

Prevalence of Human Papillomavirus Infection and Cervical Dysplasia in the North West Territories

Project number: EOI 1121

Update:

Canadian researchers are examining the potential for incorporating Human Papillomavirus (HPV) DNA testing into the present screening program. This project examined HPV infection and cervical dysplasia (precancerous cells) in women of the Northwest Territories, Yukon, Nunavut and Labrador to determine general prevalence rates, types of HPV, and risks associated with the development of HPV. The aim is to provide scientific evidence for policy makers and local public health workers to assist in the planning and implementation of cancer control programs.

Abstract IPY Oslo Science Conference June 8-12, 2010

The Prevalence of Type-Specific Human Papillomavirus Infection in the Northwest Territories in Canada

Time: Thursday 10 June 14:30 **Location:** Room E6

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Introduction

Cervical cancer rates are higher among aboriginal population in Canada. Certain serotypes of the Human Papillomavirus (HPV) are highly associated with cervical cancer or dysplasia but their distributions in Northern populations are largely unknown. The objectives of this research are to determine the prevalence of type-specific HPV infections and its association with cervical dysplasia in the Northwest Territories (NWT).

Methods

Between 2008 April – 2009 March, women attended a routine Pap testing program in the NWT and with no previous cancer history were included to the study. HPV bio-specimen and demographic data were collected through the program. An in house Luminex assay was employed to detect 45 mucosal HPV types. Type-specific HPV prevalence rates, Logistic regression models, population attributable risk fractions and vaccine preventable numbers were reported.

Results

In 5,726 bio-samples, the overall HPV prevalence was 24%, of which 77% with high risk types and 35% with multi-types infection. The HPV prevalence was approximately 50% higher among the aboriginal than the non-aboriginal population, overall and in most of the age-groups. Reference to the non-infected population, the HPV infected population has an Odds ratio of 36 for cervical abnormality (LSIL+HSIL). Similarly, the odds ratio is 35, 26 and 44 respectively, for population infected to only vaccine targeted viruses, only non-vaccine targeted viruses, and both. Approximately 89% of the cervical abnormal cases were attributable to HPV infection with 57% attributable to vaccine targeted HPV infection. The data showed a potential reduction of up to 86 cervical abnormality cases with an effective HPV vaccination program

Discussion

The prevalence of HPV infection was elevated in the young aboriginal population in the NWT. HPV infection attributes to more than 80% of abnormal cervical cytology cases. An effective vaccine program may reduce the cervical abnormality to lower then half of its current level.