

Study of STD clinic attenders in England and Wales, 1978

1 Patients versus cases

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SUMMARY A study was carried out to quantify and describe patients seen in sexually transmitted diseases clinics in England and Wales during 1978. Nine per cent of male patients were homosexual and 58% of female patients were under 25 years compared with only 42% of heterosexual men. Homosexual men had a higher mean number of cases per patient during the year than heterosexual men or women, largely because they were more likely to have multiple episodes of disease. Female patients also had a higher mean number of cases than heterosexual men, because they often had several concurrent infections. There were 100 000 fewer patients than cases (332 000 compared with 432 000); 41% were seen in clinics in London.

These findings show that current statistics for STDs are inadequate. Some quantification and categorisation of patients treated would be useful in analysing the trends in the incidences of the STDs.

Introduction

Although sexually transmitted diseases (STDs) are not statutory notifiable diseases, physicians in charge of STD clinics within the United Kingdom are required to make quarterly returns to the chief medical officers of their respective countries. These returns, which are made on a standard form (SBH60), show the numbers of new cases of specified STDs and are the basis of the statistics published annually.

As measures of the incidence of such diseases, however, these statistics have several deficiencies. They do not include cases treated outside STD clinics nor asymptomatic infections for which patients have not sought medical care. They relate only to cases and not to patients, which means that one person can reappear several times in the published statistics for that year and for a number of different reasons. They may have more than one disease diagnosed at the same time or they may contract one or more diseases on several separate occasions during the year. There may sometimes be difficulty in differentiating a re-infection, which should be counted as a new case, from a relapse, which should not.

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The probable consequence of these factors is that the number of cases reported is an overestimate of the size of the problem in terms of the number of people affected. This leads to difficulties in the design of health education and control programmes, since it is not known whether STDs are as widespread as the figures might suggest or whether they are limited to a much smaller and potentially well-defined or high-risk group. The present study was designed to answer this question by estimating the number of patients treated in STD clinics in England and Wales during 1978 and examining the distribution of cases among them. In 1978, these clinics accounted for over 90% of all cases treated in the United Kingdom.

Methods

A sample of all patients treated in STD clinics in England and Wales during 1978 was drawn in two stages, clinics being selected at the first stage and patients within selected clinics at the second. Before the study was designed copies of the four SBH60s returned in 1976—the latest complete year available—were obtained from the Department of Health and Social Security (DHSS). The stratification of clinics described below was based on the total number of cases seen in each clinic during 1976.

NUMBER AND SIZE OF CLINICS

There were 192 clinics in England and Wales at the beginning of 1978. Seven clinics in which fewer than 100 cases were seen annually were excluded from selection as were four which opened after the study was planned, two in which only male patients were seen, and 14 for which the information required for stratification was unavailable. Of the remaining 165 clinics, 25 were in Greater London. Since these clinics accounted for 40% of cases in England and Wales they were all included in the sample. The 140 clinics outside London were allocated to one of three strata according to the total number of cases returned to the DHSS: 500 or less (48 clinics), 501-1000 (33), and more than 1000 (59). The 81 clinics in the first two strata accounted for just under 10% of all cases; thus, few of these clinics (eight and five respectively) were included in the sample. Twenty-two clinics were selected from the third stratum to bring the total number in the sample to 60. Within each stratum clinics were selected systematically, having been listed in order of area (North, West Midlands, East Midlands, South, South-west, and Wales).

SAMPLING

With the consent of the consultants in charge, the sample clinics were visited by one of us (EMB), or one of two research assistants, between January and June 1979, and a systematic sample of patient notes drawn in each. Since the proportion of clinics included differed between strata outside London (8/48, 5/33, and 22/59), the proportion of patient notes selected was also varied to ensure that every patient seen in an STD clinic in England and Wales during 1978 had an overall probability of inclusion in the sample of 1/40. In London, where clinics were selected with certainty, this meant that the sampling rate for patients was 1/40 in all clinics.

From the selected notes the patient's sex, sexual orientation, and age at first attendance in 1978 were recorded together with the date and diagnosis returned on the SBH60 for every case occurring in

1978. During a pilot study, occasional omissions or errors in the diagnostic category used to return a case to the DHSS or Welsh Office were found. Additional or correct diagnoses were, therefore, recorded when appropriate. Fieldworkers were given strict instructions that the correct diagnosis should only differ from that returned if there was clear evidence in the notes that the latter was in error. The results reported below are based on the correct numbers of cases. After completion of the study copies of the SBH60s returned by all clinics in England and Wales in 1978 were obtained from the DHSS and Welsh Office.

A disease episode is defined as an initial visit to the clinic at which one or more positive diagnoses are made. Thus, if a patient returned to the clinic for follow-up investigations a week later and was found to have a fresh infection, this would be counted as a separate disease episode.

Results

SIZE OF SAMPLE

The clinics excluded from selection (27) accounted for only 28 782 (7%) of the 416 635 cases returned from all STD clinics in England and Wales during 1978. One of the 60 sample clinics closed during 1978, and one consultant in charge of two clinics refused to take part in the survey. Fieldwork in the remaining 57 clinics resulted in a sample of 7032 patients (4361 men and 2671 women), in whom 9155 cases (5480 male and 3675 female) were seen. There were so few bisexual men (55) that they have been included with homosexual men in all analyses. The findings reported below have been weighted to adjust for patients and cases seen in the 27 clinics originally excluded from the study and in the three clinics which were not visited.

SEXUAL ORIENTATION

Nine per cent of all male patients were homosexual; they accounted for 10% of all male cases. The

TABLE 1 Age distributions of patients

Age (years)	Men					
	Heterosexual		Homosexual		Women	
	%	SE	%	SE	%	SE
19 and under	11.6	0.7	5.7	1.1	23.0	1.1
20-24	30.3	0.9	22.6	2.0	35.1	1.2
25-29	23.2	0.6	24.6	3.0	19.8	0.8
30-34	14.7	0.5	21.3	2.4	9.7	0.7
35-39	7.4	0.4	10.2	1.1	5.5	0.5
40 and over	12.3	0.4	15.4	2.2	6.2	0.4
Not known	0.5	0.4	0.2	0.3	0.6	0.2
Total	100.0	0.0	100.0	0.0	100.0	0.0

SE = Standard error

heterosexual/homosexual breakdown of male patients differed considerably between clinics in London and those in the rest of England and Wales. In the latter, less than 5% of male patients were homosexual but in London this proportion was 15%.

AGE DISTRIBUTION

The age distributions of the patients are shown in table I. Homosexual men tended to be older than heterosexual men, whereas women were slightly younger. Nearly one-half of homosexuals were aged 30 or over compared with one-third of heterosexual men and less than one-quarter of women; 58% of female patients were under 25.

MEAN NUMBERS OF CASES/PATIENT

The mean numbers of cases per patient are shown in the figure. At all ages homosexuals had a higher mean number of cases during the year than heterosexual men. In each of the age groups women had more cases on average than heterosexual men but, with the exception of the 20-24 year-olds, had fewer

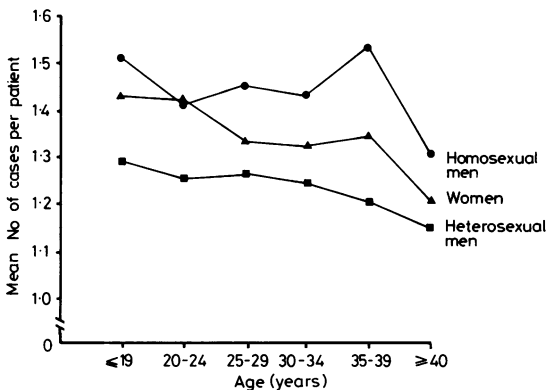


FIGURE Mean number of cases per patient by sex, sexual orientation, and age.

cases than homosexuals. Among heterosexual men and women there was a downward trend in the mean number of cases with increasing age. In homosexual patients, however, this trend was not evident.

CASES AND DIAGNOSES

A "case" is not always synonymous with a positive diagnosis. The SBH60 contains over 30 diagnostic categories, including one entitled "other conditions not requiring treatment." Twenty-four per cent of all cases were returned under this heading in 1978. Such "cases," however, are largely accounted for by patients who attend for a check-up and are found to be free of infection. Equally important, a patient with—for example, two "cases"—may not have had two episodes of disease but may have had two positive diagnoses made concurrently, or a positive diagnosis on one occasion and a check-up without disease on another, or even two separate check-ups neither of which resulted in a positive diagnosis.

DISEASE EPISODES

To clarify the situation and identify high-risk patients in terms of multiple episodes of disease, patients were divided into four categories (table II). Patients in the first category (60% of heterosexuals, 52% of homosexuals, and 54% of women) had only one positive diagnosis during the year.

Those in the second category had two or more positive diagnoses which were all made concurrently. Thus, patients in both categories had only one episode of disease, although a few patients in each also attended the clinic for a check-up on a separate occasion and were then found to be free of infection. The earlier finding that women had a higher mean number of cases per patient than heterosexual men is explained by the fact that they were more likely to have two or more concurrent positive diagnoses (11% compared with 5%). Just under two-thirds of both groups had only one disease episode.

TABLE II Distribution of positive and negative diagnoses and disease episodes by sex and sexual orientation

Category of patient	Men				Women	
	Heterosexual	Homosexual	%	SE	%	SE
One positive diagnosis	59.6	51.6	53.7	1.0	53.7	1.1
Two or more concurrent positive diagnoses	4.5	3.6	11.0	0.5	11.0	0.9
Total (one disease episode)	64.1	55.2	64.7	1.1	64.7	1.2
Two or more disease episodes	10.3	15.5	11.9	0.7	11.9	0.8
Total (one or more positive diagnoses)	74.4	70.7	76.6	1.1	76.6	1.2
One or more negative diagnoses	25.6	29.3	23.4	1.1	23.4	1.2
Total	100.0	100.0	100.0	0.0	100.0	0.0

SE = Standard error

Fifteen per cent of homosexuals but only 10% of heterosexual men fell into the third category of patients who had two or more separate episodes of disease. Homosexuals also visited the clinics for a check-up when uninfected more often, however, than heterosexual men and women.

The fourth category comprised patients whose case or cases were returned under the heading of "other conditions not requiring treatment". About one-quarter of all heterosexual male and female patients and nearly 30% of all homosexuals seen in STD clinics in England and Wales during 1978 had no disease diagnosed or treated.

NUMBERS OF CASES COMPARED WITH PATIENTS

Comparison of the returned and correct numbers of cases in the sample showed that cases were under-reported to the DHSS by 3.6%. This finding can be used, together with the numbers of male and female cases returned on the SBH60s and the results given above, to estimate the numbers of patients and correct numbers of cases seen in STD clinics during 1978. There were approximately 100 000 fewer patients than cases (53 000 male and 46 000 female) (table III). Forty-one per cent of patients, accounting for 43% of cases, were seen in London clinics. Nearly 70% of homosexual patients attended London clinics compared with 37% of heterosexual men and 44% of women.

Discussion

These findings indicate that female patients seen in STD clinics are younger than heterosexual male patients. One possible explanation for this difference is that girls have their first experience of sexual intercourse, and thus first exposure to the risk of contracting an STD, at an earlier age than boys. This, however, seems unlikely. In a sample of 16-19

year-olds interviewed in 1974, 55% of boys said they were sexually experienced compared with only 46% of girls.¹ It must be stressed that our data relate only to those who seek care within STD clinics and that their age distribution does not necessarily represent the true age distribution of STDs. Teenage girls may seek treatment at an STD clinic more often than boys because they are less willing to visit their family general practitioner.

That homosexual male patients are older than heterosexuals may be accounted for by a difference in age at first exposure to risk. Schofield² suggested that between the ages of 16 and 19 boys with homosexual tendencies go through "a period of shame and guilt combined with a strong determination to combat these inclinations" and only begin to accept themselves in their early 20s. This guilt may manifest itself by modified and lower-risk sexual practices (in terms of infection), such as mutual masturbation, with anal intercourse being delayed to a later age. Equally, homosexuals may continue to be exposed to risk later in life than heterosexuals, who will presumably make fewer partner changes as they get older and marry. The age difference could, however, also be due to the unwillingness of homosexual patients under 21 to attend clinics or, if they do, to admit to activities which are, after all, illegal. This would mean that physicians should be especially careful to elicit the correct sexual orientation of young male patients, so that specimens are taken from the site or sites at risk.

Little previous work has been carried out with which to compare the cases per patient findings of this study. A study of all new patients attending the STD clinic at the Royal Victoria Hospital, Belfast, during 1969 showed that there were 2093 diagnoses among 1753 patients, a mean of 1.2 cases per patient.³ In 1971, a sample of 1071 patients taken at the Praed Street Clinic, St Mary's Hospital, London, contributed 1909 cases (1.8 per patient).⁴ The

TABLE III *Estimated numbers of patients and cases seen in STD clinics in 1978 by sex, sexual orientation, and area*

	<i>Rest of England and Wales</i>		<i>London</i>		<i>All clinics</i>	
	<i>No</i>	<i>SE</i>	<i>No</i>	<i>SE</i>	<i>No</i>	<i>SE</i>
Patients						
Heterosexual men	120610	2125	70230	2205	191345	3106
Homosexual men	5873	697	12640	1123	18131	1338
All men	126483	2212	82870	1430	209476	2668
Women	68804	1688	54743	801	123563	1854
Total	195287	2782	137613	1639	333039	3249
Cases						
Heterosexual men	146376	918	89939	2464	236721	2580
Homosexual men	7707	927	18693	2178	25807	2395
All men	154083	810	108632	1363	262528	1565
Women	92135	778	77618	771	169733	1102
Total	246218	1123	186250	1566	432261	1914

SE = Standard error

sampling method used in the latter study meant, however, that the more often a patient attended the clinic the more likely he or she was to be included in the sample, so that patients with more than one case were probably overrepresented. Certainly, our own finding is that the mean number of cases never reached 1.8 in any sex or age grouping, even in London.

Ten per cent of heterosexual men and 12% of women had more than one disease episode during the year. Multiple disease episodes were more common in homosexuals and in patients of both sexes who were seen in London clinics or had already attended the clinic before the beginning of 1978. Apart from these factors, however, it is difficult to identify a high-risk group or groups to whom some form of counselling could possibly be given, if only on the advisability of attending a clinic for regular check-ups. Age, for instance, was not associated with the likelihood of a patient having two or more disease episodes, and other demographic variables which might be associated—such as social class and ethnic origin—could not be reliably recorded from clinic notes.

It is, of course, possible that patients attend several clinics in a year, thus causing the size of the high-risk group to be underestimated. In London it would be surprising if this did not occur, although some physicians believe that clinic "loyalty" exists. Patients living in some country districts, however, would find it very difficult to attend different clinics because of the distances between them and their limited opening hours.⁵

Why female patients should be at least twice as likely as male patients to have several diseases at the same time is unknown. Both gonorrhoea and non-specific genital infection are, however, frequently asymptomatic in women.⁶⁻⁷ It is, therefore, possible that women have no reason to seek treatment until they acquire a second or even third symptomatic infection. The high incidence of concurrent infection with trichomoniasis and gonorrhoea has been reported previously.⁸⁻¹⁰ In the present sample, many different combinations of diagnoses were found; for example, gonorrhoea, trichomoniasis, candidosis, and non-specific genital infection were all diagnosed concurrently with warts in female patients. These results are presented in a second paper.¹¹

Nearly 70 000 more heterosexual men than women were treated in STD clinics during 1978. Among several possible causes for this discrepancy, Willcox¹² put forward the theory that a small number of promiscuous women infect a much larger number of men. If this were true, one would expect the proportion of women with multiple disease episodes to be greater. Perhaps women will accidentally receive

treatment for gonorrhoea more often than men—for instance, when prescribed antibiotics for another infection such as cystitis. Women may fail to seek treatment because their infection is asymptomatic; they may seek treatment from their general practitioner or be referred to a gynaecological clinic. Our own findings from a prevalence study carried out in North-west London suggest that both these factors play some part in explaining the difference.¹³

In conclusion, this study has shown that the current statistics for STDs are inadequate in several ways. Some quantification and categorisation of patients treated, such as that provided in this paper, would be useful to everyone concerned with trends in the incidence of STDs. It is recognised that to provide this information would greatly increase the workload of clerical staff in clinics. If such data, however, had been collected for the last 20 years we might now have a better understanding of the reasons underlying the recent rise in incidences. As it is, we are still speculating.

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