



The level of trust in healthcare professionals in Poland during the COVID-19 pandemic

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Abstract

Introduction. The level of trust in the healthcare professionals in Poland is one of the lowest in the European Union. The COVID-19 pandemic caused a sense of danger due to the risk of infection and death. The aim of the survey was to determine the level of trust that Polish citizens have in healthcare professionals and the factors related to trust, including concern of SARS-Cov-2 infection and their opinion on pandemic management.

Materials and Method. The study comprised 1,218 adult citizens of Poland aged 18–90. The study was conducted on a representative sample at the national level. Data were collected between 6–16 September 2021.

Results. The highest percentage of respondents expressed trust in healthcare workers in terms of their competences (66.1%), and the lowest in terms of equal treatment of patients (43.7%). More than half (53.0%) of those with a very low level of trust in medical staff negatively assessed the government's actions related to the pandemic. In this group, 59.8% were not afraid of SARS-CoV-2 infection. Multivariable logistic regression showed that people with a very low level of trust in medical staff had twice the chance (OR=2.09; 95%CI: 1.23–3.56) of being unvaccinated against COVID-19, compared to those with a very high level of trust.

Conclusions. The issue of trust in medical personnel is multi-dimensional. The highest percentage of individuals expressed trust in the competences of doctors and their level of engagement in their work. The majority of doubts concerned the equality of treatment of patients. Elderly individuals tended to exhibit more trust in medical personnel compared to younger individuals. Reluctance to vaccination against COVID-19 was associated with a lack of trust in medical personnel.

Key words

trust, healthcare system, Covid-19

INTRODUCTION

To build trust and a good relationship between doctor and patient, appropriate communication between them is needed. In Poland, trust in medical staff is the lowest compared to other European countries [1]. Patients' trust in doctors and the healthcare system is an important element that allows for an enhancement of the therapeutic effect [2]. The healthcare system operates on the basis of relationships [3] which allows for the maintenance of patients' good health. When the established doctor-patient relationship is broken, it is the patients that feel the consequences the most. The number of hospital admissions rises by 3%, and the mortality rate by 4% [4]. Trust also plays a very important role in coping with global health crises. This trust can be enhanced through positive societal attitudes towards scientists and researchers in the field of health, with the development of public health institutions contributing to building trust [5].

According to the Global Trustworthiness Index survey conducted by Ipsos in 2024, which included 32 countries from around the world, the average level of trust in doctors was 58% [6]. The highest level of trust in doctors was found

in Indonesia (73%), The Netherlands (73%), Indonesia (68%), and Thailand (68%). In this ranking, Poland came third from the bottom out of 32 countries with a score of 41%. In the previous edition of the survey from 2023, Poland ranked 28 placed among the 31 analyzed countries with a score of 45% [7].

According to Article 68, Section 1 of the Constitution of the Republic of Poland, everyone has the right to healthcare, which should be regarded as a public subjective right, and public authorities must ensure equal access to health services financed from public funds [8]. Every insured person within the framework of Primary Healthcare (*Podstawowa Opieka Zdrowotna – POZ*) can be referred by a PHC doctor as a patient to Ambulatory Specialized Care (*Ambulatoryjna Opieka Specjalistyczna – AOS*), or hospital treatment [9].

Trust in doctors and the healthcare system can also depends on other factors. The COVID-19 pandemic strained the entire healthcare system and directly affected the availability of services [10]; it also triggered widespread feelings of threat associated with the risk of infection and death [11]. Additionally, the disinformation campaign that took place during the COVID-19 pandemic negatively impacted trust in the healthcare system [12]. Data collected from 28 European countries, including all EU member states and the United Kingdom, show that exposure to COVID-19 increased trust in the healthcare system [13]. In Norway, a higher patient

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trust in healthcare was observed after the outbreak of the COVID-19 pandemic, compared to before its onset [14]. In Germany, trust in healthcare remained stable in 2020, but began to decline in the spring of 2021 [15]. This proves the complexity of this phenomenon.

The aim of the study was to determine the level of trust that Polish citizens have in medical personnel and to examine the factors associated with it. It also examined whether the willingness to get vaccinated against COVID-19 during the COVID-19 pandemic depended on the level of trust in medical personnel.

MATERIALS AND METHOD

Study design. The study utilized secondary data analysis. Data from a cross-sectional survey conducted on a representative sample of 1,218 adult residents of Poland were used. The survey was carried out between 6–16 September 2021. The dataset from the Public Opinion Research Centre (CBOS) was purchased by the Medical University of Warsaw, acquired for the purpose of secondary statistical data analysis. Permission was granted by the university to use the purchased dataset to conduct its own analyses and prepare publications [16].

Setting. The data used in the analysis came from a cross-sectional questionnaire survey conducted on a representative named sample of Polish citizens. Three separate research techniques were employed to collect the data: 1) computer-assisted personal interviewing (CAPI) – 62.4% of the sample; 2) computer-assisted telephone interviewing (CATI) – 25.0% of the sample; 3) computer-assisted web interviewing (CAWI) – 12.6% of the sample.

Participants. Participants for the study were randomly selected from the PESEL register (the Universal Electronic System for Registration of the Population). The sampling frame included adult citizens of Poland aged 18–90 years.

Variables. The study utilized a proprietary scale to measure trust in medical personnel. This scale was constructed based on a series of five questions assessing respondents' attitudes toward the following statements:

- i. doctors are competent – they know what they're doing;
- ii. doctors working within the National Health Fund (NFZ) are dedicated to their work – they are committed to helping patients;
- iii. within the NFZ, all patients are treated equally, depending only on their health condition;
- iv. patients treated within the NFZ are treated with kindness and care;
- v. primary healthcare doctors correctly identify the patient's problem(s) and make appropriate decisions regarding further action.

Respondents could choose from the following responses for each question: 1) strongly agree; 2) somewhat agree; 3) somewhat disagree; 4) strongly disagree; 5) hard to say. For the purpose of scale construction, the order of responses was reversed and it was assumed that 'hard to say' would be the middle category. The reliability analysis of the scale based on five questions showed a Cronbach's alpha of 0.846. To create a scale for assessing trust in medical personnel,

the average value of the five questions was calculated. The resulting scale ranged from 1–5, where 1 indicated complete lack of trust and 5 indicated maximum trust. The analysis additionally included questions specifically related to the COVID-19 pandemic:

- i. How, generally speaking, do you rate the government's actions aimed at fighting the coronavirus epidemic in Poland?
- ii. Are you personally afraid of being infected with the coronavirus?
- iii. In your opinion, should an employer have access to information about which employees are vaccinated against COVID-19?
- iv. In your opinion, does an employer have the right to require employees to get vaccinated against COVID-19?
- v. Would you like to get vaccinated against COVID-19?

Respondents' age was calculated based on their year of birth. Additionally, the analysis utilized information about gender, size of the place of residence, self-assessment of material situation, education level, employment status, regular internet usage, and having underage children.

Data sources/ measurement. The analysis utilized data collected from a cross-sectional survey conducted by the Public Opinion Research Centre (CBOS), one of the most renowned public opinion research institutes in Poland. The study utilized analytical weights for observations developed by CBOS.

Study size. In the analysis, a dataset consisting of 1,218 individuals was utilized.

Statistical methods. Statistical analyses were conducted using cross-tabulations, the chi-square test of independence, Kolmogorov-Smirnov goodness-of-fit to normal distribution test, Mann-Whitney test, and the Kruskal-Wallis test for independent samples, as well as logistic regression analysis. A significance level of $\alpha=0.05$ was adopted. The analyses were performed using IBM SPSS ver. 28.0.1.0 and ver. 29.0.0.0 (Armonk, NY, USA: IBM Corp.).

RESULTS

In the study group ($n=1,218$), women accounted for 52.9%; average age – 49.2 years ($SD=0.51$). Residents of rural areas constituted 40.6% of the study group. The most common education levels were secondary education (32.2%) and higher education (29%). In the study group, 54.9% of individuals were professionally employed (Tab. 1).

Respondents differed in their assessment of various dimensions of trust in medical staff and doctors in particular in Poland. The largest percentage of individuals expressed trust in the competences of doctors (66.1% positive responses) and the level of doctors' engagement in their work (58.4%). The lowest rating was given to the equal treatment of patients (43.7%) (Tab. 2).

In the study group ($n=1218$), the average score (median) on the trust in medical personnel scale was 3.4 (where 1 represented no trust and 5 represented total trust). There were no statistically significant differences observed regarding gender ($p=0.259$), place of residence ($p=0.180$), education

Table 1. Trust in healthcare professionals by socio-demographic characteristics of respondents (n=1,218)

Variable	n	%	Trust in medical staff scale 1–5 (median)
Total	1,218	100	3.4
Gender			
Male	574	47.1	3.4
Female	644	52.9	3.2
Age (years)			
<= 29.00	183	15.1	3.2
30.00 – 44.00	356	29.2	3.4
45.00 – 59.00	271	22.3	3.2
60.00 – 74.00	303	24.8	3.6
75.00+	105	8.6	3.2
Place of residence			
rural	495	40.6	3.4
city <= 99 000	407	33.4	3.2
city 100 000 – 499 000	192	15.8	3.4
city >= 500 000	123	10.1	3.2
Level of education			
primary/lower secondary	202	16.6	3.4
vocational	271	22.2	3.4
secondary	392	32.2	3.2
higher	354	29	3.4
Self-assessment of material situation			
bad/rather bad	73	6	3.4
neither good nor bad	469	38.5	3.2
rather good	404	33.2	3.4
good	272	22.3	3.2
Employment			
No	549	45.1	3.6
Yes	669	54.9	3.2
Having children below 18 y.o.a.			
No	803	66	3.4
Yes	415	34	3.2
Regular use of the internet			
No	302	24.5	3.6
Yes	916	75.5	3.2

level ($p=0.567$), or self-assessment of material situation ($p=0.258$). Age significantly differed in scores ($p<0.001$). The highest values on the trust in medical personnel scale (median 3.6) were observed among the adults aged 60–74 years, while the lowest (median 3.2) were among the youngest

respondents (under 30 years old). Employed individuals showed a lower level of trust in medical personnel (median 3.2), compared to non-working individuals (median 3.6). The differences were statistically significant ($p<0.001$). The absence of children under the age of 18 also significantly influenced trust in medical personnel ($p<0.01$). Individuals living with children (under 18 years old) showed a lower level of trust (median 3.2), compared to those who did not live with such children (median 3.4). Individuals who did not regularly use the internet demonstrated higher trust in medical personnel (median 3.6), compared to those who used the internet regularly (median 3.2) ($p<0.001$).

MAIN RESULTS

Individuals with very low trust in healthcare professionals are more likely to negatively evaluate the actions of the Polish government aimed at combating the coronavirus epidemic, not fear infections and have not been vaccinated against COVID-19, and do not intend to do so, compared to those who trust in healthcare professionals. Respondents with low trust are also more likely to believe that employers should not have access to information about COVID-19 vaccination, and employers cannot require employees to get vaccinated against COVID-19. The results were statistically significant (Tab. 3).

The developed multivariable logistic regression model regarding not getting vaccinated against COVID-19 and the lack of intention to get vaccinated in the future, was based on data obtained from 1,213 individuals. The model demonstrated a Cox-Snell R^2 of 0.088 and a Nagelkerke R^2 of 0.133. Among the variables included in the model, a statistically significant differentiation was observed with respect to the level of trust in medical personnel, while controlling for other variables included in the model. Individuals with the lowest level of trust in medical personnel were twice as likely (OR=2.09; 95%CI: 1.23–3.56) to be unvaccinated against COVID-19, compared to those with the highest level of trust. A similar result was observed in the group with low trust in medical personnel (OR=1.89; 95%CI: 1.09–3.28). Individuals under 30 years old (OR=3.08; 95%CI: 1.43–6.63) and those between 30–44 years old (OR=3.41; 95%CI: 1.57–7.4) were more than three times as likely to be unvaccinated against COVID-19 compared to the group aged 75 and older. Compared to individuals living in the largest cities (over 500,000 inhabitants), residents of smaller towns and rural areas had approximately three times the likelihood of being unvaccinated (OR 2.74–3.10). Individuals with primary education had more than three times the likelihood (OR=3.11; 95%CI: 1.84–5.25), and those with vocational or secondary education had nearly twice the

Descriptive data. Level of acceptance of selected statements describing trust in medical staff in Poland

	Doctors are competent – they know what they're doing	Doctors working within the National Health Fund (NFZ) are dedicated to their work	Within the NFZ, all patients are treated equally, depending only on their health condition	Patients treated within the NFZ are treated with kindness and care	Primary healthcare doctors correctly identify the patient's problems
Strongly disagree	3.9%	5.9%	11.5%	9.3%	6.4%
Somewhat disagree	17.2%	23.2%	29.2%	28.4%	20.7%
Hard to say	12.9%	12.5%	15.6%	14.9%	17.9%
Somewhat agree	53.7%	48.5%	37.4%	40.7%	48.3%
Strongly agree	12.4%	9.8%	6.3%	6.6%	6.7%

Table 3. Relationship between the level of trust in healthcare professionals and attitudes towards actions aimed at reducing the risk of COVID-19 infections in Poland.

Level of trust in healthcare professionals	very low	low	moderate	high	very high	Total	p
	(<=2.40)	(2.41–3.00)	(3.01–3.60)	(3.61–4.00)	(4.01+)		
	n=264	n=233	n=284	n=264	n=167	n=1,212	
Negatively evaluate the actions of the Polish government aimed at combatting the coronavirus epidemic	53.0%	49.4%	43.8%	26.9%	20.4%	40.0%	<0.001
Do not fear coronavirus infections	59.8%	56.2%	50.5%	45.2%	43.5%	51.5%	<0.001
Have not been vaccinated against COVID-19, and do not intend to do so	31.4%	26.5%	21.9%	18.1%	14.3%	23.0%	<0.001
Believe that employers should not have access to information about COVID-19 vaccination	58.6%	48.3%	42.3%	33.6%	24.6%	42.6%	<0.001
Believe that employers cannot require employees to get vaccinated against COVID-19	70.1%	64.4%	61.1%	56.8%	47.3%	60.9%	<0.001

likelihood (OR from 1.73 to 1.98) of being unvaccinated, compared to those with higher education. However, gender ($p=0.574$), employment status ($p=0.198$), the presence of children under 18 in the household ($p=0.350$), and regular internet use ($p=0.305$) did not significantly differentiate the results (Tab. 4).

DISCUSSION

The results demonstrate that opinions on trust in medical personnel among the study group are divided and dependent on the evaluated dimension. The highest level of trust was exhibited by older individuals, while the lowest was shown by younger individuals. No statistically significant differences in the level of trust were observed concerning gender, place of residence, level of education, and self-assessment of material situation. Individuals with low trust in medical personnel did not fear coronavirus infection, and negatively evaluated the Polish government's actions in combating the COVID-19 epidemic. Individuals with low or very low trust in medical personnel were twice as likely to be in the group of people who were not vaccinated against COVID-19, taking into account other factors in the logistic regression model.

In 2022, Beller et al. conducted a study encompassing 27 European countries with a sample size of nearly 22,000 individuals. About 21% of the respondents were distrustful towards the healthcare system, while 20% declared moderate trust. The distrustful group included middle-aged and older adults, women, unemployed individuals, and those with low levels of education. Distrust was associated with financial problems, unmet healthcare needs, and mental health issues. Residents of Eastern Europe exhibited significantly lower trust in the healthcare system compared to those from Northern, Southern, or Western Europe. Higher levels of trust in the healthcare system in the latter European regions were linked to better material situations and the absence of mental disorders among the study participants [17].

In the current study, it was shown that self-assessment of material situation did not impact trust in medical personnel. Additionally, according to the analysis, the oldest individuals and those not working exhibited higher trust in medical professionals, compared to those under 30 years of age and those who were employed. In the study by R. Grol et al., older patients were found to have greater trust in doctors compared to younger individuals, a finding that is also

Table 4. Relationship between selected characteristics of the surveyed individuals and the declaration of not being vaccinated against COVID-19 (and no intention to get vaccinated). Multivariable logistic regression model

Variable	n	OR (95%CI)	p
Trust in medical personnel			
very low (<= 2.40)	264	2.09 (1.23–3.56)	$p<0.01$
low (2.41 – 3.00)	233	1.89 (1.09–3.28)	$p<0.05$
moderate (3.01 – 3.60)	284	1.6 (0.93–2.74)	0.0891
high (3.61 – 4.00)	264	1.14 (0.65–1.99)	0.651
very high (4.01+)	167	ref.	ref.
Gender			
Male	574	ref.	ref.
Female	644	0.92 (0.69–1.23)	0.5735
Age			
<= 29.00	183	3.08 (1.43–6.63)	$p<0.01$
30.00 – 44.00	356	3.41 (1.57–7.4)	$p<0.01$
45.00 – 59.00	271	1.54 (0.73–3.23)	0.2578
60.00 – 74.00	303	1.03 (0.53–2.01)	0.9285
75.00+	105	ref.	ref.
Place of residence			
rural	495	3.1 (1.58–6.11)	$p<0.01$
city up to 99,000	407	2.96 (1.5–5.86)	$p<0.01$
city 100,000 – 499,000	192	2.74 (1.32–5.7)	$p<0.01$
city >= 500,000	123	ref.	ref.
Level of education			
primary/lower secondary	202	3.11 (1.84–5.25)	$p<0.001$
vocational	271	1.98 (1.24–3.17)	$p<0.01$
secondary	392	1.73 (1.16–2.57)	$p<0.01$
higher	354	ref.	ref.
Self-assessment of material situation			
bad/rather bad	73	1.46 (0.73–2.9)	0.2815
neither bad nor good	469	1.38 (0.93–2.06)	0.1115
rather good	404	1.65 (1.1–2.47)	$p<0.05$
good	272	ref.	ref.
Employed			
No	549	0.79 (0.55–1.13)	0.1978
Yes	669	ref.	ref.
Having children below 18 y.o.a.			
No	803	0.85 (0.6–1.2)	0.3501
Yes	415	ref.	ref.
Regular use of the internet			
No	302	ref.	ref.
Yes	916	0.78 (0.49–1.25)	0.3052

ref. – reference category

confirmed by the results obtained in this present study. Additionally, in the aforementioned study by R. Grol, it was demonstrated that patients who more frequently utilize the services of general practitioners exhibited greater trust in doctors [18]. The analysis of the collected data indicated that among Polish residents, trust in medical personnel is most strongly correlated with the competences and engagement of doctors.

According to the 2018 report by the Supreme Audit Office (NIK) titled 'The Health Care System in Poland – Current State and Desired Directions of Change', 70% of adult Poles positively evaluate the competences of doctors [19]. Compared to the results of the present study, the level of trust in doctors' competences is also close to the findings of the NIK report, at 66.1%. According to the report by The European Foundation for the Improvement of Living and Working Conditions (Eurofound), Poland is among the countries with the lowest level of trust in the healthcare system, with a score of 4.1 on a scale of 1–10 [20]. A study conducted in Norway showed that doctors' commitment to patient well-being, and the attention they provide, positively impacted on trust in doctors [21]. The results of the current study similarly indicate that the level of doctors' engagement significantly influenced trust, reaching nearly 60%.

Doctors' informing patients about vaccinations had a crucial influence on their decision to get vaccinated. The information provided by doctors and their stance on vaccinations can affect patients' decisions to receive preventive vaccinations [22]. A study among the Italian population conducted at the beginning of 2022, indicated that 92.6% of respondents had received at least two doses of the COVID-19 vaccine. Almost 80% of the surveyed individuals stated that their decision to get vaccinated was based on their own choice, whereas 4% said they had been persuaded by their doctor [23].

To enhance the influence of doctors on patients' health behaviours, it is essential to build an enduring trust in medical personnel, including regarding vaccinations. A study conducted in the United States revealed that respondents had doubts before getting vaccinated against COVID-19 – almost 45% of respondents expressed hesitation [24]. The main factors causing vaccine hesitancy among young adult Americans were a lack of trust due to insufficient information about the long-term effects of vaccination. Black individuals expressed a lack of trust in medical personnel encouraging them to get vaccinated, fearing the possibility of further medical experiments being conducted on black people [25]. Allen et al.'s study showed that Americans who did not want to get vaccinated had low trust in public authorities [26]. The conducted analyses also demonstrated a correlation between low trust in medical personnel and low evaluation of government actions.

Limitations of the study. The main limitation of the study was its questionnaire-based nature; respondents' answers were declarative in character. Medical documentation was not verified, in particular that concerning COVID-19 vaccination, and there was a risk that some individuals may have concealed the fact that they had not been vaccinated. It should be noted that in Poland, the vaccination rate against COVID-19 was one of the lowest in Europe. Unvaccinated individuals were not stigmatized, and the problem of concealing a negative attitude towards COVID-19 vaccination did not significantly affect the study results. Respondents

may have misunderstood the questions in the survey which could have led to questionable results. All doctors were considered for inclusion, regardless of their specialty.

CONCLUSIONS

- The issue of trust in medical staff is multi-dimensional. The highest percentage of individuals expressed trust in the competences of doctors and their level of engagement in their work. The majority of doubts that arose concerned the equal treatment of patients.
- Elderly individuals tended to exhibit more trust in medical personnel, compared to younger individuals.
- The remaining socio-demographic factors did not influence the level of trust in medical personnel, or any observed impact was partially associated with age.
- Reluctance to COVID-19 vaccination and opposition to the government's active policy aimed at reducing SARS-CoV-2 infections were clearly associated with a lack of trust in medical personnel.

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