

Relationships between breast symptoms and breast cancer: The value of capturing episodes of care*

Margaret M. Eberl (1), Robert L. Phillips (2), Henk Lamberts (3), Inge Okkes (3), Martin C. Mahoney (2)
(1)Buffalo, NY; (2)Washington, DC; (3)Amsterdam, Netherlands

D049p

Abstract Symptoms of a breast mass or lump are associated with an elevated likelihood of breast cancer, suggesting that clinicians should aggressively work up such complaints regardless of patient age. Systematic data collection from primary care using a classification system that fits the care setting, such as the International Classification of Primary Care (ICPC), permits classifying and organizing primary care data enabling decision-support tools for patient care.

Introduction

Evaluation of breast symptoms is a hallmark of primary care practice, however, the frequency, evaluation, treatment, and outcomes of breast symptoms in female patients seeking care from primary care clinicians has not been well studied. A limited number of studies in the United Kingdom show that most women have benign breast conditions, but delays in evaluation and a low index of suspicion may negatively impact survival.

To enhance and inform physician practice, this study aimed to establish the proportion of visits and resultant diagnoses by age by examining longitudinal data on breast-related reasons for encounter.

Methods & Materials

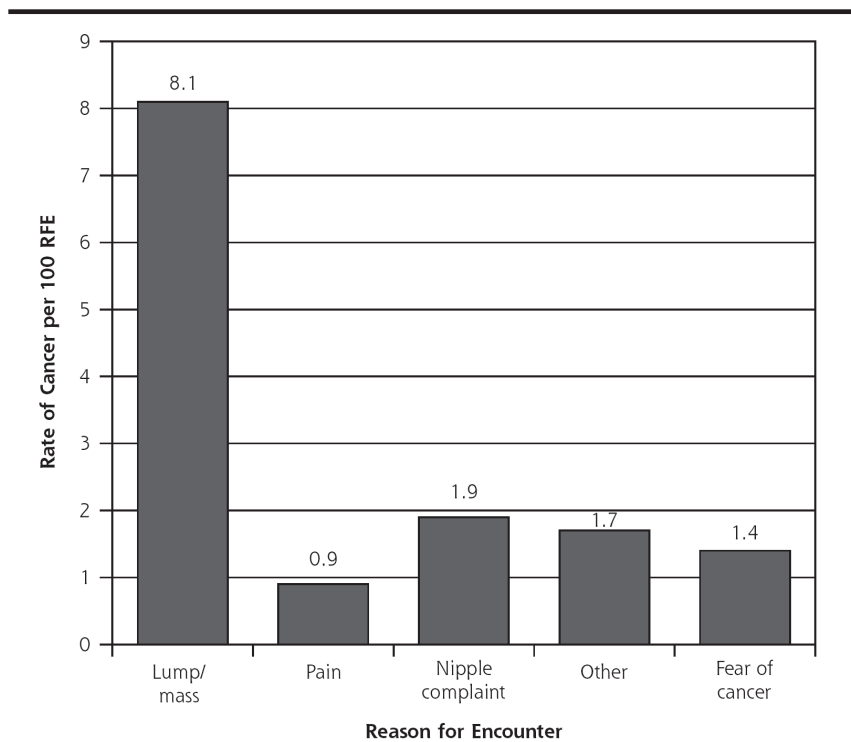
We used data from a prospective longitudinal sample of patients seeking care in Dutch family physician offices between 1985 and 2003 to provide routine family practice data on breast symptoms as the reason for encounter; all visits were coded using the *International Classification of Primary Care*. Data on breast symptom prevalence are based upon 84,285 active female patients and 367,834 total encounters.

We calculated proportions of breast symptoms and likelihood ratios for breast malignancy for each breast-related patient encounter overall, and by age-group (younger than 45 years and 45 years and older). As the analyses are meant to be exploratory and descriptive, we used univariate statistics

Results

Overall breast symptoms were reported in about 3% of all visits by female patients (29.7 per 1,000 active female patients per year); breast pain and breast mass were the most common breast-related complaints. Breast symptom complaints were highest among women aged 25 to 44 years (48 of 1,000) and among women aged 65 years and older (33 per 1,000). Of the women complaining of breast symptoms, 81 (3.2%) had breast cancer diagnosed. Breast mass had a markedly elevated positive likelihood ratio for breast cancer (15.04; 95% confidence interval, 11.74-19.28). The positive likelihood ratios among the other breast-related reasons for encounter were considerably smaller and not significant. The negative likelihood ratio calculated for breast lump/mass (LR- = 0.88; 95% CI, 0.85-0.91) was significantly distinct.

Figure: Proportion of final diagnosis of breast cancer per 100 breast-related reasons for encounter, Dutch Transition Project, 1985-2003, by symptom/complaint.



Conclusions

As expected, of patients with breast symptoms only a small subset was subsequently given a diagnosis of breast cancer (3.2%); however, the presence of a breast mass was associated with an elevated likelihood of breast cancer. These analyses illustrate the use of systematic data collection and classification from primary care offices and community-based settings to extract information regarding disease symptoms and diagnoses. Such an approach requires use of a classification system that fits the care setting and the ability to aggregate visits to episodes of care both retrospectively and prospectively, as well as to track episodes of care. The second edition of *ICPC* offers a system for classifying and organizing primary care data and for extracting useful data about practices, people, and populations.

*Eberl MM, Phillips RL, Lamberts DH, Okkes I, Mahoney MC. Characterizing Breast Symptoms in Family Practice. *Annals of Family Medicine*. 2008; 6:528-533.