

GONORRHOEA IN DENMARK*

A SURVEY OF INCIDENCE OVER 82 YEARS WITH COMMENTS ON THE REASONS FOR THE FLUCTUATIONS NOTED

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Denmark has a longer tradition than most other countries in the combating of venereal diseases. Furthermore, venereal diseases have been notifiable throughout the last 82 years and we have reliable statistics of incidence, which have been collected in a uniform manner throughout the entire period. These constitute a basis for a long-term follow-up, indicating how the incidence of gonorrhoea is influenced by the campaign against venereal diseases. Then, depending on temperament or point of view, one may either appreciate the good results or be annoyed by the futility of the efforts exerted.

The first public measure against venereal disease was a Royal decree of 1773 ordering that all treatment of venereal diseases on the island of Fyn should be paid for by the municipalities. This represented the introduction of free treatment for venereal diseases both in Denmark and in the world, and it has since been the main principle. In the year 1790, free treatment of venereal disease was extended to patients in the whole of Denmark and was made obligatory. Since 1802, *i.e.* 122 years before the Brussels Agreement of 1924, all foreign sailors irrespective of their nationality have been offered free treatment in Copenhagen.

During the 19th and the beginning of the 20th century, prostitution and prostitutes were regarded as the main focus of venereal diseases. The common feeling that prostitution controlled by the police was much less dangerous than loose uncontrolled women resulted in the Act of 1874, which decided that loose and vagrant women who were arrested because of prostitution and who continued in that

way of life could be compulsorily enrolled in the supervised *corps des prostituées*. In 1901, the brothels were abolished, and in 1906 legislation was modernized. Prostitution as a legal occupation was abolished, and exploitation of women was made a criminal offence. In order to diminish the extent of the prostitution still going on, the Act decreed that all persons should have a lawful occupation or source of income; vagrancy was liable to punishment.

Since 1906, venereal disease has been combated on the following basis:

(1) Treatment is free, as has been the case for over a hundred years, but with still easier access to the authorized medical service which, for the last 20 years, has been available to all within a distance of not over 20 km. from the doctor. In Copenhagen, dispensaries for venereal disease opened in 1909.

(2) Examination and treatment are obligatory for all persons with symptoms that are obviously due to or suggestive of venereal disease. Patients are obliged to follow the request of the doctor to disclose their source of infection. They can freely choose the place of treatment and they may transfer to another doctor during the treatment.

(3) The doctor in charge of the patient has the duty of administering the provisions of the Venereal Disease Act, if necessary with assistance from the police, who have specially trained assistants to do this work in a reasonable and discreet manner. This police assistance is thus more in the nature of a social service.

The provisions of the Venereal Disease Act are rather severe, but they are practised with leniency, so that imprisonment, compulsory hospitalization,

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and other forms of punishment are rarely necessary. It is rarely necessary to enforce compulsory attendance. A survey after the Second World War showed that three-quarters of the patients at the Copenhagen dispensaries followed the orders of their doctors in a satisfactory manner. One-quarter were notified to the police, and of these almost 90 per cent. attended the clinics after receipt of a letter from the police. Only 8 per cent. could not be traced. The whole system functions smoothly because the Danish medical profession takes care primarily of the patients' interests without the interference of officialdom.

From an epidemiological point of view, our system has one significant drawback: it takes 2 weeks before most defaulters are notified to the police, because the doctor tries to contact his patient by letter, before the notification, and the worst sources of infection are found among the defaulters. Another drawback is that a physician cannot force his patient to divulge contacts other than his own source of infection. To insist on this would mean that the patient was ordered to accuse himself of the crime of having exposed other people to infection, and, by Danish law, no one can be ordered to accuse himself of an unlawful deed. On the other hand, most people understand the epidemiological point of view, and because they are aware of the attitude of the doctor he is often able to obtain knowledge of many of the contacts. The Danish population, however, considers gonorrhoea as involving so little risk that an accentuation of the efforts of the police would meet with general aversion.

As to the prostitute, public opinion has undergone a considerable change in the course of the last few decades. She is no longer regarded as a criminal on whom the whole blame of disseminating venereal disease should be laid, but as a symptom or as a victim of social failure.

In the period from 1942-1955, the various aspects of prostitution in Denmark were examined and discussed by a commission whose members had expert knowledge of sociology, jurisprudence, criminology, psychiatry, and venereology. It was the general opinion that prostitutes were unhappy women who had entered prostitution because of low intelligence, psychic deviations, or the influence of an unfortunate environment. As a consequence, it is the duty of the community to develop effective measures to prevent prostitution, such as taking legal proceedings against all exploitation of prostitution. The prostitutes themselves must be given help in re-habilitation. However, the commission expressed the opinion that a person who is already

mentally mature is unfit for re-education and is thus little suited for real and lasting re-socialization. In Scandinavia, mental maturity is usually reached about the age of 18 years, but in the group of women in question there will be quite a number whose mental development is not complete until the age of 21 years. Prostitutes not older than 21 years should receive treatment in institutions with the character of a school, without a penal character, and when they pass out to a suitable job they should still be given assistance by the institution. It is important that these younger girls should not be put together with older prostitutes.

The commission finds it futile to treat prostitutes older than 21 years in schools, homes, or other educational institutions. An attempt should be made to find the social background for the deterioration of these women, to help them with their temporary economic difficulties, move them to other parts of the country with less temptations, etc. But it is obvious that the results are dependent upon the woman's ability and wish to co-operate. The possibility of penalty may be a useful pressure to keep some of these women on the right path. The community should not deprive itself of all means to deal with such prostitutes as are quite insusceptible to social measures. As for the exploiters of the prostitution of others, the Danish commission is in full agreement with the United Nations Convention (1949) for the suppression of the traffic in human beings and the exploitation of prostitution.

It is unanimously felt, in most groups of the population, that the dissemination of venereal disease is a product of sociological difficulties, the cure of which is beyond the scope of the medical profession.

The distribution of gonorrhoea in Denmark shows a marked difference between its only large city, Copenhagen, and the rest of the country. Many of the measures against venereal diseases have therefore been directed against the conditions in this large urban community. The incidence has varied more in Copenhagen than in the rest of the country, so that in the Copenhagen area it should be easier to compare the variations with the events by which they might have been influenced. The statistics for Copenhagen are, therefore, presented in Table I and the Figure (opposite).

The Figure shows the rate per thousand of male and female notifications of gonorrhoea from 1877 to 1959. Each point represents the number per thousand for one year and "smooth curves" have been superimposed. It was impossible to draw regular curves such as can be done in most biological experiments.

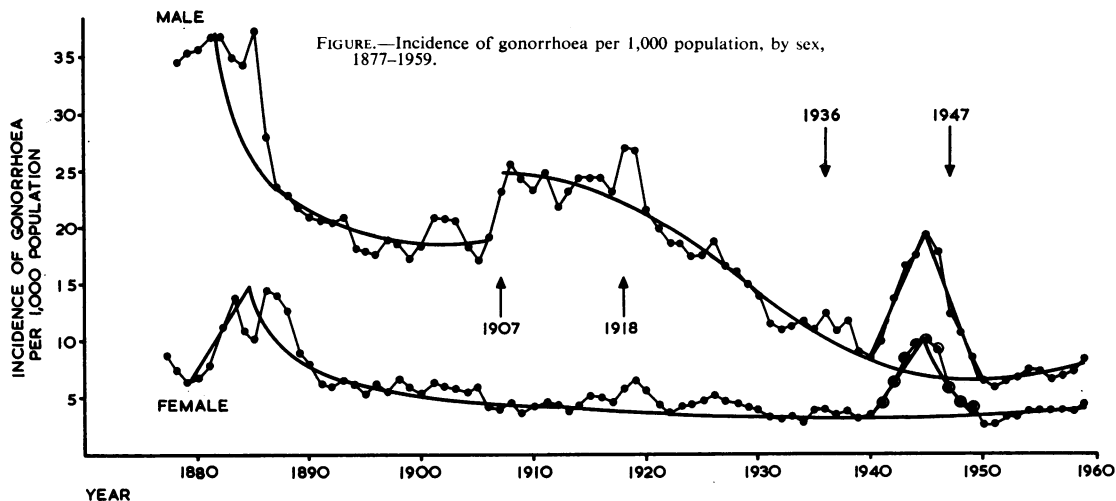


FIGURE.—Incidence of gonorrhoea per 1,000 population, by sex, 1877-1959.

TABLE I
NOTIFIED CASES OF GONORRHOEA IN COPENHAGEN, BY SEX, 1877-1910

Year	No. of Cases		Rate per 10,000 Inhabitants		Population of the City
	Males	Females	Males	Females	
1870					181,291
1877	3,169	960	302.2	81.8	234,850
1878	3,540	886	338.6	73.7	
1879	3,691	807	346.9	65.6	
1880	3,777	861	347.0	68.3	
1881	3,997	1,003	355.7	77.0	
1882	4,116	1,538	355.2	114.3	280,054
1883	4,047	1,900	339.0	136.8	
1884	4,127	1,546	335.8	108.0	
1885	4,526	1,497	358.0	101.5	
1886	3,644	2,200	280.4	145.0	
1887	3,176	2,209	238.0	141.6	312,859
1888	3,177	2,104	231.9	131.3	
1889	3,141	1,435	223.6	87.2	
1890	3,069	1,320	213.1	78.2	
1891	3,044	1,057	205.6	60.9	
1892	3,107	1,052	204.2	59.0	333,835
1893	3,260	1,153	208.7	63.0	
1894	2,925	1,126	182.5	60.0	
1895	2,959	1,017	180.0	52.9	
1896	3,027	1,197	179.7	60.7	
1897	3,306	1,120	191.7	55.5	400,575
1898	3,338	1,306	189.1	63.3	
1899	3,190	1,241	176.6	58.8	
1900	3,456	1,176	187.1	54.5	
1901	3,892	1,346	207.9	61.3	
1902	3,895	1,321	205.3	59.2	426,540
1903	3,945	1,285	205.2	56.6	
1904	3,622	1,239	186.0	53.8	
1905	3,508	1,341	177.9	57.3	
1906	3,870	978	193.8	41.1	
1907	4,720	964	233.4	40.0	462,161
1908	5,263	1,057	257.1	43.1	
1909	5,109	920	246.5	37.0	
1910	5,050	1,020	240.8	40.4	
1911	5,391	1,109	251.1	43.1	
1912	4,669	1,117	212.6	42.6	506,390
1913	4,841	1,019	215.6	38.1	
1914	5,732	1,199	249.8	44.0	
1915	5,819	1,401	248.3	50.5	
1916	5,945	1,397	248.4	49.5	

Year	No. of Cases		Rate per 10,000 Inhabitants		Population of the City
	Males	Females	Males	Females	
1917	5,738	1,329	235.0	46.2	561,344
1918	6,796	1,734	272.8	59.3	
1919	6,900	1,883	271.6	63.3	
1920	5,603	1,676	216.3	55.4	
1921	5,275	1,309	201.7	42.9	
1922	4,912	1,155	186.1	37.4	585,624
1923	4,923	1,318	184.7	42.3	
1924	4,670	1,345	173.6	42.7	
1925	4,721	1,513	173.9	47.6	
1926	5,127	1,610	187.1	50.2	
1927	4,572	1,538	165.4	47.5	608,649
1928	4,449	1,470	159.5	45.0	
1929	4,241	1,388	150.7	42.1	
1930	4,037	1,340	142.2	40.2	
1931	3,437	1,203	119.2	35.7	
1932	3,313	1,150	113.3	33.7	658,634
1933	3,389	1,183	114.2	34.3	
1934	3,559	1,066	118.2	30.5	
1935	3,417	1,218	111.9	38.6	
1936	3,788	1,364	122.3	38.2	
1937	3,423	1,267	109.0	35.1	700,465
1938	3,694	1,333	116.0	36.5	
1939	2,943	1,118	91.2	30.3	
1940	2,807	1,189	85.9	31.9	
1941	3,344	1,622	101.4	43.0	
1942	4,468	2,314	134.3	60.8	731,707
1943	5,501	3,215	164.0	83.8	
1944	5,844	3,868	172.7	99.9	
1945	6,692	3,926	196.2	100.5	
1946	6,071	3,821	174.5	96.0	
1947	4,347	2,316	122.0	57.0	768,105
1948	3,864	1,948	108.1	48.0	
1949	3,241	1,705	90.5	41.9	
1950	2,404	1,200	66.7	29.4	
1951	2,191	1,158	61.0	28.6	
1952	2,314	1,347	64.5	35.7	753,361
1953	2,327	1,437	65.0	35.8	
1954	2,619	1,497	73.4	37.4	
1955	2,530	1,474	71.3	37.1	
1956	2,328	1,434	65.7	36.2	
1957	2,360	1,424	67.3	36.3	729,032
1958	2,436	1,413	70.2	36.3	
1959	2,782	1,618	80.6	41.8	

These graphs show some sharp deviations, which coincide with various historical events (Table II).

TABLE II
HISTORICAL NOTES

1773	Introduction in part of Denmark of venereal disease treatment at public expense
1790	Obligatory treatment free of charge introduced in all Denmark
1802	Treatment of venereal diseases offered free of charge to all foreign sailors in the port of Copenhagen
1867	Notification of venereal diseases in Copenhagen
1877	Notification of venereal diseases in all Denmark on the same principles as to-day
1874	Regulations for prostitutes with obligatory periodical examinations by a medical officer
1875-1900	An age of rapid expansion and industrialization
1901	Abolition of brothels
1906	Abolition of regulations for prostitutes
1909	Five venereal disease clinics opened in Copenhagen
1918-1919	Copenhagen a clearing centre for wounded prisoners of war
1936	Introduction of sulphonamides
1940	Introduction of diagnostic culturing of <i>N. gonorrhoeae</i> (centralized service)
1940-1945	Occupation by German troops
1947	Penicillin treatment of gonorrhoea becoming more widely used

In the beginning of the period the community was changing from handicraft to industry. In the years 1918-19 there were many foreign soldiers in Copenhagen, as it was a clearing centre for prisoners of war. From 1940 to 1945, Copenhagen was occupied by foreign troops. These events have had considerable influence, and it is interesting to examine the curve of the incidence, when these periods are regarded as "statistical outsiders". The "smoothed" curve for the males still shows a "jump" in 1907 almost as large as that during the Second World War. My only explanation for this is that by the Act of October, 1906, the regulations concerning prostitution were abolished, but much secret prostitution continued. Later on we register a new decline and the curve line may be continued smoothly under the "war figures", but in the fifties it again shows an upward trend.

The curve for the females has a more even course. A sharp rise is noticed in the first part of the period, and some "outsiders" in the years 1918-19 and during and just after the Second World War, but if these are excluded the curve shows a downward trend to a level near 3.8 per thousand of the female population. The female graph does not fluctuate during the period when the regulations concerning prostitution were abolished (October, 1906).

Two major events, the introduction of sulphonamide treatment after 1936 and the introduction of penicillin after 1947, are not reflected in the curves. The introduction of the diagnostic culturing of *N.*

gonorrhoeae about 1940 coincides with the wartime rise and may have been obscured.

The graphs thus show that the incidence of gonorrhoea in Copenhagen has fallen steadily at the same time as social conditions have improved. The abolition of the regulations on prostitution was followed by a sudden increase in the notified cases of male gonorrhoea, similar to that registered during wartime. The therapeutic advances do not seem to have had much influence on the incidence of gonorrhoea, from the epidemiological point of view. Their beneficial effect on the disease in the individual patient is not considered here. The upward trend seen at the end of the curve must stimulate continued vigilance.

Summary

After some historical remarks on the development of the campaign against venereal diseases in Denmark, the current opinion of Danish experts on the management of promiscuous females is mentioned.

Fluctuations in the incidence of gonorrhoea in males and in females in Copenhagen from 1877 to 1959 are correlated with historical data which are usually believed to be of importance in combating venereal diseases.

The highest level was reached about 1880; then follows a rapid decrease until the beginning of the 20th century, when the abolition of brothels (1901) and the abolition of the regulations for prostitutes (1907) brought about a sharp increase in the incidence of gonorrhoea in males. A new decrease was interrupted by a few high figures in 1918-19 and during the Second World War. In the late 1950s an increase has been apparent.

The incidence of gonorrhoea in females runs a much more even course on the whole.

No fluctuations in incidence accompanied the introduction of sulphonamide or penicillin treatment.

La blennorragie au Danemark

Enquête sur la fréquence des cas nouveaux depuis 82 ans et observations sur les raisons des fluctuations constatées

Résumé

Après quelques remarques historiques sur l'évolution de la lutte antivénéérienne au Danemark, on discute l'opinion la plus répandue chez les experts danois au sujet du traitement à réserver aux femmes de moeurs faciles.

Les fluctuations de la fréquence des cas nouveaux de blennorragie, pour les deux sexes, à Copenhague, de 1877 à 1959 sont reliées à des données historiques qui, estime-t-on généralement, présentent une certaine importance dans la lutte contre les maladies vénériennes.

La fréquence la plus élevée de cas nouveaux a été

atteinte au début de la période 1880-90; vient ensuite une rapide diminution qui se poursuit jusqu'au début du siècle actuel. Puis on constate—en même temps que la fermeture des maisons de prostitution (1901) et surtout, en 1907, l'abolition du règlement concernant les prostituées—une brusque augmentation de cas nouveaux chez les hommes. Ensuite, une nouvelle diminution fut interrompue par quelques chiffres

élevés en 1918-1919 et pendant la deuxième guerre mondiale. Vers la fin de la période 1950-1960, il semble que l'on enregistre une nouvelle augmentation.

La courbe de la blennorragie chez les femmes suit un tracé beaucoup plus régulier dans son ensemble.

L'introduction du traitement par les sulfamides ou par la pénicilline ne fut pas accompagnée pas d'oscillations de fréquence de cas nouveaux.