

Level Vaccination of Adolescents against Human Papilloma Virus in Evritania

Gketsios Ioannis¹, Yfanti Eleni², Belitsi Vasiliki³, Karagouti Vasileia⁴,
Pastroma Konstantina⁵

¹Health Visitor, MSc Public Health, Address: 25, G. Nazou, GR 11145 Athens Greece

²Health Visitor, MSc Public Health, Address: Nafpaktou 19A, Pagkrati Lamias, GR 35100 Greece

³Health Visitor, MSc Health Promotion, Address: 23, Ioannou Tsarouchi, Lathea A' Acharnes, GR 13678 Athens Greece

⁴Physiotherapist, Sarkoudinou M.125, Neos Kosmos, GR 11744 Athens Greece

⁵Chemist, Address: 11, Troados, Nea Ionia, GR 14233 Athens Greece

ABSTRACT:

Background: Human Papilloma Virus (HPV) is considered to be the major cause of cervical cancer. Nowadays, its primary prevention is possible with the vaccination against HPV.

Aim: The investigation of the vaccination level of the children of Greek and Immigrants, aged 12-18 years old in the prefecture of Evritania, regarding the vaccination against HPV.

Material and methods: The sample of the study was consisted of all High Schools and Junior High Schools' pupils of the prefecture of Evritania, aged 12-18 years old. Children's personal Health Cards were used to evaluate the adequacy of vaccine doses. χ^2 was used for comparisons. Statistics was processed with SPSS 17.0.

Results: None of the boys and the children of immigrants had ever been vaccinated against HPV. 5.3% of the Junior High School and High School females were fully vaccinated against the virus.

Conclusion: The vaccination coverage of adolescents against HPV is at very low levels. There is an emergency of organizing the appropriate vaccination programs, especially in Greek provincial areas.

Keywords: Human Papilloma Virus, vaccination, adolescents, Greece

I. INTRODUCTION

The cervical cancer is the fifth most common cancer in women worldwide and the second most common cancer in young women aged 15-44 years in Europe (1-3). The Human Papilloma Virus is considered to be the main cause of cervical cancer and types 16 and 18 of the virus have been detected in 70% of cervical cancer cases (4,5). The examination of secondary prevention with the Pap test can actually lead to the reduction in cervical cancer cases.

However, the Pap test cannot detect the HPV or protect against this infection from him. Consequently, reducing the incidence of cervical cancer requires the most primary prevention.

Indeed, the intensive effort in the field of molecular biology and carcinogenesis led to the creation of a vaccine against HPV, which was gradually incorporated of all the developed European countries in their National Programmes of Immunisation. There is bivalent and quadrivalent vaccine. The last one turns against subtypes 16, 18, 6 and 11 and it protects not only from dysplasias and cervical cancer but also from genital warts, which are one of the most common sexually transmitted diseases (4).

The vaccine against HPV is aimed at children, teenagers and women aged 9-26 years and recently the quadrivalent vaccine has received from the American Health and Drug Administration indication for administration in men and age-matched adolescents to protect against genital warts and anal cancer (5). Despite the intensive campaign of vaccination against HPV, the rates remain low worldwide. Various reasons have been implicated for the vaccination reluctance.

Most of them are related to prejudices, insufficient awareness, and economic reasons, when there is no corresponding insurance cover (6-9). It is noted that in our country the cost of the vaccine is fully covered by the insurance funds. However, data on vaccination coverage against HPV in our country are limited and suggest inadequate coverage (10, 11).

The purpose of this study was to investigate the immunization level of children of Greek and immigrants, aged 12-18 years old of the prefecture of Evritania for the vaccine against HPV.

II. MATERIAL AND METHODS

The sample consisted of students of all high school (Occupational-General) (aged 12-18 years) of the prefecture of Evritania. For the recording of children's vaccine doses were used Health Cards. After the

permission of secondary school management, teachers informed parents about the conduct of the investigation and asked them to submit to school at predetermined days the health certificates of their children. It was explained that the anonymity of the participants was ensured and the data relating to the coverage achieved among students was recorded.

All children in the sample were born in Greece and all vaccine doses were made within a specified period of time (in time). The vaccination coverage against HPV virus in all cases was carried out by the quadrivalent vaccine. Vaccination was considered complete when three doses of vaccine were made, in accordance with everything is provided in the updated National Immunization Program. The data processing was done by the SPSS 17.0 program.

III. RESULTS

The boys of the sample were 162 (46.1 %) and the girls were 189 (53.9 %). Regarding their vaccination coverage, it was showed that no boy and no migrant child has not been vaccinated against HPV. Fully vaccinated was the 5.3% of secondary and high school girls (10 people), while 13 people had made at least one dose of vaccine (Table 1).

IV. DISCUSSION

According to the results of this study, the rate of vaccination coverage in adolescents aged 12-18 years in the prefecture of Evritania ranges at extremely low levels, below those reported in other regions of the country. Despite the fact that vaccination coverage rates reported in this study are among the lowest in the world, reflect the generally low levels that are observed in vaccination coverage against HPV. Indeed, vaccination coverage rates rarely exceed 50 % and usually are between 5 and 25 %, depending on the region and country (7.12 to 15). Except for a survey conducted in the USA (North Carolina) in which it was found that 55 % of girls had been fully vaccinated against HPV (labeling that 83 % of those who had started vaccination had completed the vaccination schedule) (13), in all of the other studies percentages are rather disappointing.

Indeed, in a survey conducted in France it was found that the 23.7 % of the adolescents and young adult women aged 14- 23 years had made at least one dose of the vaccine, with the highest rates of vaccination coverage being observed at ages 15- 17 years old (12). From another survey conducted in parents of children and adolescents aged 9-17 years old, it was found that the 19% of the parents had already gone to vaccinate their children, 34 % were intended to do so, while 24% were opposed to the vaccination (14).

In another study conducted in the USA Boston it was found that 36% of adolescents and women between 13 to 26 years old had made at least one dose of the vaccine (15). In another study in the USA it was found that only 5% of girls aged 14 years old were fully vaccinated (16). The fact that no boy had been vaccinated in this study should be attributed to the fact that the indication for vaccination of boys has been included in the vaccine indications very recently in the USA and it has not been incorporated in the National Immunization Program in our country.

If every case of vaccination, and especially against HPV, which relates generally to the sensitive issue of sexual education, plays a decisive role the communication between the doctor and the family members and the trust that is established between them. Although it has been shown that parental campaign improves their knowledge level for HPV, it has been observed that their receptiveness is not easily changed.

Interventions should aim at removing prejudices and all kinds of obstacles in the vaccination and it should be emphasized the acceptance of vaccine from scientific institutions. In the study of Spingou et al. that was conducted on a sample of children and adolescents in Corfu it was found that the vaccination coverage rate against HPV in the teenage girls of the third high school was 24 % (11). The percentage referred to the study of Sakou et al. in a sample of almost 1,000 adolescents aged 11 to 19 years old is 11.9 % (10). Given the fact that the acceptance of the vaccine from the parents is high, as concluded in recently published work from Greece (17, 18), the observed low coverage is likely attributed to insufficient information.

The support from the family environment, the coverage by the insurer and the positive attitude of the doctors are proved to contribute to the increase of vaccination coverage (19). It should be emphasized that an important parameter for the effective coverage of the population is the acceptance of vaccination of adolescents by their parents. If the acceptance is reduced to amounts of less than 80% of the adolescent population, this can lead to a reduction of the overall impact of vaccination on the incidence of cervical cancer (19, 20).

This study shows the need to organize vaccination programs against HPV and it stresses the importance of parents being informed, especially in areas distant from the major urban centers and where contact with health services presents objective difficulties due to geographical factors and general weaknesses of the system health, regarding the part of primary prevention, such as the lack of organized prevention programs being targeted to the whole population.

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Table 1. Vaccination coverage against HPV

GREEK'S ** GIRLS *		
	□	%
1st dose HPV		
YES	13	6,9
NO	176	93,1
Total	189	100,0
2nd dose HPV		
YES	11	5,8
NO	178	94,1
Total	189	100,0
3rd dose HPV (Full vaccination)		
YES	10	5,3
NO	179	94,7
Total	189	100,0
*None of the boys had been vaccinated against HPV		
**3 boys and 6 girls were children of immigrants and no one of them had been vaccinated		