

Sexually transmitted diseases

Extract from the Annual Report of the Chief Medical Officer to The Department of Health and Social Security for the year 1970

It is essential to the control of the sexually transmitted diseases that the special services for these diseases can cope with the continued increase in the number of patients attending the clinics. New cases of the venereal diseases, that is of syphilis and gonorrhoea (chancroid can now be discounted), amount to about a quarter of the total. Syphilis still seems to be under control in Britain compared with the rest of the world, but the incidence of early acquired syphilis in the primary and secondary stages is still at much the same level as in the last 4 years and therefore remains a menace. Instruction of medical students in the diagnosis of these diseases is as necessary for the next generation of doctors as for their predecessors. Gonorrhoea is not under control, and little comfort can be derived from the fact that the increase in the number of cases this year has been less than in the previous year as the increase for that year was the highest in the last quarter of a century.

Other sexually transmitted diseases make up about half the case load and are also a major problem in themselves. Some of the patients now swelling the ranks of those attending clinics may be redirected from urological, gynaecological, dermatological, and other out-patient clinics. It is less usual in other countries to provide for all these diseases as a group and to apply epidemiological control to them. It is certainly right that those who run a risk of infection should be able to come without delay for testing. However, clearance cannot be given without careful and time-consuming history-taking, examination, and surveillance. Individuals, undoubtedly at risk but eventually found not to require treatment, form about a quarter of the total load of new patients.

Year by year variations in the incidence of the different diseases should be assessed as rates per 100,000 population, and in this report this has been done over the 5-year period 1966-70 for new cases attending the clinics in England (Tables I and II).

Syphilis

The definition of early syphilis includes the primary, secondary, and early latent stages. In 1970 there were 1,583 cases, 1,309 in males and 274 in females, giving a combined incidence of 3.42 per 100,000 compared with 3.51 in 1969 and 3.84 in 1968. The male:female ratio in 1970 was 4.8:1 compared with 4.3:1 in 1969. If the latent cases are excluded, then the total of early infectious syphilis for 1970 was 1,123 cases, 938 in men and 185 in women, giving a combined incidence of 2.42 per 100,000 cases compared with 2.60 in 1969 and 2.75 in 1968. The male:female ratio was 5.1:1 compared with 4.8:1 in 1969.

The figures have again shown a decrease since the previous year, so that the gradual downward trend continues. Male:female ratios are misleading in view of an appreciable number of homosexual infections, occurring mainly in the large cities. A current survey of this aspect by the Co-operative Clinical Group of the Medical Society for the Study of Venereal Disease will result in a more realistic male:female ratio for early infectious syphilis next year.

Table III indicates the number of cases in which early infectious syphilis was believed to have been contracted in the United Kingdom or abroad. The proportions were again similar to the previous year, 15 per cent. being contracted abroad as compared with 17.1 per cent. in 1969. This still represents an appreciable number of infectious cases, and every attempt should be made to identify the contact in the country concerned through the Department of Health and Social Security. During the past year information handed on to medical authorities in the countries concerned has led to the tracing, diagnosis, and treatment of several source contacts, some of whom have been homosexual.

Information obtained from the clinics on the age breakdown in cases of infectious syphilis per 100,000 of population is shown in Table I. The distribution is similar to that of previous years with the largest incidence in the 20 to 24-year age group at 8.62 compared with 8.82 in 1969, and the lowest in the

'On the State of the Public Health' (1971). Report of the Department of Health and Social Security for the Year ended December 31, 1970, p. 61. H.M.S.O., London

TABLE I New cases of venereal disease per 100,000 population, by age, sex and diagnosis, seen at hospital clinics in England,* 1966-70

Year	1966			1967			1968			1969			1970		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Early syphilis															
All ages	6.35	1.61	3.91	5.97	1.43	3.64	6.25	1.57	3.84	5.86	1.28	3.51	5.82	1.11	3.42
Early syphilis (primary and secondary only)															
All ages	5.00	0.98	2.93	4.63	0.99	2.76	4.65	0.95	2.75	4.43	0.87	2.60	4.21	0.77	2.42
Under 16	0.09	0.02	0.05	0.03	0.04	0.04	0.05	0.02	0.04	0.03	0.05	0.04	0.03	0.03	0.03
16 and 17	2.06	1.83	1.95	2.45	2.38	2.41	2.35	2.61	2.48	3.00	3.29	3.14	2.21	1.63	1.92
18 and 19	6.78	4.10	5.45	9.05	3.52	6.30	7.63	4.48	6.07	9.37	6.19	7.79	5.98	4.32	5.16
20-24	16.46	4.86	10.73	12.55	4.13	8.35	15.08	3.79	9.46	14.35	3.22	8.82	13.51	3.69	8.62
25 and over	5.79	0.74	3.12	5.47	0.80	3.00	5.24	0.74	2.86	4.87	0.56	2.59	4.74	0.53	2.51
Late syphilis															
All ages	4.07	2.77	3.40	4.25	2.88	3.54	4.24	2.83	3.52	3.75	2.45	3.08	4.00	2.07	3.01
Congenital syphilis															
All ages	0.38	0.69	0.54	0.38	0.49	0.44	0.42	0.61	0.52	0.38	0.61	0.50	0.32	0.45	0.39
Under 1 year	0.98	2.07	1.51	1.74	1.31	1.53	1.52	2.14	1.82	1.80	2.43	2.11	1.62	1.42	1.52
Gonorrhoea (post-pubertal)															
All ages	124.79	40.02	81.17	135.52	46.42	89.70	142.70	50.94	95.56	158.34	60.84	108.26	164.31	69.69	115.72
Under 16	0.94	2.76	1.83	0.71	3.19	1.92	1.25	4.19	2.69	1.36	6.22	3.73	1.35	7.01	4.11
16 and 17	75.31	124.07	99.25	87.18	161.20	123.55	105.32	193.92	148.72	131.11	248.64	188.64	143.23	316.00	228.13
18 and 19	251.53	220.72	236.24	310.46	281.22	295.95	359.99	315.22	337.82	466.05	412.36	439.31	503.69	508.25	505.95
20-24	502.34	220.65	363.25	549.41	231.64	391.07	572.60	248.22	411.11	625.86	290.25	458.98	643.41	331.95	488.55
25 and over	128.46	22.29	72.29	134.28	25.55	76.79	138.49	27.66	79.95	151.23	31.49	88.00	156.75	33.94	91.91
Chancroid															
All ages	0.33	0.01	0.17	0.25	—	0.12	0.22	0.01	0.11	0.24	0.01	0.12	0.20	0.01	0.10

*Note: Figures for those aged 15, 16, 17, 18 and 19 have been estimated using England and Wales population statistics for these ages

TABLE II New cases of other sexually transmitted diseases and other conditions per 100,000 population, at all ages and by sex seen at hospital clinics in England, 1966-70

Year	1966			1967			1968			1969			1970		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
(i) Lymphogranuloma venereum	0.17	0.01	0.09	0.24	0.02	0.13	0.24	0.01	0.12	0.13	0.02	0.07	0.18	—	0.08
(ii) Granuloma inguinale	0.01	—	0.01	—	—	—	0.04	—	0.02	0.01	—	0.01	0.03	—	0.01
(iii) Non-gonococcal urethritis (males only)	134.23	—	—	142.43	—	—	155.78	—	—	178.20	—	—	204.79	—	—
(iv) Non-gonococcal urethritis with arthritis (males only)	1.44	—	—	1.55	—	—	1.32	—	—	1.61	—	—	1.65	—	—
Total (iii) and (iv)	135.67	—	—	143.98	—	—	157.10	—	—	179.81	—	—	206.44	—	—
(v) Late (or latent) treponematoses presumed to be non-syphilitic	2.27	2.05	2.16	2.11	1.83	1.97	2.31	1.86	2.08	2.20	1.45	1.82	2.28	1.38	1.81
(vi) Other conditions requiring treatment within the clinic	99.23	105.31	102.36	108.46	117.93	113.33	120.60	138.87	129.98	140.44	167.16	154.16	164.87	199.34	182.57
(vii) Conditions requiring no treatment within the clinic	130.67	66.83	97.82	126.67	66.51	95.73	140.05	71.86	105.02	162.67	85.58	123.08	167.37	89.70	127.48
(viii) Undiagnosed conditions	0.62	0.61	0.62	0.56	0.74	0.65	0.69	0.64	0.66	0.40	0.74	0.58	0.56	0.49	0.52
Total (i) to (viii)	368.64	174.81	268.92	382.02	187.03	281.75	421.03	213.24	314.26	485.66	254.95	367.18	541.73	290.91	412.88

TABLE III *Infections contracted at home and abroad, 1970*

Diagnosis	Syphilis		Gonorrhoea	
	Number	Per cent.	Number	Per cent.
Contracted in Great Britain and Northern Ireland	883	78.6	50,477	94.3
Contracted abroad	168	15.0	1,832	3.4
Unknown	72	6.4	1,216	2.3

under 16-year age group at 0.03 compared with 0.04 in 1969.

The British Co-operative Clinical Group (BCCG) has for the present ceased its annual assessment of the relative incidence of early infectious syphilis among those born in the United Kingdom and those born elsewhere. As the years pass since the original high rates of immigration in the 1950s, the second generation of immigrant families is being born in England, and, if infected, would be included among those born in the United Kingdom. In 1969 infections in immigrants were 33.9 per cent. in men and 26.4 per cent. in women. Willcox (1970), in a review of these BCCG figures for previous years, noted that in 1968 they were 35 per cent. and 20.3 per cent. respectively; in 1966 the figures for infections in immigrant men and for the whole population had been practically equal. The high figures for Asians in 1964-1966 had decreased.

During 1970 it was possible to take action regarding the contacts of 785 of the 938 cases in males suffering from early infectious syphilis and of 105 of the 185 cases in women. As a result of these measures, 105 infected male contacts and eighty infected female contacts were brought under treatment as compared with 117 men and ninety women in 1969. The newer methods of contact tracing have contributed to bringing these patients to the clinics, and social workers and other staff are being employed on contact tracing in increasing numbers by local health authorities. It is by expanding these activities that we can best hope to achieve a satisfactory control of syphilis since we can hardly be content with the present level.

Cases of late syphilis again decreased, to 1,392 in

1970, giving an incidence of 3.01 per 100,000 population as compared with 3.08 in 1969 (Table I). This continues to indicate a satisfactorily low level of case incidence. The breakdown of cases in 1970 showed that 714 men and 415 women, a total of 1,129, were in the latent stage, while 73 men and 26 women, a total of 99, had cardiovascular syphilis, and 113 men and 51 women, a total of 164, had neurosyphilis. Figures for the Registrar General's Annual Statistical Review in 1970 recorded deaths in nineteen men and eight women with GPI, in seven men and three women with *tabes dorsalis*, and in 33 men and twenty women with syphilitic aortic aneurysm. These figures have been consistently low over the past few years.

The number of new cases of treponemal diseases presumed to be non-syphilitic continues to decrease. In 1970, 841 cases were reported from the clinics, giving an incidence of 1.81 per 100,000 population compared with 1.82 in 1969 and 2.16 in 1966 (Table II).

The figures for congenital syphilis continue at a low level but it should be possible to eliminate them altogether if antenatal tests were always done. The case incidence of congenital syphilis at all ages was 0.39 per 100,000 population in 1970 compared with 0.50 in 1969. The incidence of early congenital syphilis was 1.52 per 100,000 population compared with 2.11 in 1969 (Table I).

Control depends on routine blood testing of all pregnant women. The number of tests giving a positive result found in six regional centres (Table IV) continues as in previous years to be very low (Plymouth now included); even so, 108 pregnant

TABLE IV *Syphilis test in pregnancy, 1970*

Centre	No. of ante-natal patients tested			Positive syphilis tests					
	Primiparae	Multiparae	Parity not known	Primiparae		Multiparae		Parity not known	
				No.	Per cent.	No.	Per cent.	No.	Per cent.
Cambridge	11,247	13,705	685	8	0.07	16	0.12	0	0
Leeds	11,519	7,381	2,309	29	0.25	12	0.16	0	0
Liverpool	22,536	26,224	—	5	0.22	9	0.34	—	—
Oxford	4,537	5,558	1,194	0	0	3	0.05	0	0
Plymouth	2,618	2,406	—	5	0.19	4	0.17	—	—
Sheffield	25,331	13,765	—	11	0.04	6	0.04	—	—

women from these centres were found to be positive, giving an average incidence of 0.075 per cent. in primiparae and 0.072 per cent. in multiparae.

Gonorrhoea

The situation has again deteriorated, with 36,996 new cases in males and 16,621 in females. The further increase of cases in 1970 brought the post-pubertal figures to 36,969 in men and 16,556 in women, a total of 53,525 cases, an incidence of 164.31 per 100,000 population in men, and 69.69 in women, and a combined incidence of 115.72, compared with 158.34, 60.84, and 108.26 respectively for 1969 (Table I). Although these figures are still much lower than those in the United States of America and in many other European countries, there is little comfort in that. The male:female case ratio was 2.2:1 compared with approximately 2.5:1 in 1969. As with early infectious syphilis, infected homosexual males are included, and these figures will be adjusted with the help of the BCCG to give a more realistic ratio next year. It is still apparent that a rapid and energetic search for contacts is the main weapon of control provided that the physician in the clinic takes advantage of the newer diagnostic methods such as fluorescent techniques and the use of selective culture media. Many asymptomatic females and a few asymptomatic males undoubtedly have recourse to general practitioners and to gynaecologists, urologists, and doctors in Family Planning, Student Health, and other clinics. New diagnostic cultural techniques recently introduced as screening tests in the United States have led to the identification of gonorrhoea in over 5 per cent. of patients attending private, public, or non-profit making clinics in Chicago (Zackler, Brolnitsky, and Orbach, 1970).

The total of 53,525 cases included 33 of vulvovaginitis compared with 82 in 1969, and 59 of gonococcal ophthalmia of the newborn compared with 45 in 1969.

Information obtained from the clinics on the age breakdown in cases of gonorrhoea per 100,000 of population (Table I) showed an incidence of 488.53 in the 20 to 24-year age group, 505.95 in the 18 and 19-year age group, 228.13 in the 16 and 17-year age group, and 4.11 in subjects under 16 years, compared with 91.91 in the over 25-year age group; the respective rates for 1969 were 458.98, 439.31, 188.64, 3.73, and 88.00.

Infections occurred in 80 boys and 395 girls under 16 years in 1970 compared with 72 boys and 331 girls in 1969. The incidence of new cases per 100,000 population was only 1.35 in boys as compared with

7.01 in girls in this age group. The number of cases in boys aged 16 to 19 was 4,106 compared with 3,486 in 1969, and the number in girls 5,104 compared with 3,792 in 1969. The incidence of new cases per 100,000 population (Table I) for boys was 143.23 for the 16 and 17-year age group and 503.69 for the 18 and 19-year age group; for girls it was 316.00 in the 16 and 17-year age group and 508.25 in the 18 and 19-year age group. Although the number of cases in schoolchildren is still relatively small, the increase over the last few years, especially in girls, gives cause for alarm. In the last 4 years the rate for girls aged less than 16 has more than doubled and is $4\frac{1}{2}$ times that for boys of the same age; the rate for 16- and 17-year-old girls has doubled.

The British Co-operative Clinical Group (BCCG) has for the present ceased its annual assessment of the relative incidence of gonorrhoea among those born in the United Kingdom and those born elsewhere. In 1969, 58.3 per cent. of infected men were born in the United Kingdom and 41.7 per cent. elsewhere, the figures for women being 81.5 and 18.5 respectively. Willcox (1970) reviewed the BCCG figures for previous years. Between 1956 and 1961 the increase in cases in men occurred mainly in immigrants, as did the small fall in numbers of cases between 1961 and 1966. Since then the rise has occurred mainly in those born in the United Kingdom. On the other hand the number of immigrant females was low between 1956 and 1966 and has diminished further since then.

During 1970 it was possible to take action regarding the contacts of 31,539 patients suffering from gonorrhoea (26,020 men and 5,519 women). As a result of these measures, the attendance at clinics of 10,259 infected contacts (2,035 men and 8,224 women) was secured. These figures compare with 1,541 men and 6,902 women in 1969. This means that about half the new cases in women are brought in by contact tracing. The main task of social workers doing this work is the rapid identification and tracing of the source (primary) contacts of patients with gonorrhoea. Although most of the patients interviewed are male, and most of the source contacts are female, nonetheless the value of interviewing female gonorrhoea patients in the clinics is real and the practice should be extended.

Chancroid

This disease is now only a minor problem in England, but is still common abroad. There were fifty new cases reported in 1970, compared with 56 in 1969, an incidence of 0.10 per 100,000 population, as compared with 0.12 in 1969 (Table I).

Other sexually transmitted diseases

Non-specific genital infection

Research on the causative agent of this group of infections has been supported by the Department. There is further evidence that *Chlamydia* Group A may be responsible for a proportion of infections. New cultural techniques using irradiated synovial (McCoy) tissue culture have resulted in a significant number of positive findings in the male urethra, and in the urethra, cervix, and rectum of female sex contacts. A promising fluorescent serological typing test is being developed. However, these diagnostic facilities are available at only a very few clinics and for a limited number of cases. Cases in the male are at present diagnosed on clinical grounds and 46,075 new cases were reported in 1970, an incidence of 204·79 per 100,000 population as compared with 178·20 in 1969 (Table II). Non-specific genital infection in women is much more difficult to assess on clinical grounds, but many venereologists make a diagnosis on the basis of contact information together with evidence of cellular inflammatory changes in the urethra and cervix, and then treat with a broad spectrum antibiotic. These cases are at present included with 'other conditions requiring treatment', which totalled 47,356 in 1970, compared with 39,581 in 1969, but next year an attempt will be made to separate them, as has been done with the infections in the male since 1951.

Trichomoniasis

Separate figures have been available for this condition since 1967. The difficulty in identifying *T.vaginalis* in the male still results in a female to male ratio of about 12·5:1. There were 1,290 male cases and 14,491 female cases reported from the clinics in 1970, as compared with 1,001 and 12,595 respectively in 1969. Significant numbers of females with this condition also attend gynaecological out-patient departments, and patients should be screened for the venereal diseases as are those cases diagnosed in the Special Clinics.

Lymphogranuloma venereum and granuloma inguinale

These diseases have tended to decrease as the yearly immigration figures have fallen, but in 1970 there were 41 cases of lymphogranuloma venereum as compared with 34 in 1969. The incidence per 100,000 population was 0·08 (Table II). There were nine new cases of granuloma inguinale in 1970, compared with three in 1969. The incidence was 0·01 per 100,000 population (Table II).

Other conditions

The total of other conditions requiring treatment was 84,451 (including trichomoniasis) in 1970 (37,095 cases in men and 47,356 cases in women). The overall incidence per 100,000 population was 182·57. This compared with 71,073, 31,492, and 39,581 respectively in 1969, with an overall incidence of 154·16 (Table II). The comparatively high figure in females is explained by the inclusion of women with non-specific genital infection.

In addition, cases of other conditions which may be sexually transmitted are included, such as genital candidiasis, genital scabies, pediculosis pubis, genital herpes, genital warts, and genital molluscum contagiosum. Recent research has shown that with both the herpes virus and the wart virus there is laboratory evidence of a specific genital strain. Next year all these conditions will be put into separate categories in the clinic returns. They are often seen in patients attending other out-patient departments but, as with trichomoniasis, they may co-exist with the venereal diseases, which should be excluded by the necessary screening tests.

Patients with other genital conditions not usually sexually transmitted may or may not need treatment; those in whom no disease is found are included under the heading 'conditions requiring no treatment in the clinic'. The number of cases requiring no treatment numbered 58,967 in 1970 (37,657 men and 21,310 women) compared with 56,741 in 1969. The incidence was 127·48 per 100,000 population as compared with 123·08 in 1969 (Table II). The number of patients with no disease but requesting a check-up increases markedly after any programme on the subject put out by the mass media, and this may place a very severe strain on the already overburdened clinics.

The present position

The further increase in new cases in 1970 has brought most clinics close to saturation point. The clinics for sexually transmitted diseases have no built-in safeguard against overload at sessions, as they do not and cannot work on a full appointments system like other out-patient departments. Physicians in charge have been faced with the choice of reducing standards of history taking and diagnosis at the first attendance of the patient, or of decreasing the frequency of subsequent surveillance, and it is noticeable that most have adopted this latter line of action to relieve the pressure over the last 10 years. In most clinics doctors have had to work in old and cramped premises, but now hospital authorities in many areas are providing either new buildings or at least an expansion

of floor space with modernization of existing premises. It should then be possible to increase medical staff, provided that there are sufficient doctors in training of the correct calibre for ultimate consultant appointment. Unfortunately young doctors are often not anxious to enter this 'minor' specialty in the field of medicine and, as a result, there has been difficulty in filling present senior registrar establishments. Any increase in senior registrar or registrar posts must necessarily precede by some years the increase in the number of consultant appointments which it is generally agreed is essential for efficient and expanding services for sexually transmitted diseases.

Whatever may be done by case-finding, full control of the sexually transmitted diseases will be achieved only if there are further advances in knowledge of the disease processes involved through research. The Medical Research Council during 1970 has given grants for several new projects concerning syphilis, gonorrhoea, and non-specific genital infection. The MRC also convened a meeting to discuss epidemiological aspects of disease control in this field. The Department continues to support an important project on the role of *Chlamydia* in the causation of non-specific genital infection, and a number of other projects are financed at hospital level. For the present, however, in spite of continuing research, there is no immunological form of control available. Nor is there any evidence of a decrease in promiscuity. The increasing popularity of the use of the contraceptive 'pill' by women of all ages results in fewer of their male consorts using a barrier contraceptive such as the condom. This change in contraceptive practice must be a factor in increasing the risk of acquiring sexually transmitted disease.

If we lived in a monogamous and sexually continent society, these diseases would not spread and an attempt to promote that should be made by health education applied to all age groups. The Health Education Council is well aware of this problem and has made a detailed statistical study of the impact of the American film 'Half a million teenagers' on both youngsters of school age and their parents. If it is not possible to finance a British film on the subject, it may well be worth while considering making available at a smaller cost a film recording of a number of the television programmes on the venereal diseases which have been presented over the last few years to the

viewing public. In spite of the fact that school authorities continue to promote teaching in classes on the biology of sex to the younger children and on the importance of personal relationships to the older ones, albeit with varying degrees of efficiency and enthusiasm, sexually transmitted disease is steadily increasing in girls and boys.

For the physician in charge of a clinic, contact tracing remains the main weapon of case-finding and disease control. It is his duty to see that the more recent but now well proven methods of contact action are implemented. This means that he must seek closer cooperation with local Medical Officers of Health so that through them the necessary number of suitable staff may be seconded to work in his clinic. A very satisfactory increase in the numbers of these contact tracers appointed all over the country has been seen in 1970, but there is still a small number of venereologists who are not playing their part because they lack enthusiasm for, or conviction in, this vital and essential control method. On the other hand, in centres such as Newcastle, one of the first clinics to use contact tracing techniques, the male:female case ratio in gonorrhoea has been maintained below the national average for many years and this is a strong indication for effective contact action.

General practitioners are now cooperating well in referring patients with suspected sexually transmitted disease to their local hospitals, in the majority of cases untreated, so that accurate diagnosis in the clinics is more readily made.

The dilemma facing doctors in services for sexually transmitted diseases is that the privacy, sympathetic reception, accurate diagnosis, and efficient treatment and surveillance of their patients has brought over a quarter of a million cases, direct or referred, to the clinics during the year. There is every reason to believe that these figures will be exceeded next year, so it is to be hoped that the measures so far taken to expand and strengthen the clinic services can keep pace with possible future increases in the number of cases referred to them.

References

- WILLCOX, R. R. (1970) *Brit. J. vener. Dis.*, **46**, 412
 ZACKLER, J., BROLNITSKY, O., and ORBACH, H. (1970)
Publ. Hlth Rep. (Wash.), **85**, 681