ABSTRACT

Background: Cervical cancer is one of the most common gynecological cancers worldwide, considered to primarily result from infection with oncogenic strains of human papillomavirus (HPV) [1]. Recently, Canadian cervical cancer incidence has generally declined [2]. However, cervical cancer prevalence remains relatively high among Aboriginal women [3].

Purpose/objectives: This review aims to examine the disproportionate prevalence of cervical cancer among Canadian Aboriginal women in comparison to their non-Aboriginal counterparts, while addressing possible explanatory factors. It intends to analyze whether an association exists between HPV infection rates and higher cervical cancer prevalence.

Methods: A structured literature review was conducted to compare cervical prevalence in Aboriginal and non-Aboriginal Canadian women. Peer-reviewed studies were obtained from PubMed (MEDLINE) and CINAHL (EBSCO) and assessed for quality before inclusion.

Results: Although overall HPV infection prevalence remains similar between Aboriginal and non-Aboriginal women, the prevalence of high-risk HPV (HR-HPV) appears to be greater among Aboriginal women. Differential exposure to risk factors associated with HPV infection within the Aboriginal population may explain these findings.

Conclusions: Differences in HPV prevalence between Aboriginal and non-Aboriginal women may explain why cervical cancer prevalence is higher among Aboriginal Canadian women. Further studies are recommended to identify underlying factors explaining these observed differences.

INTRODUCTION

What is human papillomavirus? Human papillomavirus (HPV) infects the skin and genital area [4]. There are over 100 types of HPV; at least 13 are considered oncogenic or “high-risk” [1]. Most are transmitted sexually [4].

How is HPV associated with cervical cancer? HPV infections are prevalent in nearly all cases of cervical cancer [5].

How does cervical cancer affect Canadian women? About 1500 Canadian women are newly diagnosed with cervical cancer annually [3]. Aboriginal women appear to be at an increased risk of developing cervical cancer relative to their non-Aboriginal counterparts.

Research Question: Are the differences in cervical cancer prevalence rates between Aboriginal and non-Aboriginal Canadian women attributable to HPp infection rates?

DISCUSSION

• Although some studies suggested a higher HPV prevalence among Aboriginal women, results were inconclusive. HR-HPV appears to be more prevalent among Aboriginal women. Studies suggest an association between HR-HPV and cervical cancer.

• The association between HPV and Aboriginal status adjusted based on risk factors is modest in comparison to crude values; an increased exposure to risk factors among Aboriginal women may explain their increased risk of HPV.

• Adjusted ORs suggest an association between Aboriginal status and HR-HPV that is unexplained by studied risk factors; further research is needed to explore other biological and behavioral risk factors for HR-HPV among Aboriginal women.

• There was an U-shaped relationship observed between age and HPV prevalence among Aboriginal women (Fig 2). Factors underlying the increasing HPV prevalence among older Aboriginal women remain unclear, but may be the result of a cohort effect given the cross-sectional nature of the included studies.

• Study findings have limited comparability and generalizability. Study populations were geographically restricted (Fig 3) and may represent heterogeneous subgroups within the Aboriginal population.

• All studies used convenience sampling of women presenting to health clinics; samples may not be representative of the general population in terms of health-related behaviours mediating HPV risk.

CONCLUSIONS

• Differences in HPV prevalence among Aboriginal women and their non-Aboriginal counterparts may explain the increased prevalence of cervical cancer in this population.

• Given the strong association between HR-HPV and cervical cancer, more research is needed to explore why HR-HPV is particularly prevalent among Aboriginal women.

• Current research regarding HPV and cervical cancer among Aboriginal Canadian populations is limited to select subpopulations; similar studies should be conducted in other subgroups for comparison.

• Study findings are also important for vaccine development and policy to prevent infection with prevalent oncogenic HPV strains among Aboriginal women.

• Longitudinal studies are needed to explore factors underlying the increased HPV prevalence among older Aboriginal women and test for possible cohort effects. Such studies may also provide insight into the persistence of HPV and hold implications for cervical screening policies.