

The need for actions to effectively prevent cervical cancer: priorities and future directions of EUROGIN



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'Education of the public at large regarding the fact that cervical cancer is caused by a genital infection with HPV, which can be prevented, is essential for informed decisions.'

Cervical cancer is the second leading cause of cancer mortality among women worldwide [1], and is caused by human papillomavirus (HPV) infections [2]. There are a number of effective preventive strategies available today to protect women and prevent disease progression, but they remain unfamiliar to most women. HPV vaccination and screening act as complementary and synergistic interventions, and currently constitute the new standards of disease prevention. In regions where no screening has been available, there are rapid increases in cervical cancer rates among young women, and in the absence of interventions to reverse these trends, a greater cervical cancer burden could be expected in the future.

The European Research Organization on Genital Infection and Neoplasia (EUROGIN) has been actively engaged since 1996 in promoting excellence in the field of HPV infections, prevention and management of precancers and cancers of the cervix and lower genital tract. Its commitment is reflected in four main activities. First, EUROGIN serves as an annual forum for multidisciplinary exchange of knowledge and views, for consultation and for sharing experiences among experts, research scientists and clinicians. Second, it provides a teaching and learning platform for genuine medical education and information for physicians, specifically by offering courses on medical technologies, such as colposcopy. Third, EUROGIN has a role in building consensus, based on a high level of collective expertise that guides best clinical practice [3–7]. EUROGIN Consensus Conference Guidelines are proposed as a tool to assist physicians in the decision-making process, and hence improve quality of care. Finally, EUROGIN has supported and participated in research activities to promote innovation, while pursuing the highest standards in cervical cancer prevention.

Recent research on the safety and efficacy of prophylactic vaccines against HPV have shown very high efficacy in preventing the development of persistent infections and cervical precancerous lesions [8]. The availability of prophylactic vaccination will help reduce HPV prevalence, and can impact on two-thirds of cervical cancer cases, which are attributable to HPV types 16 and 18. However, vaccination will not have an impact on incidence rates of invasive cervical cancer for approximately a decade. In countries where disease burden is high, parallel implementation of successful cervical screening programs may represent a duty to save the lives of women who cannot benefit from vaccination, owing to already established HPV infections. Therefore, EUROGIN recognizes that there is an increasing need for mobilizing women, and for promoting public-health actions in three directions:

- In providing updated scientific information to health professionals working at all levels, particularly within patient associations, and in increasing the awareness of cervical cancer disease and its causes, through health education campaigns among the public at large;
- In advocating for equity and access to existing quality screening programs;
- In promoting access to vaccination against cervical cancer, especially through organized vaccination programs, particularly among young women.

Knowledge before action

Knowledge shall be the basis for action. Hence, education of the public at large regarding the fact that cervical cancer is caused by a genital infection with HPV, which can be prevented, is essential for informed decisions. Recent population-based surveys have suggested that education is the key to changes in preventive healthcare behavior [9]. Indeed, increasing educational level seems to be associated with a lowered risk of cervical cancer [10].

Knowledge is also crucial for full participation of the public in the preventive measures offered by health professionals. However, the participation rates in cervical cancer screening programs

among adult women remain low. Health agencies, as well as nongovernmental organizations, advocacy groups and civil associations, have the duty to promote prevention programs and defend the interest of the women in this regard. Such bodies can play a major role in initiating and leading the most effective public education campaigns, with culturally appropriate messages, to increase awareness of HPV infections and associated diseases, to clarify to the public in general regarding 'at-risk' personal behaviors, and to motivate healthy people to seek preventive care. In addition, government and professional organizations have developed a number of guidelines and position statements that need to be disseminated among healthcare providers.

Eliminating inequalities before eliminating disease

Despite the considerable success registered by the early detection procedures for cervical cancer prevention, cervical screening seems to benefit only a minor part of the world's female population. Following efforts to encourage participation in cervical cancer screening, the level of socioeconomic disparities in receiving cervical cancer screening remains an obstacle. Organized screening programs with high population coverage have been a driving force towards a decreased incidence of cervical cancer in many countries. Importantly, organized screening programs can have a very large and immediate impact in reducing cervix cancer rates, even with small numbers of screening rounds required in a woman's lifetime. There is a need for age-group-targeted interventions and specific policy programs to eliminate the remaining inequalities. Besides improvement in coverage, an increased quality of screening programs can also be achieved through integrating new technologies [11].

A bright future for cervical cancer prevention

The HPV vaccines are the first vaccines presented as an anticancer immunization. Indeed, these prophylactic vaccines, to protect against precancerous and most cancerous lesions associated with HPV, have the potential to save lives, reduce costly treatment interventions and have an individual and collective benefit that should not be neglected. However, if vaccination was left to individual choice and initiative, the coverage would be low, and the benefit in reducing the frequency of this cancer would be barely perceptible.

While keeping in mind that, on a population level, it may take several years to observe the quantitative benefits of preventing cervical cancer cases following vaccination of cohorts of adolescents, even at high coverage. Reductions in precancerous lesions, in turn, could be significantly reduced within a shorter time period when vaccination is extended to broader age cohorts of women, consistent with clinical trial results observed over 2–4 years [12]. In practice, the effectiveness of HPV vaccines is limited by two factors: all genital cancers and precancerous lesions are not induced exclusively by HPV types 16 or 18, and the maximal benefit is demonstrated in adolescents and young women before they have encountered these viruses. Therefore, the adoption of systematic or routine vaccination of girls aged 9–15 years, with a catch-up in cohorts of young women aged 16–26 years, has been suggested as the most effective strategy [13], and corresponds, to date, with the indication of vaccines, as defined in the marketing authorization by the regulatory agencies.

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A concern with widespread implementation of HPV vaccination programs is that women may mistakenly decide that they do not need to be screened any longer, because they view themselves to be at low risk of developing cervical cancer [14]. Results of modeling studies highlight the importance of educating women to ensure continued screening. Furthermore, health professionals at all levels need to ensure that screening participation is not neglected, and is adapted to vaccination strategies. Public-private partnerships involving community members in the planning and implementation of evidence-based strategies may improve the active participation of parents, adolescents and women in general in cervical cancer prevention.

Conclusion

The opportunity for a holistic approach to cervical cancer prevention and control is now at hand through the dual application of primary and secondary prevention tools, namely HPV vaccination and cervical cancer screening. In this context, there is a need for vaccination and screening policy, which is likely to differ in poor countries where the

magnitude of disease represents a larger toll of disease and mortality, and in wealthy countries, where screening programs have significantly reduced the frequency and mortality of this cancer. Four areas for communicating to the public and thereby improving health outcomes were identified by a group of professionals who met at an education conference held at EUROGIN 2007 (October 4–6, 2007, Monte Carlo, Monaco):

- We should communicate regarding the HPV diseases and their causes;
- We should communicate regarding primary and secondary prevention strategies;
- We should target specific populations and communicate in a culturally appropriate and sensitive manner;
- Communication tools and messages promoting equity need to be evaluated and monitored for both vaccination and screening, prior to dissemination.

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In this context, actions need to be taken to achieve the following:

- Women should be informed and have the right to choose among broad and specific ways of preventing disease, and should be free to make an informed choice on their own;
- Prevention programs should foster synergy among health promotion, and prevention programs should be on the global agenda;
- Political will is an important driving force. Communication with governing bodies regarding the health benefits for the entire community should be sought;

- Balanced, credible evidence-based information regarding new tools and technologies should be provided, and made available by the media in a transparent manner;
- Advocacy groups should work together to create consensus and develop unified messages, avoiding interfering or confounding messages.
- Equity should be considered when developing communication messages;
- Awareness campaigns and events should be actively disseminated, should include positive messages, and use materials that present staged information, with simple messages and follow-up details to more complex issues.

In the near future, we believe that knowledge of HPV infections and associated diseases is due to improve, and while vaccines will be adopted in routine school vaccination programs, screening based on new technologies will become the standard of care.

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Bibliography

1. Parkin DM, Bray F, Ferlay J, Pisani P: Global cancer statistics, 2002. *CA Cancer J. Clin.* 55, 74–108 (2005).
2. Walboomers JM, Jacobs MV, Manos MM *et al.*: Human papillomavirus is a necessary cause of invasive cervical cancer worldwide. *J. Pathol.* 189, 12–19 (1999).
3. Franco E, Syrjänen K, de Wolf C *et al.*: New developments in cervical cancer screening and prevention. Geneva, Switzerland, June 17–19 1996. Workshop. *Cancer Epidemiol. Biomarkers Prev.* 5, 853–856 (1996).
4. Monsonego J, Patnick J, Syrjänen R *et al.*: Management of abnormal smears. Update and state of the art. EUROGIN guidelines. In: *CME Journal of Gynecologic Oncology*. Monsonego J (Ed.). Primed X Press, Budapest, Hungary (2000).
5. Monsonego J, Bosch FX, Coursaget P *et al.*: Cervical cancer control, priorities and new directions. *Int. J. Cancer* 108, 329–333 (2004).
6. Monsonego J: HPV infections and cervical cancer prevention. Priorities and new directions. Highlights of EUROGIN 2004 International Expert Meeting, Nice, France, October 21–23, 2004. *Gynecol. Oncol.* 3, 830–839 (2005).

7. Cox T, Cuzick J, Meijer CJLM *et al.*: EUROGIN 2006 expert consensus report: innovation in cervical cancer control: science, practice and actions. *Gynecol. Oncol.* 103, 7–24 (2006).
8. Villa LL: Overview of the clinical development and results of a quadrivalent HPV (types 6, 11, 16, 18) vaccine. *Int. J. Infect. Dis.* 11(Suppl. 2), S17–S25 (2007).
9. Pagliusi S, Lawson H, Singer A, Monsonogo J: EUROGIN 2007 Patient Education Conference: Sharing experiences and action in cervical cancer prevention – an overview. *Vaccine* S26, A33–A36 (2008).
10. Vidarsdottir H, Gunnarsdottir HK, Olafsdottir EJ, Olafsdottir GH, Pukkala E, Tryggvadottir L: Cancer risk by education in Iceland; a census-based cohort study. *Acta Oncol.* 47, 385–390 (2008).
11. Pagliusi SR: HPV technologies advancing public health: discussion of recent evidence. *Coll. Antropol.* 31(Suppl. 2), 55–60 (2007).
12. Garland SM, Hernandez-Avila M, Wheeler M *et al.*: Females United to Unilaterally Reduce Endo/Ectocervical Disease (FUTURE) I Investigators. Quadrivalent vaccine against human papillomavirus to prevent anogenital diseases. *N. Engl. J. Med.* 356, 1928–1943 (2007).
13. Wheeler CM, Franceschi S: EUROGIN 2007 roadmap – conclusion. *Vaccine* 26S, A28–A31 (2008).
14. Kulasingam SL, Pagliusi S, Myers E: Potential effects of decreased cervical cancer screening participation after HPV vaccination: an example from the U.S. *Vaccine* 25, 8110–8113 (2007).