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The Tuberculosis Problem In Negro Schools And Colleges

Paul B. Cornely

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Paul B. Cornely, M.D., Dr.P.H.†
Washington, D. C.

THE tuberculosis death rate for Negroes of all ages in the United States is, as has often been stated, from two to three times that of the white population. This disparity varies greatly in different communities and age groups. In the District of Columbia this is 6 to 1; while in Baltimore and New York City it is 5 to 1. This inequality is greatest, however, when we consider the younger age groups. According to Whitney[1] in 1930, the rate for the male Negro between the ages of 15 and 19 was 7.1 times that of the white in the same group while the ratio of colored to white death rates in young women 10 to 14 years of age was 8.6 to 1. The figures for the Metropolitan Life Insurance Company[2] for the period 1931 to 1935 also emphasize this disproportion. In addition, the statistics of this company show another very interesting fact. In the period 1911-1915, the average tuberculosis mortality rate for white males between the ages of 15 to 19 was 124.3 and for white females 152.0; on the other hand, the rates for Negroes were 429.0 and 592.6 respectively, thus giving a ratio of about 4 to 1. However, twenty years later during the period 1931-35, this divergence instead of decreasing had increased to about 9 to 1 for the males and 7 to 1 for the females; the figures here being 18.9 and 38.1 for white males and females respectively and 170.0 and 281.8 for the Negroes. Thus, it is seen that there is necessity for continuous vigilance in the ages of adolescence and youth.

The college is now recognized as a strategic place for attack on this disease. First, because it contains the age group most vulnerable to the ravages of this plague, and second because college graduates are the future leaders in the community. It is said that less than 1 per cent of the population of the United States is composed of college graduates, and yet more than 50 per cent of the positions of influence are occupied by college men and women.[3] In this country there are approximately 111 Negro colleges located in 19 states and the District of Columbia. With the exception of five or six institutions all are located in the South. The majority of these colleges as shown in Table 1[4] are small with an enrollment of less than 500 students and three-fourths of them are privately owned.

TABLE 1
Enrollment in Negro Colleges

No. of Students	Public	Private	Total
500 or more	7	3	10
250 to 500	12	18	30
100 to 250	13	27	40
Less than 100	4	27	31
	36	75	111

†Acting Director, Student Health Service, Howard University, Washington, D. C.

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The total attendance at these schools has gradually increased so that at present approximately 30,000 students are enrolled in Negro institutions of higher learning for two to four or five years. In this connection, it is interesting to note that of the 111 institutions 69 still carry secondary schools with a total enrollment of 8,033.[4] Thus it is seen that here we have a group whose health reaction-patterns and ideals are of great significance not only to the race but to the country as a whole. It is therefore of some importance to know first, the extent of tuberculosis case-finding programs in Negro colleges; second, the tuberculosis problem in these institutions; and third, the measures which may be developed toward their solution.

The Extent of Tuberculosis Case-finding Programs in Negro Colleges

Adequate tuberculosis case-finding programs are not found extensively in our Negro colleges. In a recent article,[5] the author found that during the period 1933-36, of 35 institutions with an enrollment of 14,162, only 11 had done tuberculin testing on entering students for three consecutive years: two for two years, while three began this practice during the school year 1936-37. The other five had done the tests irregularly or only in suspicious cases. Of the eleven schools, eight stated that X-rays of positive reactors were taken.

The dearth of this type of activity was further noted when we had occasion to make personal visits to 25 colleges with a total attendance of 12,000 students and located in six Southern states. Only five of these with an enrollment of 2151 individuals were doing tuberculin testing and X-ray of positive reactors; one did the tuberculin test but no further examinations of the reactors and another only X-rayed its entering students without any previous screening procedure. It is obvious, therefore, that the accepted tuberculosis case-finding procedure is not practiced to any great extent in Negro schools.

Tuberculosis Infection in Negro Colleges

The incidence of tuberculosis infection in the 30,000 Negro college students is obviously difficult to estimate. However, certain available data offer a suggestion as to the prevalence of tuberculosis exposure among this group. In the questionnaire study[5] mentioned above, fifteen schools stated, as shown in Table 2, that during the period 1933-36, 3,542 of their students had been tested. The percentage of positive reactors in this group was 33.9. It was also observed in this investigation that the lowest percentage reported was 25.0 while the highest was 63.6.

TABLE 2

Total Results of Tuberculin-testing in Negro Colleges, 1933-36

School Year	Schools Reporting Program	Number Tested	Per Cent Positive
1933-34			
1934-35	2	309	26.9
1935-36	5	1599	27.6
1936-37	8	1634	41.4
Total	15	3542	33.9

In the summer of 1935, the National Tuberculosis Association made available P. P. D. free of charge to those Negro colleges and Universities which were willing to carry out complete tests and send their results to the Association for compilation. Eight Negro colleges located in Georgia, Arkansas, Mississippi, Ohio, West Virginia, Maryland and Virginia took advantage of this offer. Miss Jessamine Whitney of the National Tuberculosis Association kindly sent us the analysis and tabulation of the results of the 2040 students tested. For all ages the percentage of positive reactors was 39.1. As would be expected, reactors gradually increased with age. A marked difference between the two sexes was also noted. For all ages, the percentage of positive reactors was 44.0 for the male and 35.4 for the female, a difference of approximately 10 per cent. This was true for practically every age. This disparity between the sexes, although already noted in white students,[6,7] has not been found to be as great as in this group of Negro students.

For several years, the Extension Department of the North Carolina Sanatorium has been actively engaged in tuberculosis case-finding in both Negro and white colleges in the state. Last year, Dr. P. P. McCain[8] reported the results of this work to the American Sanatorium Association. As seen in Table 3, 9,149 college students, of whom 2,538 were Negroes, were tested intracutaneously with 0.1 mgm. of old tuberculin. The performance and interpretation of the test, unlike the other two surveys, were made by experienced clinic physicians from the Sanatorium. The per cent of positive reactors for the Negroes was 48.0 while for the whites, the figure was 31.0.

TABLE 3

Report of Tuberculin Tests of 9,149 North Carolina College Students (0.1 mgm. Old Tuberculin Intracutaneously)

	Number Tested	Number Reactors	Percentages of Reactors
White	6,611	2,071	31.02
Colored	2,538	1,119	48.02
Total	9,149	3,190	34.80

The last survey to be considered at this time is the one at Howard University. This past school year, through a grant made by the District Tuberculosis Association, it was possible to begin, for the first time, a tuberculosis case-finding program for the whole University. The program was developed and supervised by Dr. Howard M. Payne, who also has charge of one of the tuberculosis clinics of the Health Department. The program was instituted as a year-round project along four lines, viz.:

1. To tuberculin test and X-ray the reactors in the freshman classes;
2. To X-ray the second, third, and fourth year classes of the Medical School en masse, without any previous tuberculin tests;
3. To study carefully all students with symptoms suggestive of tuberculosis or who complained of unusual respiratory episodes;
4. To educate students to the importance of the tuberculin test and X-ray as part of their periodic or routine physical examination.

Although the results of this survey have not been completely analyzed, certain preliminary figures are of interest. Four hundred eighty-five students, most of whom were freshmen and under 25 years of age, were tuberculin tested. Of this group, 314 or 64.2 per cent were positive. Of the 246 males, 179 or 72.2 per cent were positive; while of the 239 females, 135 or 56.4 per cent fell into this category.

TABLE 4

Results of Tuberculin Testing with P. P. D. of Howard University Students, 1937-1938

	Number Tested	Number Reactors	Percentage of Reactors
Total	485	314	64.2
Male	246	179	72.2
Female	239	135	56.4

Here again, as already noted, we find a sizeable divergence between the percentages of male and female reactors.

The incidence of positive reactors in Negro colleges would appear to vary greatly on the basis of these four surveys. However, when these are compared with data for white colleges, an explanation is possible. Accumulation of data from various white universities has shown that relatively high rate (from 40 to 60 per cent) are found in the colleges in the East and Far West;[6] lower rates (30 to 40 per cent) in the Southern colleges;[7,8] and the lowest (20 to 30 per cent) in the schools located in the Central States.[6] Negro colleges are located in the South, and thus, excluding momentarily the results at Howard University, when we compare the percentages of the other three surveys with the figures from Southern white colleges, it is found that the incidence of tuberculous infection is just a bit higher in the Negro institutions. However, the difference is not as marked as would be expected in view of the higher morbidity and mortality in this race. The high percentage for Howard University may be explained on the basis that this school attracts its students for the most part from the large populated centers of the North and South, rather than from the rural areas, and therefore, it is comparable not with the Southern white colleges, but rather, with the white universities of the East and Far West. And thus, here again it is seen that there is not a great inequality in the percentages.

The small difference in positive reactors between white and Negro college students has been said to be due to

TABLE 5
Results of X-Ray Survey of Three Colleges in the District of Columbia (W.P.A. Project, 1935)

School	Total	Normal Chest		Active Tuberculosis		Suspected Tuberculosis		Chest Abnormalities Other Than Tuberculosis	
		No.	Perc.	No.	Perc.	No.	Perc.	No.	Perc.
All Schools	1725	1682	96.9	13	0.7	21	1.2	9	0.5
Miner Teacher's College	423	416	98.3	3	0.7	1	0.2	3	0.7
Wilson Teacher's College	389	367	94.3	2	0.5	19	4.8	1	0.2
Howard University	913	899	98.4	2	0.2	1	0.1	5	0.5

TABLE 6
Result of X-Ray Study of 2,779 Positive North Carolina Student Reactors

	Number Having X-Rays	Adult Type Tuberculosis			Childhood Type Tuberculosis		
		Number	Perc. of Number Tested	Perc. of Number X-Rayed	Number	Perc. of Number Tested	Perc. of Number X-Rayed
White	1799	42	0.63	2.6	216	3.2	13.8
Negroes	980	22	0.86	2.2	93	3.6	9.4
Total	2779	64	0.69	2.5	309	3.3	12.1

the fact that Negroes in colleges come from homes where the environmental, social, economic and educational advantages are the best. This, however, does not seem to be the proper explanation.

This same small difference in percentages has been found in grammar schools where there is less selectivity.[8] It has also been noted in the general population as shown by Whitney & McCaffrey.[9] In our opinion, no explanation can be given at the present time. It must be remembered that the number of individuals who have been tuberculin tested is still small. Many factors must be investigated before an adequate explanation can be given.

Tuberculosis Disease in Negro Colleges

The question which may now be considered is the extent of tuberculosis disease in Negro colleges. Here again it is difficult to actually give a complete picture of this situation, since there are very few institutions which are carrying out adequate case-finding programs. However, the consideration of certain available data may give us a basis for an intelligent discussion.

During the fall of 1935, through a Works Progress Administration Project, students at two Negro institutions: Howard University and Miner Teachers College, and one white institution: Wilson Teachers College, were X-rayed. The films were taken by the Powers X-Ray Company, at no charge to the individual. The students were not compelled to take this examination, rather, they did so of their own volition. In Table 5, it is noted that of 913 students at Howard University, only two, or .2 per cent, were found to have active tuberculosis as compared to .5 per cent for Wilson Teachers College. Even when Miner Teachers College and Wilson Teachers College are compared—these two being more comparable because both are training schools for teachers—it is found that although the percentage is higher for the Negro institution, the difference of .2 per cent is not statistically significant. Even when the percentages of suspected tuberculosis cases are compared, it is found that the figure of 4.8 per cent for the white institution is much higher than the figures of .2 per cent and .1 per cent for the Negro schools.

The second X-ray survey to be mentioned is that of McCain[8] in North Carolina. This study has already been previously cited. In Table VI the result of the X-ray of 2,779 positive North Carolina student reactors of whom 980 were Negroes is shown. It is noted that of the 1,799 white students X-rayed, 2.6 per cent showed adult type tuberculosis while for the Negro students, the percentage was 2.2. Even the per cent of childhood type of tuberculosis is higher in the whites than in the Negroes, the figures being 13.8 and 9.4, respectively. Thus, here again it would appear that tuberculosis disease is not much more prevalent in the Negro than in the white colleges.

This appears to be substantiated by our preliminary data from Howard University. For the school year 1937-38, 420 individuals were X-rayed. This group included 314 positive reactors and 106 students on whom no tuberculin tests were done. In Table 7, the results are shown. It is noted that 29 individuals or 6.9 per cent of those X-rayed had roentgenologically demonstrable tuberculosis infiltration in the lungs. It is to be emphasized that 25 of these cases were in the minimal and latent stages. At first it would appear that the figure 6.9 per cent is exceedingly high for a college group, but it must be remembered that white colleges have reported figures almost as high. Stiehm[10] at Wisconsin, for instance, reported that of 579 students X-rayed, 5 per cent of the positive reactors had adult type of tuberculosis infiltration. In addition, two factors must be taken

TABLE 7
Result of X-Ray Study of Howard University Students 1937-1938

Total Number of Individuals Examined 591
Total Number of Individuals X-Rayed 420

Type of Lesion	No.	Percent of No. X-Rayed	Percent of No. Examined
Miliary Tuberculosis	1	0.2	0.2
Moderately Advanced Tuberculosis	3	0.7	0.5
Minimal Tuberculosis	9	2.1	1.5
Latent Apical Tuberculosis of Minimal Extent	16	3.8	2.7
Total X-Ray Demonstrable Tuberculosis Infiltration	29	6.9	4.9

into consideration: In the first place, the survey at Howard, unlike the other two, was carried throughout the year, and thus all suspicious and doubtful cases whether freshmen or upperclassmen could be followed. Secondly, included in this group were 67 individuals in the upper medical classes in whom tuberculosis findings are much more common.

Thus, when the figures for Howard University are compared with those of a more similar group such as that of Hetherington, McPhedran and Opie[11] they are not found to be unusually high, as would at first appear. In the Hetherington group, 279 college students and 452 medical students were X-rayed. Of the college individuals, 3.9 per cent had roentgenologically demonstrable lesions. In the medical group, on the other hand, 13.5 showed demonstrable lesions. Thus, when the whole group; namely, the college and medical students, is considered, 9.8 per cent fall into this category. Therefore, it is seen that the figure of 6.9 per cent at Howard University is only 1.8 times higher than the college group and perceptibly lower than the combined groups of medical and college students. Thus, it would appear that tuberculosis disease is not significantly higher in the Negro than in the white institutions. This similarity of results in the two races among college students can be explained as McCain[8] has pointed out on the basis that Negroes in Colleges come from homes where the environmental, social, and economic, as well as the educational advantages are the best.

What Needs To Be Done

Although the extent of disease found in Negro colleges is comparatively small, this does not preclude the development of effective tuberculosis case-finding programs in these institutions.

In the first place, as has already been stated, it is an accepted dictum that this is the age group most ravaged by the disease. In addition, the incorporation of a tuberculosis case-finding program in a college has great educational value. From this group will come the teachers, ministers, physicians, lawyers, and other leaders of the race. If their interest is aroused, they will not only have an appreciation of this problem early in life, but will also carry it to their homes and communities and later will be able to offer intelligent leadership in the fight against this disease.

What, then, can be done towards the establishment of tuberculosis case-finding programs in Negro colleges? It is our opinion that the solution may be discussed in two parts, viz.: first, what the Negro colleges can do to help themselves, and second, what the Tuberculosis Associations and sanatoria can do to help the Negro institution in their communities.

The paucity of tuberculosis programs in Negro institutions is an expression of the lack of health education and health supervision in Negro colleges. In a recent survey[12] it was found that of forty schools with a total enrollment of 12,000 students, only seven institutions had a division of student health service; twenty-four required an entrance examination and five offered no type of examination. Only twenty-seven had required courses in hygiene and six offered no informational courses whatsoever. In about one-third of the schools, the administration of the health service was in the hands of individuals not medically trained. Thus, it is seen that Negro colleges must be stimulated to the development of better health services with effective health education programs administered by adequately trained personnel. This foundation is needed for the development of a continuous early diagnosis campaign. The tuberculosis case-finding program is not over as soon as entering students have been tuberculin tested and the positive reactors X-rayed. This is only the beginning. During the year there must be follow-up of latent and suspected cases; advice as to rest and study routine, and careful examinations of all cases of prolonged cough, pain in the chest, etc. In addition, there must be the development of educational programs, such as lectures in classrooms, moving pictures, demonstrations, and exhibits. All of this can only be done by a well organized, even though small, health service.

Having discussed the problem that faces Negro institutions, we can now turn to ways and means by which this Association can help Negro schools. Before doing this, however, it is well to cite examples of the splendid work which is already being done by members of this group. The parent organization, the National Tuberculosis Association, has for some time been keenly interested in the Negro and through its Committee on Tuberculosis Among Negroes under the able direction of Dr. C. St. C. Guild has accomplished much during the past five years. The college essay contest, yearly grants to Howard University for the study of health services in Negro colleges; an educational moving picture with a Negro cast, are only a few of its accomplishments which specifically deal with the college group. The program for the tuberculosis study of college students in the state developed by the Extension Department of the North Carolina Sanatorium is worthy of imitation by other state sanatoria. Many local associations through their Negro workers are promoting very fine activities. One or two may be mentioned as examples. The South Carolina Tuberculosis Association has not only tuberculin tested and X-rayed students in the Negro colleges, but in addition, has stimulated the development of health service facilities in two Negro colleges in the state and through a grant from the National

Tuberculosis Association, developed last year a health education institute for Negro summer school teachers. The Louisville, the Atlanta and District Tuberculosis Associations are doing very fine promotional and educational work in the Negro colleges in their communities.

Although much is being done, much remains to be done. The five following suggestions, in our opinion are worthy of consideration:

1. The employment by each association of a well trained Negro worker to act as a liaison between it and the community. Among other things, such a person can serve effectively to sponsor the college essay contest, to develop or help in the formulation and teaching of health courses and to foster the development of adequate health services.

2. The tuberculosis associations in coöperation with the college authorities, should actively sponsor yearly tuberculosis case-finding programs in the Negro institutions in their communities. Since most of the Negro institutions are small and exist on very marginal budgets, the local associations should defray in part the expenses incident to such a campaign.

3. More effort should be directed toward health education in these colleges. These efforts should be well organized and coördinated and should be done regularly so that they will have a more lasting effect upon the college community.

4. Yearly institutes on health education should be sponsored by the state associations for teachers throughout the state who are in charge of physical and health education. These individuals would serve as an effective nucleus for future activities.

5. Lastly, the local or state societies should offer to college physicians in their communities the opportunity to acquaint themselves with the advances in case-finding procedures either in their clinics or in short refresher courses at state sanatoria. Such training would be of inestimable benefit to the college physicians.

It is our belief that the adoption of some or all of these suggestions by the members of this Association would have a salutary effect on the development of much needed tuberculosis case-finding programs in Negro colleges.

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