

## **Lesson learned from a Pilot Project in Rudsar city in Gilan province for Breast Cancer Screening in Iran**

**Kazem Zendehtdel, M.D., Ph.D.<sup>1</sup>**

1. Cancer Research Center, Cancer Institute of Iran, Tehran University of Medical Sciences, Tehran, Iran .

In Basic and Clinical Cancer Research (Vol. 12 No. 2), Pakdaman et al. reported breast cancer screening indicators in 14492 women aged 30-59 years living in Rudsar city of Gilan province located in the Caspian coastal area (1). As admitted by authors, the participation rate in the screening was lower than 50%. Although the world health organization (WHO) emphasized that countries in the EMRO region should screen women older than 50 years, only 21.5% of the screened women were of the older age group, decreasing the screening program's efficiency (2).

The incidence rate of breast cancer in Iran was 34.49 per 100,000, and it was about 80 per 100,000 in age groups higher than 40 (3). Given the age-standardized incidence rate (ASR) of breast cancer among the Iranian population, one would expect to detect cancer in 6992 women who participated in this screening program. One would also expect to observe 5-6 patients in the entire target population.

The detection rate is usually higher in the first year of breast cancer screening, as both incident and prevalent cases are detected in the first round of screening. However, the authors did not report any breast

cancer patients in this study. Therefore, it seems that the procedure for the early detection of breast cancer was not efficient, and the program might have missed some breast cancer cases. The defect could be either due to the low sensitivity of physical examination in the first phase of the screening or a selection bias in the participation group. In other words, women who accepted the invitation were healthier than non-participants. The last scenario would be that the cancer risk in the target population is much lower than the average incidence rate reported at the national level. The latter scenario needs to be considered when planning for a screening program. Although the ASR of breast cancer is 34.53 per 100,000, the incidence rate varies from region to region. For instance, the incidence rate is higher in Tehran, the capital city of Iran (ASR: 51 per 100,000), where women are educated and have higher socioeconomic status than low resource provinces such as Ardabil, where women have a more traditional lifestyle and bear a lower risk of breast cancer (ASR: 12.68 per 100,000). This would indicate that the incidence rate would also be low in rural areas and small cities like Rudsar, suggesting that it will not be cost-effective to

perform breast screening in all regions of Iran. The welcome news is that the national program for population-based cancer registry runs in all provinces of Iran. The ministry of health can monitor breast cancer incidence in all populations and plan for screening programs based on the cost-effective analysis at a different level. Until then, the priority will be to perform breast screening in large cities and high-risk areas like Tehran, the center of Tehran province (ASR: 51.00 per 100,000), Yazd, the center of Yazd province (ASR: 47.5 per 100,000), Mashhad, the center of Razavi Khorasan province (ASR: 45.89 per 100,000), and Isfahan, the center of Isfahan Province (ASR: 42.65 per 100,000), where women of high socioeconomic status live and the incidence rate of breast cancer is higher than other regions<sup>1</sup>. These women are usually unmarried or have late age at marriage and, if married, they typically give birth to a maximum of 1-2 children.

Therefore, I suggest following up on this project and comparing the incidence rate of breast cancer in the entire target population with the women who participated in the screening. It would also be essential to continue inviting all women targeted for screening in this population. Besides, it would be interesting to measure breast cancer risk factors in the general pop-

ulation of Rudsar and assess the barriers to women's participation in the screening program. The lesson learned from this study is that it is too soon to scale up the screening program to other populations before appropriate planning and fixing the issue raised in this study.

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✉ [kzende@sinatums.ac.ir](mailto:kzende@sinatums.ac.ir)

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