

Reconstructing patterns of human papillomavirus age-specific prevalence in Europe

Thursday, 23 November 2023 12:22 (6 minutes)

Introduction

Age-specific human papillomavirus (HPV) prevalence data are crucial for stakeholders to predict the future impact of public health policies. However, in the European Union (EU), the availability of this data is heterogeneous across countries (and sometimes missing) therefore evaluating the impact of HPV vaccination or HPV-based screening can be challenging. This study reviewed type- and age- specific HPV prevalence data in the EU and identified clusters of countries sharing similar patterns to fill in the needed missing information on HPV prevalence.

Methods

Publications used for our analysis were selected in two steps. First, we systematically reviewed studies from 2009 to 2022 assessing type- and age- specific HPV prevalence in normal or general population, in EU countries. A second search, for countries without recent data, was conducted for papers published prior to 2009. The studies identified were then selected using a quality algorithm, assessing the sample population, and the availability of the aggregated age-prevalence data. Finally, model-based clustering methodology was applied to group countries with similar HPV16 trajectories (in 2 to 4 typical groups) accounting for statistical heterogeneity. The final cluster was selected according to BIC criteria (adequacy of data) and the epidemiological relevance of the clusters obtained.

Results

A total of 28 studies were included, representing 20 EU countries and 467 704 women. Overall, prevalence trajectories were similar across European countries. The optimal cluster selection produced 3 typical patterns which were mainly differentiated by varying HPV prevalence rates at age 20.

Conclusion

The findings of our study showed that the level of heterogeneity in the trajectories of age-specific HPV16 prevalence across Europe was limited: EU countries could be clustered into 3 main categories based on their similar HPV age-specific prevalence trajectories differing mainly in magnitude. These trajectories can be used to model typical EU countries, and fill gaps for countries without HPV age-prevalence information using similar geographical or sexual behaviour data. Although good quality HPV type-specific prevalence surveys are crucial for informing cervical cancer control strategies, our results provide the missing information for EU countries to evaluate the impact of cancer prevention policies.

Primary author: BONJOUR, Maxime (IARC)

Co-authors: GINI, Andrea (IARC); GEORGES, Damien (IARC); MAN, Irene (IARC); ADHIKARI, Indira (IARC); WEI, Feixue (IARC); CLIFFORD, Gary (IARC); BAUSSANO, Iacopo (IARC)

Presenter: BONJOUR, Maxime (IARC)

Session Classification: Mini-oral Presentations