Largest oral HPV study in England shows infection rates lower than expected

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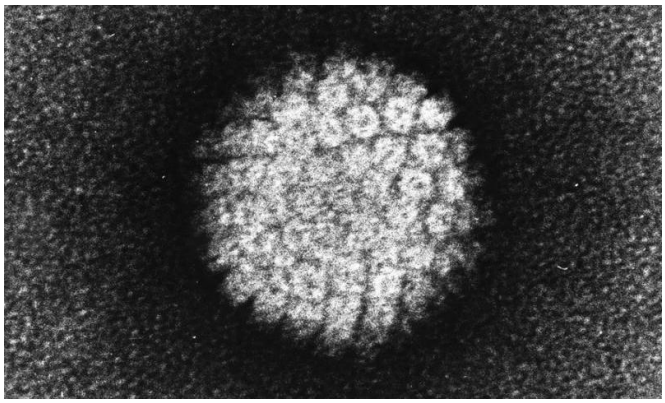

Electron micrograph of a negatively stained human papilloma virus (HPV) which occurs in human warts. Credit: public domain

Infection rates of high risk human papillomavirus (HR-HPV) oral infection in England are lower than expected, compared to previous US studies.

The research, conducted by the University of Sheffield, also strengthens evidence that smoking and sexual behaviour were shown to be risk factors for oral HPV infection, which can lead to oropharyngeal (throat) cancer.

This timely study published in the *British Medical Journal Open* today, led by Professor Hilary Powers, Dr. Vanessa Hearnden and Dr. Craig Murdoch and funded by the World Cancer Research Fund UK, coincides with the announcement of a new UK HPV vaccine programme for boys which will reduce the risk of HR-HPV related cancers.

Rates of oropharyngeal cancers are increasing worldwide, attributable to an increase in the rate of oral infection with HR-HPV.

This new study of 700 men and women in Sheffield, which is the largest of its kind in England, looked for HR-HPV infection and also asked participants lifestyle questions relating to their sexual history and tobacco use.

A total of 2.2 per cent of people were infected with oral HR-HPV infection with 0.7 per cent positive for HPV16 or HPV18. There are large variations in oral HR-HPV prevalence globally however this study showed lower rates compared to previous Scottish and US studies which both found 3.7 per cent of individuals positive for oral HR-HPV.

Former smokers were significantly more likely to be HR-HPV positive compared with those that had never smoked. The study also found that participants with a greater number of sexual or oral sexual partners were more likely to be HR-HPV positive.

Dr. Vanessa Hearnden, from the Department of Materials Science and Engineering at the University of Sheffield, said: "Previous studies have been US-focused or in smaller UK studies in London or Scotland. This is the first study in the North of England and found lower rates of oral high-risk human papillomavirus infection.

"We fully support the newly announced HPV vaccination programme for boys which will reduce the risk of HPV related cancers including throat cancer in men and will also provide further prevention of cervical cancers through herd immunity.

"However, we found the majority of individuals testing positive for high risk strains of HPV were actually positive for strains other than those covered by the current vaccine (HPV 16 and HPV 18). This shows the need to consider newer vaccines which protect against more HPV strains in the future and for individuals to be aware of lifestyle risk factors such as number of sexual partners and tobacco use."

Dr. Craig Murdoch, from the University of Sheffield's School of Clinical Dentistry, said: "Many people associate the HPV virus with cervical cancer but there is less recognition of the fact that HPV causes oropharyngeal cancer, and unfortunately, the prevalence of this cancer has increased dramatically in the past few years.

"The Sheffield Head and Neck Oncology Research Team are conducting research into HPV-related oral cancer in order to find better ways to treat this disease and improve quality of life."

Dr. Kate Allen, Executive Director of Science & Public Affairs for World Cancer Research Fund International, said: "This study confirms the importance of lifestyle risk factors in prevention of the disease and sheds new light on the rates of oral HR-HPV infection in England."

More information: Vanessa Hearnden et al, Oral human papillomavirus infection in England and associated risk factors: a case–control study, *BMJ Open* (2018). DOI: 10.1136/bmjopen-2018-022497