

( $t = -3.9$ ,  $df = 184$ ,  $P = 0.001$ ). The distribution of feeding was the same whether data were provided by the mothers or by the patients. Stratified analysis showed that no factor among those we analysed (birth weight, type of delivery, social class, sex, age group, number of other children in the household) confounded or modified the association between feeding and illness.

### Comment

Our data indicate that patients with multiple sclerosis were less likely than controls to have been breast fed for a prolonged period of time. Selection bias is unlikely because cases and controls were contacted in the same department and their mothers were all contacted by telephone by the same interviewers. The validity of information on feeding may be a limit of our methods, but there is no reason to suspect a differential recall between cases and controls.

There are several reasons why prolonged breast feeding may be associated with a decreased risk of multiple sclerosis. Cow's milk contains lower amounts of unsaturated fatty acids, and a different composition of cortex grey matter has been described in bottle fed infants.<sup>4</sup> This fact could be associated by means of the formation of defective membranes with easier entry of

an infective agent across the blood-brain barrier or with accelerated degradation of myelin itself.<sup>2</sup> Human milk might actively influence the immune system of the offspring by different mechanisms,<sup>5</sup> and some features of the immune response among those who have been breast fed for a prolonged period may last for a long time. Alternatively, prolonged breast feeding may be a marker of some unknown socioeconomic characteristic that could be associated with a low risk of illness. The prevalence of prolonged breast feeding in industrialised countries is currently much lower compared with the time when our patients were born. Should our data be confirmed another point would be added to the long list of the benefits of prolonged breast feeding.

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## Management of female prisoners with abnormal cervical cytology

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Women prisoners are at higher risk of developing cervical neoplasia and cervical cancer than is the general population.<sup>1,2</sup> Her Majesty's Prison Holloway offers all women a health check on admission, which includes screening for sexually transmitted diseases and abnormal cervical cytology. Participation is voluntary. Most of the women in the prison are on remand and stay for short times; a smaller number of sentenced women remain in the prison for longer. The time for treatment and investigation is therefore limited. We studied the reasons for referral of the women with smears suggestive of moderate to severe dyskaryosis, the treatment advised, and the default rate and considered an alternative management.

### Subjects, methods, and results

Between June 1986 and March 1991, 270 women with abnormal results on cervical screening were referred for colposcopy, which was done at the prison by a visiting gynaecologist. Treatment was carried out at a nearby hospital on an inpatient or outpatient basis. Often the women were released after court appearances before adequate assessment and treatment, and 64 women were released before attending for colposcopy.

Each of the 206 women who attended for colposcopy had a brief gynaecological history taken, repeat screening if indicated, and a directed punch biopsy or cervical conisation arranged. The biopsy was done to determine the grade of the lesion and the treatment or follow up required. We assessed the cytological specimens to determine the prevalence of abnormal cervical smears in the screened prison population and compared the results with those from general practices in the same area. The prevalence of abnormal cervical smears in the prison population was 133 per 1000

samples, double that in the general practice population. The prevalence of high grade disease—that is, cervical intraepithelial neoplasia grade II or above—was 53.1/1000 in the prison population and 18.5/1000 in general practice ( $P < 0.0001$ ; 95% confidence interval 28.4 to 41.0/1000). The prison population was significantly younger (median 27 (range 17-58) years) than the general practice population (median 33.5 (range 17-58) years), which could explain the different incidence of high grade disease ( $P < 0.0001$ ) (table).

All 206 women were given management advice. Thirty one were advised to have follow up smear tests alone, 12 smear tests and colposcopy, 50 locally destructive treatment, 101 conisation, and one hysterectomy; 11 were pregnant and were recommended to have follow up after delivery. Only 49 women completely complied with the advice. The main reason cited for failure to attend treatment or follow up was discharge from prison, which accounted for 111 cases.

We re-examined the data to determine the number of women who could have had large loop excision of the transformation zone as both a diagnostic and therapeutic procedure at first presentation as this would have resolved the problem of default. One hundred and fifty one (73%) women were suitable for such treatment based on presenting cytological and colposcopic assessment—that is, the lesion was assessed as grade II or above and was small enough to be removed under local anaesthesia. Forty six (30%) of these women were found to have grade I lesions or less at the final histological examination and thus would

*Abnormal cervical smear results in both the prison and general practice population, 1986-91*

Smear result	No (%) of women in Holloway Prison	No (%) of women in general practice
Normal	4405 (86.7)	46 055 (93.8)
Cervical intraepithelial neoplasia (grade):		
I	406 (8.0)	2 159 (4.4)
II	157 (3.1)	434 (0.9)
III	93 (1.8)	380 (0.8)
Invasive squamous carcinoma	18 (0.4)	60 (0.1)
Adenocarcinoma	2 (0.04)	33 (0.1)
Total No of smears	5081	49 121

have been overtreated. However, the current policy of biopsy and subsequent ablation or conisation resulted in overtreatment of 23 women if the same criteria were used. Thus introducing a "see and treat" policy would result in a further 23 (15.2%) "unnecessary" conisations.

#### Comment

People in prisons are often socially disadvantaged, and a satisfactory follow up programme is difficult to establish because they move around once released and tend to avoid contact with those in authority. Our results suggest that if a see and treat policy were

introduced the overtreatment rate would be similar to that in other see and treat studies,<sup>3</sup> but most women would be cured of their condition at first presentation. In this group of women, however, the advantages of prompt successful treatment outweigh possible overtreatment because of the high incidence of high grade disease and the high default rate from treatment and follow up.

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## Commentaries

### Overstating overtreatment?

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Women in prison are at high risk of diseases of the reproductive tract. In an independent review of one high security prison for women serving long sentences Lester and I found a high hysterectomy rate (on average nearly three a year over six years in a stable population of about 35 women), which seemed to reflect genuine physical disease.<sup>1</sup> Cervical carcinoma was cited as a reason in only one case, but as Downey *et al* point out, women in prison are at particular high risk of this potentially fatal disease. The immediate reaction to their paper must be that it represents an important advance for the health of these women. The only ripple of concern is created by their description of low voltage diathermy loop excision of suspected cervical tissue as overtreatment.

The concept of overtreatment is deceptively simple. It implies giving more treatment than would be required to produce a desired effect. The authors seem to take a strictly physical view on both counts. The treatment consists of excision of suspect cervical tissue under local anaesthesia, a procedure which generally takes about four minutes and only rarely more than 10 minutes. Morbidity after treatment is minimal,<sup>2</sup> but cervical carcinoma has serious morbidity and mortality, and this intervention is important in preventing its emergence. Arguably, then, the main desired effects are treatment of existing disease and prevention of more serious disease.

The authors perhaps should have emphasised that, just as the procedure is not 100% specific, it is not 100% sensitive—some true positive results will be missed. It does, however, offer a much better prospect of prevention than more conservative repeat smear examinations, not least because it is well documented that a substantial minority of women attending any clinic will not keep attending for the duration of repeat tests or other interventions necessary. The drop out rate for the high risk group of women in prison in this paper was nearly 40% at first follow up, and over three quarters failed to follow advice.

#### Best treatment for women

The problem of attending for follow up may, then, affect any woman. Though women are unlikely to be concerned whether a slightly larger or smaller number of cells is removed from their cervix, since healthy tissue will almost invariably regenerate within weeks,

they are likely to be concerned about how much time and misery it is going to take to restore themselves to health and safety. Most women likely to need such interventions, including former prisoners, are likely to be busy with children, paid employment, or domestic work and often all three. A desired treatment is thus one that does not require repeated, long, wearisome journeys and probably even longer waits in outpatient halls. These women might argue that, in the circumstances, overtreatment is that which requires them to commit, say, four or five afternoons rather than two.

A related issue is the fact that most women dislike vaginal examinations, but some of the most potentially vulnerable women—for example, those who have been sexually abused in childhood or adulthood—experience not just anxiety, but panic under gynaecological examination. They do their best to avoid examination, putting their longer term health at risk. Wilkins and Coid noted that of a sample of 74 women from the same prison, 15% reported being incest victims, 24% other sexual abuse in childhood, 34% sexual assault in adulthood, and nearly one third current evasion of sexual activity.<sup>3</sup> These are likely to be underestimates but do give some indication of the risk of phobic avoidance of repeated gynaecological procedures.

#### Proper consent

The balance of considerations might be different if the proposed intervention were to carry a risk of serious side effects, or if it was destructive and irreversible. But for the situation presented here, it seems to me that there is hardly a dilemma at all, provided that the women have given informed consent. A recent survey of psychiatric disorder among women serving a prison sentence showed that, although rates of psychiatric illness were high, few women had illnesses likely to impair their competence for making decisions about medical treatment.<sup>4</sup> They will, however, need information about the physical nature of the procedure, its physical consequences, and the population adjusted physical risks of not attending to the warning signs found in the cervix; they also should have information about the time commitments that the different approaches will entail and the risk that, whatever their intentions at the time of discussion, they may not return for follow up. If despite this the woman chooses a conservative approach her doctor must accept that. Only if the woman were mentally incapable of making such a decision would there be any case for medical paternalism (or maternalism), although it would require careful legal consideration. There is no ready procedure for cover against a possible suit for battery in treating a patient with incapacitating