Breast and cervical screening for women in the United Kingdom

J Patnick

Two fully fledged National Health Service cancer screening programmes are currently available in the United Kingdom: breast and cervical screening for women. Breast screening was introduced for women aged 50 years and older, following the publication of the Forrest report in 1986. It has recently been calculated that the breast screening programme in England and Wales has been responsible for around a third of the fall in the death rate from breast cancer among women aged between 55 and 69 years. The cervical screening programme did not have such a clear start and began rather haphazardly in the 1960s. The programme now prevents around 2000 cases of cervical cancer and saves around 1300 lives each year. The duty of the health professional is no longer seen as being to persuade a woman to accept screening, but rather to provide her with accurate information about screening and to assist her in understanding it.

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Introduction

Almost all people in the United Kingdom (UK) are registered with the National Health Service (NHS), which is an institution that politicians always seek to be seen to support and encourage. The NHS is funded from general taxation, and its services are largely provided free to the population. Exceptions are some charges for eye tests and dental care, and a standard charge for prescription drugs that are prescribed by the family doctor. Two fully fledged cancer screening programmes are currently available in the UK: breast and cervical screening for women.

Breast screening

Breast cancer is the cause of the largest number of cancer cases and deaths among women in England and Wales. There are more than 30 000 cases per year and approximately 12 000 deaths.[1,2] While the UK has had a similar incidence for a number of years to other developed countries, it has also had the unfortunate distinction of having the highest mortality rate. Major advances in the provision of care and in treatment over the past decade have seen the number of deaths due to breast cancer fall by more than 21% since 1990.[3] In addition, that period has seen the introduction of the breast screening programme, which has also begun to show an impact.

Breast screening was introduced for women aged 50 years and older, following the publication of the Forrest report in 1986.[4] This report recommended triennial screening and single-view mammography. Invitations for screening were to be sent to women aged 50 to 64 years; for women aged 65 years and older, screening was to be provided on request. There was no upper age limit, and a trial was to be conducted for women from age 40 years. This trial, known as the 'age trial' is still ongoing, and preliminary results will not be available for another few years. The first screening programmes started in 1987, and now approximately 1.25 million women are screened each year.[5] For some years following the publication of research evidence, two-view mammography has been used at the first screening round. It has recently been announced in the NHS 'Cancer Plan' that screening will use two-view mammography at all rounds by 2003.[6] In addition, the programme will be extending

NHS Cancer Screening Programme, The Manor House, 260 Ecclesall Road South, Sheffield, United Kingdom
J Patnick, BA

Correspondence to: Mrs J Patnick

its invitation age-range up to and including the age of 70 years by 2004.

The major evidence used by the Forrest report to justify the introduction of the breast screening programme was the 'two-counties study' of Sweden, which demonstrated a 40% decrease in mortality rate among women who had attended for screening.[7] Subsequent meta-analysis of other trials has largely confirmed that a reduction in mortality rate is achievable in women older than 50 years, although the position on the under-50s age-group remains unclear.[8] However, no screening programme in the world has yet been operating long enough to show that this achievement in a research setting can be demonstrated in practice.

It has recently been calculated that the breast screening programme in England and Wales has been responsible for around a third of the fall that has been seen in the death rate from breast cancer among women aged between 55 and 69 years—those who have been screened between the ages of 50 and 64 years.[3] The full effect, however, has yet to be seen, and breast screening is still the subject of controversy.[9] Difficulties in evaluating a programme in the context of a national service are multiple and were largely unrecognised before anyone attempted the task. These difficulties would include the fact that in a research setting, the population being evaluated is 'clean' of any women who are already known to have the disease. Obviously, in the population at large, there will be a large number of women living with breast cancer that was diagnosed before screening even started.

Given the 75% acceptance rate seen in the UK, it is expected that the UK screening programme could save around 1250 lives a year, which would be a reduction of 25% in the breast cancer mortality rate among all women aged between 55 and 69 years. In fact, only a quarter of this figure has been achieved: around 300 lives a year. Reasons for this shortfall include the fact that screening was not of sufficiently high quality in the early days and the staggered start to screening, such that some women were still receiving their first invitation in 1993. Nevertheless, it is now recognised that the quality of the screening programme has matched that of the Swedish 'two-counties study' or even exceeded it, and that the full effect of screening should be seen in another 5 to 10 years.[3,5]

Cervical screening

The cervical screening programme did not have such a clear start. It began in a rather haphazard manner in the 1960s, where there were interested and committed doctors. In 1988, a computerised call and recall system was introduced throughout England and Wales, and all women aged between 20 and 64 years were to be invited for screening at least every 5 years. From a baseline of around 22%, coverage rose by 1994 to 85%, at 5 years, and has stayed at around that level ever since.[10] Coverage at 3 years is 67%.[11] It can now be demonstrated that the programme prevents around 2000 cases of cervical cancer and saves around 1300 lives each year.[12,13] More than 4 million smears are processed each year in England and more than 100 000 women attend colposcopy clinics for the investigation of abnormal results.[11]

Informed choice

Attention is now being paid to how all women are invited for screening, and the NHS Cancer Plan features the need to introduce informed choice into the screening programmes rather than simply persuading women to attend or expecting them to be compliant with screening. Women want to make an informed choice about screening and not to be persuaded or coerced to undergo the procedure. They wish to know about the limitations of screening, not just the benefits. Accordingly, the breast and cervical screening programmes are now revamping their invitation leaflets to women to inform them about both the advantages and the disadvantages of breast and cervical screening. The duty of the health professional is no longer seen as being to persuade a woman to accept screening, but rather to provide her with accurate information about screening and to assist her in understanding it. If she then chooses not to attend for screening, that is her choice and must be respected.

It is recognised that informed choice may reduce coverage of the population and thus reduce the effect of screening on the population, and possibly lead to preventable deaths occurring in women who have chosen not to attend for screening. However, it is felt that this is a price we must pay to be honest with women, which is what they expect.

The future

The screening programmes are moving forward into exciting times. For breast screening, the changes of 2003 and 2004 have been calculated to lead to a 40% increase in workload. A major concern is the ability to recruit staff to undertake this work. Accordingly, we are looking at training state-registered radiographers to undertake some tasks currently reserved for doctors,

such as reporting mammograms and performing ultrasound examinations. We are also looking at whether we can develop a new grade of technical staff (assistant practitioners) who will be trained purely to take mammograms. This proposal is the subject of a current major development project and will be thoroughly evaluated before being put into action.

In cervical screening, we are about to begin piloting the use of liquid-based cytology instead of the conventional smear test and associated with that, we are looking at the introduction of a human papillomavirus (HPV) test for women with borderline and mildly abnormal smear results. Liquid-based cytology has been assessed by our National Institute for Clinical Excellence and, while it was felt that it would probably bring benefit, there were some grounds for uncertainty; hence, it was felt that a pilot introduction was the appropriate way forward.[14] Testing for HPV is possibly more controversial. Again, a report was produced looking at this technology.[15] It was felt to be too soon for the introduction of HPV testing as a primary screening tool, and a research study which has been commissioned to look at this will be recruiting its first patients early in 2001. It was felt, however, that there was sufficient evidence to consider the feasibility of introducing HPV triage, which could improve the management of women. This programme will introduce the concept of cervical cancer as a sexually transmitted disease, which is something relatively hidden in the current UK screening programme and which needs a major public and professional education initiative. Again, women will be asked to make an informed choice about the test.

Conclusion

The breast and cervical screening programmes in the UK pride themselves on their achievements. Cervical cancer incidence and mortality rates have fallen dramatically, and the quality of the breast screening programme is as good as or better than that achieved in the original Swedish studies. It is also fully expected that the achievement of those studies will be matched in a few years' time in terms of the reduction in mortality rate. The technical developments taking place now and in the future must be matched by improvements in public understanding and this means giving women more information about the benefits and the limitations of screening.

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