A SURVEY ON THE PREVALENCE OF SYPHILIS IN A RAILWAY COLONY, LUCKNOW

by

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Syphilis is a venereal disease grouped under 'Treponematoses'. In a recent publication on treponematoses, Guthe and Willcox (1954) have pointed out that despite the medical, technical, social and economic advances of the past century, syphilis, yaws and pinta represent a group of infections which continue to afflict a large proportion of the world population.

In India, syphilis constitutes an important public health problem, much more so in recent years, as increased industrialization and urbanisation is going on in the country since the attainment of Independence in 1947. Incidence of syphilis in a community is very susceptible to the environmental conditions like war, civilization, marriage customs, and social, economic and political upheavals, etc. The social aspect is also important due to stigma attached to the disease and secrecy observed in regard to its infection and treatment. The patients are apt to observe secrecy after they are exposed to the disease and very often use indigenous medicines, and instead of availing the facilities of modern scientific treatment go to quacks for advice and treatment. It is, therefore, obvious that the figures reported by various hospitals and clinics give a much lower incidence of syphilis than the actual, and lack of correct knowledge of its incidence in the community is a great handicap to adopt any mass control measure against disease. Very few community surveys for syphilis in the general population have been done in India.

In India no accurate data for syphilis are available at present. It is estimated that 3 to 5 per cent of the urban population are positive reactors to syphilis (Rajam, 1959). "Surveys in Himachal Pradesh, the Kulu sub-division of Punjab, Jaunsar-Bawar area of Uttar Pradesh and Jammu and Kashmir have revealed that 30-40 per cent of the people were seropositive" (Tampi, 1959).

The most widely used case finding tool is the serological test in syphilis, which serves to bring the syphilis suspect to a definite diagnosis. Various serological tests are now used as a routine procedure in clinics and for mass surveys in the Western countries.

In view of the limited data available on the incidence and prevalence of syphilis in the general population, it was decided to make a survey on its prevalence in a railway colony at Lucknow by carrying out mass serological blood testing for syphilis and thus detecting the seroreactors, who were examined clinically, and also analysing various causative factors responsible for the disease.

MATERIAL AND METHODS

The present study was undertaken in the Charbagh railway colony of Northern Railway at Lucknow from 24th February to 16th October, 1962. This colony exclusively consists of railway employees and their families of all cadres e. g., workers of the workshops, gangmen, sweepers, clerks, guards, travelling ticket examiners, train drivers, doctors, nurses, administrative officers etc. The colony is well separated from the neighbouring localities by railway station and the military cantonment. The residential accommodation in the colony consists of definite type of quarters and bungalows allotted according to the category of the employee based on his pay and status. In 1962 it had 1,873 residential quarters and bungalows having 1,557 families. The distribution of the quarters is shown in Table I.

TABLE I

Number of Quarters of Various Types with Population in Each Type in Charbagh Railway Colony.

Type of quarters	Accomodation	Quarters		Surveyed	
		Number	Percentage	Number	Percentage
Type I	Single-room	1,269	67.7	648	58.7
Type II	Two-room	522	27.9	384	34.8
Type III	Three-room	23	1.2	21	1.9
Type IV	Four-room	56	3.0	47	4.3
Type V	Five-room (Bungalows)	3	0.2	3	0.3
		1,873	100.0	1,103	100.0

Adequate medical aid was available in the colony. The Divisional Hospital of the Lucknow Division of the Northern Railway is situated in this locality. Besides there is well equipped dispensary for the outdoor patients and a maternity and child welfare centre in the colony.

The aim of the study was to find out the prevalence of syphilis in the colony. For this a mass blood examination by VDRL test was done. Out of the total of 1,557 families in the colony, 1,103 families or 71.0 per cent were covered, which comprised of 3,702 members of whom 3,441 members or 92.9 per cent were tested. The sera of seropositive cases were again subjected to Kahn's test. The sero-reactors were examined clinically and investigated in regard to marital status and precipitating circumstances and the findings were noted on a schedule. The family particulars of the surveyed population had been noted on another preplanned schedule.

The seropositive cases were separated under two groups—one with definite clinical findings and positive history of syphilis, and the others with no clinical

findings and no definite history of exposure. The cases in the latter group were subjected to repeated serological tests, both VDRL and Kahn's, and a careful history of any recent illness which may give rise to false positive reaction was taken among them. False positive cases were, thus, excluded and those who gave consistently seropositive reaction in all the series of tests and had no history of any recent illness or illnesses giving false positive reaction and had no clinical manifestation of syphilis, were grouped under ' latent syphilis '.

RESULTS

Of the 3,441 blood samples examined 123 were found to be serologically positive on first occasion using the VDRL slide tests. These 123 positive cases were subjected to Kahn's test and only 97 cases were serologically positive with this test. By doing subsequent VDRL test in 26 negative cases to Kahn's test it was found that 3 showed negativity to VDRL test within a period of 2 to 4 months. These 3 cases gave recent history of diseases which give false positive reactions and were, therefore, excluded from the list of positive cases.

Thus finally a total of 120 cases out of 3,441 persons surveyed were serologically positive for syphilis with VDRL test. Of these 97 were positive both with Kahn's and VDRL tests. Out of the remaining 23, 16 had definite clinical manifestations and 7 gave a positive history of exposure but had no clinical manifestations and were grouped under ' latent syphilis '. The cases under the latter group showed seropositivity on repeated VDRL test.

On further analysing the 97 cases clinically, which were serologically positive with both VDRL and Kahn's test, 78 cases had definite clinical manifestations and 19 gave a positive history of exposure but had no clinical manifestations.

Summing up, out of the 120 serologitally positive cases, 94 had definite clinical findings, while the remaining 26 were clinically negative but gave definite history of exposure and were included in ' latent syphilis '. Three cases gave serologically false positive reaction for syphilis as they had neither history nor clinical findings of syphilis and had recent history of diseases which give false positive reaction. Thus in all a total of 120 cases of syphilis in 3,441 persons surveyed were diagnosed, giving a prevalence rate of 3.5 per cent.

DISCUSSION

1. *Age and Sex*:—Out of a total of 3,441 persons surveyed, 1,832 or 53.2 per cent were male and 1,609 or 46.8 per cent female. The corresponding positive cases were 82 (4.5 per cent) among males and 38 (2.4 per cent) among females (Table 2).

In the age group 0 to 4 years one female was positive who had signs of congenital syphilis and her parents were also positive for syphilis. In the next age group of 5 to 9 years two females were positive and these were also cases of congenital syphilis. In the age group of 10 to 14 years none was found positive.

TABLE 2

Distribution of 120 Positive Cases According To Age and Sex.

Age group in years	POPULATION EXAMINED								
	Male			Female			Both sexes		
	Total examined	Total positive	Percentage positive	Total examined	Total positive	Percentage positive	Total examined	Total positive	Percentage positive
0 to 4	9	—	0.0	33	1*	3.0	42	1	2.4
5 to 9	227	—	0.0	196	2*	1.0	423	2	0.5
10 to 14	244	—	0.0	163	–	0.0	407	–	0.0
15 to 19	146	—	0.0	117	3	2.6	263	3	1.1
20 to 24	219	10	4.6	257	7	2.7	476	17	3.6
25 to 29	118	16	13.5	264	4	1.5	382	20	5.2
30 to 34	238	13	5.5	245	12	4.9	483	25	5.2
35 so 39	313	17	5.4	116	5	4.3	429	22	5.1
40 to 44	134	11	8.2	105	2	1.9	239	13	5.9
45 to 49	125	7	5.6	62	2	3.2	187	4	2.1
50 to 54	40	7	17.5	29	–	0.0	69	7	10.1
55 to 59	13	1	7.7	8	–	0.0	21	1	4.8
60 to 64	2	–	0.0	9	–	0.0	11	–	0.0
65 and over	3	–	0.0	5	–	0.0	8	–	0.0
Total	1,832	82	4.5	1,609	38	2.4	3,441	120	3.5

* Cases of congenital syphilis.

serologically or clinically. In this age group there were mostly school children, who are sexually still immature and who are under the control and supervision of their parents. This might be the cause of their being 'virgin' to syphilis.

Next age group of 15 to 19 years had 3 female positive cases, the source of infection in all the three being husbands.

In the age groups 20 to 24 and 25 to 29 years the males showed a higher positive rate than the females. Higher rate in these age groups among the males could be attributed to the fact that the majority of the males were earner and often unmarried and were liable to get involved in activities and company which favour exposure to syphilis.

Now coming to the positivity rate in the other age groups, it is seen that in the age group 30 to 34 years the positivity percentage of 5.5 in males and 4.9 in females has shown a fall in the percentage prevalence in males and an increase in females as compared to that of the preceeding age group of 25 to 29 years where the positivity rates among males and females were 13.5 and 1.5 per cent respectively. The main factor for this might be that the married males in this age group had transmitted the diseases to their females partners and had led to an increase among the females. The males in this age group had probably been more conscious and family minded and had taken treatment for syphilis when diagnosed. Due to this, the prevalence percentage had dropped to some extent in both the males and females in the next age group of 35 to 39 years with a positivity rate of 5.4 and 4.3 per cent respectively. Illiteracy and lack of knowledge about the disease are also responsible for the infection to persist. The age group 50 to 54 years showed the highest prevalence among the males. This might be due to high number of widowers in this age group who were a victim of syphilis, 12 widowers out of a total 26 (Table 8), due to their circumstantial indulgence in sexual intercourse with females of loose virtue after the death of their wives. Remanent of this iefection was carried over to the next age group of 55 to 59 years in males which showed a prevalence of 7.7 per cent. Among the females the highest prevalance rate of 4.9 per cent was found in the age group 30 to 34 years, the females having acquired the infection in majority of the cases from their husbands. On the whole it is seen that the positivity rate among the males was nearly double (4.5 per cent) as compared to the rate (2.4 per cent) among the females.

2. *Syphilis in relation to religion*:—The positivity rate was highest in Christians, being 28.0 per cent in the males and 13.6 per cent in females, and lowest in Hindus being 3.3 per cent in males and 1.8 per cent in females. The high rate among Christians might be due to certain social customs such as free mixing among the males and females, dating, late marriages, and drinking habits, use of alcohol not being a taboo, may be responsible for a higher sexual promiscuity. Among middle class Hindus due to stricter family life, there may be

less promiscuity and therefore less chances of infection. In Muslims the prevalence was higher than Hindus but lowerer than Christians (Table 3).

TABLE 3

Distribution of Cases According to Religion.

Religion	Total population surveyed			Total positive			Percentage positive		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Hindus	1,702	1,507	3,209	56	27	83	3.3	1.8	2.6
Muslims	105	80	185	19	8	27	18.1	10.0	14.6
Christians	25	22	47	7	3	10	28.0	13.6	21.3

3. *Syphilis in relation to occupation* :—Distribution of cases according to occupation is shown in Table 4.

TABLE 4

Disturbation of Cases According to Occupation

Range of prevalence percentage	Occupation	Total population surveyed	Positive	
			Number	Percentage
0.0 to 0.9	(1) Administrative (Class I and II Officers)	21	—	0.0
	(2) Students	875	1	0.1
1.0 to 1.9	(3) Non-occupational group-children.	267	3*	1.1
3.0 to 3.9	(4) House-wives or female household workers	1,051	32	3.0
	(5) Medical	29	1	3.4
	(6) Electricians	53	2	3.8
4.0 to 4.9	(7) Clerks	294	13	4.4
	(8) Chargemen (in workshops)	130	6	4.6
	(9) Linemen and Pointsmen	64	3	4.7
6.0 to 6.9	(10) Gangmen	33	2	6.1
	(11) Fitter workmen	145	9	6.2
	(12) Unemployed	36	1	6.3
	(13) Guards and Travelling Ticket Examiners	102	7	6.9
8.0 to 8.9	(14) Drivers	36	3	8.3
10.0 to 10.9	(15) Khalasis	211	22	10.4
12.0 to 12.9	(16) Labour and Works Inspectors	16	2	12.5
	(17) R. P. F. men	40	5	12.5
21.0 to 21.9	(18) Sweepers	38	8	21.0
	Total	3,441	120	3.5

* Cases of congenital syphilis.

In a total of 3,441 persons surveyed, there were 18 occupational groups. The highest percentage of cases (21.0 per cent) were found among sweepers. High prevalence (12.5 per cent) was found among R. P. F. (Railway Protection Force) men who were living without their families, and Labour and Works Inspectors. Prevalence was also high among *Khalasis*, train drivers, guards, Ticket examiners, fitter workmen and gangmen. Most of the educated occupations in the high prevalence group had trevelling duties. Prevalence was lowest among the students (0.1 per cent) majority of whom being children were not sexually active, and nil among officers.

4. *Syphilis in relation to earning status*:—Prevalence of syphilis among earners, earning dependents and dependents is shown in table 5. From the study it was evident that the people in the earning class showed highest positivity rate (7.4 per cent). Non-earning dependents who were positive were mainly housewives.

TABLE 5.

Distribution of Cases Accordlng to Earning Status.

Earning status	Surveyed population		Positive	
	Total	Percentage	Total	Percentage
Earners	1,107	32.2	82	7.4
Earning dependents	82	2.4	1	1.2
Non-earning dependents	2,252	65.4	37	1.6
	3,441	100.0	120	3.5

5. *Syphilis in relation to socio-economic status*:—The socio-economic status in the present studies has been analysed in accordance with the social classification given by Prasad (1961) and is presented in Table 6. From the Table it is evident that maxlmum positivity rate (16.9 per cent) was in Social Class V. Out of the thirteen positives in this Class, five were sweepers, five *Khalasis*, two fitter workmen and one gangman. The lowest rate of positivity was in Social Class IV. High prevalence was seen either in the very poor or among the rich.

TABLE 6.

Distribution of Cases According To Socio-Economic Status.

Social Class	Per capita income per month	Economic Status	Population surveyed		Positive	
			Total	Percentage	Number	Percentage
I	Rs. 100 and over	Rich	293	8.5	23	7.8
II	Rs. 50 to 99	Upper middle	1,225	35.5	47	3.8
III	Rs. 30 to 49	Lower middle	1,207	35.1	25	2.1
IV	Rs. 15 to 29	Poor	632	18.5	12	1.9
V	Less than Rs. 15	Very poor	77	2.2	13	16.9
		Total	3,441	100.0	120	3.5

6. *Syphilis in relation to education* :—Prevalence of syphilis according to education is given in Table 7.

TABLE 7.

Distribution of Cases According To Educational Status (Population Above 5 Years of Age)

Educational level	Total population examined			Number of positive cases			Percentage		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Illiterate	148	408	556	15	18	33	11.3	4.4	5.9
Just literate	206	311	517	12	3	15	5.8	1.0	2.9
Primary School	226	371	597	4	9	13	1.8	2.4	2.2
Junior High School	278	217	495	8	4	12	2.8	1.8	2.4
High School	459	219	678	18	2	20	3.9	0.9	2.9
University	170	43	213	9	–	9	5.3	0.0	4.2
*Technically trained	336	7**	343	16	1**	17	5.8	14.3	5.0
	1,823	1,576	3,308	82	37	119	4.5	2.4	3.5

* Chargemen, fitter workman and medical (doctors, nurses, compounders etc.)
** Nurses.

Education appears to have an important bearing on the prevalence of syphilis as is evident from Table 7. The two groups together in males, i. e. illiterate and just-literate, had the highest percentage of positive cases, 27 out of 354 or 7.6 per cent as against the remaining males who had 55 cases in 1,469 or 3.7 per cent. Next comes the group of 'Techically trained' workers where the combined positivity rate for the two sexes was 5.0 per cent.

7. *Syphilis in relation to marital status* :—Prevalence of syphilis according to marital status is shown in Table 8.

TABLE 8.

Distribution of Cases According to Marital Status.

Marital status	Population surveyed		Positive	
	Number	Percentage	Number	Percentage
Unmarried	1,454	42.3	26	1.8
Males	873	25.4	23	2.6
Females	581	16.9	3*	0.5
Married	1,875	54.5	81	4.3
Males	932	27.4	47	5.0
Females	943	27.7	81	3.6
Widowers	26	0.8	12	46.1
Widows	85	2.5	1	1.2
Separated	Nil	0.0	Nil	0.0
Divorced	1	0.0	–	0.0
	3,441	100.0	120	3.5

* Cases of congenital syphilis.

The prevalence rate is higher in married persons (4.3 per cent) than the unmarried (1.8 per cent). It is more than double. Twenty-six of the female married cases in the present study had acquired the infection from their husbands (Table 15). Widowers had a very high prevalence rate (46.1 per cent). On the contrary widows had the lowest prevalence rate (1.2 per cent) only 1 out of 85 widows was positive. This might be due to the traditions in the country which put restrictions on the widows.

8. *Syphilis in relation to addiction*: Addiction, especially to alcohol, plays an impartant contributory role in the acquisition of syphilis. In the present study 127 males and 26 females out of a total 1,832 and 1,609 respectively surveyed, gave a definite history of addiction to alcohol. Among these alcohol addicts, 22 males or 17.3 per cent and 3 females or 11.5 per cent were positive for syphilis, which are high prevalence rates. Prevalence among addicts to 'Tari' (toddy) was also high (Table 9).

TABLE 9.

Distribution of Cases According To Addiction.

Addiction to	Population surveyed			Total positive			Percentage positive		
	Male	Female	Total	Male	Female	Total	Male	Female	Both sexes
No addiction	1,498	1,499	2,997	41	30	71	2.7	2.0	2.4
Alcohol	127	26	153	22	3	25	17.3	11.5	16.3
'Tari' (toddy)	43	4	47	7	1	8	16.3	25.0	17.0
Opium	2	–	2	–	–	–	0.0	0.0	0.0
'Bhang' (*Canabis indica*)	12	2	14	1	–	1	8.3	0.0	7.1
'Ganja' dried flowers of female plant of *Canabis idica*)	2	–	2	–	–	–	0.0	0.0	0.0
Charas' (resin of *Canabis indica*)	2	–	2	–	–	–	0.0	0.0	0.0
Tobacco smoking	146	78	224	11	4	15	7.5	5.1	6.7
	1,832	1,609	3,441	82	38	120	4.5	2.4	3.5

9. *Time-lag between onset of symptoms and treatment taken*:—Excluding 26 cases of latent syphilis out of the total of 120 positive cases, there were 94 cases (63 males and 31 females) with definite clinical manifestations of syphilis or associated gonorrhoea of whom 83 sought treatment for the ailment.

Table 10 reveals that 26 or 41.3 per cent males and 9 or 29.0 per cent females suffering from venereal diseases took treatment within the first 10 days of the onset of symptoms.

The analysis further indicates that with the severity of symptoms, the treatment was taken earlier, i. e. of the 7 cases of sore on penis in males, 6 took

TABLE 10

Distribution of Cases according to time-lag between the onset symptoms and treatment taken.

Symptom for which treatment was taken	No treatment		Time-lag in days														Total percentaga		
			0-10		11-20		21-30		31-60		61-90		Over 90		Total				
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Both sexes	Male	Female	Both sexes
Sore on penis	–	–	6	–	1	–	–	–	–	–	–	–	–	–	7	–	7	11.1	0.0	7.4
Burning in urethra	–	–	8	3	3	1	2	2	4	–	4	–	–	–	21	6	27	33.3	19.3	28.7
Uretheral pus discharge	–	–	2	1	–	–	1	–	–	–	–	–	–	–	3	1	4	4.8	3.2	4.3
Skin rashes	2	3	3	1	1	4	4	1	3	2	1	–	4	–	18	11	29	28.5	35.5	30.9
Other involvement	1	5	1	4	–	–	–	–	2	3	1	–	–	–	5	14	18	8.0	41.9	19.1
Gonorrhoea (as recognised by the patients)	–	–	6	–	2	1	1	–	–	–	–	–	–	–	9	–	9	14.3	—	9.6
	3	8	26	9	7	6	8	3	9	5	6	–	4	–	63	31	94			
Percentage	4.8	25.8	41.3	29.0	11.1	19.3	12.7	9.7	14.3	16.1	9.5	–	6.3	–				67.0	33.0	100.0

treatment in the first 10 days of the appearance of the symptoms and the remaining one took treatment between 11 to 20 days. Similarly, for pus discharge per urethra due to associated gonorrhoea, out of the 3 cases in males, 2 took treatment in the first 10 days. Out of 9 cases of associated gonorrhoea recognised by the patient amongst the males, 6 took treatment in the first 10 days.

10. *Distribution of cases according to treatment taken*:—Distribution of cases according to the type of the treatment taken is shown in Table 11.

TABLE 11.

Distribution of Cases According to Treatment Taken

Treatmet taken	Number of cases			Percentage		
	Male	Female	Total	Male	Female	Total
Nil	3	8	11	4.8	25.8	11.7
Allopathic	27	10	37	42.9	32.3	39.4
Vaidyak	7	3	10	11.1	9.7	10.6
Unani	4	1	5	6.3	3.2	5.3
Quacks, etc.	22	9	31	34 9	29.0	33.0
	63	31	94	100.0	100 0	100.0
Percentage of total				67.0	33.0	

The analysis shows that majority of cases (42.9 per cent males and 32.3 per cent females) took allopathic treatment. This might be due to better and 'easy to reach' medical families existing in the Charbagh railway colony. But even then one-third of the patients got themselves treated by the quacks, mainly due to ignorance and superstition. Three males or 4.8 per cent and 8 females or 25.8 per cent did not take treatment of any type. This might be due to ignorance and social stigma attached to the disease.

11. *Distribution of cases according to stage of the disease*:—Analysis of cases according to stage of syphilis is shown in Table 12.

TABLE 12.

Distribution of Cases According to Stage of Disease

Stage of disea e	Number of cases found				Both sexes	
	Male		Female			
	Number	Percentage	Number	Percentage	Number	Percentage
Primary syphilis	34	41.5	9	23.7	43	35.8
Secondary syphilis	25	30.5	18	47.4	43	35.8
Tertiary syphilis	4	4.9	1	2.6	5	4.2
Congenital syphilis	–	0.0	3	7.9	3	2.5
Latent syphilis	19	23.1	7	18.4	26	21.7
	82	100.0	38	100.0	120	100.0

The highest number of cases in the males had primary syphilis i. e. 34 out of 82 cases (41.5 per cent). Among the females, the highest prevalence was noticed among those having secondary syphilis, 18 females out of 38 or 47,4 per cent. There were three female cases of congenital syphilis forming 2.5 per cent of the total cases.

12. *Distribntion of cases according to systemic involvement* :—Out of 63 males and 31 females who had clinical signs 41 males (65.0 per cent) and 16 females (51.6 per cent) showed systemic involvement. The highest number of cases in this group had signs of genito-urinary system involvement (82.9 per cent males and 81.3 per cent females had involvement of genito urinary system). In 3 male patients (7.3 per cent) more than one system was involved and 2 female patients (12.5 per cent) had clinical findings in more than two systems. Non of the 57 patients in this group showed any finding in either the respiratory or the alimentary system (Table 13).

TABLE 13.

Distribution of Cases According to Systemic Involvement

System involved	Number of cases surveyed				Both sexes	
	Male		Female			
	Number	Percentage	Number	Percentage	Number	Percentage
Alimentary system	–	0.0	–	0.0	–	0.0
Cardiovascular system	1	2.4	–	0.0	–	0.0
Genitourinary system	34	82.9	13	81.3	47	82,4
Locomotor system	2	4.9	–	0.0	2	3.5
Nervous system	1	2.4	1	6.2	2	3.5
Respiratory system	–	0.0	–	0.0	–	0.0
More than one system	3	7.3	2	12.5	5	8.8
	41	100.0	16	100.0	57	100.0
Percentage of the total		71.9		28.1		

13. *Social pathology in relation to precipitating factors* :—In the study of social pathology or the precipitating factors which lead to exposure, the most important precipitating factor was unhappy or strained family life forming 34.2 per cent of the precipitating factors in males and 25.5 per cent among females. Addiction to alcohol was also an important precipitating factor. In a few cases two or more factors were present (Table 14).

TABLE 14.

Distribution of Cases According to Precipitating Factors Responsible for the Disease

Precipitating factors or circumstances which lead to the disease	Number of cases				Both sexes	
	Male		Female			
	Number	Percentage	Number	Percentage	Number	Percentage
Company of undesirable friends	18	15.8	2	3.6	20	11.8
Ignorance about disease and its cause	15	13.1	27	49.0	42	24.8
Addition to alcohol	22	19.3	3	5.5	25	14.8
Circumstantial indulgence in sexual intercourse	18	15.8	6	10.9	24	14.2
Unhappy or strained family life	39	34.2	14	25.5	53	31.4
Incompatibility in married life	2	1.8	3	5.5	5	3.0
	114	100.0	55	100.0	169	100.0
Percentage of the total		67.5		32.5		

14. *Syphilis in relation to source of infection*: In the present study it was found that the source of infection in females was husband in 26 cases (21.6 per cent) and other man than husband in 2 cases (1.7 per cent). Both of them were unmarried. Three female children were having congenital syphilis (2.5 per cent) from their parents (Table 15).

In males, wives were responsible for transmitting the infection in three cases (2.5 per cent) prostitutes in 12 cases (10.0 per cent) and women other than prostitutes or wives in 17 cases (14.2 per cent). In 4 males (3.3 per cent) sodomy was the probable source of infection. In 53 cases (44.2 per cent) the source of infection could not be found out from their history (Table 15).

TABLE 15

Distribution of Cases According To Source of Infection

Source of infection	Number of cases	Percentage	Remarks
Husband	26	21.6	
Wife	3	2.5	
Prostitutes	12	10.0	
Women other than prostitute or wife	17	14.2	
Man other than husband	2	1.7	Unmarried
Sodomy	4	3.3	
Parents	3	2.5	Congenital syphilis
Not revealed	53	44.2	
Total	120	100.0	

15. *Pregnancy in relation to syphilis*:—Out of 35 married female cases, 19 or 54.2 per cent had carried pregnancies, in all 41 pregnancies. Out of the 41 pregnancies, 24 or 58.5 per cent terminate in live births, 6 or 14.6 per cent in still births and 11 or 26·8 per cent in abortions. Three out of 24 live births or 12.5 per cent had congenital syphilis. Thus out of a total of 41 pregnancies, 20 pregnancies or 47.0 per cent had ended in abortions, still births, or live births with congenital syphilis.

SUMMARY

1. This study was carried out in the Charbag railway colony of the Northern Railway at Lucknow in 1962. The colony had 1,873 residential quarters having 1,557 families.

2. Out of a total of 1,557 families in the colony, 1,103 families or 71.1 per cent were covered for a survey on the prevalence of syphilis, which comprised of 3,702 members of whom 3,441 or 92.9 per cent were tested by VDRL slide test. The VDRL positive cases were subjected to Kahn's test and their history of the disease together with the clinical examination and precipitating factors were recorded.

3. Out of 3,441 persons surveyed, 123 were found to be positive with VDRL test on the first occasion, and 97 out of the 123 were positive with Kahn's test. By doing repeated VDRL test in 26 negative cases to Kahn's test 3 cases showed negativity to subsequent VDRL tests and gave recent history of diseases which give false positive reaction. These were excluded from the list of positive cases. Thus finally, 120 cases out of 3,441 persons examined were found to be positive for syphilis giving a prevalence rate of 3.5 per cent.

4. The cases were further analysed on the basis of their age and sex, religion, occupation, earning status, socio-economic status, educational status, addiction, especially to alcohol, precipitating circumstances etc. and the results have been discussed and tabulated, accordingly.

5. In the above analysis it was found that the prevalence of syphilis was highest in the age group of 50 to 54 years, it being 10.1 per cent, followed by 25 to 44 years age group having a population of 1,533 with 80 cases giving a prevalence of 5.2 per cent. It was lowest in the age group 15 to 19 years and nil in 10 to 14 years age group. The factors involved have been discussed.

6. In Christians the prevalence of syphilis was found to be highest (21.3 per cent) and was lowest among Hindus (2.6 per cent).

7. In the occupational group the prevalence was highest among sweepers (21.0 per cent) followed by R. P. F. men and Labour and Works Inspectors (12.5 per cent), *Khalasis* (10.4 per cent) and Train Drivers (8.3 per cent). It was lowest in the students (0.1 per cent) and nil in Administrative Class I and II officers. Analysis according to socio-economic status showed the highest prevalence (16.9 per cent) in the very poor (Social Class V).

8. Taking into consideration the educational status, the prevalence of syphilis was highest in illiterate group (5.9 per cent) and in the technically trained persons (5.0 per cent). In other groups it was nearly half of these rates except those with University education where it was 4.2 per cent.

9 The prevalence of syphilis in relation to marital status has been discussed and presented. Highest prevalence was amongst the widowers (46.1 per cent). Prevalence was highest among the married persons (4.3 percent) than the unmarried (1.8 per cent). Among the addicts the prevalence rate was highest in 'Tari' (toddy) and alcohol addicts (17.0 per cent and 16.3 per cent respectively).

10. The prevalence was also studied in relation to type of treatment taken, the stage of the disease and the systemic involvement.

11. The precipitating factors responsible for the disease, the source of infection, and the effect of the disease on pregnancy have also been dealt.

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