

# Increasing Mammography and Cervical Cancer Knowledge and Screening Behaviors With an Educational Program

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Women in the United States have more than a one in three lifetime risk of developing cancer (American Cancer Society [ACS], 2011b). For breast cancer, a woman's risk is closely linked to a variety of modifiable and nonmodifiable factors such as age, race or ethnicity, family history, postmenopausal obesity, physical inactivity, and alcohol consumption (ACS, 2011a). For cervical cancer, risk is closely linked to infection with certain types of human papillomavirus (HPV) and to sexual practices (ACS, 2011b). However, research has indicated that knowledge of risk factors (Pearlman, Clark, Rakowski, & Ehrich, 1999) and screening practices for breast (George, 2000; Grindel, Brown, Caplan, & Blumenthal, 2004; Hall, Hall, Pfriemer, Wimberley, & Jones, 2007; Han, Lee, Kim, & Kim, 2009; Pearlman et al., 1999; Steven et al., 2004) and cervical cancer (Centers for Disease Control and Prevention [CDC], 2009; Lee, Fogg, & Menon, 2008; Pearlman et al., 1999; Steven et al., 2004) is low in women. Educational interventions designed to increase a woman's knowledge about cancer risk and strategies to increase screening practices for early detection are vital. Therefore, the purpose of the current study was to evaluate the impact of using an educational program based on self-efficacy to increase knowledge and create behavior change regarding recommended mammography and Papanicolaou (Pap) test screening guidelines.

Studies on the etiology of breast cancer have failed to find methods of primary prevention suitable for use in the general population (Lawson, Henson, Bobo, & Kaeser, 2000). Early detection or screening through mammography offers women the best chance for survival in the absence of established primary prevention strategies (ACS, 2011a; Valdez, Banerjee, Ackerson, & Fernandez, 2002). For cervical cancer, primary prevention strategies are available for the general population. Incidence and mortality have decreased substantially from the 1950s due, in part, to the widespread use of the Pap test (ACS, 2011b; Lawson et al., 2000). The Pap test is perhaps the most successful screening test developed to detect cervical cancer (Markowitz et al., 2007). In addition, an estimated 70% of cervical cancers can be

**Purpose/Objectives:** To evaluate the effectiveness of using an educational program based on self-efficacy to increase knowledge and create behavior change regarding recommended mammography and Papanicolaou (Pap) test screening guidelines.

**Design:** Pretest and post-test, prospective.

**Setting:** An urban county in northern Indiana.

**Sample:** 56 women who attended one of four educational programs and 47 women who responded 15 months later.

**Methods:** The one-hour educational programs based on self-efficacy included vicarious experiences and verbal persuasion regarding breast and cervical screening practices. Two programs were offered to local church groups as part of a health fair, and two were offered through health promotion initiatives sponsored by private businesses.

**Main Research Variables:** Demographics, knowledge of breast and cervical cancer, and screening behaviors.

**Findings:** Knowledge of risk and screening guidelines increased significantly immediately following the educational program ( $p < 0.001$ ) and did not decrease significantly 15 months later ( $p = 0.57$ ). Family history and history of human papillomavirus and sexually transmitted diseases were the top known risk factors for breast and cervical cancers, respectively. Participant-reported rates of screening behaviors increased 15 months later for mammography (100%) and Pap test (84%).

**Conclusions:** Educational interventions based on self-efficacy increased knowledge of breast and cervical health and helped increase the rate of mammography and Pap tests.

**Implications for Nursing:** Preparing women with strategies to complete a mammogram and Pap test is an important approach to enhancing self-efficacy and increasing screening behaviors.

prevented with the use of the HPV vaccine (Saraiya et al., 2007). Lack of knowledge about primary and secondary prevention strategies remains a barrier to following screening guidelines.

In addition, comprehensive screening for both breast and cervical cancer is uncommon (Nash, Chan, Horowitz, & Vlahov, 2007; Pearlman et al., 1999). Women may engage in one screening behavior, but are not as likely to engage in both behaviors. According to the National Center for Health Statistics (2010), 53% of