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Breast cancer in Lebanon: Incidence and comparison to regional and Western countries

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ABSTRACT

Background: Review and analyses of the 2004 Lebanese National Breast Cancer Registry (the most recently available complete national data). *Methods*: Crude, age-standardized rates (ASRs), and age-specific rates per 100,000 population were calculated and results were compared with estimates from Western, regional, and Arab countries. *Results*: Breast cancer constituted about 38.2% of all cancer cases among Lebanese females in the year 2004. The median age at diagnosis was 52.5 years. The age-standardized incidence rate per 100,000 was estimated at 71.0. ASRs remained lower than those observed in developed countries and in the Israeli Jewish population; however, they were greater than those estimated for Arab populations in the region. Five-year age-specific rates among Lebanese women were among the highest observed worldwide for the age groups 35–39, 40–44 and 45–49 years, with the exception of Israeli Jews for the age groups 35–39. *Conclusions*: Results endorse the new guidelines developed by the Lebanese Ministry of Public Health to start breast cancer screening with mammography at 40 years of age. Further efforts are needed from different stakeholders in order to realize a comprehensive and full database, and to enhance awareness for early detection at all age groups.

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1. Introduction

Breast cancer is the most commonly diagnosed cancer among females in Western countries and in the four member countries of the Middle East Cancer Consortium (MECC), i.e. Cyprus, Egypt, Jordan, and Israel [1–5]. The same epidemiological profile applies to Lebanon, whereby breast cancer constitutes more than one-third of all female cancers based on previous Lebanese national cancer reports for the years 1998 and 2002 [6,7].

Lebanon is a small developing Middle East country. It has an open and culturally diverse atmosphere. The level of literacy among Lebanese adults is relatively higher than that in the neighboring countries. The adult illiteracy rate was 10% in 2004–2005, with no major differences between men and women. Its health indices are closer to the more developed countries: for example, the Infant Mortality rate in Lebanon is 16.1 per thousand; the Maternal Mortality ratio is 86.3 per 100,000 live births; and the Life Expectancy at Birth is 72.2 [8].

The Lebanese Ministry of Public Health has been launching annual campaigns for breast cancer screening since 2002. These campaigns consist of calling for and facilitating access to mammography tests to women aged 40 years and above at discounted prices in almost all medical centers in different locations in Lebanon. Starting screening at 40 years of age follows in general the Western recommendations. Similar recommendations were adopted by the Ministry of Public Health (MOPH) in Lebanon in 2006 [9], based on the previous Lebanese national cancer reports and on surveys performed in the American University of Beirut Medical Center (AUBMC). Data from AUBMC cannot be generalized to the whole Lebanese population because of referral bias. However, the analysis of the Lebanese national cancer data for the year 2004, believed to be an almost complete count of all incident cases in Lebanon, was more representative of the Lebanese population and could therefore be considered as a more valid evidence upon which those recommendations were established [10].

The main objectives of this study are to determine the age-standardized and the age-specific incidence rates of breast cancer among Lebanese females and to compare them to the rates of regional and Western countries. The ultimate goal is to contribute further information to the continuously evolving strategy to control breast cancer in Lebanon.

2. Methods

Data used in this study are extracted from the Lebanese National Cancer Registry for the year 2004. The National Cancer

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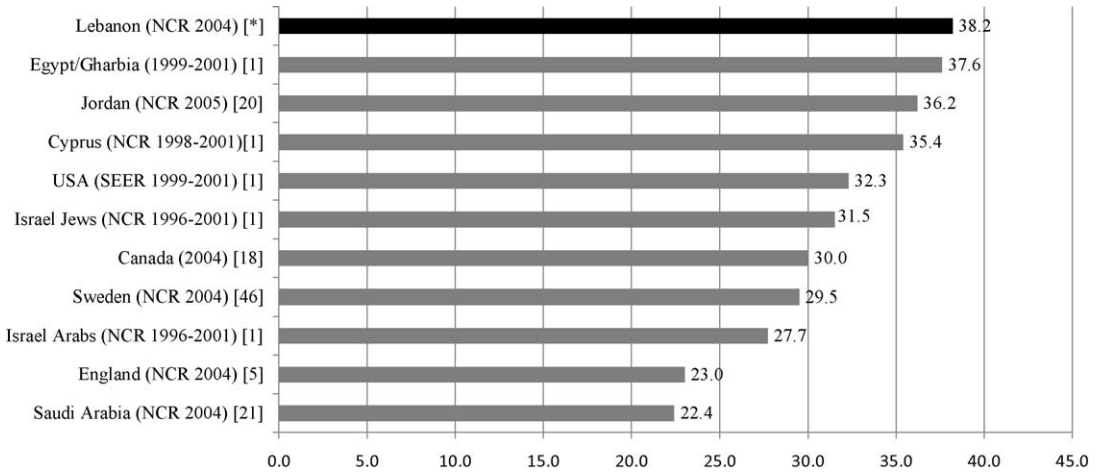


Reference numbers are between square brackets [ ]

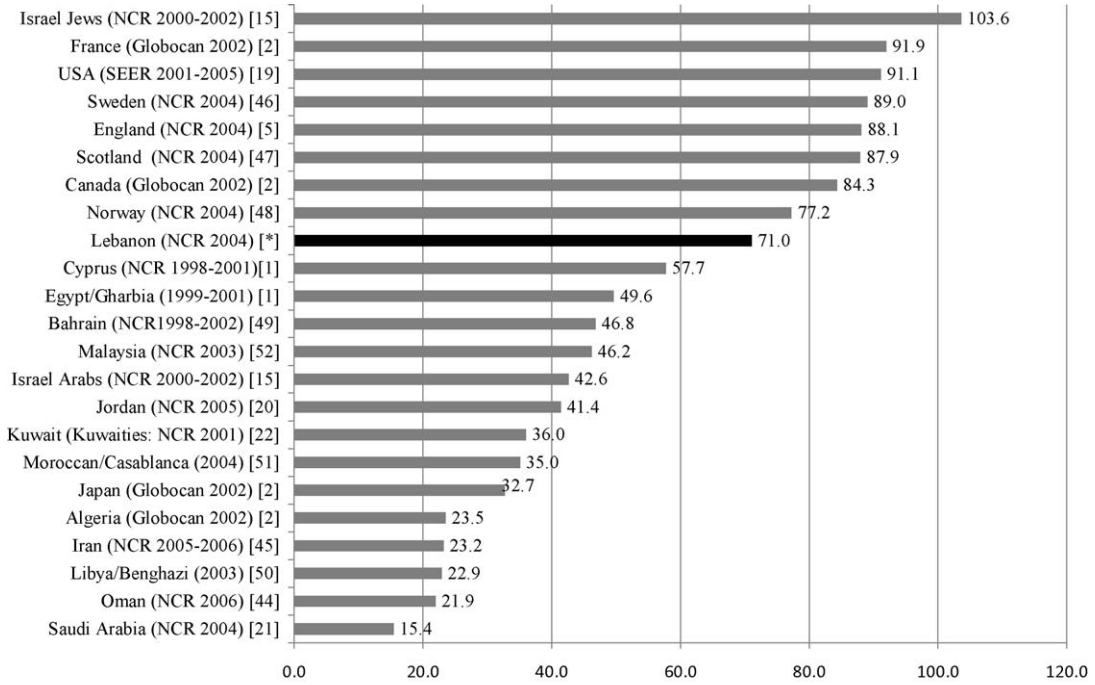
**Source: Lebanese Ministry of Public Health - Epidemiological Surveillance Program - National Cancer Registry. May 2009 2*

Fig. 1. Breast cancer as proportion of all reported tumors in females in Lebanon compared to other countries.

Registry was officially restarted in 2002 based on passive and routine surveillance procedures reported by third party payers. Yet, this method was unable to ensure a complete reporting of all cancer cases in Lebanon. The "recapture system", an active surveillance tier, was added later to achieve a more accurate process. A decree from the Public Health Minister in June 2002 was used as the legal framework to begin elaborating this system. Accordingly, a protocol of understanding was formulated in mid-2003 between the National Non-Communicable Diseases Program (NCDP) and the concerned medical societies to actively obtain cancer information directly from pathology centers. To that "recapture system", the passive system could be used for validity checks. The 2004 data that was collected using the new adopted system is considered a reliable and almost complete one [10].

In this report, the frequencies of various types of cancers were computed among the Lebanese population, which was estimated to be 3.6 millions in 2004, of which 50.5% were females, 29% were children aged less than 15, and 7% were senior citizens aged 65 or more [11].

Data on female breast cancer cases from the Lebanese National Cancer Registry for the year 2004 were further analyzed using SPSS.14. Different incidence rates were calculated: the crude



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[*] Source: Lebanese Ministry of Public Health - Epidemiological Surveillance Program - National Cancer Registry. May 2009

Fig. 2. Age-standardized incidence rate (world population) for female breast cancer in Lebanon compared to other countries.

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