

AN APPRAISAL OF SOME (STS) SEROLOGICAL SURVEYS (INDIA)*

B. B. GOKHALE AND (MRS.) TARA GOKHALE

Summary

Syphilis in India has now reached a proportion to constitute a major health problem. The knowledge and techniques of prevention and control of syphilis are now well established. To use the knowledge it is necessary to have correct data on the incidence of the disease. Serological test for syphilis is a simple case finding tool. Data on the prevalence of the disease based on hospital record has limitations. Therefore a case is made for routine serological testing for syphilis of industrial recruits as it would reflect a near picture of general cross-section of the population.

Syphilis has now reached a certain proportion in India and constitutes a major health problem. Incidence of syphilis in a community is affected by its environmental conditions like economical, political and social upheavals, wars etc. This is well reflected in the country since the last two decades; i.e. from the date the country attained its Independence in the year 1947. In that year the country had to accommodate on a very large scale the displaced population. Later, as a result of the introduction of the Five year plans there has been a phenomenal rise in the population of cities due to mass entry of wage earners in the urban areas from the mofussil. There seems to be a correlation between urbanisation and industrialisation on one hand and incidence of venereal diseases on the other.

The knowledge and techniques of prevention and control of syphilis are now well established. However, to use

this knowledge it is necessary to have correct data on the incidence of the disease. Collection of such data is not always easy in the developing countries and is beset with many practical difficulties. Venereal diseases in this country do not come under the category of communicable diseases notifiable to the public health authority. Add to it the social stigma attached to V.D. Such conditions enhance the difficulties in obtaining correct useful data on the prevalence of the disease. Serological tests for syphilis is a simple case finding tool but under the prevailing conditions random sample surveys are not feasible.

It should also be borne in mind that India is a vast country with great variations in climate, culture and religion.

It is obvious that data on the prevalence of the disease, based on hospital attendance and therefore restricted to certain localities and socio-economic groups, has its limitations. M. D. Mungale¹ reported 21.22% as a seropositivity rate of various clinics at J. J. Group of Hospitals in Bombay (India).

* A paper presented at the Second World Congress of the International Society of Tropical Dermatology at Kyoto, Japan 1969, 322, M. G. Road, Poona-1

Received for Publication on 18-7-1973

Endemic syphilis is prevalent amongst hill folks of vast sub-Himalayan areas and Himachal Pradesh. Surveys in the Kulu division of Punjab, Jaunsar Bawar area of Uttar Pradesh and Jammu and Kashmir have revealed that 30 to 40% of the subjects are sero-positive. Gokhale et al² studying antenatal cases in a Government Hospital in Poona (India) recorded a sero-positivity rate of 8.5% in 1955-56 and 10.8% in 1956-57. The Madras figures from Corporation antenatal clinics for the same category are: an average of 5.7% for the years 1953 to 1958. Those of Government General Hospital for women are an average of 8.3% for years 1953 to 1958.³

The sero positivity rate of blood donors from low income group attending Military Hospital, Delhi has been recorded as 12% for 1959, 18.7% for 1960 and 12.1% for 1961.⁴ The percentage of seropositivity among such blood donors of Sassoon Hospitals, Poona (India) during the respective years was 14.56%, 14.11% and 11.30% (Table No. 1).

TABLE 1
Blood Bank Donors

Year	Total No. of persons	Positive	Negative	Percentage
1958	2,695	341	2,354	12.65
1959	3,220	479	2,741	14.56
1960	3,563	503	3,060	11.11
1961	4,212	476	3,736	11.30
1962	3,865	544	3,321	14.07
1963	3,416	322	3,094	9.42
1964	3,620	279	3,341	7.43
1965	4,461	300	4,161	6.27
1966	4,471	640	3,831	13.41
1967	5,639	772	4,867	13.69
1968	5,384	333	5,051	6.21

Excepting the extreme high figures of seropositivity (30 to 40%) of mountainous areas of the North — there is some agreement and co-relationship in the other data. However, this data cannot be considered representative of the general cross-section of the population.

Therefore, various venues were being searched to circumvent the practical difficulties in collection of the required material but at the same time aiming to collect as near a representative sample as possible.

Materials and Methods

A factory system is an all pervasive force in contemporary culture with ramification into every conceivable form of human activity. Therefore, industrial units were chosen for this study. The present data was collected during the year 1967. Every recruit selected for employment by two engineering firms from Poona, (India)* was covered under the study. The blood of all these subjects was submitted to V.D. R.L. test. The nature of work and employment in each case was recorded. It will be seen from Table Nos. (II & III) that the overall percentage of sero-positivity amongst the industrial recruits is 1.5%. It is 1.6% amongst floor men, while it is 1.07% amongst the white collar class. There is another interesting data which is being presented here. During a national emergency a large number of citizens donated their blood. This was a voluntary group.

TABLE 2
Industrial Workers
Workshop Floor Workers

Occupational Category	Negative	Positive	Total
(a) Skilled workers	551	7	558
(b) Semi-skilled workers	100	3	103
(c) Unskilled workers	996	17	1013
Total	1647	27	1674

* Poona (India) was considered basically to be a cultural and educational centre till 1940 (World war II). Thereafter, though it still continues to be an important cultural and educational centre even to-day, it is now invaded by industrial units. Continued development of new industries has resulted in heterogeneity of population.

TABLE 3
White Collar Group

Occupational Category	Negative	Positive	Total
(a) Engineers	54	0	54
(b) Trainee Engineers	99	2	101
(c) Clerks, Typists, Stenos	197	2	199
(d) Managerial programme	17	0	17
Security Officers, Branch Managers, Medical Officers, Sales Officers, Secretaries			
(e) Research	3	0	3
Total	370	4	374

The data was collected in 1965. There was not a single positive reactor amongst 2,279 persons.* However, during the same year, 6.72% of seropositivity was reported amongst the blood donors receiving payment. In this context, results of a survey carried out in a Railway colony at Lucknow is interesting⁵. 92.9% subjects were covered by this survey. The prevalence rate amongst 3,441 persons surveyed was 3.5%. The population studied consists of males, females and children. The positivity rate in male patients was 4.5% while in female it was 2.4%. Rajam⁶ estimated an overall rate of 3 to 5% in an urban population. Tampi⁷, advisor in Venerology to The Government of India assumed an overall prevalence rate of syphilis at 5%. Now as for the present data it must be borne in mind that the data presented has its limitations because of the nature of the sample. The persons studied were selected recruits of Engineering Firms and their ages varied from 18 to 40 years. Majority of them were in the age range of 18 to 30 years.

* As for the data on the blood collected during emergency, it can be said that only those persons who were sure that they were free from any diseases volunteered to donate blood.

(This range is important as this is the period of active sex life). They were all males.

Perusal of this scant information emphasises the importance of zonal surveys. When it is not possible to get statistically ideal data, it is wiser to try other sources of information approaching near ideal conditions.

Hence a case is made for routine testing for syphilis of recruits in the industrial units; particularly, in the developing countries with similar setting as ours. Fully bearing in mind the limitations of such information,** it is felt that the results of such surveys would reflect a near picture of the general cross-section of the population.

Acknowledgment

We are thankful to Dr. M. V. Bapat of Department of Pathology, B.J. Medical College for the data of blood donors, during a national emergency; to the Dean of the Sassoon General Hospitals for making the blood bank available; to all colleagues from Kirloskar group for their ever willing co-operation in collection of data.

REFERENCES

1. Mungale MD, Jhala HI and Welinkar WN: Sero-reactivity for syphilis in Bombay, Brit J Vener Dis 34 : 113, 1958.
2. Gokhale BB: A short synopsis of salient features of aim and results of inquiry on study of incidence and relationship of the prenatal & neonatal syphilis and results of treatment by penicillin at various stages, Ind J Derm Vener 27 : 84, 1969.
3. Rangiah PN: Syphilis and pregnancy, Ind J Derm Vener, 25 : 155, 1959.
4. Sukhija CI: Control of venereal diseases, Ind, J Derm 28 : 56, 1962.
5. Kapoor OP, Prasad BG: A survey on the prevalence of syphilis in a railway colony Lucknow, Ind J Derm Vener 30 : 19, 1964.
6. Rajam RV: Venereology dying but not venereal disease Ind J Derm Vener, 25 : 49, 1959.
7. Tampi RB: Control of Venereal diseases in India, Swastha Hind, 3 : 189, 1959.

** The sample under study is not random.