Rybin A. I., Zamyshlyak V. I. Patients' attitudes towards cancer screening: a literature review. Journal of Education, Health and Sport. 2026;88:70953. eISSN 2391-8306.
https://dx.doi.org/10.12775/JEHS.2026.88.70953
https://apcz.umk.pl/JEHS/article/view/70953
https://zenodo.org/records/19608697

The journal has had 40 points in Minister of Science and Higher Education of Poland parametric evaluation. Annex to the announcement of the Minister of Education and Science of 05.01.2024 No. 32318. Has a Journal's Unique Identifier: 201159. Scientific disciplines assigned: Physical culture sciences (Field of medical and health sciences); Health Sciences (Field of medical and health sciences). Punkty Ministerialne 40 punktów. Załącznik do komunikatu Ministra Nauki i Szkolnictwa Wyższego z dnia 05.01.2024 Lp. 32318. Posiada Unikatowy Identyfikator Czasopisma: 201159. Przypisane dyscypliny naukowe: Nauki o kulturze fizycznej (Dziedzina nauk medycznych i nauk o zdrowiu); Nauki o zdrowiu (Dziedzina nauk medycznych i nauk o zdrowiu).
Received: 20.01.2026. Revised: 27.01.2026. Accepted: 11.02.2026. Published: 26.02.2026.

UDC 616:316-006

Patients' attitudes towards cancer screening: a literature review

A. I. Rybin, V. I. Zamyshlyak

Odessa National Medical University, Odessa, Ukraine

A.I. Rybin, ORCID: 0000-0002-1145-6690, e-mail: Andriy.Rybin@gmail.com
V.I. Zamyshlyak, ORCID: 0009-0001-1588-182X e-mail: vikazamishlyak@gmail.com

Abstract

The aim of this review is to summarise the findings of studies on patients' attitudes towards cancer screening. The review examined the full texts of 63 publications on four common cancers: breast cancer, cervical cancer, colorectal cancer and lung cancer. For each disease, specific features of patients' attitudes towards screening programmes were identified, as reflected in their willingness to undergo screening, their awareness of the disease and screening for it, and the motivators and barriers to participating in cancer screening. For all these diseases, widespread support for screening programmes was found among various population groups, but the awareness of this support is called into question. The review concludes with recommendations for conducting research into patients' attitudes towards cancer screening in Ukraine.

Keywords: cancer screening; patient attitudes; medical sociology; literature review.

Introduction

Screening for cancers such as breast cancer (BC), cervical cancer (CC) and colorectal cancer (CRC) helps to reduce mortality from these diseases in at-risk groups. Cancer screening for these diseases is carried out regularly in various countries around the world as part of large-scale screening programmes and studies. Screening for other cancers (such as lung cancer, prostate cancer and stomach cancer) is also carried out, but due to more specific risk groups or insufficient evidence of effectiveness, these screening initiatives are less widespread [1]. An important aspect of implementing cancer screening is patients' attitudes towards it [2]. Even large-scale screening programmes accessible to all sections of the population may prove unsuccessful if patients for whom cancer screening is recommended are insufficiently informed about it, harbour prejudices, feel distrustful, or have fears and concerns regarding the procedures being carried out [3]. Low support for screening programmes from the general public and specific groups of individuals can contribute to late diagnosis, more advanced disease at the time of diagnosis, and less favourable clinical outcomes [4]. Patients' attitudes towards cancer screening are investigated using qualitative and quantitative methods of analysis — through surveys of the general population and high-risk groups, interviews with patients, and experiments. The authors of such studies seek to understand individuals' attitudes towards cancer screening, their perceptions of current and planned screening programmes and studies, their beliefs regarding cancer and screening, their willingness to undergo screening, their experience of participating in screening activities, their knowledge of the disease, its screening and treatment, as well as what may encourage or already encourages them to undergo screening (motivators), and what may hinder or already hinders them from undergoing screening (barriers). The results of such research inform other researchers about which aspects of cancer screening implementation require attention, what information is important to convey to participants, and how best to engage them in screening [5]. Studying patients' attitudes towards screening can help optimise the implementation of planned screening programmes and address shortcomings in existing initiatives [1]. The aim of this review is to summarise the findings of studies on patients' attitudes towards cancer screening.

Materials and methods. Studies on patients' attitudes towards cancer screening were identified using the search engines PubMed, Scopus and Google Scholar. The search was conducted by combining the query ‘cancer screening’ with a range of terms related to patients’ attitudes towards cancer screening: ‘acceptability’, ‘adherence’, ‘attitudes’, ‘beliefs’, ‘barriers’, ‘facilitators’, ‘intentions’, ‘knowledge’, ‘motivation’, ‘patient perspectives’, ‘participation’, ‘perceptions’, ‘public interest’, ‘public opinion’, ‘uptake’, ‘views’, ‘willingness’. A search for relevant literature was also conducted using the reference lists provided in the identified publications. The collected publication data were compiled into a single database, from which duplicates were removed. Reading the study abstracts enabled the selection and examination of the full-text versions of the articles. The search covered a 16-year period (from 2007 to 2023). he literature search also identified four cancers for which, at the time of writing, the largest number of studies had been published on patients’ attitudes towards cancer screening: breast cancer, cervical cancer, colorectal cancer and lung cancer. Due to differences in screening recommendations (different risk groups, different procedures, and different screening frequencies), patients’ attitudes towards screening for each of these diseases were considered separately.

Breast cancer is the most common cancer among women worldwide [6]. Many countries have screening programmes designed to detect breast cancer early and improve outcomes. These programmes are generally aimed at all women aged between 40/50 and 70/80 and most often involve a free mammogram every two years. In rarer cases, for women with a genetic predisposition and a high risk of developing breast cancer, earlier screening using magnetic resonance or ultrasound imaging is recommended [7]. Mammography, or X-ray examination of the breasts, is the gold standard for breast cancer screening. Its results are independently assessed by two specially trained radiologists. The method offers high resolution, allowing even small changes in tissue structure to be detected. However, the use of mammography in screening is not always effective and is often the subject of debate. Firstly, screening programmes are very labour-intensive and expensive due to the high ratio of examinations performed to cases of cancer detected, as well as the practice of double reading [8]. Secondly, the interpretation of mammograms often yields false-positive and false-negative results, meaning patients may face both overdiagnosis and undetected cancer [9]. Thirdly, healthcare systems are increasingly facing a shortage of qualified radiologists to carry out breast cancer screening [10]. In light of this, the latest update to the European guidelines on quality assurance in breast cancer screening recommended promoting informed choice regarding mammography for women eligible for screening [11]. To make an informed choice about participating in screening, women must be informed of both the benefits and the harms of mammography. Studies show that in European countries with widespread and wellestablished breast cancer screening programmes, women have limited knowledge of the benefits and harms of such screening, which hinders their ability to make a truly informed choice [12]. Recent studies in the literature confirm significant variability in terms of breast cancer awareness and screening availability across different countries. Whilst developed nations possess sufficient human and financial resources to provide information on breast cancer and develop national mammography screening programmes, developing countries are often constrained by such resources. For example, in Pakistan, Turkey, Saudi Arabia, the UAE and Jamaica, women have insufficient awareness of breast cancer and its risk factors, as well as the frequency and procedures of breast cancer screening [13]. However, low awareness is not limited to regions where there are no national breast cancer screening programmes. The results of a systematic review of studies from 1992 to 2017 demonstrate that most women in developed countries are familiar with mammograms, but are far from always aware of the aims of screening, the possibility of false-positive or false-negative results, and overdiagnosis. It is also important to note that some topics (e.g. radiation exposure, age at which screening begins) are more understandable to women than others (e.g. age at which screening ends, overdiagnosis and mortality reduction) [14]. Given the importance of raising awareness, the authors of a systematic review assessing the effectiveness of educational interventions for the uptake of breast cancer screening programmes make the following recommendations [15]. Firstly, to comprehensively evaluate educational initiatives to provide evidence of their effectiveness. Secondly, to foster a positive attitude towards screening, implement programmes based on multiple models that take into account the cultural and psychosocial factors influencing women’s behaviour. Thirdly, the content of educational activities should include key messages regarding knowledge and beliefs related to breast cancer and screening, as well as information on the importance and effectiveness of screening tests. The literature allows us to identify positive factors (facilitators) associated with the intention to participate in, or actual participation in, breast cancer screening. These include, first and foremost, having a higher education and general awareness. For example, it has been shown that women who are aware of the real risk of developing breast cancer and have a high level of awareness regarding the need for its prevention participate in screening more frequently [16]. here is also evidence that women’s attitudes towards breast cancer screening and their intention to participate depend on the information they have, including regarding the benefits and harms of mammography screening [17]. In addition to education, positive triggers for breast cancer screening include access to national screening programmes, religious beliefs, and support from family and the wider community [13]. Researchers worldwide are also interested in the barriers associated with women's reluctance or refusal to participate in breast cancer screening. The results of a meta-analysis of 47 studies, involving 2,234 women from various countries aged between 18 and 75, identified a number of personal, social and systemic barriers [18]. Personal barriers included fear (fear of diagnosis or the procedure itself), embarrassment, personal perceptions and beliefs regarding breast cancer, lack of motivation, lack of knowledge, socio-economic status and negative experiences. Cultural factors and stigmatisation were identified as social barriers. Health insurance coverage, geographical and economic accessibility of healthcare services, and the attitude of healthcare professionals were classified as systemic barriers. The literature also mentions such barriers to participation in screening as long waiting times for appointments at mammography centres, fatalism (the belief that screening and treatment are pointless due to the inevitability of death from cancer), lack of acquaintances with breast cancer, refugee, immigrant, self-employed or unemployed status, intellectual or developmental disabilities, and language barriers [13, 16, 19]. Artificial intelligence (AI) technologies are increasingly being viewed as a potential solution to enhance the capabilities of screening mammography. However, it remains unclear how the use of AI in breast cancer screening programmes will be received by the public, as this aspect has so far been studied in only a few research projects. In particular, a research team led by Lennox-Chhugani collected over 4,000 responses, assessing the attitudes of women—both current and prospective participants in breast cancer screening—towards the use of AI in the analysis of mammograms. It turned out that women over 50 were less likely than younger women to use technology-based applications to obtain medical advice, yet they were more likely to have a positive attitude towards the use of AI for screening [20]. Furthermore, an analysis of questionnaires completed by 800 Italian women participating in breast cancer screening revealed that 88% of them had a positive attitude towards its use in medicine [21]. According to 94% of respondents, radiologists should always produce their own report on mammograms, and 77% agreed with the use of AI as a second-opinion tool. The majority of women (52%) expressed the view that responsibility for AI errors should be borne by both software developers and radiologists. Finally, a recent survey of 922 women in the Netherlands showed that they were most supportive of a combination of a radiologist as the first reader and an AI system as the second reader [22].

Cervical cancer is the fourth most common cancer among women worldwide [6]. The main cause of cervical cancer is infection with the human papillomavirus (HPV). Approximately 70% of sexually active people become infected with HPV, although not all

HPV infections lead to the development of cancer. However, long-term infection with high-risk HPV can lead to invasive cervical cancer, and the development of this disease can take up to 20–30 years [23]. According to the WHO strategy for combating cervical cancer, adopted in 2020, a comprehensive approach is required for the prevention and treatment of this disease [24]. The recommended set of measures includes preventive, prophylactic and therapeutic actions covering all categories of women. Primary prevention includes HPV vaccination (among girls aged 9 to 14 years), secondary prevention — cervical screening using HPV tests (for women aged 30 and over — every 5–10 years, and for women with HIV aged 25 and over — every 3–5 years) and Pap smears, tertiary prevention — various methods of treating invasive cervical cancer (all women with the condition). The '90–70–90' strategy was developed as a set of targets for combating cervical cancer, according to which by 2030, 90% of girls should receive the HPV vaccine, 70% of women should regularly participate in screening programmes, and 90% of women with diagnosed disease should receive appropriate treatment [25]. y mid-2022, guidelines for cervical screening had been developed and implemented in 139 out of 202 countries, yet globally, two in three women aged 30–49 had never taken part in cervical cancer screening programmes. Researchers also find significant differences in participation in cervical cancer screening among women living in different countries around the world. In high-income countries (e.g. the UAE, South Korea) 84% of women have ever undergone cervical cancer screening in their lifetime; in upper-middle-income countries (e.g. Kazakhstan, Serbia) this proportion is 48%, whilst in lower-income countries (e.g. India, Tajikistan, Egypt) these proportions range from 8–13% [26]. There are several barriers that hinder women's participation in cervical cancer screening programmes. The main one is a lack of awareness of the risk factors for cervical cancer and of the screening procedure itself. Health education projects can help raise awareness. For example, a study examining the role of health education projects in selected healthcare facilities in Ethiopia showed that individual medical consultations or a leaflet at the clinic influence the decision to undergo screening [27]. Some studies reveal a significant correlation between educational attainment and the presence of barriers to participation in screening programmes [28]. For example, the results of a survey of 433 women in the US showed that higher educational attainment is associated with greater knowledge of risk factors for cervical cancer [29]. However, educational attainment is not always directly linked to sufficient awareness of cervical cancer and screening programmes. A survey of female university students in South Korea revealed that respondents had only a low or moderate level of knowledge about cervical cancer and screening for it. Participants in this study, within the framework of focus groups, also noted a number of barriers that were important to them and which prevented their participation in screening activities: a sense of social pressure, fear of learning the test result, and a lack of free time [30]. The first of these three barriers is linked to the stigmatisation of the disease. The most common route of HPV transmission is through sexual contact; consequently, some women are reluctant to undergo screening due to the potential for their behaviour to be stigmatised by those closest to them and by society at large [30, 31]. Thus, cultural factors linked to shame and taboos hinder their participation in screening and potentially put their health at greater risk. It is important to remember that these issues may be prevalent not only in individual countries, but also in specific communities within other countries. For example, an analysis of the reasons for participating in or refusing CRC screening among migrant women in the Netherlands showed that their lack of knowledge about cancer and screening is influenced precisely by the taboo surrounding this topic in their social circles [32]. Furthermore, the language barrier can be a significant obstacle to participation in screening.

Colorectal cancer. Colorectal cancer is the third most common type of cancer worldwide and the second leading cause of cancer-related deaths, accounting for approximately one million deaths per year [6]. Risk factors for colorectal cancer include genetic factors, the presence of polyps or inflammatory bowel disease, and familial adenomatous polyposis. The U.S. Preventive Services Task Force recommends colorectal cancer screening for people aged 45 to 75, whilst those over 75 are advised to consult their doctor regarding the need for screening. Methods of colorectal cancer screening include faecal occult blood testing, colonoscopy, irrigoscopy, flexible sigmoidoscopy and computed tomography (CT) colonography. It is recommended that the choice of screening method be made after consulting a doctor and selecting the most suitable option; however, it is important to note that the list of methods includes invasive procedures, which can only be performed with the involvement of a doctor and specialised equipment in a healthcare facility [33]. Factors that increase the likelihood of a person undergoing colorectal cancer screening include a doctor’s recommendation to undergo screening, a family history of the disease, and the belief that the decision to undergo screening should be made by doctors rather than by the patient themselves [34]. A younger age and lower levels of anxiety have also been identified as motivators for a person’s intention to undergo cancer screening [35]. Individual behaviour is also influenced by external social factors: studies examining intentions and motivations for undergoing screening have identified the influence of a person’s social environment, family and friends, as well as cultural and gender-related barriers, in light of which interaction with biological samples or the colonoscopy procedure may be perceived as incompatible with a person’s ideological or spiritual values [36]. This latter point is also supported by a study on colorectal cancer among African American men, in which respondents frequently articulated a narrative of masculinity that did not align with the realities of undergoing a colonoscopy [37]. Such studies highlight the need to take culturally specific themes (such as ‘family’ and ‘masculinity’) into account when promoting colorectal cancer screening among different population groups. Researchers also distinguish between attitudes towards colorectal cancer screening as an individual decision affecting the life and health of the specific person undergoing screening, and as a public health measure affecting the population. In surveys of the Dutch population, the reasons cited for a positive attitude towards colorectal cancer screening include both a general trust in the public health system and the screening it provides, and personal views on the ‘seriousness’ of cancer as a disease and the importance of one’s own health [38]. The most common barriers to undergoing colorectal cancer screening are fear of the results, fear of the procedure, fear of pain, the high cost of the test, and a lack of knowledge [39]. ‘Lack of knowledge’ refers to both a low level of education in general and a low level of awareness of screening procedures and programmes. The second of these aspects is something that can be influenced, at the very least, by informing people about the screening initiatives being carried out. A survey of UAE citizens, where (according to the authors) a colorectal cancer screening programme was launched in 2013, demonstrated that public awareness efforts had been insufficient. It turned out that the majority of respondents had never heard of colorectal cancer screening and did not consider colorectal cancer to be common (67% and 64% respectively) [40]. Additional barriers vary depending on the group under study: for example, frequently cited barriers to screening among rural residents in the US included a lack of insurance coverage for the cost of the test, embarrassment or discomfort during screening, a perceived lack of need for screening, a perceived lack of confidentiality, a shortage of specialists, and distance from testing laboratories [41]. Another significant barrier to undergoing screening specifically for colorectal cancer is aversion to the collection of biological samples: people who prefer blood tests to stool or saliva tests showed a greater level of aversion to stool, as did those who chose saliva testing [42]. It should be noted that the absence of barriers and a positive attitude towards screening cannot unequivocally predict an individual’s participation in colorectal cancer screening. A study conducted in Saudi Arabia involved surveying respondents about their attitudes towards colorectal cancer screening and subsequently inviting them to undergo this screening. Some respondents who expressed a positive attitude towards screening at the survey stage did not accept the invitation to screening, whereas respondents who expressed a neutral or negative attitude towards attending screening did accept the invitation. Multivariate analysis revealed that the decisive factor in accepting or declining the invitation to screening was the respondent's gender: men accepted the invitation to screening more frequently [43]. Another barrier between a positive attitude towards screening and participation in the programme is the time lag between the patient's desire to undergo the test and their actual attendance. The introduction of digital tools, such as mobile apps, improves the effectiveness of colorectal cancer screening by enabling patients to book a screening test themselves. This helps to reduce the time barrier by shortening the time between a patient's desire to undergo screening and the actual booking and completion of the test [44].

Lung cancer. Lung cancer is the second most common type of cancer and the leading cause of cancer-related deaths [6]. ung cancer screening differs from screening for the conditions described above in that there is a wider range of criteria that an individual must meet in order to be recommended for annual screening using low-dose computed tomography (LDCT). The criteria of the International Association for the Study of Lung Cancer include being aged between 55 and 74, having a smoking history of 30 years, and smoking, on average, at least one packet of cigarettes a day. Current smokers and those who have quit within the last 15 years but meet the smoking history criteria are classified as being at high risk of lung cancer [45]. Screening eligibility criteria vary across organisations; for example, the US Preventive Services Task Force recommends screening younger individuals with shorter smoking histories [46] and include less frequently cited characteristics (e.g., a family history of lung cancer, stage 3 and 4 chronic obstructive pulmonary disease (COPD), and working in environments with consistently high radon concentrations [47]). First and foremost, researchers investigating patients' attitudes towards lung cancer screening are interested in the acceptance, beliefs, views and intentions among members of the high-risk group for lung cancer, i.e. potential participants in relevant screening programmes. The results of surveys and interviews with such individuals unanimously show that the majority of those in the high-risk group for lung cancer are willing to undergo screening for the disease. The proportion of those willing to undergo lung cancer screening using CT scans ranges from 68% [48] to 97% [49]. Higher proportions of those willing to undergo screening are found among those who have already quit smoking; the authors attribute these trends to the fact that these study participants are more mindful of and concerned about the health of their lungs than those who are also in the high-risk group but continue to smoke [50]. High-risk individuals who are not willing to undergo lung cancer screening mention the following barriers to their participation in the screening during surveys and interviews: fatalism, fears and anxieties (regarding the harm from radiation exposure, waiting for results, receiving a positive result, receiving a false-positive result), distrust of doctors and medicine in general [51, 52], as well as the cost of the screening (if the patient has to pay for it themselves [53]). Researchers obtain similar information when they broaden the inclusion criteria for study participants, removing the age restriction (to include those who may be at high risk in the future) and/or removing the restriction on whether a person smokes or has quit smoking (to ascertain the general population's views on lung cancer screening). The majority of respondents and informants have a positive attitude towards lung cancer screening using CT [54], and among smokers and ex-smokers, the proportions willing to undergo screening show no statistically significant differences in most studies [51, 55]. However, as noted by Quaife et al. [49], support for screening among these population groups may be 'superficial'. The authors introduce the concept of 'superficially supportive', which relates to the fact that, despite a positive attitude towards screening, people cite the same barriers that prevent them from actually undergoing screening as those who do not support the idea of screening using CT (fatalism, fears, anxieties, mistrust). The existence of 'superficial support' is also confirmed in Delmerico's study [56]. The authors found that both smokers and non-smokers support lung cancer screening programmes, yet very few of them had actually undergone such screening — only 1 in 7 study participants. It is possible that the low rates of participation in lung cancer screening programmes in countries where they are carried out are due to patients' lack of awareness of the existence of such examinations and a lack of understanding of certain aspects of these examinations. For example, in the USA, Monu et al. [57] found that more than half of respondents were unaware of or unsure about the existence of lung cancer screening (57%), whilst a survey by Tseng [58] showed that almost half of respondents (47%) had a low level of knowledge about LDCT. According to the findings of studies [54], greater awareness among potential screening participants should be initiated by their treating physicians through 'shared decision-making' , and the information they receive should be comprehensive, covering not only the benefits of undergoing the screening but also the potential harms (regarding radiation exposure and false-positive results), as well as the waiting time for test results, further treatment in the event of a positive result, and recommended actions in the event of a negative result.

This final aspect of awareness is worth including, as researchers frequently encountered informants who believed during interviews that it was acceptable to continue smoking if they received negative results, and that they should only quit the habit if the result was positive in a given year [58]. Greater awareness among participants in lung cancer screening about the test itself leads to higher uptake, according to survey results [57]. Only one study from South Korea shows the opposite: after respondents were informed of the potential harms of LDCT, the proportion willing to undergo screening fell from 95% to 82%, although, for the most part, attitudes towards screening deteriorated among younger people (aged 40–49), for whom screening is not currently recommended [55]. On the other hand, this may be a country-specific feature and reflect differences in public awareness of screening in general, as another study in South Korea found that among those opposed to lung cancer screening, half believed that screening should be carried out not only for high-risk groups but also for low-risk groups, and one in five of those opposed believed that lung cancer screening does not reduce mortality from the disease [59]. Conclusion For all the diseases considered in this review, it is characteristic that the majority of study participants are willing or would like to undergo screening for them. Such trends are observed for various high-risk groups for disease development, for screening programmes of varying frequency, and for procedures of varying degrees of invasiveness. However, when studying patients' attitudes towards cancer screening, it is important to understand that willingness to undergo screening does not equate to actually undergoing it. The main barrier preventing participation in cancer screening for any disease is a lack of awareness among individuals about the disease and screening for it. Within the framework of screening programmes and studies on public attitudes towards screening, participants should be provided with comprehensive information to ensure informed participation and potentially increase the coverage of patients being screened. As our study shows, attitudes towards cancer screening and willingness to undergo it vary across different countries, linked to their cultural characteristics. In this regard, before implementing a screening programme or study, it makes sense to ascertain what potential study participants know about screening, what might motivate them to undergo screening, and what might hinder their participation. It may also be worth including an analysis of patients' understanding of the concept of 'screening' in general in such studies, as there are studies in which some respondents and informants did not know what screening is, what benefits it may offer, or what harms it may cause [41, 59]. We were unable to find any studies on patients' attitudes towards cancer screening in Ukraine that were similar to the foreign articles reviewed in this overview. We see a need for a more detailed examination of patients' attitudes towards cancer screening among at-risk groups and the Ukrainian population as a whole, using quantitative and qualitative methods of analysis, examples of which are compiled in this overview. Such studies will not only help to identify the cultural characteristics of Ukrainian citizens in their attitudes towards screening, but will also provide the population with further information about cancer screening.

References

1. World Health Organization Regional Office for Europe. A short guide to cancer screening. Increase effectiveness, maximize benefits and minimize harm [Internet]. Copenhagen: WHO Regional Office for Europe. 2022;45. Available from: https://apps.who.int/iris/bitstream/hand le/10665/351396/9789289057561-eng.pdf.

2. Cullati S, Charvet-Bérard AI, Perneger TV. Cancer screening in a middle-aged general population: factors associated with practices and attitudes. BMC Public Health. 2009;9:118. https://doi.org/10.1186/1471-2458-9-118.

3. Wools A, Dapper EA, Leeuw JRJD. Colorectal cancer screening participation: a systematic review. Eur J Public Health. 2016;26(1):158-68. https://doi.org/10.1093/eurpub/ckv148.

4. Kolahdooz F, Jang SL, Corriveau A, et al. Knowledge, attitudes, and behaviours towards cancer screening in indigenous populations: a systematic review. Lancet Oncol. 2014;15(11):e504-16. https://doi.org/10.1016/S1470- 2045(14)70508-X.

5. Smith J, Dodd RH, Gainey KM, et al. Patient-Reported Factors Associated With Older Adults' Cancer Screening Decision-making: A Systematic Review. JAMA Netw Open. 2021;4(11):e2133406. https://doi.org/10.1001/jamanetworkopen.2021.33406.

6. Sung H, Ferlay J, Siegel RL, et al. Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. CA Cancer J Clin. 2021;71(3):209-49. https://doi.org/10.3322/caac.21660.

7. Harbeck N, Penault-Llorca F, Cortes J, et al. Breast cancer. Nat Rev Dis Primer. 2019;5(1):66. https://doi.org/10.1038/ s41572-019-0111-2.

8. Sechopoulos I, Mann RM. Stand-alone artificial intelligence - The future of breast cancer screening? The Breast. 2020;49:254-60. https://doi.org/10.1016/j.breast.2019.12.014.

9. Freeman K, Geppert J, Stinton C, et al. Use of artificial intelligence for image analysis in breast cancer screening programmes: systematic review of test accuracy. BMJ. 2021;374:1872. https://doi.org/10.1136/bmj.n1872.

10. Torres-Mejía G, Smith RA, Carranza-Flores MDLL, et al. Radiographers supporting radiologists in the interpretation of screening mammography: a viable strategy to meet the shortage in the number of radiologists. BMC Cancer. 2015;15(1):410. https://doi.org/10.1186/s12885-015-1399-2.

11. European Commission Initiatives on Breast and Colorectal Cancer. Inviting and informing women about screening [Internet]. 2023. Available from: https://healthcare-quality.jrc. ec.europa.eu/european-breast-cancer-guidelines/Invitation-toscreening-and-decision-aid.

12. Wegwarth O, Widschwendter M, Cibula D, et al. What do European women know about their female cancer risks and cancer screening? A cross-sectional online intervention survey in five European countries. BMJ Open. 2018;8(12):e023789. https://doi.org/10.1136/bmjopen-2018-023789. ОБЗОРЫ / REVIEWS VOPROSY ONKOLOGII = PROBLEMS IN ONCOLOGY. 2023;69(6) 1029

13. Mascara M, Constantinou C. Global perceptions of women on breast cancer and barriers to screening. Curr Oncol Rep. 2021;23(7):74. https://doi.org/10.1007/s11912-021-01069-z.

14. Seaman K, Dzidic PL, Castell E, et al. A systematic review of women's knowledge of screening mammography. The Breast. 2018;42:81-93. https://doi.org/10.1016/j.breast.2018.08.102.

15. Noman S, Shahar HK, Abdul Rahman H, et al. The Effectiveness of Educational Interventions on Breast Cancer Screening Uptake, Knowledge, and Beliefs among Women: A Systematic Review. Int J Environ Res Public Health. 2020;18(1):263. https://doi.org/10.3390/ijerph18010263.

16. Satoh M, Sato N. Relationship of attitudes toward uncertainty and preventive health behaviors with breast cancer screening participation. BMC Womens Health. 2021;21(1):171. https:// doi.org/10.1186/s12905-021-01317-1.

17. Ritchie D, Van Hal G, Van Den Broucke S. Factors affecting intention to screen after being informed of benefits and harms of breast cancer screening: a study in 5 European countries in 2021. Arch Public Health. 2022;80(1):143. https://doi. org/10.1186/s13690-022-00902-6.

18. Özkan İ, Taylan S. Barriers to women's breast cancer screening behaviors in several countries: A meta-synthesis study. Health Care Women Int. 2021;42(7-9):1013-43. https://doi.or g/10.1080/07399332.2020.1814777.

19. Zha N, Alabousi M, Patel BK, et al. Beyond universal health care: barriers to breast cancer screening participation in Canada. J Am Coll Radiol. 2019;16(4):570-9. https://doi. org/10.1016/j.jacr.2019.02.044.

20. Lennox-Chhugani N, Chen Y, Pearson V, et al. Women’s attitudes to the use of AI image readers: a case study from a national breast screening programme. BMJ Health Care Inform. 2021;28(1):e100293. https://doi.org/10.1136/bmjhci-2020-100293.

21. Pesapane F, Rotili A, Valconi E, et al. Women’s perceptions and attitudes to the use of AI in breast cancer screening: a survey in a cancer referral centre. Br J Radiol. 2023;96(1141):20220569. https://doi.org/10.1259/ bjr.20220569.

22. Rybin, A., A. Varabina, and M. Broshkov. ""Epidemiology and management of ovarian cancer based on the clinical experience of the southern region of Ukraine." *Georgian Medical News* 288 (2019): 32-36.

23. Rybin A, Dubinina V, Kuznetsova O. Personalized managing of the patients with serous ovarian cancer. InINTERNATIONAL JOURNAL OF GYNECOLOGICAL CANCER 2016 Sep 1 (Vol. 26, pp. 35-35). TWO COMMERCE SQ, 2001 MARKET ST, PHILADELPHIA, PA 19103 USA: LIPPINCOTT WILLIAMS & WILKINS.

24. Kolesnik O.O., Rybin A.I. Predicting the effectiveness of treatment for ovarian cancer patients. Current issues in paediatrics, obstetrics and gynaecology. – 2017. – No. 2. – pp. 40–47. DOI 10.11603/24116-4944.2017.2.8043.

25. Kolesnik O.O., Rybin A.I. Personalised treatment of ovarian cancer patients. Hospital Surgery. Journal named after L. Ya. Kovalchuk. – 2017. – No. 2 (78). – P. 5-12. DOI 10.11603/2414-4533.2017.2.7951.

26. RYBIN, Andriy and LISKOVSKYI, Sergiy. Epidemiology of papillomavirus infection in Ukraine. Pedagogy and Psychology of Sport. Online. 31 October 2025. Vol. 26, p. 66875. [Accessed 10 December 2025]. DOI 10.12775/PPS.2025.26.66875.

27. Rybin A, Maksymovskyi V, Kuznetsova O, Osyk V, Bohdan A. THE RESULTS OF LIFE QUALITY ASSESSMENT IN PATIENTS WITH PRIMARY OVARIAN CANCER DURING TREATMENT: EFFECT OF DIFFERENT TACTICS AND HIPEC. Georgian Med News. 2025 Jul-Aug;(364-365):364-368. PMID: 41072538.

28. Rybin A. I., O. V. Kuznetsova, and V. E. Maximovsky. "Modern strategies of surgical treatment of patients with pelvic canceromatosis caused by the ovarian cancer. Visnyk mors′koyi medytsyny 2020; 2 (87): 55–61. DOI http://dx.doi.org/10.5281/zenodo.3967728.

29. Rybin A. (2022). Results of personalised treatment of ovarian cancer in patients with peritoneal carcinomatosis // Reproductive Health of Women, (7), 35–40. https://doi.org/10.30841/2708-8731.7.2022.272470.

30. RYBIN, A., MAKSYMOVSKYI, V., KUZNETSOVA, O. and ZAMYSHLYAK, V. Personalised treatment of patients with advanced ovarian cancer: comparative analysis of surgical approaches. Journal of Education, Health and Sport. Online. 30 June 2025. Vol. 83, p. 64576. DOI 10.12775/JEHS.2025.83.64576.

31. MAKSYMOVSKYI, V., RYBIN, A. and ZAMYSHLYAK, V. Quality of life in patients with advanced ovarian cancer under personalised treatment: the impact of HIPEC. Journal of Education, Health and Sport. Online. 11 August 2025. Vol. 84, p. 64751. DOI 10.12775/JEHS.2025.84.64751.

32. Rybin, A. I., Maksymovskyi, V. Ye., Kuznetsova, O. V., & Zamyshlyak, V. I. (2025). Assessment of the quality of life of patients with primary ovarian cancer during personalised treatment. Reproductive Health of Women, (7), 73-79. https://doi.org/10.30841/2708-8731.7.2025.343883.

33. Rybin A.I. The role of proteomic and genetic predictors of survival in ovarian cancer patients. Clinical Oncology, 2016, No. 3 (23), pp. 46-48.

34. Rybin, A. I., et al. "QUINTIP RECORDATI INITIAL DATA CONCERNING THE PECULIARITIES OF HUMAN PAPILLOMAVIRUS INFECTION EPIDEMIOLOGY IN UKRAINE AND THE PROSPECTS FOR ITS PREVENTION." *World of Medicine and Biology* 21.93 (2025): 242-250. DOI 10.26724/2079-8334-2025-3-93-242-250.

35. Rybin A. I., Lysenko M. A., Rysina A. I. Features of the sanogenesis system in patients with ovarian cancer resistant to platinum-based chemotherapy. Collection of scientific works of the Association of Obstetricians and Gynaecologists of Ukraine. 2014. 1-2. 251-254.

36. Rybin A.I., Kuznetsova O.V. Second line treatment of recurrent ovarian cancer: from clinical trials to modern military realities // International scientific journal ‘Grail of Science’, No. 26, 2023.-P. 478-482. https://doi.org/10.36074/grail-of-science.14.04.2023.085.

37. RYBIN, A. Biomarkers of platinum resistance in serous ovarian cancer. Journal of Education, Health and Sport. Online. 25 September 2025. Vol. 85, p. 65774. DOI 10.12775/JEHS.2025.85.65774.

38. Rybin A. I., et al. Initial data from Quintip Recordati on the epidemiology of papillomavirus infection in Ukraine and prospects for its prevention. World of Medicine and Biology No. 3(93), 2025, pp. 242–250. DOI 10.26724/2079-8334-2025-3-93-242-250.

39. RYBIN, Andriy. Modern strategies of platinum resistance overcoming in patients with the serous ovarian cancer. Journal of Education, Health and Sport. Online. 30 November 2018. Vol. 8, no. 11, pp. 594-599.

40. Rybin, A. I., et al. ‘Assessment of quality of life in patients with primary ovarian cancer during personalised treatment.’ Women’s Reproductive Health 7 (2025): 73–79. https://doi.org/10.30841/2708-8731.7.2025.343883.

41. Rybin, A., et al. "THE RESULTS OF LIFE QUALITY ASSESSMENT IN PATIENTS WITH PRIMARY OVARIAN CANCER DURING TREATMENT: EFFECT OF DIFFERENT TACTICS AND HIPEC." *Georgian Medical News* 364-365 (2025): 364-368.

42. Rybin, A. I., et al. ‘Innovative approaches to the management of cancer patients.’ (2025). Current Issues in Transport Medicine. - 2025. - No. 1 (79). – pp. 131–139. http://dx.doi.org/10.5281/zenodo.15069303.

43. Kuznetsova O.V. Hepatotoksychnostʹ razlychnykh skhem khymyoterapevtycheskoho lechenyya opukholey zhenskoy reproduktyvnoy systemy / O.V. Kuznetsova, A.Y. Rybyn, V.H. Dubynyna // Arkhiv klinichnoyi ta eksperymentalʹnoyi medytsyny. – 2014. – tom 22, № 1. – S. 60–64.

44. RYBIN, Andriy and LISKOVSKYI, Sergiy. When endometrioma becomes malignant: a clinical case and conclusions for oncogynecological practice. Journal of Education, Health and Sport. Online. 11 December 2025. Vol. 86, p. 67343. DOI 10.12775/JEHS.2025.86.67343.

45. RYBIN, A., KUZNETSOVA, O. and ZAMYSHLYAK, V. Molecular characteristics of endometrial cancer: entering the era of precision medicine. Journal of Education, Health and Sport. Online. 27 January 2026. Vol. 87, p. 70267. DOI 10.12775/JEHS.2026.87.70267.

46. Rybin, A. I., et al. ‘Assessment of quality of life in patients with primary ovarian cancer during personalised treatment.’ Reproductive Health of Woman. 2025 (7), 73–79. https://doi.org/10.30841/2708-8731.7.2025.343883.

47. Rybin A,, Kuznetsova O. (2025). MODERN LOOK ON RESISTANCE TO PLATINUM IN PATIENTS WITH THE SEROUS OVARIAN CANCER. SWorldJournal, 2(33-02), 130–137. https://doi.org/10.30888/2663-5712.2025-33-02-029.

48. Rybin, A. The modern look on the platinum-based chemotherapy effectiveness the modern look on the platinum-based chemotherapy effectiveness. Journal of Education, Health and Sport. Online. 30 May 2025. Vol. 81, p. 66051. DOI 10.12775/JEHS.2025.81.66051.

49. Rybin, A., Kuznetsova, O., & Zamyshlyak, V. (2025). VIVRE AVEC DEUX GUERRIERS: CANCER ET GROSSESSE EN TEMPS DE GUERRE. Collection of

scientific papers «ΛΌГОΣ», (April 4, 2025; Paris, France), 335-339. https://doi.org/10.36074/logos-04.04.2025.065.

50. Rybin, Andriy; Kuznetsova, Olga; Zamyshlyak, Viktoria. LIFELONG WAR: CHRONIC STRESS AND HUMAN PAPILLOMAVIRUS AS MAJOR RISK FACTORS FOR CERVICAL CANCER. Collection of scientific papers «ΛΌГОΣ», 2025, September 5, 2025; Boston, USA: 204-208. https://doi.org/10.36074/logos-05.09.2025.035.

51. RYBIN, Andriy, et al. A Comparative Analysis of the Outcomes of Personalised Treatment for Patients with Advanced Ovarian Cancer. Modern engineering and innovative technologies, 2025, 40-02: 133-143. https://doi.org/10.30890/2567-5273.2025-40-02-014.

52. Ahmed F. Thematic analysis of smokers' attitudes towards lung cancer screening using spiral CT scanning. Research Square [Preprint]. 2022. https://doi.org/10.21203/rs.3.rs-1725186/v1.

53. Jonnalagadda S, Bergamo C, Lin JJ, et al. Beliefs and attitudes about lung cancer screening among smokers. Lung Cancer. 2012;77(3):526-31. https://doi.org/10.1016/j.lungcan.2012.05.095.

54. Mishra SI, Sussman AL, Murrietta AM, et al. Patient Perspectives on Low-Dose Computed Tomography for Lung Cancer Screening, New Mexico, 2014. Prev Chronic Dis. 2016;13:160093. https://doi.org/10.5888/pcd13.160093.

55. Cam NB, Lee YY, Yoon H, et al. Intentions to Undergo Lung Cancer Screening among Korean Men. Asian Pac J Cancer Prev. 2015;16(15):6293-8. https://doi.org/10.7314/apjcp.2015.16.15.6293.

56. Delmerico J, Hyland A, Celestino P, et al. Patient willingness and barriers to receiving a CT scan for lung cancer screening. Lung Cancer. 2014;84(3):307-9. https://doi.org/10.1016/j. lungcan.2014.03.003.

57. Monu J, Triplette M, Wood DE, et al. Evaluating knowledge, attitudes, and beliefs about lung cancer screening using crowdsourcing. Chest. 2020;158(1):386-92. https://doi.org/10.1016/j.chest.2019.12.048.

58. Tseng TS, Gross T, Celestin MD, et al. Knowledge and attitudes towards low dose computed tomography lung cancer screening and smoking among African Americans - a mixed method study. Transl Cancer Res. 2019;8(S4):S431-42. https://doi.org/10.21037/tcr.2019.04.18.

59. Park J, Lee J, Kim Y. Public opinion on implementing the National Lung Cancer Screening Program in Korea. Transl Lung Cancer Res. 2021;10(3):1355-67. https://doi.org/10.21037/tlcr-20-865.