Cervical Cancer Prevention: A Strategic Opportunity To Improve Women's Reproductive Health

By Jacqueline D. Sherris

The demand for programs to combat cervical cancer is strong. All across the developing world, women’s health care providers regularly see women with advanced, incurable cervical cancer. Many countries have attempted limited screening programs and try to provide surgical and radiotherapy services to a small proportion of women with advanced disease. In general, however, there is little they can do to save women’s lives. Even the analgesic and opiate drugs necessary to ease cancer pain are rarely available.

Policymakers and providers in many developing countries, well aware of the toll cervical cancer takes on women’s health, have attempted to develop workable approaches to reduce the morbidity and mortality associated with the disease. Unfortunately, most attempts have met with limited success, primarily because cytology screening and treatment of precancerous lesions have been available to only a small proportion of at-risk women. Furthermore, inadequate attention has been paid to client and provider education about cervical cancer, and to the development of effective information systems.

Screening and necessary follow-up care for gynecologic cancers are considered an integral part of reproductive health by a range of international organizations, and were included in the Programme of Action adopted at the International Conference on Population and Development. Integrating preventive cervical cancer interventions into existing reproductive health services would help to answer the broad-based call for making a range of reproductive health services more accessible through the primary health care system.

**Action Is Needed Now**

Cervical cancer is a significant reproductive health problem; close to 200,000 women die from the disease each year. It is the third most common cancer worldwide, and is the leading cause of death from cancer among women in developing countries. Of the approximately 370,000 new cases of cervical cancer identified each year, 80% occur in developing countries: 184,000 in Asia, 60,000 in Latin America and the Caribbean, and 48,000 in Africa.

The vast majority of cervical cancers are caused by human papillomavirus (HPV), a sexually transmitted agent that infects the cells of the cervix and slowly causes cellular changes that can result in cancer. Women generally are infected with HPV in their teens, 20s or 30s, although the disease can develop up to 20 years after HPV infection.

The pathway to preventing cervical cancer deaths is a simple and effective one. When precancerous changes in cervical tissue (which can linger for months to years) are found and the abnormal tissue is treated, a woman will not develop cancer. In addition, treating the abnormal, or dysplastic, tissue seems to protect women from developing cervical cancer in the future. Screening and dysplasia treatment services are cost-effective interventions when compared to expensive, often futile hospital-based cancer treatment, and can be integrated with various women’s health services at the primary care level. A World Bank analysis suggests that cervical cancer screening—defined as screening women every five years, with standard follow-up care for identified cases—costs about $100 per disability-adjusted life-year (DALY), compared with $2,600 per DALY for cervical cancer treatment and palliative care.

To date, cervical cancer prevention efforts worldwide have focused on using Papanicolaou (Pap) smears to screen at-risk women and then treating any precancerous lesions that are found. While the incidence of invasive cervical cancer can be reduced by as much as 90% where screening quality and coverage are high, it is not necessary to screen women frequently to have an impact on cancer incidence, as the data below show:

<table>
<thead>
<tr>
<th>Frequency of screening</th>
<th>% reduction in cumulative cervical cancer rate</th>
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<tbody>
<tr>
<td>(in women aged 35–64)</td>
<td></td>
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<tr>
<td>1 year</td>
<td>93.5</td>
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<tr>
<td>2 years</td>
<td>92.5</td>
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<tr>
<td>3 years</td>
<td>90.8</td>
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<tr>
<td>5 years</td>
<td>83.6</td>
</tr>
<tr>
<td>10 years</td>
<td>64.1</td>
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Where technical, logistical and other barriers to effective provision of Pap screening and follow-up care exist, however, programs generally have had little effect on disease incidence.

Preventing infection with HPV also will prevent cervical cancer. This primary prevention approach presents greater challenges than prevention of most other sexually transmitted diseases (STDs), however: HPV is easily transmitted, the treatment currently available is ineffective and the virus can remain infectious in an individual for years. Also, HPV infection can occur throughout most of the anogenital area, including areas not covered by male condoms, and it can be transmitted from mother to child during childbirth. The standard recommendations for STD prevention—regularly using condoms or other barrier methods, or engaging in mutually monogamous sexual relationships—will help some women avoid HPV infection, but the degree to which they will affect the overall incidence of cervical cancer is unclear.

**What Can Be Done?**

Overall, it is quite clear that the incidence of cervical cancer can be reduced by appropriate screening, treatment and follow-up techniques. More specifically, to reduce morbidity and mortality, programs must increase awareness of cervical cancer and preventive health-seeking behavior among high-risk women (most often those in their 30s and 40s); screen a high proportion of women in the target group at least once; treat all women with high-grade dysplasia; and collect service delivery statistics that will facilitate ongoing monitoring and evaluation of program activities and outputs.

Much has been learned during the past decade about cervical cancer prevention...
strategies that can overcome barriers to care commonly found in developing countries.

- Enhanced understanding of the natural history of cervical cancer, particularly the role of HPV infection, will help guide the design of cost-effective screening strategies.
- Data on the relative effectiveness and acceptability (compared with Pap smears) of new, simpler screening approaches based on visual inspection are leading to program options that could markedly increase access to screening among women in developing countries.
- Encouraging information is emerging on the effectiveness and safety of outpatient approaches for the treatment of dysplasia—especially the loop electrosurgical excision procedure (LEEP) and cryotherapy—in a range of low-resource settings. Cryotherapy shows particular promise as a primary health care intervention because it is 80–90% effective, costs relatively little and can be used in primary health care settings where electricity may not be reliable.
- Finally, assessments of women’s knowledge and understanding of cervical cancer are generating information that will allow integration of essential cultural and client perspectives into program design.

Recommended Strategies

What are the most important next steps to take to strengthen efforts to control cervical cancer in low-resource settings? A small group of individuals, representing AVSC International, the JHPIEGO Corporation, the Program for Appropriate Technology in Health (PATH) and the U.S. Agency for International Development, met in October 1997 to evaluate research and programming needs and make recommendations. The group, called the Cervical Cancer Consultative Group (CCCG), evaluated a list of 30 questions that could be answered through medical or operations research, policy or cost analysis, or development of programming or research guidelines.

From among these questions, 10 were identified as high priority:

- What are the sensitivity and specificity of visual inspection (aided and unaided)? How can specificity be maximized?
- What are the common side effects of LEEP and cryotherapy?
- What characteristics define the target group for which screening has the most impact?
- When should low-grade dysplasia be treated?
- How effective are the requirements for integrating cervical cancer prevention interventions into existing health and family planning services?
- How do we ensure that policymakers implement effective program strategies?
- How are cervical cancer resources expended now?
- What are the perspectives of clients, providers, program managers, women’s health advocates and others regarding cervical cancer control? What are the implications of these perspectives for the design of appropriate control programs?
- How do various screening approaches perform in routine settings in terms of sensitivity and specificity, coverage and cost-effectiveness?
- What are women’s experiences with LEEP and cryotherapy?

What characteristics define the target group for which screening has the most impact? How do cervical cancer resources expended differ now? What are the perspectives of clients, providers, program managers, women’s health advocates and others regarding cervical cancer control? What are the implications of these perspectives for the design of appropriate control programs? How do various screening approaches perform in routine settings in terms of sensitivity and specificity, coverage and cost-effectiveness? What are women’s experiences with LEEP and cryotherapy?

Conclusion

Lessons learned from recent program experience, combined with the results of important research and policy analyses, put the international health community in an excellent position to identify innovative, cost-effective strategies for reducing cervical cancer morbidity and mortality in developing countries. Activities focused on answering the 10 priority questions identified by CCCG could lead to recommendations for specific, cost-effective cervical cancer prevention strategies for low-resource settings within the next three years, and will contribute to preventing some 200,000 deaths annually among women in developing countries.

References

5. Ibid.