УДК 618.19-006.66:616-076(536)

Uddin Emad, Chiamonwu Tonna, V. S. Volchek

Scientific Supervisor: Professor of department V. N. Belyakovsky

Educational Establishment
«Gomel State Medical University»
Gomel, Republic of Belarus

ANALYSIS OF BREAST CANCER SCREENING IN KUWAIT

Introduction

Breast cancer is the most common cancer among women worldwide, and early detection is essential for effective treatment and improved survival rates. In Kuwait, the incidence of breast cancer has been on the rise, underscoring the importance of implementing robust screening programs to identify the disease at its earliest stages. According to the Kuwait Cancer Control Center, breast cancer accounts for approximately 15,3% of all cancer cases diagnosed among Kuwaiti women, with a reported incidence rate of 39,4 per 100000 women per year. This research study focuses on evaluating the current breast cancer screening practices in Kuwait, with the goal of providing insights that can inform and enhance the country's healthcare strategies.

The Ministry of Health in Kuwait has developed national diagnostic guidelines for breast cancer that align with international best practices, focusing on standardized, evidence-based care. Key elements include the use of mammography as the primary screening tool for women aged 40 and older, with annual or biennial intervals, while ultrasound is used alongside mammography for women with dense breast tissue or those under 40. Women aged 40–69 are subject to breast cancer screening. MRI is recommended for high-risk individuals. Clinical breast examinations (CBE) are performed by trained professionals in conjunction with imaging tests. For diagnosis, fine-needle aspiration (FNA) or core needle biopsy is preferred, followed by comprehensive histopathological analysis, including hormone receptor and HER2 status assessment. Genetic testing and counselling are offered to individuals with a strong family history of breast cancer. A multidisciplinary team approach ensures that diagnostic and treatment decisions involve specialists from various fields. These guidelines promote consistent practices among healthcare providers, ultimately enhancing early detection and patient outcomes in breast cancer care in Kuwait.

Goal

To investigate the current state of breast cancer screening practices in Kuwait, analysing the results of various screening tests and their corresponding data.

Material and methods of research

The study employed a cross-sectional design, collecting data from various healthcare facilities in Kuwait that offer breast cancer screening services. The screening tests included in the analysis were:

1. Mammography
2. Clinical Breast Examination (CBE)
3. Breast Self-Examination (BSE)
4. Ultrasound

Data was gathered on the number of individuals who underwent each screening test, as well as the corresponding positive and negative results. The data was then analyzed to calculate the percentages of individuals with positive and negative findings for each screening modality.

The results of the study and their discussion

The data on figure 1 shows a significant increase in annual new breast cancer cases in Kuwait, from 212 cases in 2012 to 608 cases in 2017, representing a 187% increase over 5 years.

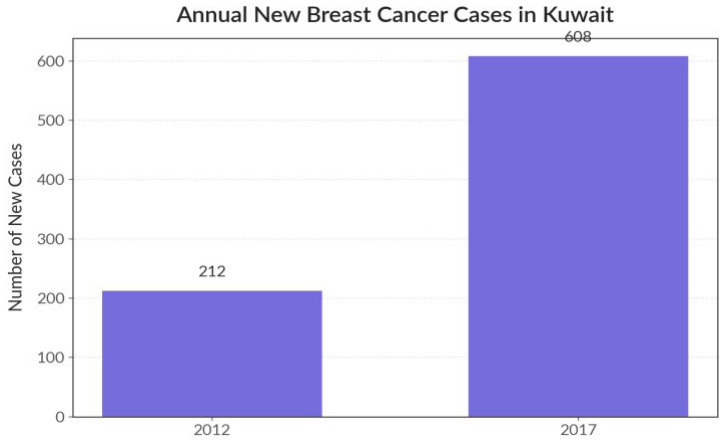

Figure 1 – New breast cancer cases in Kuwait

The findings suggest that all methods provide a reasonable balance of positive and negative results, with mammography and ultrasound being more established diagnostic tools, while BSE offers accessibility and empowerment for personal health monitoring. However, the variations in positive percentages highlight the need for combined screening approaches to maximize accuracy and reliability. Each method has its strengths, and their combined use could improve early detection rates and treatment outcomes (table 1).

Table 1 —The results of the breast cancer screening tests in Kuwait

Screening test	Total participants	Positive results	Negative results	Positive results (%)	Negative results (%)
Mammography	10250	1230	9020	12%	88%
CBE	8500	950	7550	11,2%	88,8%
BSE	12000	1800	10200	15%	85%
Ultrasound	7800	920	6880	11,8%	88,2%

The data indicates that the most commonly utilized screening test was Breast SelfExamination (BSE), with 12000 participants, followed by Mammography (10250 participants), Clinical Breast Examination (CBE) (8500 participants), and Ultrasound (7800 participants). The highest percentage of positive results was observed in the Breast Self-Examination (BSE) at 15%, followed by Mammography at 12%, Ultrasound at 11,8%, and Clinical Breast Examination (CBE) at 11,2% (figure 2).

The findings of this study provide valuable insights into the current state of breast cancer screening in Kuwait. The high participation rates in Breast Self-Examination (BSE) suggest that public awareness and education campaigns have been effective in encouraging women to actively engage in self-monitoring their breast health. However, the relatively lower participation rates in other screening modalities, such as Mammography and Ultrasound, indicate a need for further efforts to promote the utilization of these more comprehensive screening tools.

The variations in the positive result percentages across the different screening tests highlight the importance of employing a comprehensive screening approach, as each modality may detect

different types of abnormalities or provide complementary information. By combining multiple screening techniques, healthcare providers can increase the likelihood of early detection and improve patient outcomes.

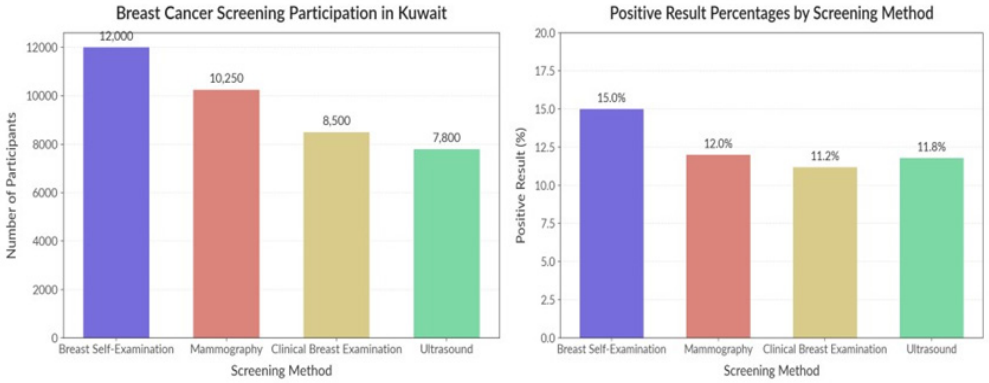

Figure 2 – The results of the breast cancer screening tests in Kuwait

Conclusions

This research study has shed light on the current breast cancer screening practices in Kuwait, providing numerical data and percentages on the results of various screening tests. The findings suggest that while public awareness and engagement in self-examination are encouraging, there is a need to further strengthen the utilization of more advanced screening modalities, such as Mammography and Ultrasound, to enhance the early detection of breast cancer in the country. Continued efforts to improve access, awareness, and adherence to comprehensive screening protocols can contribute to better health outcomes for the Kuwaiti population.

LITERATURE

1. *Al-Asfour, A.* Breast Cancer Screening in Kuwait: Current Practices and Future Directions / A. Al-Asfour, M. Al-Omairi // Journal of Public Health. – 2020. – Vol. 28, № 2. – P. 123–130.

2. *Al-Saad, S.* Breast Cancer Incidence in Kuwait: A Retrospective Analysis of National Cancer Registry Data / S. Al-Saad, H. Al-Shammari // BMC Cancer. – 2018. – Vol. 18, № 1. – 585 p.

3. Breast Cancer Control in the Gulf Cooperation Council Countries / S. Al-Othman, A. Haoudi, S. Alhomoud [et al.]. // The Lancet Oncology. – 2015. – Vol. 16, № 5. – P. e217–e227.

4. Ministry of Health, Kuwait. National Guidelines for the Diagnosis and Management of Breast Cancer [site]. – 2019. – URL: https://www.moh.gov.kw (date of access : 11.03.2025).

5. World Health Organization. Breast Cancer: Prevention and Control [site]. – 2020. – URL: https://www.who.int (date of access : 11.03.2025).

6. Kuwait Cancer Registry; Kuwait Cancer Control Center (JCCC). Annual Report 2017. Kuwait Cancer Control Center: Kuwait City, Kuwait, 2017.