High breast cancer-related mortality in Armenia: Examining the breast cancer knowledge gap

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Introduction

Breast cancer is the most common cancer among women, accounting for 25.2% of cancer incidence and 14.7% of cancer-related mortality. The Republic of Armenia, while experiencing a high rate of literacy and moderate development, consistently ranks among the highest nations for age standardized mortality risk both regionally and globally. According to the 2012 WHO GLOBOCAN report, breast cancer accounts for 31.0% of cancers and 20.3% of cancer-related deaths among women in Armenia. Its age standardized mortality rate of 24.3 per 100,000 is currently the seventh highest globally.

Given the improved prognoses and treatment options from early detection, understanding barriers to care within Armenia is critical to addressing this growing clinical and public health issue. This study was conducted to access knowledge about breast cancer risk factors, signs and symptoms, and early diagnosis among women in Armenia to examine possible gaps in knowledge contributing to the high breast cancer mortality rate in Armenia.

Methodology

A cross-sectional study was conducted among women ages 18-70 during a two week period from June 16-July 4, 2012 in five different regions of Armenia (Figure 1). Participants were recruited via a random intercept sampling method among women attending local health clinics. Face-to-face interviews were conducted using a knowledge, attitudes, and practices survey questionnaire adapted and modified from Shaikha & Salama. All study material was granted Institutional Review Board (IRB) approval from the University of Utah and the Armenian Ministry of Health.

Participants were asked 32 questions regarding demographic information and knowledge of breast cancer risk factors, signs and symptoms, and early diagnosis. Standard descriptive statistical analyses were conducted and associations among variables explored using regression-based approaches for continuous variables and non-parametric techniques for categorical variables.

Results

A total of 229 surveys were returned with a response rate of 91.97% with an average age of 39.4 years among respondents. The demographic data is summarized in Figure 2. A vast majority of respondents identified as Armenian speaking and currently married. Other demographics demonstrated greater diversity. 95.63% of respondents had at least a high school education, with over a quarter graduating from university. Over half had a monthly family income of more than 80,000 Armenian drams, which translates to roughly 200 US dollars.

The average knowledge concerning signs and symptoms was 69.6%. Demographics showing differences in knowledge concerning signs and symptoms were age (p-value 0.0002), living area (p-value 0.018), education (p-value 0.0098), and working status (p-value <0.0001). Question breakdown is given in Figure 5.

The average knowledge concerning early diagnosis and treatment averaged 80.0%. Differences were found only in living area (p-value 0.0011). Figure 6 shows percentages relating to individual questions.

Conclusions

Based on both overall scores and subscores, breast cancer knowledge gaps exist among women in Armenia with the most significant disparity concerning breast cancer risk factors. Additionally, these results identify specific knowledge gaps among distinct demographics. Future public awareness campaigns targeting those with knowledge disparities may prove efficacious in decreasing both mortality and morbidity due to breast cancer within the Republic of Armenia.

References