0.86 (0.57–1.28)		2.00 (1.31–3.05)**	1.80 (1.16–2.77)**
Once a month	2.29 (1.53–3.44)***	1.89 (1.24–2.89)**	0.90 (0.62–1.32)		2.35 (1.57–3.52)***	2.17 (1.44–3.28)***
Vo	Reference	Reference	Reference		Reference	Reference

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

patients most often choose pharmacies that are located close to their place of residence, as well as pharmacies that offer a low price of the drug (Table 2). Importantly, the low price of the drug over-the-counter (OTC) products were the main factor influencing the choice of pharmacy in the group of young patients (18–24 years old). This is probably because young patients have rather limited possibilities for using drug reimbursement (financing the purchase of drugs by the public payer). In Poland, there are several levels of reimbursement, and free drugs are basically intended for special groups: seniors (65+) and children up to 18 years of age [39]. For married people, both factors are important when choosing a pharmacy: distance from the place of residence and low price of the product. A study conducted among patients of an academic care center in Washington revealed that, first, more than 60% of them would change the pharmacy where they usually buy their medicines if they had to pay less at another pharmacy (approx. USD 10–25), and the distance between both pharmacies was the same; second, more than 20% of patients would change the pharmacy due to the lower price even if the distance to this pharmacy was 45 min longer [40].

According to this study, people living in the countryside declared that when choosing a pharmacy, they are also guided not only by the distance of the pharmacy from the place of residence and the low price of the product but also by the fact that the medicines are in stock and immediately available in the pharmacy. This is because, in Poland, the availability of pharmacies in rural areas is much lower than that in cities. In the countryside, the number of people per public pharmacy was approximately 8.2 thousand residents, and in the city, there was an average of 3.2 thousand people [22]. Moreover, according to the present study, professionally active people pay attention to the availability of products in the pharmacy, which is what guides them when choosing a pharmacy.

It should be assumed that in Poland, which is at the beginning of systemic changes aimed at using the potential and professionalism of pharmacists, the decisive factors in choosing a pharmacy are the distance of the pharmacy from the place of residence and the low price of the product, and sociodemographic variables have an impact on this choice. According to this study, married people and people living in cities with fewer than 20,000 inhabitants were more often guided by the distance of the pharmacy from their place of residence when choosing a pharmacy. On the other hand, people aged 30–39 years, married people and participants who bought drugs at a pharmacy once a month in the 3 months preceding the study more often declared that the reason for choosing a pharmacy was the low price of the drug (Table 5).

Competence and communication are the most important factors that influence the ability of doctors to build trust [41]. Empirical studies, among others from the United Arab Emirates, confirmed that these two factors also influence patients' trust in pharmacists [42]. The current study revealed that Polish patients trusted pharmacists (Table 2).

However, a review of 30 studies from the UK between 2005 and 2016 does not provide a clear answer to the question of whether trust in pharmacists determines patients' choice of pharmacy. Some studies reported that trust in pharmacists was high. Three studies reported that patients suspected that pharmacists had links with the business and were concerned about pharmacists' knowledge and training, whereas participants in one study reported very positive opinions about pharmacists who provided advice and referred them to other specialists [43].

In recent years, countries such as Australia, Canada, England, the Netherlands, Scotland and the USA have introduced several reforms to expand the roles and responsibilities of pharmacists in the care of people with chronic diseases [44]. Studies from these countries have shown that patients with conditions such as cardiovascular disease, COPD or diabetes who visit the pharmacy frequently and take many medications (approximately 10 on average) are satisfied with their relationship with their pharmacist, perceiving pharmacists as a trusted source of information about medications [44–46].

This study revealed that pharmacists are trusted by patients who frequently bought drugs (several times a week) in the three months preceding the study. They also declared that the pharmacy is the place and time to take care of their health. Building trusting relationships with young people is no small challenge for pharmacists. In the case of chronic diseases (e.g., rheumatoid arthritis), pharmacists support young people who seek reliable information online and want to learn more about it [47].

The present study shows that in Poland, the greatest degree of trust in pharmacists was declared by young patients aged 18–29, people with primary education, and married people (Table 4). Other studies on people with diabetes have shown how important communication with patients is [46]. A study conducted in the USA in a group adults who had filled at least one prescription in a community pharmacy in the last year revealed that approximately one-third of patients stated that they bought medicines because they knew and trusted the pharmacist [48]. In the present study, respondents who had trust in pharmacists described their economic status as good and noted that a visit to the pharmacy is a good time and place to take care of their health (Table 4).

Limitations

The study was conducted on a nationwide representative sample of adults in Poland, but the research method was based on computer-assisted online interviews, so people who did not have access to the Internet were not included. However, according to the Central Statistical Office in Poland, over 93% of households have access to the internet [22]. The study included a stratification model, i.e., an age range; therefore, there is a low risk of bias resulting from the sampling methods and potentially low representativeness of older people.

Owing to the prior pilot study, the study used well-known questions on factors was associated with influenced the choice of pharmacy and trust in the pharmacist. The limitations were the use of closed-ended questions, multiple choice questions, and the lack of interaction with respondents. Although there is a minimal risk of bias, the authors considered that presenting the results of this study will contribute to a better understanding of the role of the pharmacist and the potential use of this professional group in healthcare systems throughout Europe. It should be assumed that high percentages of "don't know" answers to some questions may indicate that the respondent did not want to think about the answer or is due to lack of knowledge and may lead to potential response bias. There are many factors that may affect the trust of pharmacists and the selection of a pharmacy. This study was limited to the most important ones based on the literature review. However, the limited number of factors included in this study is a limitation and may impact its validity. Nevertheless, this is one of the first studies on factors determining the choice of pharmacy and the level of trust in pharmacists, that was carried out on a representative sample of adults in Poland.

Conclusions

In Poland, since the COVID- 19 pandemic, the role and perception of pharmacists as medical professionals have changed. Patients, especially young people aged 18–29, declare great trust in this professional group. However, this does not reflect on the position of pharmacists in the healthcare system. Patients still treat the pharmacy as a "drug store" and, therefore, are guided by convenience when choosing a pharmacy located close to their place of residence and offering low prices for medicines.

Currently, only some patients choose a specific pharmacy because of their trust in the pharmacist. Despite changes in the law, the involvement of pharmacists in vaccinations in pharmacies and training on diagnostic tests and their knowledge and experience are still not fully utilized. In addition to the changes mentioned, it seems necessary to build and maintain trust, as well as focus on the new role of pharmacists perceived as professional patient advisors, which ultimately contributes to better patient care and better treatment outcomes.

Practical implications

The readiness of patients to change should be used to improve the potential and professionalism of pharmacists and pharmacies. The majority of adults in Poland believe that in the pharmacy is the right time and place to take care of their health. The results of this study should be used in planning health education, as pharmacists can also be an important and easily accessible source of knowledge for the patient. It is therefore expected that the results of this study will provide guidance to health policy makers, especially with regarding to solutions that will strengthen the Polish health care system, so that it becomes resilient to crises. In particular, this applies to the use of pharmacists in patient care. The conclusions from the study conducted on a nationwide representative sample of adults in Poland, in particular sociodemographic factors determining the choice of pharmacy and the level of trust in pharmacists, may be important indicators for countries undergoing systemic changes integrating pharmacies and primary health care within pharmaceutical care.

Abbreviations

BMI	Body mass index
CAWI	Computer-assisted web-interview
CMKP	Center for Postgraduate Medical Education
CI	Confidence interval
COPD	Chronic Obstructive Pulmonary Disease
GDP	Gross Domestic Product
OTC	Over-the-counter
OR	Odds ratio
PHC	Primary Health Care
WHR	Waist-to-hip ratio

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12913-025-12709-6.

Supplementary Material 1.

Acknowledgements

Not applicable.

Authors' contributions

Author Contributions: Conceptualization, I.WW., J.GS., M.J., K.S.; Data curation, I.WW.; Formal analysis, I.WW., J.SG., M.J.; Investigation, I.WW.; Methodology, I.WW., M.J.; Project administration, I.WW.; Supervision, J.P.; Visualization, I.WW.; Writing– original draft, I.WW., K.S., J.GS.; Writing– review & editing, I.WW., J.P., M.J.

Funding

This study received no external funding.

Data availability

The dataset is available from the corresponding author upon reasoned request.

Declarations

Ethics approval and consent to participate

The study was conducted in accordance with the recommendations of the Declaration of Helsinki approved by the Ethics Committee of the Medical Centre for Postgraduate Education in Warsaw (approval no. 442/2023 of 13 December 2023). Each participant in the study provided informed consent before completing the questionnaire. They were also informed about the purpose of the study, and in the event of a lack of consent, the survey was automatically terminated.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

Received: 20 August 2024 / Accepted: 7 April 2025
Published online: 15 May 2025

References

1. Thomas S, Sagan A, Larkin J, Cylus J, Figueras J, Karanikolos M. Strengthening health systems resilience: Key concepts and strategies. Copenhagen (Denmark): European Observatory on Health Systems and Policies; 2020.
2. Westerlund T, Marklund B. Community pharmacy and primary health care in Sweden—at a crossroads. Pharm Pract (Granada). 2020;18(2):1927. https://doi.org/10.18549/PharmPract.2020.2.1927.
3. Bridges DR, Davidson RA, Odegard PS, Maki IV, Tomkowiak J. Interprofessional collaboration: three best practice models of interprofessional education. Med Educ Online. 2011;16. https://doi.org/10.3402/meo.v16i0.6035.
4. Mossialos E, Courtin E, Naci H, et al. From "retailers" to health care providers: Transforming the role of community pharmacists in chronic disease management. Health Policy. 2015;119(5):628–39. https://doi.org/10.1016/j.healthpol.2015.02.007.
5. Hepler CD, Strand LM. Opportunities and responsibilities in pharmaceutical care. Am J Hosp Pharm. 1990;47(3):533–43.
6. The Pharmaceutical Group of the European Union (PGEU): Pharmacy 2030: A Vision for Community Pharmacy in Europe. https://www.pgeu.eu/pharmacy-2030/. Accessed on 13 Oct 2024.
7. Haider I, Naunton M, Davey R, Peterson GM, Baqir W, Kosari S. How Do Pharmacists Practice in Aged Care? A Narrative Review of Models from Australia, England, and the United States of America. Int J Environ Res Public Health. 2021;18(23):12773. https://doi.org/10.3390/ijerph182312773.
8. Silcock J, Raynor DK, Petty D. The organisation and development of primary care pharmacy in the United Kingdom. Health Policy. 2004;67(2):207–14. https://doi.org/10.1016/s0168-8510(03)00121-0.
9. Wiśniewski M, Religioni U, Merks P. Community Pharmacies in Poland—The Journey from a Deregulated to a Strictly Regulated Market. Int J Environ Res Public Health. 2020;17(23):8751. https://doi.org/10.3390/ijerph17238751.
10. Central Statistical Office. Pharmacies and pharmacy outlets in 2022. https://stat.gov.pl/files/gfx/portalinformacyjny/pl/defaultaktualnosci/5513/15/7/1/apteki_i_punkty_apteczne_w_2022_r.pdf.
11. Maier CB, Kroezen M, Busse R, Wismar M. Skill–mix Innovation, Effectiveness and Implementation. Improving Primary and Chronic Care. European Observatory on Health Systems and Policies. Cambridge University Press; 2022. https://doi.org/10.1017/9781009031929.
12. Świeczkowski D, Merks P, Cwalina N, Jaguszewski MJ. Development of Pharmacy Practice in European Countries—The Polish Perspective. Pharmacy. 2017;5(3):43. https://doi.org/10.3390/pharmacy5030043.
13. Byliniak M, Galon K, Arabas I. The way to Pharmaceutical Care in Poland–practice, definitions and act. Farm Pol. 2021;77(1):34–9.
14. Merks P, Jakubowska M, Drelich E, et al. The legal extension of the role of pharmacists in light of the COVID–19 global pandemic. Res Social Adm Pharm. 2021;17(1):1807–12. https://doi.org/10.1016/j.sapharm.2020.05.033.
15. Republic of Poland, Journal of Laws 2008, No. 234, item 1570. The Act on the prevention and control of infectious diseases and infections in humans. Available online: https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20082341570/U/D20081570Lj.pdf. Accessed on 11 Aug 2024.
16. Republic of Poland, Journal of Laws 2021, item 97. The Act on the Pharmacist Profession. Available online: https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20210000097/U/D20210097Lj.pdf. Accessed on 11 Aug 2024.
17. Republic of Poland, Journal of Laws 2022, item 153. The Regulation of the Minister of Health on the list of diagnostic tests that can be performed by a pharmacist. Available online: https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20220000153/O/D20220153.pdf. Accessed on 11 Aug 2024.
18. Liang Z, Xu M, Liu G, Zhou Y, Howard P. Patient–centred care and patient autonomy: doctors' views in Chinese hospitals. BMC Med Ethics. 2022;23(1):38. https://doi.org/10.1186/s12910-022-00777-w.
19. Patel PM, Vaidya V, Osundina F, Comoe DA. Determining patient preferences of community pharmacy attributes: A systematic review. J Am Pharm Assoc (2003). 2020;60(2):397–404. https://doi.org/10.1016/j.japh.2019.10.008.
20. Merks P, Kaźmierczak J, Olszewska AE, Kołtowska-Häggström M. Comparison of factors influencing patient choice of community pharmacy in Poland and in the UK, and identification of components of pharmaceutical care. Patient Prefer Adherence. 2014;8:715–26. https://doi.org/10.2147/PPA.S53829.
21. Nationwide Research Panel Ariadna. Available online: https://panelariadna.com/. Accessed on 8 Aug 2024.
22. Central Statistical Office. The information society in Poland in 2022. Available online: https://stat.gov.pl/files/gfx/portalinformacyjny/pl/defaultaktualnosci/5497/2/12/1/spoleczenstwo_informacyjne_w_polsce_w_2022_r.pdf. Accessed on 11 Aug 2024.
23. Majchrowska A, Bogusz R, Nowakowska L, Pawlikowski J, Piątkowski W, Wiechetek M. Public Perception of the Range of Roles Played by Professional Pharmacists. Int J Environ Res Public Health. 2019;16(15):2787. https://doi.org/10.3390/ijerph16152787.
24. Jankowski M, Grudziąż-Sękowska J, Wrześniewska-Wal I, et al. National HPV Vaccination Program in Poland-Public Awareness, Sources of Knowledge, and Willingness to Vaccinate Children against HPV. Vaccines (Basel). 2023;11(8):1371. https://doi.org/10.3390/vaccines11081371.
25. Raciborski F, Tomaszewska A, Rakocy K, Samel-Kowalik P, Samoliński B, Gujski M, Pinkas J, Jankowski M. The multidimensional nature of attitudes towards preventive vaccinations– a cross–sectional survey among Poles aged 15–39 years. Int J Occup Med Environ Health. 2023;36(2):214–28. https://doi.org/10.13075/ijomeh.1896.02068.
26. Tadesse YB, Sendekie AK, Mekonnen BA, Denberu FG, Kassaw AT. Pharmacists' Medication Counseling Practices and Knowledge and Satisfaction of Patients With an Outpatient Hospital Pharmacy Service. Inquiry. 2023;60:469580231219457. https://doi.org/10.1177/00469580231219457.
27. Okai GA, Abekah-Nkrumah G, Asuming PO. Perceptions and trends in the use of community pharmacies in Ghana. J Pharm Policy Pract. 2019;12:25. https://doi.org/10.1186/s40545-019-0186-x.
28. Adekunle OA, Olson AW, Schommer JC, Brown LM. Investigation of predictors influencing patient–pharmacist relationship establishment. J Am Pharm Assoc (2003). 2023;63(3):853–62. https://doi.org/10.1016/j.japh.2022.12.024.
29. Morrison B, Boyle TA, Mahaffey T. Awareness, Familiarity, and Pharmacist Trust: A Structural Equation Model Analysis. J Pharm Technol. 2022;38(3):174–82. https://doi.org/10.1177/87551225211052411.
30. El Hajj MS, Mekkawi R, Elkaffash R, Saleh R, El Awaisi A, Wilbur K. Public attitudes towards community pharmacy in Arabic speaking Middle Eastern countries: A systematic review. Res Social Adm Pharm. 2021;17(8):1373–95. https://doi.org/10.1016/j.sapharm.2020.11.013.
31. Andrzejewska M, Religioni U, Piątkiewicz P, Barańska A, Herda J, Czerw A, Krysiński J, Merks P. Public Perception of Pharmacists in Poland. Int J Environ Res Public Health. 2022;19(5):2515. https://doi.org/10.3390/ijerph19052515.
32. Georgiopoulos K, Manthou P, Korompeli A, Vasileiou P, Lioliousis G, Dainavas D, Pietri I. Patients' Satisfaction With Pharmaceutical Care Services Provided During COVID Pandemic: Experience From Greece. Cureus. 2023;15(4):e37743. https://doi.org/10.7759/cureus.37743.
33. Waszyk-Nowaczyk M, Guzenda W, Kamasa K, et al. Cooperation Between Pharmacists and Physicians– Whether It Was Before and is It Still Ongoing During the Pandemic? J Multidiscip Healthc. 2021;14:2101–10. https://doi.org/10.2147/JMDH.S318480.
34. Wrześniewska-Wal I, Grudziąż-Sękowska J, Pinkas J, Jankowski M. Public Knowledge and Beliefs Regarding Pharmacy-Based Immunization in Poland—A Nationwide Cross-Sectional Study, 2024. Vaccines. 2024;12(8):835. https://doi.org/10.3390/vaccines12080835.
35. Olson AW, Vaidyanathan R, Stratton TP, Isetts BJ, Hillman LA, Schommer JC. Patient-Centered Care preferences & expectations in outpatient pharmacist practice: A three archetype heuristic. Res Social Adm Pharm. 2021;17(10):1820–30. https://doi.org/10.1016/j.sapharm.2021.02.005.
36. Bornman S, Truter I, Venter DJL. Public perception of community pharmacists in South Africa: a preliminary study. Health SA Gesondheid. 2006;11(3):27–40 https://hdl.handle.net/10520/EJC34999.

37. Almohammeda OA, Alsanea S. Public Perception and Attitude toward Community Pharmacists in Saudi Arabia. Saudi, J Health Syst Res. 2021;1(2):67–74. https://doi.org/10.1159/000515207.
38. Kamei M, Teshima K, Fukushima N, Nakamura T. Investigation of patients' demand for community pharmacies: relationship between pharmacy services and patient satisfaction. Yakugaku Zasshi. 2001;121(3):215–20. https://doi.org/10.1248/yakushi.121.215.
39. Republic of Poland, Journal of Laws 2023, item 1733. The Act of 13 July 2023 amending the Act on health care services financed from public funds and the Act on reimbursement of medicines, foodstuffs for special nutritional purposes and medical devices. Available online: https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20230001733/T/D20231733L.pdf. Accessed on 11 Aug 2024.
40. Brodsky SD, Awosika OD, Eleryan MG, et al. Patient Awareness of Local Drug Price Variation and the Factors That Influence Pharmacy Choice: A Cross–sectional Survey Study. J Drugs Dermatol. 2017;16(12):1274–80.
41. Alghurair SA, Simpson SH, Guirguis LM. What elements of the patient-pharmacist relationship are associated with patient satisfaction? Patient Prefer Adherence. 2012;6:663–76. https://doi.org/10.2147/PPA.S35688.
42. Siddiqua A, Kareem Abdul W, Ayan S, Al Azm L, Ali S. Antecedents of patients' trust in pharmacists: empirical investigation in the United Arab Emirates. Int J Pharm Pract. 2018;26(1):63–72. https://doi.org/10.1111/ijpp.12359.
43. Hindi AMK, Schafheutle EI, Jacobs S. Patient and public perspectives of community pharmacies in the United Kingdom: A systematic review. Health Expect. 2018;21:409–28. https://doi.org/10.1111/hex.12639.
44. Te Paske R, van Dijk L, Yilmaz S, Linn AJ, van Boven JFM, Vervloet M. Factors Associated with Patient Trust in the Pharmacy Team: Findings from a Mixed Method Study Involving Patients with Asthma & COPD. Patient Prefer Adherence. 2023;17:3391–401. https://doi.org/10.2147/PPA.S429969.
45. Butler L, Zona S, Patel AA, Brittle C, Shea L. How can pharmacists better support patients with chronic diseases? The patient perspective. J Am Pharm Assoc (2003). 2023;63(6):1776-1784.e3. https://doi.org/10.1016/j.japh.2023.08.023.
46. Brewster S, Holt R, Portlock J, Price H. The role of community pharmacists and their position in the delivery of diabetes care: an update for medical professionals. Postgrad Med J. 2020;96(1138):473–9. https://doi.org/10.1136/postgradmedj-2020-137511.
47. Gray NJ, Shaw KL, Smith FJ, et al. The Role of Pharmacists in Caring for Young People With Chronic Illness. J Adolesc Health. 2017;60(2):219–25. https://doi.org/10.1016/j.jadohealth.2016.09.023.
48. Patterson JA, Holdford DA. Pharmacy patronage and service utilization: Associations with patient sociodemographic and health characteristics. J Am Pharm Assoc (2003). 2019;59(5):660-6692.e2. https://doi.org/10.1016/j.japh.2019.04.022.

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