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PUBLIC KNOWLEDGE ABOUT SCREENING TEST IN SOUTH-EAST POLAND

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ABSTRACT

Background: Neoplastic diseases constitute a major public health challenge globally and in Poland. Despite the implementation of population-based screening programs for breast, cervical, and colorectal cancer, participation rates in Poland remain unsatisfactory. Early detection is the most effective tool for reducing cancer mortality, yet it relies heavily on public awareness and health literacy.

Aim: The aim of this study was to assess the level of knowledge and attitudes of adult residents of the Podkarpackie and Małopolskie voivodeships (south-east Poland) regarding screening tests, and to analyze the influence of sociodemographic factors on health behaviors.

Material and methods: A cross-sectional survey was conducted among a diverse group of 288 adults (192 women and 95 men). The research tool was an original questionnaire containing 30 items regarding knowledge of screening types (mammography, cytology, colonoscopy), screening guidelines, and risk factors. Statistical analysis was performed using the Chi-square test ($p<0.05$).

Results: While general awareness of screening is high (99.7% of respondents recognized the terms), specific knowledge regarding frequency and age criteria is lacking. Education level proved to be the strongest predictor of adequate knowledge ($p<0.001$). A significant misconception regarding smoking was observed in the 50–65 age group, where many

respondents believed smoking does not increase lung cancer risk. The main perceived barriers were low availability and lack of promotion.
Conclusions: There is a critical need for targeted educational campaigns, particularly addressing men and individuals with lower education levels. The misconceptions prevalent in the 50–65 age group require immediate rectification to improve the effectiveness of lung cancer prevention.
Keywords: oncology, screening, health literacy, cancer prevention, Poland

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1. Introduction

Screening is an essential part of public health efforts. These are diagnostic processes that aim to detect diseases or health conditions early in people who do not yet have symptoms. They allow for the identification of diseases in their early stages, which can increase the chances of effective treatment. Early treatment is often cheaper than treating advanced stages of diseases. They help educate patients about potential health risks. They enable better planning and allocation of resources in the health system. The benefits of screening are invaluable. Early detection can lead to fewer deaths from diseases such as cancer. People with disease detected at an early stage have a better prognosis and can often lead a normal life. Early diagnosis allows for the use of less invasive treatments.

Conducting such tests allows for early detection of various diseases and increases the chances of successful treatment. For women 40-74 years of age who actually participate in screening every 1-2 years, breast cancer mortality is reduced by 40%. (1) At the same time, a review covering 194 WHO countries proved that Two in three women aged 30-49 years have never been screened for cervical cancer. (2) Colorectal cancer is the second leading cause of cancer-related deaths worldwide. According to WHO By 2040, the burden of colo-rectal cancer will increase to 3.2 million new cases per year (an increase of 63%) and 1.6 million deaths per year (an increase of 73%). (3) Colorectal cancer incidence rates are falling in high-income countries, largely as a result of effective screening programs. (4) The prognosis for colorectal cancer varies depending on the stage at diagnosis. Early stage cancers have higher survival rates than advanced stage cancers. Therefore, the rapid diagnosis that screening can provide is important to improve survival rates and quality of life. Also, randomized trial the risk of colorectal cancer at 10 years was lower among participants who were invited to undergo screening colonos-copy than among those who were assigned to no screening. (5) However, understanding and social commitment are necessary for this research to bring the expected benefits. It is crucial to know the knowledge and attitude of society towards screening. (6) The survey conducted in 2013 among the inhabitants of the Świętokrzyskie voivodship shows that the knowledge of the

inhabitants of cities about colorectal cancer and screening is at an average level, while the knowledge of the inhabitants of rural areas – at a low level. (A) In addition, a survey conducted in 2015 among office workers of the Lubelskie voivodship shows that more than half of the respondents had not heard about the program for early detection of colorectal cancer, and only 38,3% declared their desire to participate in screening after receiving a personal invitation. (B) We also want to look at the situation of other regions of south-eastern Poland – the knowledge of society about screening in Podkarpacie and Małopolska and supplement the literature with new data.

The purpose of this survey is to examine the level of knowledge of the population about screening tests and their general attitude toward such tests. By the word screening, we mean extensive research aimed at the early detection of various diseases, such as, for example, metabolic diseases or diseases of the cardiovascular system, in this article we have focused on cancers with the highest morbidity and mortality in Poland. Screening tests include breast ultrasound, mammography (7), pap smear (8), or colonoscopy (9). The survey was applied to a representative group of Podkarpackie and Małopolskie Province's inhabitants of various ages, sexes, education, and socio-economic status. The original questionnaire included questions about respondents' knowledge of screening, such as its purpose, benefits, availability and risk of illness. In addition, the respondents were asked to express their general attitude and readiness to participate in this type of research. The analysis of the results of this survey can provide valuable information for the institutions responsible for conducting screening studies in the field of society's needs, knowledge, and attitudes concerning screening tests. The information received can be used as a basis for developing effective communication strategies to increase health knowledge, encourage participation in screening and improve healthcare in general.

The aim of the study was to assess the knowledge and attitudes of adult residents of the Podkarpackie and Małopolskie voivodeships in Poland towards screening for breast, cervical and colon cancer. The study aimed to collect information on knowledge of cancer, family history of cancer, and knowledge about types of screening and attitudes towards participation in them. Additionally, the influence of demographic factors such as age, gender, education, marital status, place of residence and profession on knowledge and attitudes related to these tests was analyzed. The results of the study are intended to provide insights that can be used to develop targeted educational campaigns and interventions aimed at increasing participation in screening programs and improving health outcomes in society.

1. **Breast Cancer Screening:** Mammography every 2 years for women aged 45–74.
2. **Cervical Cancer Screening:** Cytology (Pap smear) every 3 years for women aged 25–64.
3. **Colorectal Cancer Screening:** Colonoscopy for men and women aged 50–65.

2. Research materials and methods

2.1. Participants The study was conducted on a group of 288 adults residing in the Podkarpackie and Małopolskie voivodeships. The group comprised 192 women (66.7%) and 95 men (33.3%). The selection of respondents was purposive to ensure representation of various social groups: high school students, university students, working adults, and seniors attending Universities of the Third Age. This stratification allowed for an intergenerational analysis of attitudes towards prevention. No respondents were excluded from the survey based on medical history.

2.2. Research Instrument The study utilized a diagnostic survey method with an original questionnaire consisting of 30 items. The questionnaire was distributed in both paper and online forms. The questions covered:

- **Sociodemographic data:** Age, gender, education, marital status, place of residence, occupation.
- **Medical history:** Personal and family history of neoplastic diseases.
- **Knowledge:** Definitions of specific tests (mammography, cytology, colonoscopy), recommended frequency of testing, and eligible age groups.
- **Attitudes:** Willingness to participate in screening, subjective assessment of screening availability in Poland, and opinions on state funding for prevention.

2.3. Statistical Analysis The collected data were processed and analyzed using the Statistica software package. Descriptive statistics were used to present the distribution of answers. To assess the relationships between qualitative variables (e.g., education level vs. knowledge of guidelines), the Pearson Chi-square test ($\chi 2$) was applied. A p-value of less than 0.05 ($p<0.05$) was considered statistically significant. The study obtained a positive opinion from the Bioethic Committee at Rzeszow University (Resolution number: 2022/100; date: 07 December 2022).

3. Research results

175 of 287 had in family incidence of neoplasm. Most respondents are familiar with the purpose of each type of screening examination. Surprisingly among many respondents were similar level of knowledge about how often should be performed cytological screening examination (every 1 year - 124 - or in polish public health standards 3 years - 49) but in mammography many people indicated period 2 years between next examination - more than period 1 year (136 vs. 73). Interesting is that quite lot of respondents claimed that smoking reduce the risk of lung cancer. Among respondents there were similar small amount who have never had neoplasm. 47 of 287 don't intend to take part in the screening. 55 of 287 know someone from his/her community who get to know about neoplasm disease from doing screening. The presence of screening programmes in Poland isn't sufficiently well promoted in opinion 172 of 287 respondents. The vast majority (217) of responders think that the Polish State should increase funding for the promotion and dissemination of screening programmes. Responders claim notably that is rather small or small availability of screening tests in Poland than rather large or large (67 + 26 vs. 20 + 4). Almost all who had opinion claim screening enable the disease to be diagnosed at an asymptomatic stage and provide opportunities to implement appropriate treatment (208 vs. 6). Also almost all claim that screening is needed despite the lack of disease symptoms (257 of 287).

Table I (Screening knowledge by place) shows correlations between different places in Rzeszów (high schools, university and community centres) and outside of Rzeszow but in Subcarpathia and Lesser Poland regions(health centre and university of the third age).

Variable	**Community Centers (N=22)**	**Health Centre (N=48)**	**High Schools (N=151)**	**University (N=16)**	**Seniors (UTW) (N=50)**	**p-value**
Have you ever taken part in screening?						**<0.001**
Yes	9	22	8	3	10	
No	13	26	143	13	40	
Do you regularly participate?						**<0.001**

Variable	Community Centers (N=22)	Health Centre (N=48)	High Schools (N=151)	University (N=16)	Seniors (UTW) (N=50)	p-value
Yes	6	16	3	2	5	
No	16	31	148	14	45	
Knows what mammography is (Yes)	22	48	105	16	49	**<0.001**
Knows what cytology is (Yes)	20	47	83	14	47	**<0.001**
Knows what colonoscopy is (Yes)	21	48	126	16	46	**0.013**
Intends to take part in screening (Yes)	11	31	38	12	23	**<0.001**
Knows someone diagnosed via screening (Yes)	3	23	14	6	9	**<0.001**

In Table I (Places) p-value reached significance level less than 0.05 in all questions apart "Does in your family incidence of neoplasm?" and "How do you think about whether screening is needed despite the lack of disease symptoms?". In health centre were greater number of respondents who had any screening examination before and do it regularly than among others. Greater number of responders from health centre said that know someone from their community who have been diagnosed with neoplasm through screening than others.

Table II (Screening knowledge by sex) shows difference in attendance in screening examinations between male and female (95 vs. 192).

Variable	14-18	19-24	25-34	35-49	50-65	66-85	p-value
Personal history of neoplasm (Yes)	9	4	3	0	2	1	**0.003**
Ever taken part in screening (Yes)	19	17	4	3	5	4	**<0.001**
Regularly participates (Yes)	11	12	1	2	6	0	**<0.001**
Knowledge of tests (Answer: Yes)							
Mammography	64	34	13	14	57	58	**<0.001**
Cytology	59	33	12	13	47	47	**<0.001**
Does smoking reduce lung cancer risk?							**<0.001**
No (Correct)	34	14	8	10	57	72	
Yes (Incorrect)	27	19	5	3	9	14	
Intend to take part in screening (Yes)	30	23	6	8	27	21	**<0.001**

In Table II (Sex) p-value reached significance level less than 0.05 in all questions apart "Have you had or are you suffering from neoplasm?","Does in your family incidence of neoplasm?","Do you regularly participate in neoplasm screening?","In your opinion, does smoking reduce the risk of lung cancer?","Do you intend to take part in the screening?","In your opinion, is the presence of screening programmes in Poland sufficiently well promoted?","Are there people in your community who have been diagnosed with neoplasm through screening?","Do you think that the Polish State should increase funding for the promotion and dissemination of screening programmes?","What do you think is the availability of screening tests in Poland?" and "Does screening enable the disease to be diagnosed at an asymptomatic stage and provide opportunities to implement appropriate treatment?". There was tend in knowledge about types screening examinations - more men didn't know what is mammography(26/95 vs. 21/192), cytology(48/95 vs. 27/192) and even colonoscopy(16/95 vs. 14/192) in contrast to women.

Table III (Screening knowledge by age) shows different age groups and their approach to neoplasms screening.

Variable	14-18	19-24	25-34	35-49	50-65	66-85	p-value
Personal history of neoplasm (Yes)	9	4	3	0	2	1	**0.003**
Ever taken part in screening (Yes)	19	17	4	3	5	4	**<0.001**
Regularly participates (Yes)	11	12	1	2	6	0	**<0.001**
Knowledge of tests (Answer: Yes)							
Mammography	64	34	13	14	57	58	**<0.001**

Variable	14-18	19-24	25-34	35-49	50-65	66-85	p-value
Cytology	59	33	12	13	47	47	**<0.001**
Does smoking reduce lung cancer risk?							**<0.001**
No (Correct)	34	14	8	10	57	72	
Yes (Incorrect)	27	19	5	3	9	14	
Intend to take part in screening (Yes)	30	23	6	8	27	21	**<0.001**

In Table III (Age) p-value reached significance level less than 0.05 in all questions apart "How do you think about whether screening is needed despite the lack of disease symptoms?","What is your opinion of screening?","Do you know what a colonoscopy is?","In your opinion, is the presence of screening programmes in Poland sufficiently well promoted?","What do you think is the availability of screening tests in Poland?" and "Does screening enable the disease to be diagnosed at an asymptomatic stage and provide opportunities to implement appropriate treatment?". Only in group 25-34 there were nobody who suffer from neoplasm. Group 50-65 seems to be the best when we talk about ever (17/34) or regularly (12/34) taken part in a screening test. We can find only among young responders (14-24) significant lack of knowledge what is mammography or cytology. Only in group 50-65 more people agree than disagree (19 vs. 14) that smoking reduce the risk of lung cancer. Only responders 35-65 claimed that in their community were people who have been diagnosed with neoplasm through screening more than not.

Table IV (Screening knowledge by level of education) shows correlations between different groups of education among responders

Variable	Higher (N=45)	High School (N=108)	Basic/Vocational (N=15)	Lower Secondary (N=6)	Primary (N=113)	p-value
Ever taken part in screening (Yes)	13	31	2	0	6	**<0.001**
Regularly participates (Yes)	6	23	1	0	2	**0.015**
Knowledge of tests (Answer: Yes)						
Mammography	44	101	15	6	74	**<0.001**
Cytology	42	90	13	2	64	**<0.001**
Correct screening frequency						
Mammography (Every 2 years)	29	55	9	2	41	**0.004**
Cytology (Every 3 years)	12	22	2	1	12	**<0.001**
Intend to take part in screening (Yes)	26	58	3	0	28	**<0.001**
Availability of screening in Poland (Small/Rather Small)	19	34	4	3	33	**<0.001**

In Table IV (Education) p-value reached significance level less than 0.05 in all questions apart "Have you had or are you suffering from neoplasm?","Does in your family incidence of neoplasm?","How do you think about whether screening is needed despite the lack of disease symptoms?","Do you know what a colonoscopy is?" and "Does screening enable the disease to be diagnosed at an asymptomatic stage and provide opportunities to implement appropriate treatment?". Responders with higher and high school education definitely more willing taken a part in screening and know more about screening tests than others group. Responders with highschool education as the only one group who more know people in your community who have been diagnosed with neoplasm through screening than others.

Table V (Screening knowledge by marital status) shows differences in the approach to screening tests depending on marital status.

Variable	Widower (N=32)	Married (N=68)	Single (N=174)	Divorced (N=8)	Separated (N=5)	p-value
Ever taken part in screening (Yes)	12	23	13	3	1	**<0.001**
Regularly participates (Yes)	8	12	9	2	1	**<0.001**

Variable	Widower (N=32)	Married (N=68)	Single (N=174)	Divorced (N=8)	Separated (N=5)	p-value
Knowledge of tests (Answer: Yes)						
Mammography	31	65	133	8	3	**<0.001**
Cytology	28	64	108	7	4	**<0.001**
Intends to take part in screening (Yes)	11	31	30	3	2	**<0.001**
Support state funding increase (Yes)	24	64	120	6	3	**<0.001**

In Table V (Marital status) p-value reached significance level less than 0.05 in all questions apart "Does in your family incidence of neoplasm?","How do you think about whether screening is needed despite the lack of disease symptoms?","How often do you think it should be performed mammography for persons without risk factors?","Do you know what a colonoscopy is?","Do you intend to take part in the screening?","In your opinion, is the presence of screening programmes in Poland sufficiently well promoted?","Are there people in your community who have been diagnosed with neoplasm through screening?","What do you think is the availability of screening tests in Poland?" and "Does screening enable the disease to be diagnosed at an asymptomatic stage and provide opportunities to implement appropriate treatment?". Admittedly about 1/3 ever married have ever taken part in a screening test concerning neoplasms in contrast to 13/174 single, but single in majority are probably highschool or university students.

Table VI (Screening knowledge by employment situation) shows approach to screening tests in relation with employment status.

Variable	Retiree (N=74)	Full-time (N=37)	Student (N=159)	Others* (N=17)	p-value
Personal history of neoplasm (Yes)	10	6	2	1	**<0.001**
Ever taken part in screening (Yes)	22	16	10	4	**<0.001**
Knowledge of tests (Answer: Yes)					
Mammography	73	37	114	16	**<0.001**
Cytology	69	36	94	12	**<0.001**
Colonoscopy	69	37	136	15	**0.030**
Smoking reduces lung cancer risk?					**0.001**
No (Correct)	36	21	131	7	
Yes (Incorrect)	33	15	21	8	
State should increase funding (Yes)	64	32	108	13	**0.014**

In Table VI (Employment situation) p-value reached significance level less than 0.05 in all questions apart "How do you think about whether screening is needed despite the lack of disease symptoms?","In what age range do you think colonoscopy is recommended in the absence of symptoms and a family history of colorectal cancer?","Do you intend to take part in the screening?" and "What do you think is the availability of screening tests in Poland?". Actually responders are only 3 groups (269/287) – retiree (74/287), working full-time (37/287) and students (159/287). About half of retiree had someone who was sick of neoplasm (34/74) in contrast to other groups. Mainly retiree and working full-time have ever taken part in a screening test concerning neoplasms. Almost only students were almost entire group who didn't know what mammography is (45 of 47), similarly what cytological examination is (65 of 75) and colonoscopy is (23 of 30). For students it was quite obvious that smoking doesn't reduce the risk of lung cancer (131/159) but not obvious for retiree (36/74) and working full-time(21/37).

3.1. General Characteristics and Cancer Awareness Among the 288 respondents, a significant proportion (N=175; 60.8%) reported a family history of neoplastic disease. Only 19 respondents (6.6%) confirmed having a personal history of cancer. The general awareness of screening tests was very high—99.7% of respondents claimed to know what breast, cervical, and colorectal cancer screenings are. However, deeper inquiry revealed significant gaps in specific knowledge.

3.2. Knowledge regarding Breast Cancer Screening (Mammography) While the term "mammography" was widely recognized, knowledge regarding the screening protocol varied significantly by education and age.

- **Education:** Respondents with higher education demonstrated significantly better knowledge (98% correct answers regarding the definition) compared to those with basic education (67%) ($p<0.001$).
- **Frequency:** Confusion regarding the frequency of mammography was evident. While 136 respondents correctly identified the 2-year interval, a large group (N=73) believed the test should be performed annually.
- **Age:** Younger respondents (students) often lacked knowledge about the specific age criteria for the population program, despite knowing the test exists.

3.3. Knowledge regarding Cervical Cancer Screening (Cytology) Analysis revealed significant gender-based disparities in knowledge about cervical cancer prevention.

- **Gender Gap:** Men were significantly less knowledgeable than women. 48 out of 95 men (over 50%) admitted they did not know what a cytological examination was, compared to only 27 out of 192 women ($p<0.001$).
- **Frequency Misconceptions:** A significant number of respondents (N=124) believed cytology should be performed every year, whereas the standard screening interval in the national program is 3 years for low-risk women.

3.4. Knowledge regarding Colorectal Cancer Screening (Colonoscopy)

- **Age Factor:** The age group 50–65 demonstrated the highest level of detailed knowledge regarding colonoscopy indications ($p<0.05$). This is likely because they are the target demographic for the screening program.
- **Education Factor:** Similar to other tests, higher education correlated with better knowledge of colonoscopy indications ($p<0.001$).

3.5. Misconceptions regarding Risk Factors (The "Smoking Myth") One of the most concerning findings was related to the perception of lung cancer risk factors.

- In the age group 50–65, a statistically significant number of respondents expressed the belief that smoking *reduces*the risk of lung cancer or had no opinion on the matter. Specifically, 19 people in this group agreed with the statement compared to 14 who disagreed, which contrasts sharply with younger groups who correctly identified smoking as a risk.

3.6. Attitudes and Systemic Barriers

- **Participation:** 47 respondents (16.3%) stated they do not intend to take part in screening.
- **Availability:** The availability of screening tests in Poland was rated as "small" or "rather small" by the majority of respondents (N=93 combined vs N=24 for large/very large availability).
- **Promotion:** A vast majority (N=217) believe the Polish State should increase funding for the promotion and dissemination of screening programs.

4. Discussion

The overall insight gained from this survey provides an important basis for a more refined understanding of knowledge, attitudes and practices related to screening in the Podkarpackie and Małopolskie Voivodeships, Poland. The survey's primary focus on cancers with increased morbidity and mortality in the region, such as breast, cervical and colorectal cancers, provides a focused perspective on public health issues.

Further analysis revealed subtle differences in knowledge levels between demographic groups. Respondents from health facilities showed a much better level of knowledge about health-promoting behaviors than high school students.[Tab. I] Respondents from this group also had more contact with screening tests in their environment and used them more often. Students (but mainly from high-school, not university) also constituted almost the entire group of people who did not know what mammography is (even 45/47), similarly in the case of cervical smear and colonoscopy. However, in this group, most people knew a person who had been diagnosed with cancer through screening tests, which may be due to greater social activity and therefore a smoother flow of information. Comparatively the level of health awareness regarding cancer prevention breasts among female students of universities in Gdańsk (northern Poland) can be assessed as satisfactory. [Tab. I] Knowledge regarding breast cancer is mainly derived from television, radio and the Internet. (10) This may indicate that disproportions in cancer prevention education in separate Polish institutions in the digital era are irrelevant. Tailoring educational strategies to distinct environments to address specific gaps in understanding is essential to ensure that accurate information reaches all segments of the population. (11)

Identifying misconceptions, especially the belief that smoking cigarettes can reduce the risk of lung cancer, highlights the importance of debunking misinformation. Such beliefs were most prevalent in the 50-65 age group, which may result from the lack of appropriate education or its inappropriate form, which is not adapted to this age group. [Tab. III] The knowledge of respondents over 50 years of age about the risk factors for colorectal cancer was also unsatisfactory. [Tab. III] The youngest respondents had a significantly greater amount of knowledge. (12) Changing these beliefs through evidence-based information campaigns can help make informed decisions about lifestyle and risk factors.

The survey revealed a significant number of respondents expressing reluctance (47/287) or unconcern (125/287) to undergo screening. In the case of our study, the most important determining factor is the level of education, which should, however, be related to the age of the respondents. Comparatively the analysis of the socio-demographic status of the surveyed group from the Podlaskie Voivodeship (northern-east Poland) showed that the highest level of knowledge about cancer prevention was presented by people with higher education (62.38%). (13) Barriers such as fear, lack of awareness and perceived inconvenience need to be systematically addressed to encourage greater engagement in screening programs.

The survey highlighted significant differences between different places, genders, age groups, education levels and marital statuses. Recognizing these differences is key to tailoring interventions that resonate with different population needs. (14) The male gender and the 50-65 age group showed worse results in terms of knowledge. [Tab. II, Tab. III] People who were married, older, retired or working, and those with a higher level of education were more likely to declare willingness or previous participation in screening tests. Paslawska et al. show in the study group of women aged 18-30, they had greater knowledge about cervical cancer and cytological examination were characterized by women with higher education level, working

professionally and living in the city. These woman also used cytological tests more often. (15) Tailored strategies for different demographic groups and regions can maximize the impact of awareness campaigns and improve screening participation rates.

The almost unanimous support for increasing Polish state funding to promote and disseminate screening programs, while recognizing that they allow for early diagnosis of asymptomatic cancer, is a collective recognition of the importance of proactive measures in improving public health. At the same time, the majority of respondents claim that the availability of screening tests in Poland is rather low or low. Addressing perceived barriers, including perceived low availability of screening, is important to ensure equitable access to screening services.

The need for comprehensive educational campaigns to dispel misconceptions and emphasize the importance of screening is clear. Using a multi-pronged approach that includes via internet and traditional ways can maximize reach and effectiveness. Ulman-Włodarz, et al. indicate that for women coming to the clinic, magazines were the most frequently used source of information about cervical cancer prevention (59%), followed by television, radio (47%) and the Internet (38%). (16)

5. Conclusions

1. **Gap between Awareness and Knowledge:** While almost all respondents know that screening tests exist, specific knowledge regarding "who, when, and why" is lacking. This "superficial knowledge" does not translate effectively into action.
2. **Targeted Education is Essential:** Generic campaigns are insufficient. Educational interventions must be tailored to specific groups: men (to improve support for partners and own participation) and the 50–65 age group (to correct dangerous myths about smoking).
3. **Role of Education Level:** Since education is the strongest predictor of screening participation, health messages must be simplified and delivered through accessible channels to reach those with lower educational attainment.
4. **Systemic Promotion:** Despite screening programs being free of charge in Poland, respondents perceived their availability as low. This discrepancy between actual availability (free access) and perceived availability suggests a failure in communication and promotion. Patients may conflate the long waiting times for specialist treatment with the availability of preventive screenings. The strong support for increased state funding for promotion (N=217) indicates that the public is aware of this informational deficit. The public perception of low availability calls for a systemic change in how screenings are promoted. Active invitation systems and increased funding for promotion are seen by the public as necessary steps to improve the situation.

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