Revista Electrónica de Biomedicina
Electronic Journal of Biomedicine

ISSN: 1697-090X

Rev Electron Biomed / Electron J Biomed 2019;3:2-5.

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IMPORTANCE OF POPULATION SCREENING FOR BREAST CANCER

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Version en español

Breast cancer is the most commonly malignant neoplasm diagnosed in women (2.1 million new cases in 2018) and the leading cause of cancer death worldwide (627,000 deaths). In many countries with high levels of the human development index, incidence rates have stabilized while mortality rates are declining[1]. These results are due in part to mammographic screening, but other variables also participate such as greater care with risk factors and an important development in treatments. In Spain, the adjusted mortality rate increased gradually until the beginning of the 1990s, since then, coinciding with the beginning of the screening programs, it has been decreasing considerably, going from a mortality rate of 17,8 / 100,000 in 1993, to 10.6 / 100,000 (age-standardized rates) in 2020[2]. Contrary to this trend, in areas with a low level of development of screening and with limitations in health services there is an increase in incidence and mortality, reaching the current situation where more than half of the cases of breast cancer are diagnosed in low- and middle-income countries, and mortality rates have increased in the countries of Asia and Latin America[1].

In the preventive approach of women with average risk for breast cancer there are several strategies, some of which have to do with reducing modifiable risk factors and stimulating protective factors through changes in lifestyle[3]. However, even though these changes

are useful in promoting health, they are factors that are not found in most breast cancers, so the greatest impact on the population is achieved with secondary prevention actions through the development of screening programs whose objective is to detect the disease at an early stage that allows effective treatments to improve the results of the disease, including the indicator of specific mortality from breast cancer[4,5].

Mammography is the most widely used screening modality for the detection of breast cancer due to its availability, defined quality control, support of prospective randomized studies[6,7] and the experience of its population application as mentioned above. An independent review of 11 randomized controlled studies found a reduction in breast cancer mortality of approximately 20%[8].

It is considered that the biggest risk factor for breast cancer is being female followed by advancing age[9]. When evaluating meta-analyzes of randomized clinical trials that stratified by age, screening women younger than 50 years was consistently associated with a statistically significant reduction in breast cancer mortality of approximately 15%. Screening of women aged 50 years or older was associated with a slightly greater mortality reduction (14%-23%), mostly related to a greater reduction in women aged 60 to 69 years (31%-32%)[7]. In a randomized controlled trial involving 23 breast screening units in Great Britain, the effect of mammographic screening in the ages 40 to 49 years on breast cancer mortality was evaluated, finding a 25% reduction in mortality in breast cancer patients in the first ten years with annual mammogram[10]. This result, which supports a change in the age of initiation of screening, has generated a great debate about its results[11,12].

Breast cancer screening with mammography is currently the best strategy for the early population detection of breast cancer with age as a criterion to include women in the organized program, mainly due to the evidence that the screening scheme decreases breast cancer mortality in women aged 50 to 69 years[9] (although this has had also a highly intense debate with important contradictors[11]) but it has limitations both in diagnostic performance and because of the possibility of obtaining harmful results, including the detection of clinically insignificant cancers that do not pose a threat to life (overdiagnosis)[9]. It is expected that in the future there will be better technology that overcomes these disadvantages as well as better risk classification of women who require the screening test and the need

for additional tests or new methods for breast screening; options on which there is already a great deal of research activity.

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