MERAL Publications and Solutions Pvt. Ltd.

Review Article

Insurance Coverage for Second-Level Preventive Services in Women's Breast and Cervical Cancers: Systematic Review

Maryam Saadati[1], Mohammad Reza Maleki[1], Hamid Pour Asghari[2], Ali Nemati[3]

[11]Department of Health Services Management, Faculty of Health Management and Information Sciences, Iran University of Medical Sciences, Tehran, Islamic Republic of Iran. [2]Hospital management research center, health management research institute, Iran University of Medical Sciences, Tehran, Islamic Republic of Iran. [3]Department of Health Service Management, School of Management and Medical Information Sciences,Health Management and Economics Research Center, Health Management Research Institute, Iran University of Medical Sciences, Tehran, Islamic Republic of Iran.

Correspondence: Mohammad Reza Maleki, Department of Health Services Management, Faculty of Health Management and Information Sciences, Iran University of Medical Sciences, Tehran, Islamic Republic of Iran. mrmaleki43@gmail.com

ABSTRACT

Breast and cervical cancers are the most common cancers among women and are often addressed together in global health programs. Cancer is also among the costliest diseases, imposing heavy physical, psychological, and financial burdens on patients and their families. Insurance plays a crucial role in reducing costs and ensuring timely access to preventive and treatment services.

This study aimed to analyze the insurance coverage requirements for second-level preventive services for breast and cervical cancers in women. A systematic review was conducted by searching international databases (PubMed, Web of Science, Scopus, ProQuest, Google Scholar) and Iranian databases (SID, Magiran) up to December 2022, with an update in November 2023. From 9,218 identified articles, after duplicate removal, screening, and full-text review, 8 studies met eligibility criteria. Data were synthesized using qualitative meta-synthesis with Excel 16.0.

All included studies used retrospective cross-sectional methods: six were conducted in the United States, one in Colombia, and one in Israel. None explicitly addressed insurance coverage requirements for cancer screening. However, findings revealed that factors such as public vs. private insurance, being insured vs. uninsured, cancer characteristics, family history, gender differences, ethnicity, socioeconomic status, high medical costs, and patient involvement in care decisions influence the uptake of preventive services.

The results highlight that insurance coverage for preventive services in breast and cervical cancers is shaped by multiple social, economic, and demographic factors. These should be carefully considered by insurance organizations to support timely preventive and treatment measures.

Keywords: Breast cancer, Cervical cancer, Secondary prevention, Systematic review.

Introduction

Cancer is a growing concern for public health (1) and is one of the most costly diseases that cause many physical and psychological consequences for patients and their families. (2) According to Global Cancer Observatory (GLOBOCAN) estimates, approximately 19.3 million new cancer cases and approximately 10 million cancer deaths occurred annually in 2020. (3)

Breast and cervical cancer are among the major malignancies in women, especially in low- and middle-income countries worldwide. (4) Breast cancer has now surpassed lung cancer as the most common type of cancer in the world. In this regard, 2.26 million cases of breast cancer and 685000 deaths due to it have been recorded worldwide in 2020 . Among women, breast cancer accounts for approximately 24.5% of all cancer cases and 15.5% of cancer deaths. (3, 5) On the other hand, every year more than half a million women are diagnosed with cervical cancer and this disease leads to the death of more than 300 thousand people worldwide. (6)

The burden of death from breast cancer is increasing in low- and middle-income countries (LMICs) due to breast cancer misconceptions, late diagnosis, poverty, cultural and religious beliefs, and fear of mastectomy. (7) Unfortunately, breast cancer screening is very low in low- and middle-income countries. The Global Health Survey found that only 2.2% of women aged 40 to 69 in low- and middle-income countries had received breast

cancer screening. (4) In 2017, it is estimated that the years lost due to disability (DALY) in breast cancer in Iran were almost twice that of stomach cancer and 30 times that of thyroid cancer. (8) Unfortunately, 71% of breast cancer patients in Iran are detected in advanced stages, and two-thirds of them need extensive treatments. (9) Through a population-based study, it has been shown that 61% of Iranian general women know about breast cancer and screening programs. While only 17% reported regular screening and examination. (10)

The prevalence of breast cancer in Iranian women is more than 22 cases per 100 thousand people. (8) The average age of breast cancer patients in Western countries is more than 55 years and women in Iran are diagnosed with this disease 10 years earlier than other women around the world. (11) Also, in Iran, the most common cause of death from sex-related cancers after breast cancer is cervical cancer, which is the second most common cancer and the fifth most deadly cancer among women in Iran. (12) In Iran, one out of every 123 women gets cervical cancer every year, which has a mortality rate of one in 100000. (13)

Due to the importance of cervical cancer, the World Health Organization published a global appeal in 2018 intending to eliminate cervical cancer as a public health problem. (14, 15) The American Cancer Society has also suggested the use of screening methods, breast self-examination, clinical breast examination, mammography, ultrasound, and magnetic resonance imaging for early detection of breast cancer in asymptomatic patients. (16) The National Breast and Cervical Cancer Screening Program offers breast and cervical cancer screening to low-income, underserved, and uninsured women in the United States. This program is managed by the Centers for Disease Control and Prevention. Screening services are mainly provided through non-profit groups and local health clinics. With the help of this program, women without health insurance, or with insurance that does not cover these tests, can perform breast and cervical cancer tests for free or at a very low cost. (17)

On the other hand, efforts to establish a sustainable infrastructure for cancer prevention and care measures in transition countries are vital for its global control (3). Health insurance requirements are effective mechanisms that many government policymakers use to increase the use of preventive health services such as breast and cervical cancer screening. (18) Mandating insurance coverage for even inexpensive and routine services with high utilization rates such as Pap smear tests, annual screenings, and early detection could significantly increase the use of breast and oral cancer prevention services. Increase the uterus. (19) Studies have shown that the status of health insurance and the type of insurance have a great impact on breast and cervical cancer screening. Among different groups of women, not having health insurance is related to not having cancer screening. (20-24) Meanwhile, the decision to require insurance coverage for preventive services is especially challenging for cancer. (25)

In Iran, most screening costs are paid by the patients themselves, and it may affect the acceptance of some screening strategies and reduce this index compared to other countries. (26) Some studies have shown that screening mammography is not a cost-effective intervention in Iran. (27-28) Therefore, most insurance in Iran pay the cost of diagnostic methods and screening tests must be paid from one's pocket. Providing more insurance coverage or more access facilities by Iran's health system can improve the participation rate index. (26)

The provision of prevention services is considered at four levels. (29-30) Among these levels, the goals of the second level of prevention are to reduce the more severe consequences of the disease through timely diagnosis and treatment. The second level of prevention can be done in the form of existing solutions for early diagnosis of the disease and effective and decisive intervention to improve the health status of the individual and what he defined at the social level. Second-level prevention requires an initial period in the natural course of the disease, during which the diagnosis and prevention of the disease are easily possible. (29, 30) The use of screening services and the second level of prevention for chronic diseases in appropriate age groups increases mortality between 20 and 60%, depending on the people who do not receive preventive services or are not screened. (31, 32) Studies have shown that uninsured adults use preventive services less than those with insurance. (20, 33)

Due to the occurrence of problems such as inflation in the healthcare sector compared to other sectors in Iran, the overall cost index in the country has increased 30 times in the last 20 years, and this growth in health sector costs has increased tenfold. The occurrence of such problems imposes heavy pressure on insurers and most likely leads them to the verge of bankruptcy. For this reason, the investment of insurance organizations in activities such as providing preventive services that lead to the improvement of the health of members of society will significantly reduce the demand for expensive medical services, including cancer. (34) The general policies of the health system announced by the Supreme Leader also state the priority of prevention over treatment in paragraphs 1-2 and on the leveling of services and special attention to activities that promote health and prevention in the regions. Mahmoud emphasizes and shows the insurance organizations as the biggest organizations that purchase preventive and health-promoting services in the country. (35-37)

According to the law, insurance organizations are required to cover all essential services, especially the primary and preventive services and care needed by the people; But in practice, this has not been possible; Because these organizations do not have the financial ability to cover all services. According to the Executive Regulations of the Mandatory Law, approved in November 1368, the Social Security Organization of Iran is only obliged to provide medical services to the people under its coverage and has faced a legal prohibition to enter into the coverage of health and prevention services. (38-40) The study of Mutlaq et al. in 1400 regarding the achievements of the national cancer management program in Iran in terms of service insurance coverage for the prevention of cancers, including breast and cervical cancers,

showed that the new tariff system for services Cancer in general and radiotherapy services have not been implemented. (41)

The researcher's review of domestic literature showed the lack of research related to the coverage of preventive services, especially the second-level preventive services for women's cancer, and only some external studies generally covered the insurance coverage of cervical and breast cancers, regardless of the level of that case. (42) or they had paid attention to prevention services in general. (43, 44) Breast and cervical cancers are the first and second most common cancers in women, and these two cancers are considered together in global care programs. In general, breast and cervical cancers rank first and fourth among all cancers. Lung and colon cancers are in the second and third place and are common in both sexes. (17) On the other hand, due to the lowering of the age of breast cancer by ten years and the placement of cervical cancer in terms of morbidity and mortality after breast cancer in Iranian women, the present study aims to systematically review the coverage requirements. Insurance became the second level of preventive services for breast and cervical cancers. It is expected that the results of this research can provide practical information and a road map suitable for the country's conditions for decision-makers and policy-makers regarding the coverage of breast and cervical cancer preventive services. So that it moves in the direction of universal health coverage and health promotion and ultimately helps to reduce the heavy costs of patients and insurance organizations.

Materials and Methods

To carry out this research, by using a systematic review and different methods of searching for sources, such as searching for electronic sources, through the selection of keywords and formulating a search strategy in an orderly and systematic way, studies were identified in the field of the role of insurance in the prevention of the second level of cancer. The breast and cervix of women were performed. To find scientific sources from the English databases of PubMed, Web of Science, Scopus, Google Scholar search engine proquest, and Iranian SID and Magiran databases until December 2022, the articles were updated again on November 25, 2023. The reference list of the included studies was screened to find more eligible studies. The inclusion criteria include all research articles, reviews, and gray texts related to global requirements and policies in the field of implementing the insurance coverage of second-level preventive services for women's breast and cervical cancers without geographic restrictions and in the period from 2000 to 2023, published in English. and there was access to the full text of the article. The exclusion criteria included books, letters to the editor, editor's articles, notes, opinions, and conference articles. articles in non-English languages and articles that are not related to the experience of insurance coverage of second-level preventive services for breast and cervical cancers of women.

After removing duplicate articles, first, the titles and abstracts of the articles were evaluated by one of the researchers, and only the articles that met at least one of the inclusion criteria were selected for screening in the second stage. In the second step, the full text of the articles entered from the first step was independently reviewed by two researchers in terms of eligibility criteria. Disagreements were resolved through agreement between two researchers, and in case of disagreement, through discussion with a third researcher. Consensus was reached on all included studies. To collect data, the form created by the researcher was used in this stage. In this form, the bibliographic information of the articles, including the name of the authors, year, country, type of study, method of conducting the study, and the requirements for implementing insurance coverage for the second level of breast cancer preventive services. The cervix of the women was collected and checked for correctness by another researcher. Critical Appraisal Skills Program (CASP) checklist was used to evaluate the quality of articles.

After collecting data from the included articles, two types of descriptive analysis and thematic analysis (qualitative meta-synthesis) were used. Using this method, the general main concepts of the included studies were identified.

Meta-synthesis is a relatively new technique for reviewing qualitative research. Stern and Harris (1985) were the first researchers to use the term "qualitative meta-synthesis" to refer to the synthesis and integration of a group of qualitative studies. The purpose of this method is the comprehensive analysis of phenomena (45), the steps of meta-synthesis: 1-finding the research title, 2-selecting eligible studies to enter the meta-synthesis, 3-studying, and re-reading to identify its key concepts and themes, 4-review Connecting studies with each other, 5-translating studies to each other, 6- creating a whole of primary studies, 7- publishing research results. The reporting of this systematic review was done based on the Prisma guidelines (46). Considering that the process of search strategy, quality assessment synthesis, and data extraction was done by the researcher, to confirm the correctness and support the process of conducting this research, the review strategy of supervisors was used, that is, the use of complementary opinions of colleagues. The information obtained using Excel version 16.0 spreadsheet program was used for data analysis (31).

Results and Discussion

A total of 16439 articles were extracted by searching the databases. The method of extracting the studies is shown in the prism diagram and finally, 8articles met the criteria for entering this study.

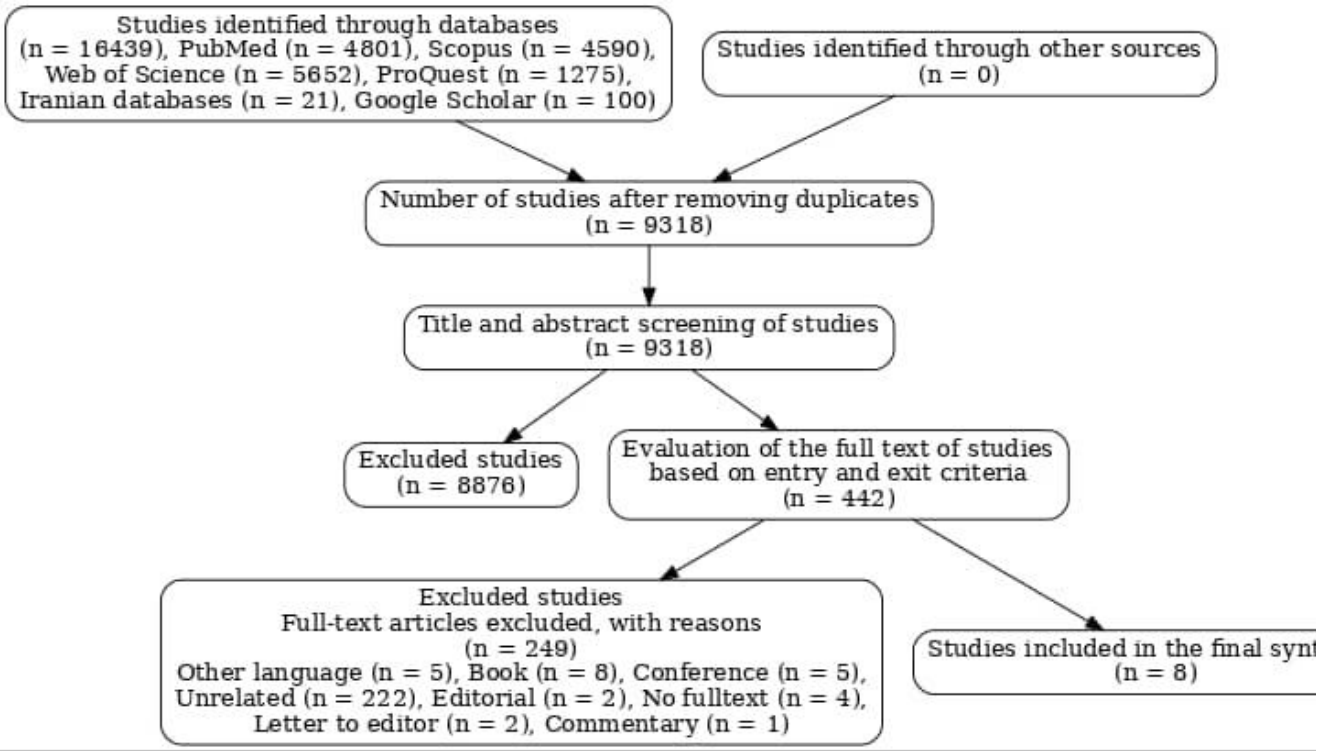

Figure1. Flow diagram of identification and selection of articles for a systematic review of insurance requirements for second-level preventive services for breast and cervical cancer in women.

All these studies (100 %) were done in a retrospective cross-sectional way. Six of these studies (75%) were conducted in the United States, one in Colombia, and one in Israel. In these studies, the requirements of health insurance coverage in the screening of women with breast and cervical cancer were not mentioned. However, these studies showed that factors such as having public insurance versus private insurance, having insurance versus not having insurance, characteristics of cancer itself, family history, gender differences, ethnicity and nationality of people, social and economic factors, The high costs of the doctor, and the participation of the patient in the selection of medical care can affect the preventive measures of breast and uterine cancer. Therefore, these factors can somehow be considered as the factors considered in the coverage of breast and uterine cancer preventive insurance.

Table 1. Characteristics of included studies

Health insurance coverage requirements	Data analyzing method	Study method	The purpose of the study	First author (country, year)
Women with private insurance and Medicaid are more likely to seek clinical breast evaluation. People with uncertain insurance status or non-social security insurance are more likely than people with private insurance and at least one visit to have a clinical evaluation of the breast and cervix. Mammography alone and mammography with breast evaluation were reduced in uninsured people. This result was not different in women with and without visits	quantitative	Retrospective section	Determining the association between type and status of insurance coverage and regular breast, cervical, and colon cancer screening in rural areas	Carney (USA, 2012)
Women with public insurance are less likely to have access to mammography screening. Justice in access to mammography affects its performance. (48)	quantitative	Retrospective section	Evaluating equality in breast cancer diagnosis based on comparison of actual access and mammography screening opportunity according to social health insurance status	Charry (Columbia, 2008)

Insurance coverage can be on a case-by-case basis based on medical necessity and with the details of a specific patient or with prior approval. Also, in the provision of CPM services, the characteristics of breast cancer itself, family history, and gender differences (to a small extent) were paid attention to. (49)	quantitative	cross-sectional	Determining Variation in CPM Insurance Coverage Among US Health Insurance Companies	Cantab (USA, 2021)
Breast cancer screening in Israel depends on membership of health care funds and ethnicity. So married Jewish women are more likely to use these services than Arab women.(50)	quantitative	cross-sectional (collection of questionnaires and interviews)	Hayek (Israel, 2016)	Hayek (Israel, 2016)
In breast cancer patients, having Medicaid insurance at the beginning, having continuous public insurance, and loss of insurance have an effect on the timely diagnosis of breast cancer. These factors were not significant in cervical cancer. In general, the sustainability of health insurance coverage with insurance reform at the national level improves timely care after breast and cervical cancer screening in underprivileged women.(51)	quantitative	cross-sectional	Determining the impact of insurance reforms on the sustainability of insurance coverage and its relationship with timely preventive measures	Kapoor (USA, 2014)
Strong family history of breast cancer and BRCA, preventive mastectomy for patients with a strong family history of breast cancer more by private insurance, preventive mastectomy for patients with BRCA gene mutations more by private insurance, preventive oophorectomy for patients with a strong family history of ovarian cancer more by Private insurance, prophylactic oophorectomy for a patient with a BRCA gene mutation more than private insurance, diagnosis of ipsilateral breast cancer or atypical hyperplasia for insurance coverage of concurrent elective mastectomy.(52)	quantitative	cross-sectional	Review of national health insurance coverage policies for breast and ovarian cancer preventive surgeries	Kuerer (USA, 2000)
Breast and cervical cancer screening varies by nationality and ethnicity. Considering social and economic factors, differences based on ethnicity and nationality should be eliminated.(44)	quantitative	cross-sectional	To determine the association between breast and cervical cancer screening rates and health insurance status and socioeconomic factors among foreign-born, native-born, and non-native in California.	Rodríguez (USA, 2005)
Higher physician costs are associated with more screening for comprehensive managed care enrollees. Patient involvement in primary care management is a significant moderator of the relationship between physician pay and screening rates. There is a positive relationship between Medicaid spending and patient primary care management status in all screening models .(53)	quantitative	cross-sectional	Determining the relationship between physician cost and managed care with breast and cervical cancer screening in adults with Medicaid insurance.	Sabik (USA, 2020)

This domain review study was conducted to determine the insurance coverage requirements for breast and cervical cancer preventive services using the domain review method. Out of 26 full texts reviewed, only eight studies mentioned some of these requirements, which shows that there are not enough studies about these requirements. These requirements include paying attention to the economic and social level of patients, their nationality and ethnicity, family history of cancer in these patients, gender differences of patients, high costs of doctors, participation of patients themselves in choosing preventive and therapeutic measures, and finally having insurance and Not having it, as well as the type of government or private insurance, affects the willingness of patients to take preventive measures for breast and uterine cancers. Carney stated that women who have private insurance and Medicaid are more likely to undergo breast cancer screening (47). People without insurance (47) or with government insurance are less likely to undergo breast cancer screening (48). Kapur stated that having Medicaid insurance at the beginning, having continuous universal insurance, and losing insurance affected the early detection of breast cancer. These factors were not significant in cervical cancer. In general, the sustainability of health insurance coverage by reforming insurance at the national level improves timely care after breast and cervical cancer screening in underprivileged women (51).

Taheri et al. in 2019 and line with the results of this study concluded that insurance was not related to complete treatment, But it was related to regular follow-up. The time to cure cancer is short, but follow-up is a long process. Therefore, insurance coverage affects the follow-up process instead of treatment.(51) Also, Cantab stated that insurance coverage of preventive services can be done according to the necessity of each case (49). People's nationality and ethnicity were also among other factors that affected preventive measures. So that in a study conducted in Israel, the results showed that Jewish women are more likely to perform these actions than Muslim women (50). Kantab also mentioned the specific characteristics of each cancer, the family history of people in terms of cancer, and the gender differences of people in this regard (49). Koerer also mentioned the family history of breast and cervical cancer and also the acceptance of preventive services by private insurance (52). Rodrigues also pointed out the social and economic factors, and the nationality and ethnicity of people, which should be left out in the provision of preventive services for breast and cervical cancers, and the provision of these services should be done fairly without considering these factors (44). The study by Ko et al., which was conducted in 2020 regarding the relationship between insurance status and racial differences in breast cancer diagnosis in the early stages, showed that women who have health insurance coverage maintain their relationship with health professionals and Women with secondary and higher coverage were more likely to be screened for breast cancer. Factors that influence women's perception of breast cancer susceptibility, such as childbirth experience, age, region, and place of residence were associated with screening in this field. This study showed that strategies for early detection of breast cancer should be prioritized by cancer control boards as well as ministries of health (55).

In line with the results of this study and the effect of insurance type on coverage of preventive services, Buffande et al concluded that breast and cervical cancer screening was underutilized among the commercially insured and Medicaid-insured populations, with lower rates among the Medicaid-insured population. However, almost all women had used health care at least once (56). Angir et al. also stated in 2017 that cancer complications and mortality are greatly reduced through screening and prevention, but uninsured patients use these services much less than insured patients. They receive (57). Also, if the patient has been visited within one or two years before, it is more likely that he will be screened for cancer. This result was obtained in the study of Carney et al. in 2012 (47). Therefore, adequate and adequate insurance coverage is a critical component to ensure access to high-quality cancer prevention services and early detection (58).

In a 2020 study by Sabic et al in the United States, results showed that higher physician costs were associated with more screening for comprehensive managed care enrollees. Patient involvement in primary care management is a significant moderator of the relationship between physician pay and screening rates. There is a positive relationship between Medicaid spending and patient primary care management status in all screening models (53). Therefore, adjustment of treatment costs and preventive services and patients' participation in choosing the type of services can be among the important things in the insurance coverage of breast and uterine cancer preventive services.

In line with the results of this research, Bakhtiari et al., in their research, which identified the priorities of preventive services coverage by insurance organizations in the world's health systems in 2021, stated that reducing costs, reducing Inequity in health, increasing the quality of life and job efficiency of employees are among the most important benefits of developing such services. Different groups of societies, such as specific occupations or specific age and gender groups, while having their specific preventive services, have created insurance organizations related to them, which provide preventive services related to their social and environmental status. Insurance organizations play a significant role in benefiting and effectively covering preventive services in societies so that the probability that a person with insurance will use preventive services is far higher than people without insurance or with treatment-oriented insurance. The benefits of preventive services have been proven in the world's health systems, so that some countries have passed laws requiring insurance organizations to provide such services (59).

Insurance organizations in various countries have started to cover the field of prevention based on legal requirements or their decisions. The entry of the social security organization through the insurance support of the preventive packages of the Ministry of Health can be a symbol of the cooperation between these two institutions in the fight against diseases and entering the discussion of prevention by the health insurance organization (60). The results of Preston et al.'s study in 2021 showed that health insurance reduces out-of-pocket costs and is an effective approach to increasing colon cancer screening for people (18). In general, these studies show that insurance coverage of preventive services plays an important role in the discussion of preventive measures and especially the follow-up of patients, and it is necessary to consider various factors in this regard.

One of the limitations of this study was the lack of existing studies regarding the insurance coverage requirements for breast and cervical cancer preventive services, which requires more studies to confirm or reject the results of this study. This can be caused by the lack of access to some databases that are subject to economic sanctions in Iran. Therefore, conducting more studies with different research methods is of significant importance.

Conclusion

The results of this study showed that the coverage of preventive services for breast and uterine cancers is affected by several factors that should be taken into consideration by insurance organizations to perform preventive and therapeutic measures in time. These factors include having public insurance versus private insurance, having insurance versus not having insurance, characteristics of cancer itself, family history of cancer, gender

differences, ethnicity and nationality of people, social and economic factors, high doctor costs, and Patient participation in the selection of medical care. Other factors may be also effective in this regard, which were not mentioned in the reviewed studies. This makes it necessary to conduct more studies.

Acknowledgments: None

Conflict of interest: None

Financial support: None

Ethics statement: This article is part of a doctoral thesis entitled "Analysis of requirements for the implementation of insurance coverage of the second level of preventive services for Breast and cervical cancer in women and providing policy solutions", approved by Iran University of Medical Sciences, dated 2022/05/26 , with Code of ethics no. IR.IUMS.REC.1401.356 obtained from Iran University of Medical Sciences. During the current research, all ethical considerations such as the principles of confidentiality, trust, and honesty have been observed during data collection and publication in this research.

References

1. Khanali J, Kolahi A-A. National and Subnational Cancer Incidence for 22 Cancer Groups, 2000 to 2016: A Study Based on Cancer Registration Data of Iran. Journal of cancer epidemiology. 2021;2021.
2. Soni A. Top five most costly conditions among adults age 18 and older, 2012: estimates for the US civilian noninstitutionalized population. Agency for Healthcare Research and Quality. 2017;1(1):1-10.
3. Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, Bray F. 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.
4. Phaswana-Mafuya N, Peltzer K. Breast and cervical cancer screening prevalence and associated factors among women in the South African general population. Asian Pacific journal of cancer prevention: APJCP. 2018;19(6):1465.
5. Lei S, Zheng R, Zhang S, Wang S, Chen R, Sun K, et al. Global patterns of breast cancer incidence and mortality: A population-based cancer registry data analysis from 2000 to 2020. Cancer Commun. 2021;41(11):1183-94.
6. Cohen PA, Jhingran A, Oaknin A, Denny L. Cervical cancer. The Lancet. 2019;393(10167):169-82.
7. Akinyemiju TF. Socio-economic and health access determinants of breast and cervical cancer screening in low-income countries: analysis of the World Health Survey. PloS one. 2012;7(11):e48834.
8. Mohammadi E, Aminorroaya A, Fattahi N, Azadnajafabad S, Rezaei N, Farzi Y, et al. Epidemiologic pattern of cancers in Iran; current knowledge and future perspective. Journal of Diabetes & Metabolic Disorders. 2021;20(1):825-9.
9. Harirchi I, Ebrahimi M, Zamani N, Jarvandi S, Montazeri A. Breast cancer in Iran: a review of 903 case records. Public health. 2000;114(2):143-5.
10. Montazeri A, Vahdaninia M, Harirchi I, Harirchi AM, Sajadian A, Khaleghi F, et al. Breast cancer in Iran: need for greater women awareness of warning signs and effective screening methods. Asia Pacific family medicine. 2008;7(1):1-7.
11. Akbari Sari A, Zendehdel K, Harirchi I, Habibi F. Cost effectiveness of mammography focusing on mobile mammography for breast cancer screening in Iran: A review study. The Iranian Journal of Obstetrics, Gynecology and Infertility. 2022;24(12):98-109.
12. Ghahramani M, Alami A, Mohammad zade moghaddam H, Moodi M. Screening for cervical cancer: An educational intervention based on transtheoretical models and health belief in women of Gonabad, Iran. The Iranian Journal of Obstetrics, Gynecology and Infertility. 2018;21(5):22-32. [In Persian].
13. Heidari Sarvestani M, Khani Jeihooni A, Moradi Z, Dehghan A. Evaluating the effect of an educational program on increasing cervical cancer screening behavior among women in Fasa, Iran. BMC Women's Health. 2021;21(1):1-8.
14. Baussano I, Bray F. Modelling cervical cancer elimination. Lancet Public Health. 2019;4(1):e2-e3.
15. Brüggmann D, Quinkert-Schmolke K, Jaque JM, Quarcoo D, Bohlmann MK, Klingelhöfer D, Groneberg DA. Global cervical cancer research: A scientometric density equalizing mapping and socioeconomic analysis. Plos One. 2022;17(1):1-21.
16. Tahergorabi Z, Moodi M, Mesbahzadeh B. Breast Cancer: A preventable disease. Journal of Birjand University of Medical Sciences. 2014;21(2):126-41 [In Persian].
17. CDC. National Breast and Cervical Cancer Early Detection Program (NBCCEDP) 2022 [Available from: https://www.cdc.gov/cancer/nbccedp/about.htm.
18. Preston MA, Ross L, Chukmaitov A, Smith SA, Odlum ML, Dahman B, Sheppard VB. Health Insurance Coverage Mandates: Colorectal Cancer Screening in the Post-ACA Era. Cancer Prevention Research. 2021;14(1):123-30.
19. Bitler MP, Carpenter CS. Effects of state cervical cancer insurance mandates on pap test rates. Health Serv Res. 2017;52(1):156-75.
20. Hsia J, Kemper E, Kiefe C, Zapka J, Sofaer S, Pettinger M, et al. The importance of health insurance as a determinant of cancer screening: evidence from the Women's Health Initiative. Preventive medicine. 2000;31(3):261-70.
21. Zhao G, Okoro CA, Li J, Town M. Health insurance status and clinical cancer screenings among US adults. Am J Prev Med. 2018;54(1):e11-e9.
22. Rivera-Hernandez M, Galarraga O. Type of insurance and use of preventive health services among older adults in Mexico. J Aging Health. 2015;27(6):962-82.

23. Bonafede MM, Miller JD, Pohlman SK, Troeger KA, Sprague BL, Herschorn SD, Winer IH. Breast, cervical, and colorectal cancer screening: patterns among women with Medicaid and commercial insurance. Am J Prev Med. 2019;57(3):394-402.
24. Jerant A, Fiscella K, Tancredi DJ, Franks P. Health insurance is associated with preventive care but not personal health behaviors. J Am Board Fam Med. 2013;26(6):759-67.
25. Hanson K, Bondurant E, editors. Cancer insurance mandates and exceptions. National Conference of State Legislatures (August 2009); 2009.
26. Omidi Z, Koosha M, Nazeri N, Khosravi N, Zolfaghari S, Haghighat S. Status of breast cancer screening strategies and indicators in Iran: A scoping review. Journal of Research in Medical Sciences: The Official Journal of Isfahan University of Medical Sciences. 2022;27.
27. Shahpar H, Mohammad Esmaeil A, Parvin Y, Mehdi J, Shahram G. Cost-effectiveness of three rounds of mammography breast cancer screening in Iranian women. 2016.
28. Anthony B M, Iraj H, Mohammad Hassan L, Mahmoud N, Mohsen M, Majid J, Mojgan M. Yazd breast cancer project profile; a community based trial for the evaluation of self-examination and physical examination of the breast cancer disease. 2015.
29. Kisling LA, J MD. Prevention Strategies. StatPearls. Treasure Island (FL): StatPearls Publishing
2022.
30. Pandian JD, Gall SL, Kate MP, Silva GS, Akinyemi RO, Ovbiagele BI, et al. Prevention of stroke: a global perspective. Lancet (London, England). 2018;392(10154):1269-78.
31. Kiefe CI, Funkhouser E, Fouad MN, May DS. Chronic disease as a barrier to breast and cervical cancer screening. J Gen Intern Med. 1998;13(6):357-65.
32. Joseph J. Sudano J, Baker DW. Intermittent lack of health insurance coverage and use of preventive services. Am J Public Health. 2003;93(1):130-7.
33. Schoen C, DesRoches C. Role of insurance in promoting access to care. Health Serv Res. 2000;35(1):187-.
34. Andersen RM. Revisiting the behavioral model and access to medical care: Does it mMatter? J Health Soc Behav. 1995;36(1):1-10.
35. supreme leader of Iran. A review of general health policies announced by the supreme leader of Iran. 22018. p. 32-53.
36. Moghadam TZ, Raeissi P, Jafari-Sirizi M. Analysis of the health sector evolution plan from the perspective of equity in healthcare financing: A multiple streams model. Int J Hum Rights Healthc. 2019;12(2):124-37.
37. Ramezankhani A, Mohamadloo A, Tabrizchi N, Moghaddam AV, Rakhshani F, Vazirian MH, Mohammadi M. A Review of the Concepts of part 2 of the General Health Policy, announced by the Supreme Leader. Journal of Culture and health promotion (Academy of Medical Sciences of Islamic Republic of Iran). 2018;2(2):149-59 . [In Persian].
38. Organization SS. Law requiring the Social Security Organization to implement paragraphs A and B of Article 3 of the Social Security Law. In: Organization SS, editor. Social Security Organization 1979.
39. Marnani AB, Teymourzadeh E, Bahadori M, Ravangard R, Pour JS. Challenges of a large health insurance organization in Iran: A qualitative study. Int J Collab Res Intern Med Public Health. 2012;4(6): 1050-62. [In Persian]
40. Ibrahimipour H, Maleki M-R, Brown R, Gohari M, Karimi I, Dehnavieh R. A qualitative study of the difficulties in reaching sustainable universal health insurance coverage in Iran. Health Policy Plan. 2011;26(6):485-95.
41. Motlagh A, Ehsani-Chimeh E, Yarmali M, Moshiri F, Roshandel G, Partovipour E, et al. Iran National Cancer Control Program (IrNCCP) in Practice. Scientific Journal of Kurdistan University of Medical Sciences. 2021;26(5):84-97 [In Persian].
42. Levy AR, Bruen BK, Ku L. Peer reviewed: Health care reform and women's insurance coverage for breast and cervical cancer screening. Preventing Chronic Disease. 2012;9.
43. Katz SJ, Hofer TP. Socioeconomic disparities in preventive care persist despite universal coverage: Breast and cervical cancer screening in Ontario and the United States. JAMA. 1994;272(7):530-4.
44. Rodríguez MA, Ward LM, Pérez-Stable EJ. Breast and cervical cancer screening: impact of health insurance status, ethnicity, and nativity of Latinas. The Annals of Family Medicine. 2005;3(3):235-41.
45. Walsh D, Downe S. Meta-synthesis method for qualitative research: a literature review. Journal of advanced nursing. 2005;50(2):204-11.
46. Moher D, Shamseer L, Clarke M, Ghersi D, Liberati A, Petticrew M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. Syst Rev. 2015;4(1):1.
47. Carney PA, O'Malley J, Buckley DI, Mori M, Lieberman DA, Fagnan LJ, et al. Influence of health insurance coverage on breast, cervical, and colorectal cancer screening in rural primary care settings. Cancer. 2012;118(24):6217-25.
48. de Charry LC, Carrasquilla G, Roca S. Equity regarding early breast cancer screening according to health insurance status in Colombia. Rev Salud Publica. 2008;10(4):571-82.
49. Ha M, Ngaage LM, Klein M, Yang A, Colohan SM, Nurudeen SM, et al. Contralateral prophylactic mastectomy in the setting of breast cancer diagnosis and their insurance coverage in the United States. The breast journal. 2021;27(10):746-52.
50. Hayek S, Enav T, Shohat T, Keinan-Boker L. Factors associated with breast cancer screening in a country with national health insurance: did we succeed in reducing healthcare disparities? Journal of women's health. 2017;26(2):159-68.
51. Kapoor A, Battaglia TA, Isabelle AP, Hanchate AD, Kalish RL, Bak S, et al. The impact of insurance coverage during

insurance reform on diagnostic resolution of cancer screening abnormalities. Journal of health care for the poor and underserved. 2014;25(1 0):109.

52. Kuerer HM, Hwang ES, Anthony JP, Dudley RA, Crawford B, Aubry WM, Esserman LJ. Current national health insurance coverage policies for breast and ovarian cancer prophylactic surgery. Annals of surgical oncology. 2000;7:325-32.

53. Sabik LM, Dahman B, Vichare A, Bradley CJ. Breast and cervical cancer screening among Medicaid beneficiaries: the role of physician payment and managed care. Medical Care Research and Review. 2020;77(1):34-45.

54. Taheri M, Tavakol M, Akbari ME, Almasi-Hashiani A, Abbasi M. Associations of demographic, socioeconomic, self-rated health, and metastasis in colorectal cancer in Iran. Medical Journal of the Islamic Republic of Iran. 2019;33:17.

55. Ko NY, Hong S, Winn RA, Calip GS. Association of Insurance Status and Racial Disparities with the Detection of Early-Stage Breast Cancer. JAMA oncology. 2020;6(3):385-92.

56. Bonafede MM, Miller JD, Pohlman SK, Troeger KA, Sprague BL, Herschorn SD, Winer IH. Breast, cervical, and colorectal cancer screening: patterns among women with Medicaid and commercial insurance. American journal of preventive medicine. 2019;57(3):394-402.

57. Angier H, Huguet N, Marino M, Mori M, Winters-Stone K, Shannon J, et al. Assessing Community Cancer care after insurance ExpanSionS (ACCESS) study protocol. Contemporary clinical trials communications. 2017;7:136-40.

58. Ward EP, Unkart JT, Bryant A, Murphy J, Blair SL. Influence of Distance to Hospital and Insurance Status on the Rates of Contralateral Prophylactic Mastectomy, a National Cancer Data Base study. Annals of surgical oncology. 2017;24(10):3038-47.

59. Bakhtiari A, Jahanmehr N, Izadi R. Identifying the priorities of coverage of preventive services by insurance organizations in the world health systems. Iranian Journal of Health Insurance. 2021;4(2):84-105.

60. JahanMehr N, Bakhtiari A, 2020:603-1. IN. Feasibility study of providing health services and prevention in the field of social insurance in Iran. Higher Institute for Social Security Research. 2020:601-10. [In Persian].