ORIGINAL RESEARCH JNP

Ovarian Cancer Knowledge Among Advanced Providers in a University Setting

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ABSTRACT

Ovarian cancer is usually diagnosed at a late stage of the disease. Nurse practitioners and physician assistants are often the first contact, and awareness of the signs and symptoms of the disease may improve diagnosis and outcome. A knowledge survey of risk factors and symptoms was distributed to all nurse practitioners and physician assistants at a university health system. Knowledge of signs and symptoms of ovarian cancer in these providers was low. Early satiety, abdominal fullness, and urinary urgency were frequently missed by both groups. Our findings illustrate the need for the development and availability of materials to address knowledge gaps.

Keywords: advanced practice providers, nurse practitioner education, ovarian cancer

INTRODUCTION

Ovarian cancer is the 11th most common cancer in the United States, the fifth leading cause of cancer mortality among women, and the most lethal gynecologic cancer with 14,240 deaths anticipated for 2016.[1,2] Poor survival is attributable in part to the late stage of diagnosis and lack of screening modalities.[3] Five-year survival for patients diagnosed with late-stage disease is 39%-59%, whereas 5-year survival for early-stage disease is 70%-94%.[2] Multiple large trials of ovarian cancer screening that have included ultrasound and cancer antigen 125 (CA125) have not shown a survival benefit.[4-7] Although symptoms of ovarian cancer may be vague, Goff et al. were the first to note that recurrent and frequent symptoms of bloating, increased abdominal size, urinary frequency, and early satiety were common in ovarian cancer patients.[8] Despite the frequency and recurrence of these symptoms, primary care physicians often do not recommend ovarian cancer testing.[9] This is due in part to limited awareness of common signs and symptoms among both women and health care providers.[10] In a survey study, knowledge of symptoms among women was shown to be low at 15%. Knowledge of symptoms was also low among health care providers, with less than two thirds of them correctly identifying symptoms of ovarian cancer.[10]

The US is facing a shortage of primary care providers and that is likely to increase in the near future with expansion of insurance coverage.[11] In many settings, the role of the primary care provider is increasingly being filled by nurse practitioners (NPs) and physician assistants (PAs).[12-15] Although only 1.4 million adults in the US identify an NP or PA as their primary source of care, there are 32 million adult visits to primary care providers annually.[16] Indeed, women's health NPs are playing an increasing role in the care of women as they are employed by 62% of obstetrician/gynecologists, with an anticipated expansion in this role in the next 5 years.[17] The American College of Physician's 2009 Policy Monograph on the role of NPs in primary care calls for a collaborative role of physicians with NPs and/or PAs in the delivery of primary care.[18] In spite of the excellent care provided by NPs and PAs, educational gaps do exist.[19] As NPs and PAs assume a larger role in primary care, and especially in women's health care, there is a critical need for adequate

education for these providers regarding the common signs and symptoms of ovarian cancer and appropriate follow-up actions.

Previous studies have shown significant deficits among women and providers in the knowledge of the signs and symptoms of ovarian cancer.[20–23] In a previous study, our group surveyed 857 women and 188 providers at a community health fair. Findings were consistent with other studies and demonstrated overall poor awareness and knowledge of signs and symptoms and risk factors for ovarian cancer.[10] However, no previous studies have specifically evaluated the level of knowledge and awareness of the signs and symptoms of ovarian cancer among NPs and/or PAs. The primary aim of this study was to determine that level of awareness among these providers. Additional aims were to determine whether there was a knowledge difference between NPs and PAs, to find out what information NPs and PAs received about ovarian cancer in their initial education, and to determine how they continue to receive information on this subject.

METHODS

A survey our group used in a previous study addressing awareness of ovarian cancer was modified and piloted in a small group of NPs (n = 6) for validation.[10] PAs were not included in the pilot survey due to lack of availability. The responses were reviewed and minor adjustments in the wording were made to further enhance clarity. The survey was distributed to all NPs and PAs (identified as advanced practice providers) at a university medical center in the Rocky Mountain region via an e-mailed link to Survey Monkey®. To expand the sample size, the survey was also linked to members of a secure forum for doctors of nursing practice (DNPs) (http://www.doctorsofnursingpractice.org/), many of whom are NPs. Respondents were included if they identified as being either an NP or PA, regardless of specialty. All subspecialties were included due to varying practice patterns over a provider's career.[24] Non-NP DNPs either did not respond or were excluded from the final analysis.

The target participants were initially e-mailed information from the primary investigator about the purpose of the study as well as the link to the survey on August 13, 2015. Information in that message also included the estimated time to complete the survey (5 minutes) and contact information for the primary investigator. A follow-up e-mail was sent on October 21, 2015. Participants were allowed a total of 12 weeks to respond. Additional repeat correspondence or time was not permitted due to limited evidence of improvement in response rate and, therefore, additional responses were not anticipated.[25,26] Consent for participation was inferred by voluntary participation. Respondents could only respond to the survey one time from their account e-mail.

The study was reviewed and approved as exempt as per Category 2 by the appropriate institutional review board. Although the survey was anonymous, at the end respondents could request the key to the correct answers for the knowledge-based questions, and the principal investigator provided this material.

Statistical Methods

Limited demographic data, including age, profession, and subspecialty, were collected and analyzed with general descriptive statistics. Age was binned to allow for comparison between age groups. Pearson chi-square tests for independence were used to compare NPs to PAs and to determine whether the age of the provider responses associated with knowledge. For dichotomous variables in which cell sizes were < 5, Fisher's exact test was used. $P < .05$ was considered statistically significant. All analyses were performed with SPSS Statistics, version 23 (IBM SPSS, Armonk, NY).

RESULTS

Demographics

A total of 350 surveys were distributed via e-mail to the group of advanced practice providers at the university and all its satellite clinics. An indeterminate number was accessed through the DNP blog. A total of 159 surveys were completed between August 13, 2015 and November 18, 2015. A response rate could not be accurately determined due to the possibility of additional respondents from the DNP blog or from multiple e-mail accounts. However, it was estimated from those distributed via e-mail to the university that the response rate was approximately 45.4%. Of the 159 respondents, 48.4% (n = 77) self-identified as