Introduction to the Special Issue: Timely Detection of Cervical Cancer

SILVIA C. ROBLES,[1] GUEST EDITOR

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THE EPIDEMIOLOGIC PICTURE

Every year more than 68 000 new cases of cervical cancer are reported in the Region of the Americas (1). According to cancer registry data, the lowest incidences are found in Canada and the United States, the highest in Peru and Uruguay (2). Cervical cancer is curable if detected and treated early; and when this happens generally in a population, a decline occurs in the general mortality from this cause. As indicated in the first article of this issue, which describes mortality trends in the Americas over a period of 33 years, Latin America has been unable to significantly reduce cervical cancer mortality, whereas in both Canada and the United States this mortality is decreasing at a rate of 5% per year.

The natural course of cervical cancer is an important element in designing cost-effective prevention and control programs (3). Previously, its natural course was described as a slow progression from preinvasive lesions and mild, moderate, and acute dysplasias to *in situ* cancer and, ultimately, invasive cancer. It is now an accepted fact that most dysplasias, or low-grade cervical intraepithelial neoplasias (CIN), regress spontaneously without developing into cancer (4); and, accordingly, there is no need to treat all women with this

problem. Rather, it is felt that only high-grade lesions constitute true precursor lesions that may progress to the point of developing into cervical cancer. CINs are, as a rule, fairly frequent. They occur in 5.5% of women between the ages of 20 and 29 and in 2.6% of those between the ages of 50 and 59. It has been a common practice in many countries to treat virtually all CINs with invasive techniques, such as cervical conization and hysterectomy. The article by Amie Bishop *et al.* in this issue (Cervical Dysplasia Treatment: Key Issues for Developing Countries) discusses treatment of CINs and reviews the techniques recommended for outpatient treatment of these neoplasias.

As a result of research conducted on the natural course of cervical cancer, over the past several years it has been possible to demonstrate a strong causal association between this ailment or its precursor lesions and infection with certain types of the human papillomavirus (HPV). It is not enough for a woman to be infected by one of these viruses, however, as other factors are also associated with cervical cancer (including inadequate nutrition with shortages of vitamins C and D, use of oral contraceptives, and multiparity—5). In a review article presented here, Nubia Muñoz and Xavier Bosch confirm the causal association with HPV and assess its implications. Research is currently being conducted on the development of vaccines against human papillomaviruses, for both prophylactic and therapeutic use, that could be included in future prevention and control programs.

[1] Pan American Health Organization, Disease Prevention and Control Division. Mailing address: 525 Twenty-third Street, N.W., Washington, D.C. 20037.

In Latin America and the Caribbean, 25 000 women die annually from cervical cancer.

Among the women of Latin America and the Caribbean, cervical carcinoma is the most common type of cancer; and indeed, some of the highest recorded rates of cervical cancer in the world are found in the countries of this region. In most of the countries, mortality from this type of cancer has remained stable over the past 30 years, while in almost all industrialized countries it has decreased steadily over the same period, thanks to those countries' improved ability to detect and treat cases of the disease.

Sixty percent of all cases of invasive cervical cancer occur in women between the ages of 35 and 60.

Cervical cancer is not a disease limited to the elderly; instead it attacks mature women in the prime of their productive years, who are typically principal supporters of their families.

Death from cervical cancer is highest among women with limited access to health services.

The inefficiency of cervical cancer testing programs and their low yields result largely from the practice of giving periodic screening tests mostly to young women at low risk who seek services in maternal health care and family planning clinics. In the process, the opportunity is lost to examine higher-risk women not requesting such services, who tend to seek medical care only when the disease has already reached an advanced stage.

Although the risk of developing cervical cancer increases with age, it is young women who undergo Pap screening most often, because they can take advantage of prenatal or family planning medical visits to have the test performed (6). In several countries where coverage by the Pap test (also known as the cervical cytology test) has been studied, it has been noted that the frequency with which women keep their appointments decreases inversely with age, and that many women over age 50 have never undergone cervical cytology screening.

Coverage of the female population constitutes the first link in the organization of an appropriate program. Accordingly, it is no coincidence that four of the studies described in this issue examine such coverage, but from different angles. Two of these (one by Cristiane Nascimento *et al.* on women in São Paulo, Brazil, and the other by Patricia Nájera *et al.* on women in Mexico City and Oaxaca, Mexico) examine how various factors influence knowledge of the Pap test and whether women in the general population take it. Another, by Ezequiel Klimovsky and Elena Matos, makes a similar examination of women being screened for breast cancer in Buenos Aires, Argentina. The last, by Silvia Lamadrid, looks into clinic patients' knowledge of the Pap test in Santiago, Chile, and fears and other concerns that make it difficult for them to seek testing.

WOMEN'S ACCESS TO CYTOLOGY SERVICES

Although organization of an early cervical cancer detection program is a relatively complex medical and institutional undertaking in its own right, this does not reduce the need to examine the program from the perspective of women. It is also necessary to recognize, however, that different population groups have different degrees of access to health services, and that women do not behave as a homogeneous group. The study conducted by Fabián Corral *et al.* in Quito, Ecuador, analyzes the impact of education upon rates of cervical cancer. Of course, while access to cytology services is affected by the social group to which a woman belongs, there are also

The feelings and subjective criteria of women are not taken into consideration and made an integral part of care, even in such difficult situations as when a woman needs to be told that cancer has been diagnosed.

"When they tell you that you have cancer, you get all nervous; and even though they explain it quickly, you somehow don't hear. They said 'Do you have any questions?' and I said 'No, its okay, I understand everything clearly;' but I did not understand, and I was so nervous that all I wanted was to leave. They told me what I had, and I started crying, for blocks and blocks, as if someone had died within me. People were looking at me and my little girl; I was looking at the trees, as though I had never seen them in my entire life. I thought that tomorrow I was going to be dead, and Who would care for my children? I wanted to question the physician, who didn't even look at me; instead, he said 'Go outside'."*

* Matamala MI, Berlagosky F, Salazar G, Núñez AL. Calidad de la atención desde un enfoque de género. In: Organización Panamericana de la Salud. *Mujer, Salud y Desarrollo.* Washington, D.C.: OPS; 1995.

common obstacles related specifically to gender issues. In Latin America, there is a need to promote research into both gender-related and other obstacles to cervical cancer screening in different cultural settings.

BENEFITS OF AN ORGANIZED EARLY DETECTION PROGRAM

The aim of a program for early cervical cancer detection is to reduce cervical cancer mortality. Its basic strategy consists of making a screening test available to the female population, so as to identify those women who might have cancer. This implies that a woman with an abnormal Pap test reading should undergo additional diagnostic procedures in order to rule out or confirm the presence of a malignant tumor or high-grade lesion. Once the necessary type of treatment has been determined, it is important that such treatment be available and affordable to the woman.

Screening tests should be subject to strict quality control procedures, since both false positive and false negative results can have serious adverse consequences. False positive results lead to further diagnostic tests and, occasionally, unnecessary treatments. On the other hand, false negative results represent one of the most difficult problems

for any program, as women are lulled into a false sense of security that could considerably delay diagnosis and treatment. Many health services notify the woman only when the result of her Pap test is positive. However, in order to encourage adherence to the program, it is important that women also be notified of negative test results and that they be advised these results do not completely rule out the possibility that signs and symptoms of cervical cancer will appear prior to the next test (7). Two articles in this issue address the question of cytology laboratory quality. The first, by Patricia Alonso *et al.*, measures interobserver variation between cytotechnologists; while the second, by Dalia Weissbrod *et al.*, explores the potential usefulness of an automated screening system.

One of the difficulties facing an early cervical cancer detection program is the high percentage of smears exhibiting inflammatory changes, particularly smears obtained from high-risk women who go to clinics to seek diagnosis and treatment of sexually transmitted diseases. The traditional recommendation of treatment with fungicides, metronidazole, topical sulfa, or acidifying agents followed by repetition of the smear may be ineffective if, as shown

by a recent study, such inflammations are commonly associated with *Chlamydia trachomatis* or *Neisseria gonorrheae (8)*. Obviously, control of sexually transmitted diseases is closely associated with prevention and control of cervical cancer.

From all of the above, it follows that programs directed at ensuring early detection of cervical cancer must include a broad spectrum of components, of which the Pap test itself is but one. It is necessary to ensure that all women have access to proper treatment—because otherwise the program will find itself exposed to serious ethical problems. Also, since screening relates to an entire process (including laboratory processing of the sample, quality control, diagnosis, and treatment) it should be stressed that its effectiveness has been demonstrated in several studies comparing the history of Pap testing among women who had invasive cervical cancer and women of comparable age who did not. The results of these studies show that women who do not undergo Pap testing are at greater risk of developing invasive cervical cancer than those who do *(9–14)*, thereby confirming the efficacy of early detection. Although we have not included in this issue any study evaluating early detection programs, we have included the summaries of case-control studies in which that effectiveness is evaluated. We have also included selected articles on difficulties posed by the

methods generally used to evaluate early detection programs.

ORIENTATION OF THE ISSUE

Programs to prevent and control cervical cancer require participation by a variety of organizations—including women's organizations, health services, associations of professionals participating in the programs, and nongovernmental organizations engaged in cancer control efforts. It is essential when organizing a program that all such entities be brought together in order to reach a consensus on the most appropriate strategies for the particular country as well as for the various social contexts involved.

In this monograph issue of the *Bulletin of the Pan American Health Organization* we have tried to represent the broad spectrum of elements that must be taken into consideration in organizing a program for early detection of cervical cancer. The most up-to-date developments in research conducted on the causes of the disease are presented, together with accounts of the various social factors explaining its distribution and frequency. Advantage is also taken of the opportunity to disseminate information about work being conducted in the Americas and to identify gaps and questions for which there are as yet no answers, in order to encourage further research and evaluation.

Identified needs of programs for early detection of cervical cancer:

- Increase coverage, overcome the obstacles that hamper efforts to reach women at risk of contracting the disease, and avoid periodic screening of young low-risk women.
- Adopt control measures and improve the quality of work in cytology laboratories throughout the region.
- Assess the potential for health services to respond to the future demand generated by the screening program—because if this is not done, many women, even those with positive Pap test results, will fail to receive either diagnosis or treatment.
- Strengthen the technical skills of the screening program's health staff in both administrative and clinical matters.

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