

Vaccination against human papillomavirus (HPV) in girls

Introduction

Around 4,800 women are diagnosed with cervical cancer in Germany every year (RKI 2013). Human papillomavirus (HPV) plays a key role in the development of this type of cancer (Centers for Disease Control and Prevention 2012). HPV infections are among the most frequent sexually transmitted infections. According to estimates, around 75% of sexually active women become infected with HPV at least once in their life (WHO 2009). Most infections are asymptomatic and do not result in clinical illness or clear up on their own. However, infections that do not heal can cause changes to normal cells that can develop into precancerous cervical lesions and sometimes to cervical cancer.

Genital types of HPV are therefore divided into groups with low and high risk for cervical cancer. Since 2006, a vaccination has been available against the two main virus types in the high-risk group (HPV 16 and 18). The vaccination provides protection against first-time infection and therefore reduces the risk of incidence of the preliminary stages of cervical cancer. It is assumed this also prevents the cancer itself. Since 2007, the German Standing Committee on Vaccination (STIKO) at the Robert Koch Institute has recommended the vaccination of girls against HPV (STIKO 2007). While the initial recommendation was for a vaccination age of 12 to 17 and three-fold vaccination, the recommendation since 2014 has been 2-dose vaccination for girls between the ages of 9 and 14. The lowering of the vaccination age is designed to reach girls before they have their first sexual intercourse (STIKO 2014). Against this backdrop, the long-term goal of vaccination is to reduce the burden of disease from cervical cancer in the female population.

Indicator

KiGGS Wave 1 used the following question to determine whether girls between the ages of 14 and 17 had been vaccinated against HPV: “Have you been vaccinated against human papillomavirus (HPV) to protect you from cervical cancer?” (answer categories: “Yes”, “No”). If the girls answered “Yes”, they were then asked: “How many vaccinations against HPV have you had to date?” (answer categories: “One”, “Two”, “Three”) (Poethko-Müller et al. 2014).

The tables show the proportion of 14 to 17 year-old girls who say they have been vaccinated against HPV (lifetime prevalence). They also show the percentage of girls of the same age who have been fully vaccinated (three vaccinations) against HPV. The findings are stratified by age and social status.

As the data in KiGGS Wave 1 was collected between 2009 and 2012, the findings refer to the STIKO recommendations from the year 2007.

Key results

- ▶ 52.6% of the 14 to 17 year-old girls in Germany say they have been vaccinated at least once against HPV, while 39.5% say they received the full protection consisting of three vaccinations.
- ▶ The percentage of vaccinated girls increases with age.
- ▶ Girls of low or medium social status are more likely to have been vaccinated against HPV than girls with high social status. This is true of both lifetime prevalences with at least one vaccination as well as with regard to full-coverage vaccination. Regarding lifetime prevalence, it is the girls in the medium social status group who are most frequently vaccinated against HPV.

Conclusion

The survey data from KiGGS Wave 1 show that more than half (52.6%) of 14 to 17 year-old girls in Germany have been vaccinated against HPV at least once, while 39.5% have received the full course of three vaccinations. Moreover, the findings show that vaccination rates among girls in the age group under observation increase with age; the increase is particularly marked between the ages of 14 and 15. This can be attributed to, among other things, the fact that it is often at this age that girls go to see a gynaecologist for the first time (Poethko-Müller et al. 2014). In terms of social differentiation, the figures show that girls of low and medium social status have higher vaccination rates

than girls with high social status. Compared to other countries where numerous school vaccination schemes and vaccination campaigns have often led to higher vaccination rates (see, for example, Centers for Disease Control and Prevention 2013; Immunise Australia Program 2011; Sheridan, White 2010), Germany still lags behind in terms of vaccination coverage. When assessing the vaccination rates in Germany, however, it must be taken into account that KiGGS Wave 1 was conducted between 2009 and 2012, when the STIKO recommendation for HPV vaccination had only been in place for a short period of time (3 years and 9 months on average) (STIKO 2007).

Overall, girls should be informed at an early stage about the possibility of protecting themselves against infection with certain high-risk types of HPV by means of vaccination. The goal is to complete the series of vaccination before the first sexual contact and thereby to reduce the risk of cervical cancer (Poethko-Müller et al. 2014). In addition, girls should be told that the vaccination does not provide protection against all HPV viruses that cause cancer and that regular gynaecological examinations are still important for the early detection of cervical cancer. Cervical cancer screening is one of the services provided by the statutory health insurance funds for women above the age of 20.

Note: A detailed description of the study as well as explanations on the method are available on the KiGGS study website, www.kiggs-studie.de, and in Lange et al. (2014).

Further results regarding HPV vaccination in girls can be found in Poethko-Müller et al. (2014).

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Table 1
HPV vaccinations among 14 to 17 year-old girls by age and social status

	Lifetime prevalence (vaccinated at all)		Fully vaccinated (three doses)	
	%	(95%-CI)	%	(95%-CI)
Girls	52.6	(48.5 – 56.6)	39.5	(35.3 – 43.9)
Age				
14 Years	31.4	(25.2 – 38.3)	16.3	(11.8 – 22.0)
15 Years	54.5	(46.5 – 62.2)	37.7	(30.3 – 45.8)
16 Years	58.9	(51.2 – 66.2)	45.9	(38.0 – 53.9)
17 Years	63.4	(56.0 – 70.1)	55.6	(48.2 – 62.8)
Social status				
Low	52.9	(41.9 – 63.7)	41.0	(31.3 – 51.4)
Middle	55.9	(51.0 – 60.6)	41.0	(35.9 – 46.2)
High	39.2	(32.2 – 46.7)	32.1	(25.3 – 39.8)

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