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Cervical cancer screening in the central region of Portugal

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1. Introduction

Cervical cancer has always been a major concern of Portuguese gynaecologists. Since 1978, when family planning clinics were first set up, diagnostic examinations have been carried out upon sexually active women (women beginning their sexual activity are entitled to an annual smear), by gynaecologists trained at the Medical Faculty of Coimbra University, or other Medical Schools. At first, this was an unorganised programme, although there have been several pilot schemes to assess different screening methods in small localised areas, mostly in the centre of Portugal.

In the years 1989–1991, the world incidence rate of cervical cancer was $19.6/10^5$ and the death rate $3.2/10^5$ (figures standardised for the European population). The proportion of the population covered by opportunistic screening is not available.

In 1990, the Portuguese government approved the National Oncological Plan, and as a result, a Regional Cervical Cancer Screening Programme was launched in the 86 counties of the Central Region of Portugal. Smears are taken at the Health Centres by general practitioners (GPs) and sent to the Cytopathology Laboratory of the Coimbra Cancer Institute. There are no financial resources to support this programme, and the cost of the smears is covered by the National Health System.

2. Population and methods

2.1. Invitation to screening

The target population is identified by the National Institute of Statistics. Personal invitation is difficult due to lack of electronic records; therefore, women are invited on the basis of the GP's medical files.

Education campaigns designed to inform the public about cancer have been organised by a group of volunteers from the Portuguese League Against Cancer, in conjunction with certain health professionals, and information is disseminated through the media, church and local authorities.

2.2. Target population

The target population for this programme is approximately 292 000 women aged 20–64 years, covered by the National Health Care System. The programme is extended to women under 20 years who have had sexual intercourse and women over 64 years who have never had a Papanicolaou (Pap) smear. The proportion of the target population covered by organised regional screening is 51%.

2.3. Local organisation and screening practices

Previous studies have demonstrated that the best reduction in the cumulative rate of invasive cancer results from screening policies carried out at 3-year intervals.

As many women have their first smear test at this time, the following system has been instigated to reduce the false-negative rate after only one smear.

Women have a first smear test, and if this is normal, the test is repeated a year later, and then every 3 years. Some negative smears that are satisfactory, but limited by inflammation are repeated after treatment, and again in accordance with the interval established in the screening programme.

Those who are at high risk of cervical cancer or are being treated for cervical intra-epithelial lesions may have a smear when it is considered clinically necessary, as may women displaying symptoms.

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Smears are taken by GPs using the Cervex-Brush after gynaecological examination, and sent to the Cytopathology Laboratory of the Cancer Institute where they are analysed; approximately 45 000 are processed per year (last year's figure). The test results are all sent to the GPs with the corresponding recommendations about follow-up, together with a personalised letter for the woman informing her of the results. The time interval between the initial test and complementary studies ranges from 3 weeks to a month.

2.4. Abnormal smears

For atypical squamous cells of undetermined significance (ASCUS) or atypical glandular cells of undetermined significance (AGUS) the smear is repeated 6 months later.

Squamous intra-epithelial lesion (SIL) low grade, SIL high grade, squamous carcinoma, adenocarcinoma and other malignant neoplasms are referred for diagnostic evaluation (colposcopy and biopsy).

Colposcopies are carried out by gynaecologists proficient in this technique. There are approximately ten centres which perform colposcopies, but the numbers of tests done per year is not available. Biopsies and histological reports are recorded electronically. When an unsatisfactory smear occurs it is repeated approximately 3 months later.

2.5. Quality assurance: state of the art in quality assurance at the national level

The National Guidelines on Cervical Cancer Screening in Portugal are issued by the Health Authorities (Direcção Geral de Saúde). Regional guidelines also exist for the Central Region.

There is also a quality assurance protocol, which covers:

The increase of participation rates.

The integration of opportunistic screening into the organised programme.

Training for healthcare professionals.

The preparation of protocols with the hospitals of the central region in order to create uniformity of diagnosis and therapy and to ensure treatment is provided in time.

2.6. Quality control (internal quality control)

1. Assessment of the quality of smears (training is recommended for clinics with a high number of unsatisfactory smears).
2. Processing.
3. Screening.

Smears are screened by qualified observers, who have received specific training and who work with quality equipment in a suitable environment.

A second review is compulsory for all smears with abnormal findings, relevant clinical information, previous abnormal cytology or histology, abnormal cytology with unconfirmed histology, and those with relevant pathology and previously negative cytology.

The cytological, colposcopic and histological results are compared, and ambiguous cases are discussed. All abnormal results and difficult diagnoses are reviewed by the cytopathologist.

Slides and copies of the request forms are all filed accordingly (External Quality Control). There is an exchange of slides with other laboratories, continual education and laboratory accreditation.

2.7. Medical and paramedical staff

These include:

One cytopathologist who is in charge — Head of the Department

One pathologist with qualifications in cytology

Five technicians of pathology, cytology and thanatology with specific training in cytology. All of them have taken the European Aptitude Test.

All data are registered by two secretaries, and transferred to computerised records when necessary for the purpose of statistical analysis.

2.8. Data collection

As has already been mentioned, the incidence rate of cervical cancer is in accordance with the Regional Oncological Register for 1993 (Central Region), $24.27/10^5$ (standardised for European population) The computer system is a Windows NT server and workstations, with Windows '95. The software has been developed by the Computer Department at the Coimbra Cancer Institute.

3. Discussion

A study undertaken in the Central Region of Portugal in the period 1978–1984, involving a total of 269 cases of cervical cancer, revealed that the percentage of cases at stages 0, I, II, III and IV were 0.4%, 18.2%, 27.5%, 45.7% and 8.2%, respectively. This reflects the lack of any kind of organised screening programme.

A new study was conducted on 278 cases of cervical cancer identified during the period 1990–1993, and on 480 cases in the period 1994–1996, following the launch of the screening programme. The percentage of cases at each stage was analysed and compared with previous studies.

The results were as follows (Table 1).

While in the 1978–1984 study, the percentage of operable cancers (stages 0 and I) was only 18.6%, this had risen to 71% and 89.8% in the second and third

Table 1
Per cent stage distribution reported in studies from 1978–1984, 1990–1993 and 1994–1996

	Stage (%) 0	Stage (%) I	Stage (%) II	Stage (%) III	Stage (%) IV
1978–1984 269 cases	0.4	18.2	27.5	45.7	8.2
1990–1993 278 cases	42	29	8	19.4	1.4
1994–1996 480 cases	74.6	15.2	3.9	5.6	0.6

studies, respectively. This indicates that diagnoses are now being made considerably earlier.

According to the Regional Oncological Register 1989 (Central Region of Portugal), the global incidence rate of cervical cancer was $19.6/10^5$ (standardised for the European population). These data were collected prior to the existence of the organised cervical cancer screening programme.

The same register in 1993, 3 years after the initiation of the programme, reveals that the incidence rate is $24.27/10^5$ (standardised for the European population). There was no reduction in the incidence rate. On the contrary, there was a significant increase in the number of cases in the initial phase of the programme. However, these figures do not correspond to a real increase in the incidence of cervical cancer, rather an increase in the number of cases diagnosed in a given period of time within a given population.

3.1. Improving the programme

- The participation rate in both the first and later phases of the programme needs to be improved. At present, the fact that family medical files are not stored electronically makes the call–recall system difficult.
- There is a lack of specific, economic or other incentives for GPs to participate in the programme.
- There is a lack of personal motivation to encourage work in the area of cervical cancer screening, and staff suffer from an excessive workload in other areas.
- The screening programme is not considered as a priority by the health authorities.
- Many health centres have no organised programme of local screening (that respect the guidelines of the regional programme). Those that do provide it have high participation rates.
- Opportunistic screening exists alongside the organised programme, and needs to be integrated into the organised programme.
- There are economic and logistic problems in issuing personalised invitations for screening.

4. Conclusions

The results obtained to date are positive as may be seen in the above table. The number of cases diagnosed in stage 0 before the screening programme was 0.4%, almost the same as the numbers of cases at stage IV (0.6%) in 1996, 6 years after the initiation of the programme. The 89.8% of cases that are now diagnosed in stages 0 and I may be compared with the 18.6% before the start of the programme.

The public increase in awareness with regard to the need for screening, combined with a significant increase in the number of women screened (particularly from disadvantaged social classes) has contributed to these figures. There is a need for the health authorities to define screening as a priority in the primary healthcare system.

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