

HPV and HPV Vaccine Awareness: Where Are We?

I Bambury

INTRODUCTION

The human papillomavirus (HPV) is the causative agent for cervical cancer, which is one of the leading causes of gynaecologic cancer in developing countries (1). Cervical cancer is a significant cause of morbidity and mortality in these countries. Globally, there are about 500 000 new cases with about 270 000 deaths per year, the majority of which are in developing countries (1, 2). In addition to cervical cancer, HPV infection has been associated with a number of other cancers and non-cancerous conditions in both men and women (3).

There are over 150 subtypes of HPV. Approximately 30 to 40 of these affect the anogenital tract (4). Human papillomavirus 16 and 18 account for about 70% of cervical cancer (5), whereas HPV 6 and 11 account for 90% of anogenital warts. The estimated worldwide prevalence of HPV is about 11–12%; the rate is higher in sub-Saharan Africa, Eastern Europe and Latin America (6). An estimated 30 million new cases of genital HPV are diagnosed yearly worldwide (7).

There has been a large disparity in the incidence of cervical cancer worldwide, with higher incidence in low income countries compared to developed countries. This could be attributed to the fact that these low socio-economic countries lack the infrastructure to have organized screening programmes. In the United States of America (USA) and Canada where this is available, there has been a significant fall in the incidence and mortality from this disease (8).

Although the implementation of cervical cytology screening programmes and treatment of precancerous lesions have led to a decrease in the number of deaths due to cervical cancer, there continues to be a significant proportion of women not adequately screened, even in developed countries. The incidence of cervical cancer in the Caribbean is high, but despite the availability of Pap smear in some regions, the uptake of Pap smear screening is low (9).

More recently, two vaccines have been evaluated in randomized controlled trials for the primary prevention of cervical cancer: the bivalent vaccine for HPV 16 and 18

(Cervarix, GlaxoSmithKline Biologicals, Rixensart, Belgium) and the quadrivalent vaccine for HPV 6, 11, 16, and 18 (Gardasil, Merck and Co, Inc, Whitehouse Station, NJ, USA). These vaccines have shown efficacy against these HPV types in several studies and are considered safe (10, 11).

The approval of the HPV vaccine by the Food and Drug Administration (FDA) for females in 2006 was initially met with some reluctance, especially from parents of young females, mainly due to lack of information. However, studies have shown that concerns over potential side effects was a common reason for this reluctance, since most thought that cancer prevention was important. Public education dispelling concerns about the side effects of the vaccine was associated with parents increased acceptance and willingness to have their children vaccinated (12).

Although there is a known link between cervical cancer and HPV, a large number of women and men do not seem to know of this correlation and that HPV is primarily transmitted sexually. Hsu *et al*, in assessing the knowledge and beliefs about cervical cancer and HPV among Taiwanese undergraduate women, reported limited knowledge about cervical cancer and HPV (13). Perrotte *et al* also reported a knowledge deficit about HPV and cervical cancer in some men and women in Grenada (14).

Halliday *et al* assessed the knowledge and attitudes toward HPV and HPV vaccines in The Bahamas. They reported significant deficiencies in knowledge of HPV and its relation to cervical cancer. Although 55.4% of their study population had tertiary education, there was still a significant knowledge gap on the subject (15).

Although the HPV vaccine (Gardasil) has been approved for administration since 2006, and has been a part of the vaccination programmes in some countries like the USA, in the Caribbean countries like The Bahamas, HPV vaccination is not fully established on a national level and can be costly for some women.

Halliday *et al* also showed that little was known about the vaccine and its efficacy (15). They went on to outline, however, that once the population was given sufficient knowledge about the vaccine and its efficacy, they would obtain as well as administer the vaccines to their sons and daughters. This knowledge gap was played out as well in some of the Latin American countries, but once they were

From: Department of Obstetrics and Gynaecology, University Hospital of the West Indies, Kingston 7, Jamaica.

Correspondence: Dr I Bambury, Department of Obstetrics and Gynaecology, Faculty of Medical Sciences, The University of the West Indies, Kingston 7, Jamaica. E-mail: ianbam12@hotmail.com

educated, there was a different attitude toward HPV and the vaccine (12, 15).

There seems to be a relative lack of knowledge of the link between HPV and cervical cancer and the primary preventative measure through vaccination, not only in the Caribbean region but in other parts of the world. Educational intervention is therefore needed to improve awareness of HPV and its associations, which would see an improvement in screening and more interest in vaccination; the goal being a fall in the incidence, morbidity and mortality from cervical cancer, a largely preventable disease.

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