onwards preventive activities were undertaken among homosexual men in The Netherlands to try to avoid the spread of AIDS such as that seen in the United States. There is little doubt that this influenced the sexual behaviour of homosexual men, which in turn reduced the transmission of HIV.

Additional evidence for this line of reasoning exists in the decrease in the number of men with acute hepatitis B and early syphilis. In 1984-7 these numbers decreased from 23 to 8 and from 92 to 31/100 000 men. Contact tracing showed that in many of these cases the diseases were acquired homosexually. These facts show that the sexual behaviour of homosexual men in Amsterdam started to change early in the epidemic in comparison with that in big cities in the United States.^{14 15} A considerable percentage of homosexual men in the United States had already been infected with HIV by the time the AIDS epidemic was recognised and sexual behaviour could be changed. The differences in prevalence of HIV infection between the Amsterdam cohort and the San Francisco city clinic cohort show that early preventive activities may have a huge impact on the transmission of HIV. Amsterdam, as well as some large cities in the United States and Europe, has a strong homosexual community, in which preventive activities specifically directed at homosexual men can be carried out, often by homosexual organisations with the aid of private and government funding.

As a result of the earlier interventions in Europe a smaller proportion of homosexual men in this continent has become infected with HIV than in the United States. Additional evidence for this hypothesis is found in a study among homosexual men in London, in which the prevalence of HIV antibody remained fairly stable at about 25% in 1986 after a rise from 3.7% in 1982 to 18.1% in 1985.¹⁶ Probably in the near future homosexual men will constitute a relatively smaller proportion of the total number of patients with AIDS in Europe than in the United States. This in turn has consequences for interpreting the relative growth and decline of other groups at risk of HIV infection in the Western world. Finally, we conclude that early

preventive activities can be effective and that, at least in Amsterdam, they have considerably restricted the number of cases of AIDS among homosexual men.

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- 1 Prummel MF, Ten Berge RJM, Barrowclough H, Cejka V. Kaposi'saroom en dodelijke opportunistische infecties bij een homoseksuele man met een deficient immuunapparaat. *Ned Tijdschr Geneesk* 1983;127:820-4.
- 2 Anonymous. *Aids surveillance in Europe*. Paris: WHO Collaborating Centre, 1987. (Quarterly report No 16:31 December 1987.)
- 3 Van Griensven GJP, Tielman RAP, Goudsmit J, et al. Riskfactors and prevalence of HIV antibodies among homosexual men in The Netherlands. *Am J Epidemiol* 1987;125:1048-57.
- 4 Van Griensven GJP, De Vroome EMM, Tielman RAP, et al. Impact of HIV antibody testing on changes in sexual behavior among homosexual men in the Netherlands. *Am J Public Health* 1988;78:1575-7.
- 5 De Wolf F, Lange JMA, Goudsmit J, et al. Effect of zidovudine on serum human immunodeficiency virus antigen levels in symptom free subjects. *Lancet* 1988;i:373-6.
- 6 Lange JMA, Coutinho RA, Krone WJA, et al. Distinct IgG recognition patterns during progression of subclinical and clinical infection with lymphadenopathy associated virus/human T lymphotropic virus. *Br Med J* 1986;292:228-30.
- 7 Coutinho RA, Lelie N, Albrecht-Van Lent P, et al. Efficacy of a heat inactivated hepatitis B vaccine in male homosexuals; outcome of a placebo controlled double blind trial. *Br Med J* 1983;286:1305-8.
- 8 Coutinho RA, Krone WJA, Smit L, et al. Introduction of lymphadenopathy associated virus or human T lymphotropic virus (LAV/HTLV III) into the male homosexual community in Amsterdam. *Genitourin Med* 1986;62:38-43.
- 9 Schwartz D, Flamant R, Lellouch J. *Clinical trials*. New York: Academic Press, 1980.
- 10 Draper NR, Smith H. *Applied regression analysis*. New York: Wiley, 1981.
- 11 Stevens CE, Taylor PE, Zang EA, et al. Human T-cell lymphotropic virus type III infection in a cohort of homosexual men from New York City. *JAMA* 1986;255:2167-72.
- 12 Winkelstein W, Samuel M, Padian NS, et al. The San Francisco men's health study. III reduction in human immunodeficiency virus transmission among homosexual/bisexual men, 1982-1986. *Am J Public Health* 1987;77:685-9.
- 13 Centers for Disease Control. Acquired immunodeficiency syndrome in the San Francisco cohort study, 1978-85. *MMWR* 1985;34:573-5.
- 14 McKusick L, Horstman W, Coates TJ. AIDS and sexual behavior reported by gay men in San Francisco. *Am J Public Health* 1985;75:493-6.
- 15 Centers for Disease Control. Self reported changes in sexual behaviors among homosexual and bisexual men from the San Francisco city clinic cohort. *MMWR* 1987;36:187-9.
- 16 Carne CA, Johnson AM, Pearce F, et al. Prevalence of antibodies to human immunodeficiency virus, gonorrhoea rates and changed sexual behaviour in homosexual men in London. *Lancet* 1987;i:656-8.

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Problems of diabetics in prison

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Abstract

Providing care for diabetics is difficult in prison. Six diabetic prisoners or former prisoners were seen whose care was difficult or unsatisfactory. Three had multiple admissions to hospital during their sentences with diabetic ketoacidosis that they induced themselves by not taking insulin. The motive seemed to be removal from prison to the fairly pleasant surroundings of the local hospital. A fourth prisoner required admission in a hyperglycaemic, hyperosmolar state that had gone unnoticed as he was thought to be "acting up." The two others had imperfect long term management of diabetes during their sentences.

There is clearly room for improvement in diabetic services in British prisons, but manipulative behaviour on the part of some diabetic prisoners may remain a problem.

Introduction

Recent reports have expressed concern over inadequacies in the present system of health care in

British prisons.¹⁻³ The problems are complex and emotive, and audits of prison health care by outside bodies are rare. In this report we draw attention to difficulties in managing diabetes in a prison environment and give case reports from our diabetic clinics, located near one of Britain's largest prisons.

Case reports

SELF INDUCED KETOACIDOSIS (CASES 1-3)

A 44 year old man with insulin dependent diabetes of 13 years' duration (case 1) was serving a five year sentence. He was admitted to the local hospital six times with ketoacidosis. He was later found to have avoided taking insulin by squirting it into his clothes during supervised injections. He was also in contact with two other imprisoned men with type I diabetes (cases 2 and 3) and taught them this method of inducing ketosis, leading to a minor epidemic that caused severe disruption to both prison and hospital staff. One of these men (case 2) was admitted to hospital three times and the other twice with ketoacidosis induced by protest refusals of food and

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insulin. In case 2 the man was first admitted with severe ketoacidosis (pH 7.04, blood glucose concentration 57.6 mmol/l, and plasma potassium concentration 7.0 mmol/l) and was resuscitated from a cardiac arrest in ventricular fibrillation. Despite this he went on to induce two further episodes of ketoacidosis requiring admission.

UNRECOGNISED METABOLIC DECOMPENSATION (CASE 4)

A 48 year old prisoner with type I diabetes of 18 years' duration had diabetic neuropathy with loss of sensation in his feet. A visiting doctor was asked to see him because he was "acting up." He was confused, drowsy, and dehydrated and had several burns on his feet, probably from central heating pipes. Immediate admission to hospital was arranged, where he was found to be in a hyperosmolar state (blood glucose concentration 39.0 mmol/l, plasma potassium concentration 5.0 mmol/l, pH 7.35, plasma bicarbonate concentration 19.7 mmol/l, plasma urea concentration 44.0 mmol/l). This state seemed to have developed insidiously, and there was no evidence that he had omitted taking insulin. He recovered but required prolonged inpatient care for skin grafting to his feet.

SUBOPTIMAL DELIVERY OF CARE (CASES 5 AND 6)

A 26 year old unemployed man who abused drugs and alcohol (case 5) presented to a diabetic clinic with thirst and polyuria of recent onset. A random blood glucose concentration gave equivocal results, and results of a glucose tolerance test led to a diagnosis of diabetes. Before he returned for the results he was arrested and subsequently imprisoned. On release 18 months later he returned to the same clinic and was found to have lost weight, and to be hyperglycaemic (blood glucose concentration 19.2 mmol/l). Treatment with glibenclamide was ineffective, and insulin injections were started. He claimed to have had little or no medical care in prison, but he was an unreliable witness and inquiries showed that he had in fact seen prison doctors on many occasions. Several random estimations of capillary blood glucose concentrations had been done (always by glucose meter), and he had been treated with a prison diabetic diet. At no time during his sentence had he been assessed at a diabetic clinic that had appropriate laboratory back up.

A 46 year old man with type I diabetes of 13 years' duration (case 6) usually attended his local diabetic clinic regularly. Over eight years, however, he served four separate prison sentences of six to 12 months and missed 17 clinic appointments. During his imprisonment he was only once referred to a diabetic clinic. Each time he was released considerable time and effort were required to control his diabetes and assess for complications. His weight rose from 56 to 60 kg and 60 to 64 kg during separate sentences of six to nine months. After his most recent release he was changed from beef to human insulin and given re-education by a dietitian and diabetic nurse. In the six months after this release his haemoglobin A₁ concentration fell from 9.8% to 8.9% (reference range 5.0-7.5%).

Discussion

The present prison population of the United Kingdom is large, and most prisoners are men aged 15-50. A survey in 1984 found 279 diabetics in a population of about 45 000 prisoners (J Kilgour, personal communication). This suggests a prevalence of no more and possibly a little less than that in the normal population of this age.

There are deliberately no written regulations for managing diabetics in jail, both to allow flexibility and to protect the doctor-patient relationship. A similar philosophy exists in other prisons in Europe. Prison

diets, however, are rather unsuitable and not specifically prepared for diabetic prisoners. Self monitoring of blood glucose concentration is not usually allowed, and insulin injections are supervised. Though small amounts of glucose are available, hypoglycaemia during "lock up" is a persistent fear among insulin dependent diabetic prisoners. Routine assessment of control and subsequent adjustment of treatment are rare. Problems are dealt with as they arise by prison medical officers, who may refer prisoners to a visiting doctor (who may have little interest in or knowledge of diabetes) or in urgent cases may request admission to the local hospital.

Most patients with type I diabetes in our area attend outpatient diabetic clinics, which to a greater or lesser extent fulfil the aims of modern diabetic care (patient education, self monitoring, pursuit of optimal glycaemic control, and detection and treatment of complications) and are run by teams of specially trained doctors, nurses, dietitians, and chiropodists. This modern diabetic management, particularly for a patient taking insulin, thus ceases during a prison sentence. It seems unfair and undesirable to add to a prison sentence the punishment of suspended diabetic care.

The lack of specialised services may lead to important problems in glycaemic control, as in cases 5 and 6. The clinical deterioration in case 5 probably went unnoticed because of overreliance on an outdated blood glucose meter. Problems of accuracy in measuring blood glucose concentrations outside the laboratory are well known,⁴ and no measurements were made of this man's haemoglobin A₁ concentrations during his 18 month sentence. In case 6 the interruption of routine outpatient care caused considerable extra work to NHS services after each release. The patient's increase in weight in prison was probably related to the high energy diet and lack of exercise.

The cases of self induced ketoacidosis illustrate a different problem of diabetic care in prison. One of the men admitted that his motive for inducing ketoacidosis was simply to have a few days in the more pleasant hospital environment. There is little that prison staff can do when such patients refuse insulin or diet, or both, and their manipulative advantage is thus considerable. This is similar to the strategy of a small subgroup of patients with "brittle" diabetes described recently: young, female patients with type I diabetes who induce recurrent ketoacidosis to be able to stay in hospital.⁵ The frequent occurrence of factitious diabetic instability in prison can cause difficulties for staff when prisoners have genuine problems. For example, one man (case 4) was thought to be acting up when he was actually in a hyperglycaemic, hyperosmolar precoma. This illustrates the difficulties that face prison medical staff when men present with vague symptoms or unusual behaviour.

There are thus difficulties on both sides. The main conclusions from our experience are that modern diabetic management in prison is difficult or impossible, diabetes is an ideal manipulative tool for a discontented prisoner, and self induced diabetic instability may lead to genuine illness being misinterpreted. Future improvements in prison diabetic services must entail greater input from local NHS diabetic services. Prisoners could attend the neighbouring clinic, or hospital staff could visit the prison on a regular basis. Perhaps a diabetic miniclinic could operate in larger prisons, though there are logistic and contractual difficulties in providing consultants, dietitians, nurses, and chiropodists for regular sessions in prison. Use of the diabetic clinic in the local NHS hospital is a more workable option, though even this places a strain on prison wardens.

A further, more radical, option for change would be the concentration of all diabetic prisoners (or, more

practically, insulin dependent diabetics) in a single jail near to a well staffed diabetic clinic. The extra workload would require extra NHS resources. The basic concept of this type of care is not new; the Wormwood Scrubs Annexe has been operating successfully for some time and caters solely for prisoners who have committed sex offences or have drug or alcohol problems. Among diabetic prisoners, however, manipulative behaviour might escalate to disastrous proportions. In addition, visiting by relatives and provision of varying degrees of security would be difficult with this type of single prison.

A compromise solution, which is potentially achievable, is to place diabetic prisoners treated with insulin in selected jails close to large, active diabetic clinics, to which these prisoners could be taken for routine care. For type II diabetes a simple programme of organisation and education for prison medical officers should facilitate adequate care for patients without recourse to the diabetic clinic unless problems arise. This system would be analogous to programmes of diabetic care based in general practice, which are now being widely developed in the United Kingdom.⁶

We have discussed these options with local and national prison medical authorities and hope that some form of structured care for imprisoned diabetic patients will result. Changes to the present system require careful thought and consideration, and discussion on these issues is welcome.

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- 1 Smith R. *Prison health care*. London: British Medical Association, 1984.
- 2 Prison Reform Trust. *Prison medicine*. London: Prison Reform Trust, 1985.
- 3 Anonymous. The future of the prison medical service [Editorial]. *Lancet* 1985;iii:755-6.
- 4 Burrin JM, Newton-Adair I, Fyffe JA. Performance of the Reflocheck system used outside the laboratory by trained non-laboratory personnel. *Practical Diabetes* 1987;4:167-8.
- 5 Gill GV, Husband DJ, Walford S, Marshall SM, Home PD, Alberti KGMM. Clinical features of brittle diabetes. In: Pickup JC, ed. *Brittle diabetes*. London: Blackwell, 1985:29-40.
- 6 Home P, Walford S. Diabetes care: whose responsibility? *Br Med J* 1984;289:713-4.

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Counselling in a general practice setting: controlled study of health visitor intervention in treatment of postnatal depression

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Abstract

Objective—To determine whether counselling by health visitors is helpful in managing postnatal depression.

Design—Controlled, random order trial.

Setting—Health centres in Edinburgh and Livingston.

Patients—Sixty women identified as depressed by screening at six weeks post partum and by psychiatric interview at about 13 weeks post partum. Five women did not wish to participate, and a further five did not complete the trial. Age, social and obstetric factors, and diagnosis were similar in women who completed the trial and those who withdrew.

Intervention—Eight weekly counselling visits by health visitors who had been given a short training in counselling for postnatal depression.

End point—Reduction of depression.

Measurements and main results—Standardised psychiatric interviews and a 10 point self report scale were used to identify depression before and after intervention. The psychiatrist was not told to which group women were allocated. After three months 18 (69%) of the 26 women in the treatment group had fully recovered compared with nine (38%) of the 24 in the control group. The difference between the groups was thus 32% (95% confidence interval 5 to 58).

Conclusions—Counselling by health visitors is valuable in managing non-psychotic postnatal depression.

Introduction

Postnatal depression affects 12-15% of mothers and may mark the onset of long standing psychiatric disorder.¹⁻³ Maternal depression has been found to have adverse effects on the behavioural, intellectual, and emotional development of children,^{4,7} and general

practitioners have shown the importance of postnatal depression in primary care.^{8,9} The role of psychosocial factors in the aetiology of postnatal depression has been clearly demonstrated,^{1,3} and research findings support the view that "therapeutic listening" and extra support may be particularly helpful in depression occurring at this time. Snaith pointed out that what most women with depression after childbirth need is extra support and someone to listen.¹⁰ Similar observations were made by Kumar and Robson,² Elliott,¹¹ and Cox.¹² Cutrona and Troutman showed that social support protects against postnatal depression,¹³ and Barnett and Parker found that anxiety in first time mothers can be reduced by professional support.¹⁴ Solom and Bromet assessing the vulnerability model of Brown and Harris¹⁵ suggested that lack of a confiding relationship may be an important area for intervention in the treatment of depressive disorder.¹⁶

Corney found that health visitors can help alleviate depression by visiting clients frequently and encouraging the expression of feelings.¹⁷ Hennessy, however, found that health visitors had recognised only 27% of mothers she identified as depressed,¹⁸ and Briscoe and Williams observed that health visitors should be given opportunities to develop their counselling skills.¹⁹ We therefore decided to carry out a randomised controlled trial to determine the effectiveness of counselling by health visitors given a brief training in the management of postnatal depression.

Subjects and methods

THE HEALTH VISITORS

All the 17 health visitors working in three health centres in Edinburgh and two in Livingston agreed to take part in the trial, with the support of general practitioners and nursing management. The health visitors were a well qualified group in terms of professional and life experience. They had worked as health visitors for a mean of 6.8 years (range 2-12), and,

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