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# Knowledge and Beliefs About Cervical Cancer and Human Papillomavirus Among Taiwanese Undergraduate Women

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**C**ervical cancer is the second most common cancer in women worldwide, accounting for 15% of all female cancers (World Health Organization [WHO], 2010). About 493,000 new cases of cervical cancer are diagnosed each year worldwide, and more than 27,400 women die annually of the disease (WHO, 2010). In Taiwan, cervical cancer is the sixth leading cause of cancer mortality among women (Bureau of Health Promotion, Department of Health, ROC Taiwan, 2010). In 2008, 1,725 new cases of cervical cancer were diagnosed in Taiwan, resulting in an incidence of 12 cases per 100,000 women, with 813 women dying from the disease (Bureau of Health Promotion, Department of Health, ROC Taiwan, 2010). The development of cervical cancer is strongly associated with infection by oncogenic types of human papillomavirus (HPV); in fact, HPV DNA can be detected in 90%–100% of women with cervical cancer (Bosch, Lorincz, Muñoz, Meijer, & Shah, 2002; Brown et al., 2005). In addition to cervical cancer, oncogenic types of HPV contribute to vulvar, penile, and anal cancers, as well as head and neck or oral cancers (Schiffman & Kjaer, 2003; Shew & Fortenberry, 2005).

Ten percent of women worldwide have HPV infections, making HPV one of the most common sexually transmitted infections (WHO, 2010). HPV infection often appears shortly after women become sexually active (Brown et al., 2005). The prevalence rate of HPV infection in Taiwanese women is estimated to be 16% (Chen et al., 2011). Epidemiologic literature shows that HPV infection is highly prevalent in women younger than 25 years worldwide, particularly those who are sexually active (Bosch & de Sanjosé, 2007). Similarly, the peak prevalence of HPV in Taiwanese women is from 21–30 years of age (Jeng et al., 2005). Thus, college-aged women in Taiwan and Western societies alike compose a high-risk population for HPV infection.

**Purpose/Objectives:** To assess knowledge and attitudes regarding cervical cancer and human papillomavirus (HPV) among undergraduate women in Taiwan.

**Design:** A descriptive cross-sectional design.

**Setting:** Five universities in southern Taiwan.

**Sample:** 953 undergraduate women aged 17–36 years.

**Methods:** The self-administered HPV Belief questionnaire was used to collect data on knowledge and beliefs regarding cervical cancer, Pap testing, and HPV.

**Main Research Variables:** Knowledge, beliefs, cervical cancer, Pap testing, HPV, likelihood of cervical cancer, and HPV infection.

**Findings:** Seventy percent of participants agreed that cervical cancer could be prevented and was a severe disease, and 80% knew the purpose of Pap testing. Forty-nine percent were aware of HPV. Undergraduate women with an awareness of HPV were more likely to be older, studying a health-related major, have a higher class standing, have a personal history of gynecologic visits, and have had a Pap test. Neither family history of gynecologic cancer nor sexual experience predicted HPV awareness, although sexual experience had a significant association with the knowledge and beliefs of cervical cancer. Most of the undergraduate women believed themselves unlikely to acquire cervical cancer or HPV infection.

**Conclusions:** Undergraduate women in Taiwan have limited knowledge of cervical cancer and HPV. Awareness of the likelihood of HPV infection is low among undergraduate women, even those who are sexually active.

**Implications for Nursing:** Educational campaigns focusing on cervical cancer screening and HPV infection are needed, particularly for sexually active undergraduate women.

The HPV vaccine has been introduced to many countries since it was approved for use in the United States in 2006. Two strains of HPV vaccine are available in many countries, including Taiwan. The quadrivalent (types 6, 11, 16, and 18) vaccine, recombinant (Gardasil®)