LETTER TO THE EDITOR

Age Distribution of Breast Cancer in the Middle East, Implications for Screening

To the Editor:

Breast cancer is the most common malignancy and 1–2% deaths among female populations throughout the world (1). An increase in incidence of breast cancer has been reported among women age 50 and older in many countries. This might be attributed to improvement in diagnostic techniques, changes in reproductive patterns and adopting Western lifestyles. An incidence rate of 22–24 (per 100,000) has been estimated for the Iranian female population, it is about one fourth that of developed countries (2,3). Some reports have shown that breast cancer occurs in the Iranian women at least one decade younger on average than populations in Western countries (4) where the median age of breast cancer presentation is around 50 and 60 years (5). The aim of this study was to describe the age distribution of breast cancer to compare this with other similar countries, and to discuss the implications with regard to breast cancer control in Iran.

We used the data from Iranian National Cancer Registry (2003–2006), Tehran Population Based Cancer Registry (1998–2001) (6), and Ardabil Population Based Cancer Registry (1996–9) (7). The univariate analysis without age-period-cohort modeling for the incidence data was computed with 95% CI.

The age-specific incidence of breast cancer in Iran is presented in Figure 1. The figure shows an overall increasing trend for age peaking at age 45–49 years with a declining trend for women older than 49 years, it also shows reported age specific incidence in Egypt, Jordan and Kuwait, in comparison to Canada. The shape of the age-specific curve is similar in the three Middle East countries, and to Iran. In contrast, the increase in incidence with age is continuous in Canada, with the highest rates at older ages.

We have presented a descriptive profile of the occurrence of breast cancer in the Iranian female population. Our findings indicate that Iranian women are experiencing a low incidence rate of breast cancer compared with some other developing countries. The predominance of breast cancers clinically in premenopausal women may be largely because of the population pyramid, but the declining rates in older ages is caused by the differing prevalence of breast cancer risk factors in women who are now premenopausal, compared with their older forbears.

The results too indicate that breast cancer occurs in women in Iran, Kuwait, Jordan, and Egypt on average at least one decade earlier than that of Canada, and other western countries. Although this is similar to what has been reported from other studies previously (7), it is a finding that is often misunderstood. Figure 2 emphasizes that the age-specific incidence of breast cancer at younger ages is usually lower than in countries such as Canada, except for Egypt, with the highest rates of those considered from the Middle East, possibly because Egypt is further

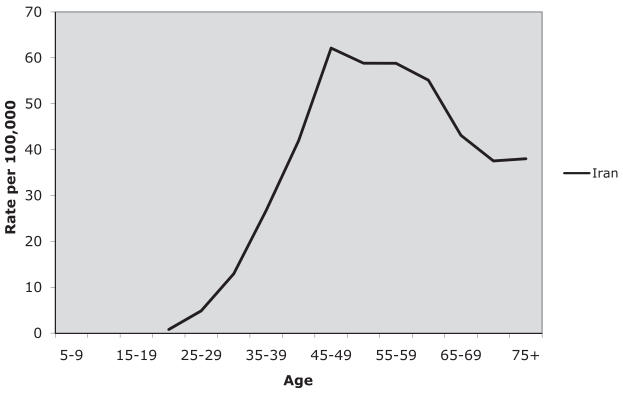

Figure 1. Age-specific incidence of breast cancer in Iran.

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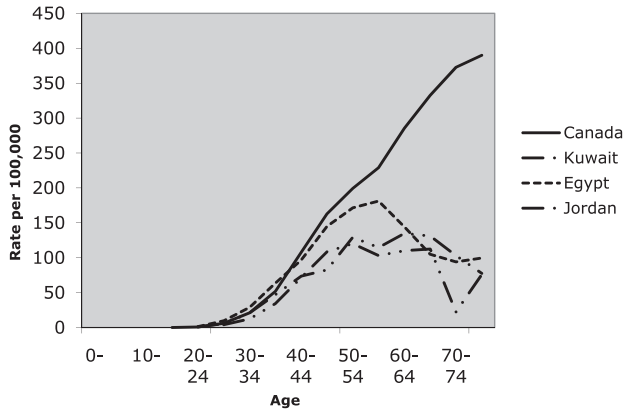

Figure 2. Age-specific incidence of breast cancer in Egypt, Jordan, Kuwait, and Canada (9).

along the epidemiolgic transition than Iran. In seeking to explain this patterns, potential underlying contributing factors should be considered. These factors could include case ascertainment methods, data collection and sources of information which might have varied over time in the study population. However, the most likely explanation is impact of some specific local risk or causal factors on this pattern including changes in fertility pattern, environmental, nutritional, and lifestyle variables in the past decades.

The principal explanation for the lower rates in postmenopausal women than in the west is nutritional factors, greater physical activity, though differences in parity, age at first birth, and breast feeding patterns also contribute.

We were unable to examine the cohort effect of age on the occurrence of breast cancer in Iran as we did not have access to relevant data such as past rates by year of registration (time trend); rates for different stage or tumor size by year of diagnosis. With these data available, we could make a more conclusive judgement on whether the age pattern is different from other populations. This study provides basic information on the magnitude and occurrence pattern of this major health problem in Iranian female population.

The implications of this type of pattern on breast cancer control in Iran and other similar countries needs careful consideration. The higher rates in Egypt suggest that in this country, more changes toward the Western pattern may have already occurred than, say, in Iran. However, we anticipate that similar changes will occur shortly in Iran, and other similar countries, and that in 20–30 years, the age-specific pattern of breast cancer will be more similar to Western countries. Nevertheless, on a long-term basis, it is important to try and apply now the knowledge we have on the primary prevention of breast cancer.

If countries plan a national screening program for breast cancer, studies such as this might help health care authorities to plan for essential and proper strategies for the female population in the country including provision of diagnostic procedures and adequate treatment. Although there may be a temptation to introduce screening at younger age than is recommended in the West, its efficacy and cost have to be examined. This is why a study has been initiated in Yazd province in Iran to evaluate the extent of experience in Egypt (8) using health education and clinical breast examination as the mainstay of screening.

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