doctor, none had received specific instructions on its use or information on its likelihood of success. Patients' expectations of hospital treatment were unrealistic (most expecting cure after one treatment), and examination of the referral letters suggested that referring doctors' expectations were similarly optimistic.

The age distribution of our patients was similar to that in the study of Drs Keefe and Dick (median 19, interquartile range 14-30). A survey of 80 patients attending a representative general practice in Nottingham with viral warts (confirmed by a dermatologist) gave significantly different age ranges (median age 13, interquartile range 8-19), suggesting that there is some selection on the basis of age by general practitioners in their decision to refer.

There is no uniformly successful treatment for viral warts. If we accept that treatment is justified and that all are equally effective if used properly the most simple means of improving the current situation is for general practitioners to use simple topical treatments in ways which have been clearly shown to be effective. This action would have reduced referrals to our clinic by at least half. The availability of liquid nitrogen to the community as suggested would produce a further considerable reduction.

This is one problem ideally suited to treatment in general practice. The age distributions of the hospital and general practice populations in our study suggest that general practitioners already have some awareness of the natural course of the problem, at least in young children. Simple education to disseminate this and to ensure appropriate action would be more valuable than any other additional measure or expense.

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SIR,—I have described elsewhere an audit of cryotherapy for warts in NHS general practice.¹ Its primary aim was to prevent unnecessary referral to hospital. In Oxford local general practitioners are supplied liquid nitrogen free of charge from the hospital. It is a pity that this offer is not more widespread.

My audit suggested that boredom is a real problem in treating warts in general practice and recently I have used our clinic nurse more effectively. Biopsy specimens can easily be taken from any doubtful lesions as I am available while the nurse runs the clinic. Nevertheless, despite the fact that liquid nitrogen is as cheap as beer,² the collection from hospital is tedious and time consuming. A large storage vessel (holding 50 litres and costing £400) can hold liquid nitrogen for three to four months and is ideal for group practices; a single fill from British Oxygen Company costs £60 at 1988 prices. Thus about three fills a year could meet our needs for one year.³

In short, to manage warts in general practice we need free liquid nitrogen (from the hospital or reimbursed by the family practitioner committee), clinics run by practice nurses but with a doctor available, and equipment at hand for any necessary biopsies.

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- 1 Masters NJ. An audit of wart cryotherapy. *Modern Medicine* 1987 Aug;581.
- 2 Wilkie T. Magnetic force that could make trains fly. *Independent* 1987 Oct 19:15.
- 3 Steele K. Primary dermatological care in general practice. *J R Coll Gen Pract* 1984;34:22-3.

SIR,—We have developed our own response to the increasing demand for dermatological services in the face of fixed resources by training our nurses to do minor surgical procedures.

The department of dermatology in Huddersfield is staffed by one consultant, three clinical assistants providing eight sessions, and four nurses for a catchment population of 215 000. The two most senior nurses (a sister and a state enrolled nurse) were trained in minor dermatological procedures by the consultant and then certified by him and the chief nursing officer on satisfactory completion of training. After certification they were able to treat patients unsupervised but only after diagnosis and prescription of treatment by one of the medical staff. The procedures the nurses can perform are punch biopsy of skin, cautery, electrodesiccation and fulguration, curettage and cautery, cryotherapy with liquid nitrogen, and shave excision and cautery; and they have been trained to treat viral warts, seborrhoeic keratoses, solar keratoses, skin tags, benign melanocytic naevi, pyogenic granulomas, and spider naevi.

The system has been operating for nine months, and patients so far treated include 30 with skin tags, eight who have undergone punch biopsy, and 120 who have undergone curettage, cautery, and shave excision. In addition 47 patients are currently attending for cryotherapy with liquid nitrogen every three or four weeks, and several more have been successfully treated and discharged. Some of the patients treated by the nurses have had multiple lesions, which are time consuming to treat.

The system seems to be successful with no evidence of dissatisfaction on the part of the patients. We cannot say that more patients have been treated than before but the system offers the advantages of increasing the nurses' satisfaction, allowing us to distribute the work more flexibly, and allowing the medical staff to spend more time with patients suffering from dermatoses. We do not intend to offer a referral service to the nursing staff for treatment of warts because, apart from the slight risk of misdiagnosis, there is the greater risk of swamping the service.

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Clinical experimentation in obstetrics

SIR,—Professor Denis Hawkins's condemnation of the use of randomised clinical trials in obstetrics and perinatology (23 January, p 291) came as a surprise from an academic obstetrician who, in the past, fostered a spirit of rigorous scientific inquiry in postgraduate students of a speciality which all too often relies on "lies, damn lies and clinical impressions."

In the opening issue of the *Journal of Obstetrics and Gynaecology*, of which Professor Hawkins is editor, he published a review of the controversy surrounding the delivery of the preterm breech which highlighted the bias and confusion caused by non-randomised, uncontrolled, observational studies.¹ Eight years later the controversy remains, soluble only by a randomised trial, which, as he states in his letter, will require large numbers and proceed at "a pedestrian rate." Neither obste-

tricians, neonatologists, nor parents would agree that the question of whether all preterm infants presenting by the breech should be delivered by caesarean section is "inappropriate or that the answer is not worth having."

The women's magazines do not always get it right; an apparently harmless intervention espoused by the popular press, the birthing chair, proved when evaluated by randomised trials to be associated with an excess risk of haemorrhage.² More sinister and far reaching adverse effects have occurred in the past when obstetricians and paediatricians have adopted apparently valuable innovations without having evaluated them with randomised trials. The Medical Research Council's chorion villus biopsy trial reflects a desire among modern European obstetricians not to repeat the diethylstilboestrol disaster or the retrolental fibroplasia tragedy.

With the falling perinatal mortality rates of late twentieth century obstetrics it is unlikely that we will see many innovations as dramatically beneficial as the introduction of anti-D immunoglobulin. Small improvements in mortality, morbidity, and patient satisfaction will become increasingly relevant. These outcomes, and any unforeseen hazards of the innovations from which they result, will be adequately measured only by large randomised trials, which by their nature will be unglamorous, pedestrian, and unlikely to bring the fame of authorship to their collaborators. Those of us who wish to improve the quality of the service we offer to women and babies will continue to regard them as important.

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- 1 Crowley P, Hawkins DF. Premature breech delivery—the caesarean section debate. *Journal of Obstetrics and Gynaecology* 1980;1:2-6.
- 2 Roberts J. Position and pushing for second stage. In: Keirse MJMC, Enkin M, Chalmers I, eds. *Effective care in pregnancy and childbirth*. Oxford: Oxford University Press (in press.)

SIR,—Professor Denis Hawkins (23 January, p 291) believes that randomised trials are a "lost cause" and that they can be replaced by uncontrolled studies combined with complex statistical modelling. Is he merely being provocative in the hope of promoting a discussion?

The very strength of controlled clinical trials is that we may directly infer causation between differences in treatment and differences in outcome, an interpretation that is not necessarily valid with other research designs. Uncontrolled studies are open to numerous biases¹ which can distort the findings. We cannot just plug the data into a computer program, perform a complex multivariate analysis, and take the answer as correct. The idea that such analyses necessarily provide "meaningful and causal associations" is dangerous. Statistical modelling is indeed valuable when it is impossible to collect experimental data, as in epidemiological research or retrospective clinical studies, but these methods need to be applied and the results interpreted with great caution. Professor Hawkins's lack of understanding of statistics is further illustrated by his remarkable suggestion that random allocation is less efficient statistically than alternate allocation. While he does not say what he means by efficient, there is no way that alternate allocation is better except in convenience. He also suggests that if a controlled trial requires a very large number of cases the answer is not worth having. Small effects in large sections of the population, relevant in obstetrics and cardiology, for example, are certainly worth knowing about.