

21. N. III.

14  
9, 4, 1, 1  
SOUTH AFRICAN INSTITUTE OF RACE RELATIONSTHE SOUTH AFRICAN INSTITUTE FOR MEDICAL RESEARCH.

Abstract from "PUBLIC HEALTH", The Official Organ of the Society of Medical Officers of Health, October, 1932, No.1. Vol. XLVI.

TUBERCULOSIS AMONG NATIVE MINE LABOURERSON THE WITWATERSRAND.

The serious problem of tuberculosis among the South African natives working as labourers on the Witwatersrand induced the Gold Producers' Committee in April, 1925, to approach the Director of the South African Institute for Medical Research for advice and guidance on methods of dealing with it. Following discussions there was formed a Medical Committee on Tuberculosis, out of which there grew a body known as the Tuberculosis Research Committee. The aims of the Committee were twofold: (1) the extension of knowledge, and (2) the diminution of mortality, and for their furtherance a sum of £6,000 a year was expended in each of three successive years. Some of the results obtained are described in a rather large volume\*which, containing a wealth of information, is an outstanding contribution to the international anti-tuberculosis campaign. Much of the work done, indeed, is of the utmost importance, some of it and the conclusions based upon it almost tempting to the belief that they must open the way to profoundly valuable epidemiological discoveries in the domain of tuberculosis.

The amount of clinical material to be considered was very large, for there are 200,000 natives employed, 4 per cent. of whom are admitted to hospital on arrival, and the personnel may be regarded as changing completely once every year. Half the natives come from British South Africa and half from Portuguese East Africa.

/Extensive clinical

---

\* TUBERCULOSIS IN SOUTH AFRICAN NATIVES WITH SPECIAL REFERENCE TO THE DISEASE AMONGST THE MINE LABOURERS ON THE WITWATERSRAND. (Being the Report of the Tuberculosis Research Committee, originally established by the Transvaal Chamber of Mines and later expanded into a Joint Committee by incorporation of representatives of the Union Government.) No.XXX (Vol.V). March, 1932. Published by the South African Institute for Medical Research, P.O.Box 1038, Johannesburg.

G-8. + B



Extensive clinical, radiographic, and post-mortem examinations were undertaken, some 90,000 tuberculin tests were carried out among the workers, as well as 6,500 in various districts and institutions, while much information was also obtained as to the mode of life, dietary, and kindred matters affecting the native.

The very extensive tuberculin investigation yielded interesting results. The test used was the Mantoux intradermal test, and .1 c.c. of a 1 in 5,000 solution of old tuberculin was the reagent employed. All solutions had to be used within 14 days of dilution. Answers to the following questions were sought :-

(1) What proportion of natives arriving at the mines is already infected with tuberculosis ?

X The proportion was found to be 72 per cent.

(2) Is the positive reactor more or less likely to develop tuberculosis than the negative ?

Unexpectedly, to some, the positive reactor was found, with considerable constancy, twice as likely to become clinically tuberculous, and the more positive the test the more likely was the subject to develop tuberculosis. In some of the home tests with much smaller numbers this finding was reversed.

(3) Will the positive reactor display more resistance to the disease when contracted ?

Both classes, positive and negative, usually show an acute type of disease, and 70 per cent. died within 18 months of the onset. There was a slight tendency to a more chronic type of disease among the positives, but usually in that event there was concomitant silicosis. Local glandular tuberculosis also is slightly more common in subjects giving a strong positive reaction. Variations in strength of the tuberculin were tried and again gave results worth study. Rather more positives were found with a 1 in 10,000 dilution of tuberculin - 72.5 per cent. as against 65; with 1 in 100,000 tuberculin, 55 per cent. were positive; with 1 in 1,000,000, 51 per cent.; while with 1 in 10,000,000, 48 per cent. were still positive.

The incidence of tuberculosis among natives is double that prevailing among the Europeans, and the native mortality is also much higher, although the report does not deal with a virgin

/population, but



population, but with one that has been widely tuberculised. The tuberculosis incidence (the notification incidence) of the native miners is 6.8 per thousand, while in England it is only 1.45 per thousand of the population, but the statement here quoted from Professor S. Lyle Cummins, that the same careful clinical observation of English males would result in an incidence rate approximating to that of the Rand, will not find ready acceptance.

Concerning the reason for the high tuberculosis incidence, it is thought that about half is due to re-infection, but that resistance is lowered by 10 to 11 hours spent underground, during eight of which the miner is continuously at work without a meal, and to a dietary deficient in vitamins A and D. Silica dust is also a disposing factor, and the wet methods of preventing dust worsen the conditions of work, prevent evaporation from the skin, and make more possible infections with fresh bacilli.

South Africa is fortunate in having very little bovine tuberculosis - under .5 per cent. in various areas investigated - and although no tuberculosis service exists for the natives and the spread of disease from cases returning to their homes occurs from time to time, there is no evidence of any considerable spread from these foci of infection.

The report provides weighty food for thought to all members of the public health service.

ELLAMS

**Collection Number: AD1715**

**SOUTH AFRICAN INSTITUTE OF RACE RELATIONS (SAIRR), 1892-1974**

**PUBLISHER:**

*Collection Funder:- Atlantic Philanthropies Foundation*

*Publisher:- Historical Papers Research Archive*

*Location:- Johannesburg*

©2013

**LEGAL NOTICES:**

**Copyright Notice:** All materials on the Historical Papers website are protected by South African copyright law and may not be reproduced, distributed, transmitted, displayed, or otherwise published in any format, without the prior written permission of the copyright owner.

**Disclaimer and Terms of Use:** Provided that you maintain all copyright and other notices contained therein, you may download material (one machine readable copy and one print copy per page) for your personal and/or educational non-commercial use only.

People using these records relating to the archives of Historical Papers, The Library, University of the Witwatersrand, Johannesburg, are reminded that such records sometimes contain material which is uncorroborated, inaccurate, distorted or untrue. While these digital records are true facsimiles of paper documents and the information contained herein is obtained from sources believed to be accurate and reliable, Historical Papers, University of the Witwatersrand has not independently verified their content. Consequently, the University is not responsible for any errors or omissions and excludes any and all liability for any errors in or omissions from the information on the website or any related information on third party websites accessible from this website.

This document forms part of the archive of the South African Institute of Race Relations (SAIRR), held at the Historical Papers Research Archive at The University of the Witwatersrand, Johannesburg, South Africa.