SOME ASPECTS OF THE VENEREAL DISEASE PROBLEM IN THE FEDERATED MALAY STATES

WITH A SEROLOGICAL SURVEY OF INDIAN LABOURERS

BY

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Preliminary examination of available data on the venereal disease problem in the Federated Malay States seemed to suggest that the importance of syphilis and gonorrhoea as causes of death and disability was scarcely realized, nor did it appear that comprehensive material for the reliable assessment of the incidence of venereal diseases in the Federated Malay States had up to the present been assembled. In this mixed community of Malays, Chinese, and Indians, the majority of whom are uneducated and retain many of their primitive beliefs, there is still a considerable mistrust of Western medicine. Treatment when it is sought is very often obtained at the hands of quack doctors, who practise freely. There are conditions, too, which tend to divert the attention of medical men from the venereal diseases. The first and most important of these is the prevalence of malaria: it is probably true that about one-quarter of the medical work in the F.M.S. is directed to combating malaria either directly or indirectly. The second is the comparatively small number of medical men in the medical service in relation to the amount of work. Thirdly, the post of Chief Medical Officer, Social Hygiene, F.M.S., was abolished in 1934, ten years only after the creation of this specialist post for the direction of work against the venereal diseases.

Discussion of the problem falls naturally under two headings: (1) social conditions which, in themselves, are favourable to spread of infection; and (2) the figures and reports on social hygiene in the reports of the Medical Department, F.M.S.

Social Conditions

TABLE I.—*Population, F.M.S.*

Year	Malays	Chinese	Indians	Others	Total
1929	585,055	545,125	414,740	17,481	1,562,401
1931 (Census)	593,134	719,734	384,677	24,572	1,723,117
1937	664,119	826,627	440,269	30,382	1,961,397

Two facts are noteworthy about the population figures: (i) the dominant factor in increase is immigration; (ii) immigrant races greatly outnumber indigenous people.

TABLE II.—*Urban and Rural Dwellers (1931 Census)*

Race	Dwelling in Urban Areas	Percentage of all Urban Dwellers
Chinese.. ..	38.5	62.9
Indians	24.7	21.5
Malays	11.1	11.9

Since 1931 there have been no alterations in local conditions which would tend to upset the general fact that the Chinese are the greatest urban dwellers, followed by the Indians and the Malays.

TABLE III.—*Sex Ratio—Males per 100 Females*

Race	Year		
	1931	1935	1937
Chinese	203	165	153
Indians	183	184	191
Malays	100	104	104

CHINESE

The Chinese form the largest racial group in the F.M.S. Their main occupations are in agriculture, financial and commercial business, as labourers on tin mines, and as general labourers. In agriculture a considerable number grow vegetables on their own account and a great many others are employed as labourers on rubber estates, where their number is approximately the same as that of Indians. Financial and commercial business is almost monopolized by the Chinese, who comprise about 75 per cent. of this group. Labourers on tin mines are about 90 per cent. Chinese, and as general labourers they share equally with the Indians. Living conditions of Chinese labourers, who form about one-third of the Chinese population, are very often extremely bad. They generally live in large bachelor "messes," overcrowded, insanitary, and sordid. There is little "home life" for these. The Chinese men greatly outnumber the women in Malaya. The labourer, as a respite from his surroundings, goes to coffee-shops and such places, where prostitution is frequent.

The population of the towns is over 50 per cent. Chinese (about one-third of the total Chinese population), and thus a considerable number are exposed to the temptations of the prostitute in urban areas, which throughout the world are in most cases found to have a higher prevalence of venereal disease than rural areas. The above conditions are favourable to the spread of venereal disease within the Chinese community.

INDIANS

In agriculture Indians are employed in approximately equal numbers with Chinese as labourers on rubber estates. On tin mines they form only about 10 per cent. of the labour; in the public service they comprise most of it. Indians form only about 20 per cent. of those engaged in commerce and finance. On the rubber estates they enjoy conditions very different from those of any other labourer in the country. They are really well housed, often in little cottages, and "home life" is encouraged. They are frequently given gardens in which to cultivate vegetables for their own use; their conditions are sanitary; and on all larger estates medical supervision and attention are supplied by the company, this being enforced by law. The position of the Indians in the public service is much the same.

In the towns only about one-fifth of the population is Indian, representing about a quarter of the whole Indian population. The sex ratio is somewhat worse than that of the Chinese. Conditions are not such as to encourage promiscuity and prostitution to the same extent as with the Chinese. It is probable, therefore, that there is less prevalence of venereal disease among the Indians.

MALAYS

These, the people of the country, are mostly rural dwellers; they form only about one-tenth of the urban population, this being one-tenth of the total Malay population. They live largely in villages on small-holdings—cultivation of rice or rubber, and fishing, being the main occupations. Their sex ratio is a natural one; there is

"home life" among the people, and prostitution and promiscuity are less than among Chinese and Indians. Conditions, therefore, are less favourable to the spread of venereal disease among the Malays.

The Figures and Reports on Social Hygiene in the Reports of the Medical Department, F.M.S., 1929 to 1935

TABLE IV.—*Total Number of Cases of Venereal Disease Treated at Government Hospitals and Clinics in the F.M.S., 1929 and 1935*

Year	Chinese		Indians		Malays		Others		Total
	No.	%	No.	%	No.	%	No.	%	
1929 ..	22,615	55.4	11,707	28.7	3,545	8.7	2,935	7.2	40,802
1935 ..	7,790	42.3	6,642	36.1	2,602	14.1	1,376	7.5	18,410*
Decrease :	65.5%		43.3%		26.6%		53.1%		54.9%

* (i) The 1935 report gives 18,422 as the total number of treated cases. (ii) There has been a steady fall in the total from 1929.

TABLE V.—*Venereal Diseases Treated, 1929 and 1935*

Year	Syphilis	Gonorrhoea	Soft Sore
1929	24,975	12,366	3,461
1935	10,239	6,653	1,518
Decrease :	59%	46.2%	56.1%

TABLE VI.—*Ratio of Syphilis to Gonorrhoea (in Cases Treated)*

Year	Chinese	Indians	Malays	Total
1929	2.4	1.7	2.1	2 : 1
1935	1.9	1.1	1.9	1.5 : 1

TABLE VII.—*Average Number of Injections of Arsenic and Bismuth per Case of Syphilis*

1929 3.9 | 1935 4.7

In 1930 there were six clinics and fifty-three other places where treatment was available. This number was not less in 1935. Now, in the Report of the Medical Department, F.M.S., 1935, the following statement is made, based on the figures given above:

"It might have been expected that the increased immigrant population and the improvement in economic conditions would have caused an increase in the incidence of V.D. That the contrary is true seems to indicate that the work done during recent years in the way of education, legislation, and treatment is producing good results. It is significant that the decline in the number of cases has been consistent and progressive since the policy of closing the known brothels was first introduced."

It is suggested (a) that the assumption that a fall in the attendances for treatment indicates a fall in incidence is untenable, and (b) that education, propaganda, the treatment available, and the closure of brothels may even have acted in the reverse direction. To cite a fall in cases appearing for treatment as a fall in the incidence of venereal disease demands that one should have good grounds for believing that the same percentage of the infected attend for treatment from year to year, having due regard to population. It is not believed that these demands can at present be satisfied in the case of the F.M.S., where quack treatment is allowed and where there is no accurate knowledge of the number of patients treated by private medical practitioners from year to year.

From 1924 to 1934, when the post was abolished, the direction of work against venereal diseases was in the hands of a specialist officer. Since 1934 each State of the Federation has carried on its own work with the ordinary medical staff. This has possibly resulted in a

lowered standard of attack on the disease, in that a single specialist officer directing would probably achieve much more than a medical officer dealing with a clinic as a part of his multifarious duties. The clinics themselves, in most instances, can hardly attract the infected to come for treatment. In 1936 the clinic in one of the largest towns of the F.M.S., serving a population of about 60,000, conformed to few, if any, of the usual requirements of a V.D. clinic. No secrecy was provided, in that a patient entered the clinic direct from a public thoroughfare in a populous portion of the town, and could be entering only for one purpose—the treatment of a venereal disease. The clinic itself was dirty, dark, and ill kept generally. No facilities were provided for dark-ground examination of suspected syphilitic lesions. Inquiry showed that it had not been deemed necessary to consider cures; in fact, the clinic could not produce evidence that one case of gonorrhoea or syphilis was cured during the year.

Taking the treatment of syphilis in the F.M.S., it is noted that the average number of injections of arsenic and bismuth per case rose from 3.9 to 4.7 only. This does not indicate much progress, and 4.7 injections are hardly sufficient to render the patient non-infectious or to enable a woman to bear non-syphilitic children. The usefulness of even these few injections is further lowered, because treatment, in the absence of diagnosis by dark-ground illumination, has to await the development of a positive serum reaction.

Education has progressed considerably since 1929. This has resulted in a more discerning outlook in the individual, who now demands more from the social services. With increasing knowledge of the venereal diseases and their dangers the people are beginning to think of them as social stigmata demanding secrecy in their treatment. The present clinics are hardly likely to appeal to the more educated, and could scarcely prove attractive even to the uneducated. It is possible, therefore, that a great many more cases are being treated by private practitioners than in 1929. Propaganda mainly takes the form of leaflets and public notices. Surely it would be better first to improve the treatment centres, for the best form of propaganda is the cured patient. In this connexion Dr. J. G. Reed has kindly allowed me to quote from recent experiences of his in practice on a large estate. Several childless married Indian women labourers with a history of stillbirths and neonatal deaths came before him for ante-natal care. Serological tests were positive for syphilis. In each case anti-syphilitic treatment was given throughout the pregnancy, and resulted in the birth of a healthy baby. The gratitude of the mothers knew no bounds; they were convinced of the efficiency of Western medicine, and they told their friends. Cases of this sort are the best type of propaganda.

The known brothels were closed in 1930 under the Women and Girls Protection Act, which made brothel-keeping an offence. This Act may very well have driven much of venereal disease underground. At the female clinic in Kuala Lumpur in 1930, 2,541 women were treated, of whom 1,637 were prostitutes. In 1931 only 1,035 patients were seen at this clinic. It is difficult to believe that the prostitutes suddenly went out of business owing to closure of brothels. It is much more likely that they continued their trade and did not attend for treatment owing to their suspicion of Government institutions. This suspicion was also possibly communicated to their clients. The net result, then, would be spread of infection but no appearance of the infected for treatment. Prostitution is still rife, and it is doubtful if an appreciable number of infected prostitutes attend at clinics.

Serological Investigation

It is suggested that the figures in the medical reports of the Medical Department, F.M.S., are capable of more than one interpretation and that conclusions drawn from them are open to doubt. I have been unable to obtain further information on the subject which would assist in evaluating the measures adopted in the Federated Malay States against the venereal diseases or in arriving at an accurate estimate of their incidence and prevalence. In view of this an attempt was made to arrive at an estimate of the prevalence of syphilis among one section of the community by means of a serological survey reported below.

(A) AREA

The investigation was undertaken in Batang Padang District in the State of Perak, F.M.S., in 1937. On each of six large estates every male Indian working coolie was examined by Wassermann and Kahn tests, also seventy-eight male coolies in the public service—a total of 957. Of these all but forty-two, who were born in Malaya, were immigrants from India.

(B) THE SIGNIFICANCE OF THE WASSERMANN AND KAHN TESTS

The Wassermann test was carried out by the method described by Wyler (1929). The Kahn test was the "standard" Kahn. The Wassermann and Kahn tests have been described as occasionally positive in a great variety of conditions apart from syphilis and yaws, but only three of these need be considered as possible sources of error in this investigation—namely, leprosy, yaws, and malaria. Leprosy is common in India, being estimated at 50,000 cases in the Madras Presidency with its population of about 48,000,000 in 1934. At that rate one would expect to find only one or two cases among the people examined in this investigation, and actually none showed gross evidence of leprosy or had a history of leprosy except two cases which had been treated with good results and gave negative serological reactions. Yaws, though common in some parts of the country, is rare in this particular district. None of the people examined gave a history of yaws or presented any signs of previous yaws infection. It seems probable that malaria may give a positive serological reaction in the absence of syphilis in a certain percentage of cases. But none of the people giving a positive serological result in this series was in an attack of, or was convalescent from, malaria, so far as could be ascertained from the medical records and history of the patients.

For the above reasons it is considered that leprosy, yaws, and malaria may be ruled out as possible causes of non-specific serum reactions in this investigation.

(C) RESULTS

TABLE VIII.—*Wassermann and Kahn Tests (957 Male Indian Labourers)*

Positive			Doubtful		
Interpretation	No.	%	Interpretation	No.	%
W.R.++ or +	95	9.9	W.R.+ -	37	3.9
Kahn++ or +	88	9.2	Kahn + -	25	2.6
W.R.++ or + or Kahn++ or +	104	10.9	W.R.+ - or Kahn + -	42	4.4
W.R.++ ; K- W.R.+ ; K+- W.R.- ; K+ W.R.- ; K++	101	10.6	W.R.- ; K- or + - W.R.- or + - ; K+ -	45	4.7

On the above results it may be stated that those who are definitely syphilitic constitute, in round figures, 10 per cent. of the 957 males examined.

TABLE IX.—*Wassermann-positives in 809 Immigrants whose Length of Time in Malaya was Ascertained*

Time in Malaya	No. Examined	W.R. Positive	
		No.	%
Under 1 year	116	12	10.3
Over 1 year	693	68	9.8

The ratio of the age groups one to another was the same in this 809 as in the 957 in Table VIII. Those under one year in the country showed a larger relative number under the age of 45.

Discussion

Table IX, though of interest, does not embrace groups large enough to be of real significance. No very positive conclusions can therefore be drawn from it. The results of the tests in Table VIII show that 10 per cent. of 957 male Indian coolies are syphilitic. These people were unselected, and constitute a sample of the best-cared-for group of labourers in the F.M.S.—the Indian estate and Government labourers. In India, it is pointed out by Sir John Megaw (1936) that there is a lack of accurate knowledge of the prevalence of the venereal diseases, and that prevalence varies a good deal from place to place. He says "one might hazard a guess" that 10 to 20 per cent. of urban dwellers and 5 to 10 per cent. of rural dwellers in India would be Wassermann-positive. The Surgeon General, Madras (1932-4) says that the incidence of venereal disease in rural parts of Madras is very high, being 50 per cent. or more among the poorer classes. As the great majority of the Indians investigated were from Madras it is not surprising that the prevalence of syphilis is high.

Of recent years many serological studies have been undertaken in other countries. Some of these are given below for comparison.

Country	People Examined	Result %	Author
Ceylon ..	600 consecutive cases appearing at the Pasteur Institute for anti-rabies treatment	Total 10.2 Males 12.2 Females 5.5	Leanage (1936)
East London	1,002 unselected cases attending a general hospital	Total 8.3 Males 10.3 Females 5.1	Paul Fildes and James McIntosh (1916)
Nanking (China)	General hospital patients (Chinese), irrespective of disease	Total 17.5 Males 17.3 Females 18.2	Wang, Shen, and Chang (1937)
Tennessee (U.S.A.)	Random sample of population	Whites 1.69 Coloured 10.8	Roberts and Williams (1937)

Amongst Indian women Reed (1935) found 10 per cent. positive serologically in selected cases, and the Municipality of Singapore Health Report, 1934, shows 17.65 per cent. positive in Indian women whose babies had died and been certified by lay inspectors as other than syphilitic. Furthermore, in the same report Muriel G. G. Clark states that venereal disease can be taken as one of the chief factors in the causation of stillbirths, premature births, etc., in Singapore. These are all selected cases, however, and conclusions as to prevalence are likely to go astray if based on them. Routine serological tests in ante-natal clinics would help to supply more correct figures. The syphilis prevalence rate among Chinese is probably higher even than that among Indians. Kingsbury (1936) gives results of a serological survey of inmates

of Singapore gaol, and the ratio of positives, Chinese to Indians, was 29 to 18. Applying this to the rate for Indians of 10 per cent., the rate for Chinese would be 16.6 per cent. The social conditions of Chinese also favour a higher prevalence of syphilis and gonorrhoea. As to the Malays, there is little evidence at present of widespread venereal disease among them. The fact that their conditions of life are such as to favour a lower prevalence than in the case of Indians or Chinese lends support to this view. Further investigation is, however, required.

Conclusions

Examination of conditions at present in the F.M.S. shows:

1. (a) That social conditions in the population vary from race to race; that these conditions are such in relation to Chinese, Indians, and Malays as to favour, in varying degrees, the prevalence of venereal disease; and that disease probably exists in decreasing amounts among them in that order. (b) That the Medical Department's report of a fall in incidence in venereal diseases in the F.M.S. is not necessarily true if based on the evidence in the Annual Reports of the Medical Department, F.M.S.

2. That the incidence of syphilis among Indian male labourers is in the region of 10 per cent.

3. That enough evidence is available to warrant a survey of the whole question and the closest investigation of it with a view to the control of venereal disease.

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L. Bordoli (*Minerva med.*, 1939, 30, 54) states that among 205 cases of peptic ulcer treated at the Institute of Clinical Medicine of Milan University, evidence of syphilis was found in seventeen (8.5 per cent.). This is not very different from the incidence of syphilis in the population generally. Of these seventeen syphilitic patients 76 per cent. had duodenal ulcers. The nervous system was involved in 35.3 per cent., the proportion being most marked in cases of gastric ulcer. In 47 per cent. of the cases of peptic ulcer in syphilitic patients simple albuminuria was present without any other renal manifestations, and could be attributed to lesions in the renal vessels. Enlargement of the liver was found in 23 per cent. In 41 per cent. there was a well-marked lymphocytosis. There were no special radiological signs and the symptoms of peptic ulcer in the syphilitic were almost the same as in the non-syphilitic. Tabetic crises were present in only 11 per cent. Investigation of the gastric juice showed that hyperchlorhydria was present in 70 per cent., while in the rest the acidity was normal; in no case was there hypoauidity.

ARTERIAL EMBOLECTOMY

WITH NOTES OF A CASE

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Arterial embolism is not a common condition, and cases which come to operation early enough to be successful are so rare in this country as to make a case of embolectomy worthy of record. Riddell (1937) found that only twenty cases of embolectomy had been reported here, of which eleven had been successful; while in Sweden 382 cases were reported up to 1936 (Key, 1936), and of these eighty-six (22.5 per cent.) were successful, sixty-nine (18.1 per cent.) required subsequent amputation, and 227 patients (59.4 per cent.) died in hospital. Seventeen of the cases were aortic, and three of these (17.7 per cent.) were successful, while of the sixty-six iliac cases ten (15.1 per cent.) were successful. The discrepancy in the number of cases in the two countries is rather striking, and would almost suggest that in Sweden the possibility of such an emergency arising is more often considered in differential diagnosis than in this country, so that a greater number of cases come under the surgeon's care.

In the case recorded below the appearance of three smaller emboli before the large arterial embolism occurred made the diagnosis easy, but one can well imagine that the signs might be somewhat confusing had an embolus not been considered. This case, as the post-mortem report shows, had a multiple pathology, to which the patient succumbed two months after the operation; but the circulation in the legs still remained good when he was last seen alive, six hours before death.

Case History

An asbestos weaver, aged 46, on permanent compensation for asbestosis since February, 1938, was in bed from July 3, 1938, with severe dry bronchitis and auricular fibrillation, partially controlled by digitalis. On July 7 he had a sudden severe pain in the right loin spreading across the abdomen at the level of the umbilicus, and for the next twenty-four hours he passed very little urine, but this, however, was never blood-stained; the right kidney area was exceedingly tender, the pain necessitating the use of morphine. A diagnosis of renal colic was made, which in the light of later events was changed to that of a renal infarct. The pain gradually subsided in the course of two or three days.

On July 12 he had a sudden severe pain over the lower lobe of the right lung in the axillary line; there were physical signs of an infarct. On July 15 he had a similar pain, but less definite signs, over the left lower lobe. (The post-mortem examination disclosed a splenic infarct.) On the morning of July 17 the patient was slightly better, the pains having subsided. At 6.45 p.m. he awoke from sleep with a sudden agonizing pain in the lower abdomen, which spread down the left leg to the toes, and then similarly down the right leg, his legs becoming practically powerless. Seen at 7.15 p.m., he was collapsed: his pulse was 120 and irregular, and he was obviously in severe pain. From the level of the pubes to the toes both legs were dead white and corpse-like, the superficial veins showing as furrows instead of ridges; the skin was cool, but, owing to his shocked condition, not very different from the rest of his body. There was a faint pulsation in both femoral arteries, palpable to about the middle of Scarpa's triangle, but no pulsation in the lower arteries. The right femoral pulse had slightly greater volume than the left. He stated that his legs were useless; he was able to flex