

University of Canberra

Master of Nurse Practitioner

Nursing Thesis

Semester 2, 2004

**Young, sexually active, senior high
school women in the Australian
Capital Territory: prevalence and
risk factors for genital *Human
papillomavirus* infection**

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September, 2004

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Certification of original research

I certify that the study of the distribution and determinants of Human papillomavirus in a female, sexually active senior high school population in the ACT is all my own work. This study is my intellectual property. As a co-investigator I was involved in the planning and conduct of the overarching *Sexual Health and Lifestyle Research Project*. I had permission from the principal investigator, Professor Frank Bowden to analyse the HPV data as my thesis (Appendix 1).

Elissa J O'Keefe
September 2004

Acknowledgements

I would like to sincerely thank the following people for their contribution to this work:

- Dr Anne Gardner
Thesis supervisor, Professional Associate, University of Canberra, ACT
- Professor Frank Bowden
Principal Investigator Sexual Health and Lifestyle Research Project, Academic Unit of Internal Medicine, Australian National University, ACT
- Ms Marian Currie
Research Manager, Academic Unit of Internal Medicine, Australian National University, ACT
- Ms Ruth Primrose
Clinical Nurse Consultant, Canberra Sexual Health Centre, The Canberra Hospital, ACT
- Dr Sepehr Tabrizi
Senior Research Scientist, Royal Women's Hospital, Melbourne, Victoria
- Dr Sarah Martin
Senior Registrar, Canberra Sexual Health Centre, The Canberra Hospital, ACT
- The students, staff and parents of the senior high school

Funding

Funding for the larger *Sexual Health and Lifestyle Research Project* was from The Canberra Hospital Private Practice Fund. For my study, I was the recipient of The Canberra Hospital Auxiliary Scholarship, which was used to pay for the Human papillomavirus polymerase chain reaction analysis done at the Royal Women's Hospital, Victoria.

Abstract

An association between persistent Human papillomavirus (HPV) infection in women and cervical cancer has been established. Young women are particularly at risk of acquiring sexually transmitted infections such as HPV because of risky sexual activity and physiological immaturity. While at risk though, young women have been shown to be amenable to health promoting initiatives. There are a small number of international studies concerning adolescent HPV infection and the risk factors associated with infection, but there is currently no evidence on the prevalence and risk factors for HPV in an Australian, sexually active female adolescent population. This study aimed to provide evidence of the prevalence of HPV, risk factors associated with infection and the patterns of sexual activity in a female sexually active, senior high school population in the Australian Capital Territory.

Participants in this study were a convenience sample of 161 sexually active 16-19 year old females who had an HPV test who were attending a senior high school in the Australian Capital Territory. Nurses and doctors using a clinical record collected information about sexual and other risk behaviours. Self-obtained vaginal swabs were tested for HPV DNA using the polymerase chain reaction method and genotyping was undertaken.

The HPV prevalence in this cohort of young women was 11.2%. High-risk genotypes were found in 55.5% and multiple genotypes were found in 38.8%. There was a significant association found between HPV infection and having had more than one male partner with whom vaginal intercourse had occurred in the previous six months. No statistically significant association was found between HPV and the age of coitarche, length of time young women had been sexually active, condom use, and smoking or alcohol intake. A young age at coitarche was common for this group. Smoking and alcohol use was seen in large proportions in this group.

This is the first Australian study that has examined the prevalence and risk factors for genital HPV in this demographic group. The HPV prevalence is lower than in international studies in comparable groups, in similar age groups and much lower than in older women both in Australia and overseas. With the comparatively low prevalence comes an opportunity for important public health interventions for this group including routine Pap smears, vaccination against the high-risk types of HPV when this becomes available and strategies for young women to reduce their number of male sexual partners. A substantial amount of young women in this study were sexually active aged under 16 years. Whilst this was not identified as being a risk factor in this study, it is both a health and personal safety issue for these young women. There is a demonstrated need for health promotion strategies for this cohort about the consumption of safe levels of alcohol and for smoking cessation. Further research is recommended that includes a repetition of this study with a larger sample, the use of a prospective study design to identify trends in infection and examination of HPV prevalence and risk factors for a variety of populations

Glossary and Acronyms

Genital human papillomavirus	A sexually transmitted virus causing anogenital lesions and cervical abnormalities or cancer
Senior high school	Years 11 and 12 in the Australian Capital Territory school system (referred to in the ACT as 'college')
Sexually transmitted infection	Infection whose primary mode of transmission is via sexual intercourse

ACT	Australian Capital Territory
AIHW	Australian Institute of Health and Welfare
CSHC	Canberra Sexual Health Centre
DNA	Deoxyribonucleic acid
HPV	Human papillomavirus
NSW	New South Wales
NT	Northern Territory
PCR	Polymerase chain reaction
RWH	Royal Women's Hospital
SHLiRP	Sexual Health and Lifestyle Research Project
SOVS	Self obtained vaginal swab
STI	See above