

The Incidence of Cleft Lip and Palate Among North American Negroes

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The birth defects of the head and face that have been given the most attention by researchers and dental practitioners have been clefts of the lip and palate, either occurring singly or together. A number of investigators have reported the influence of the racial identity on the incidence of cleft lip and/or cleft palate. In this paper we shall report on the incidence in a representative group of the North American Negro population. In addition to data on the incidence, we shall present data on some factors that have been related to their incidence, that is, socioeconomic status, mother's age, birth weight and order, and relationship of sex and type of cleft.

This study of a group of North American Negro children was conducted in the District of Columbia and consisted of a survey of the birth records for a 10-year period at two hospitals, namely, the D.C. General Hospital and Freedmen's Hospital. These hospitals were selected because they give a cross section of the Negro community in Washington, D.C. A large percentage of the children of the Negro middle and upper socioeconomic groups are born at Freedmen's Hospital; the great majority of the indigent and lower socioeconomic group are born at D.C. General Hospital. Negro children in the District of Columbia represent approximately 71% of the total live births and approximately 60% of these children are born at these two hospitals. The 10-year periods selected were from September 1, 1952, to August 31, 1961, inclusive for Freedmen's, and from January 1, 1952, to December 31, 1961, inclusive for the D.C. General Hospital. The total number of records examined for the 10-year periods are as follows: Freedmen's Hospital, 26,131; and D.C. General Hospital, 53,711. The total number of records, then, was 79,842.

Presentation of Data

Existing information regarding the incidence of cleft lip and/or cleft palate in North American Negroes is presented in Table 1. In these studies the incidences varied from a low of 1:4395 to a high of 1:1400. The studies in the eastern part of the United States showed a considerable

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This study was supported in part by PHS Research Grant #DE-00331, from the National Institute of Dental Research.

TABLE 1. Existing information regarding incidence of cleft lip and cleft palate in North American Negroes.

<i>Incidence</i>	<i>Location</i>	<i>Data source</i>	<i>Investigator</i>
1:1821	Hawaii, California, Penn- sylvania, and Wisconsin	birth certificates	Greene, and associates (5)
1:1815	District of Columbia	hospital records	Altemus (1)
1:1789	Baltimore, Maryland	hospital records	Davis (2)
1:3333	Philadelphia County, Pa.	birth certificates	Ivy (8)
1:4395	Pennsylvania	birth certificates	Ivy (8)
1:1934	Manhattan, New York	hospital records	Sesgin and Stark (10)
1:1465	Brooklyn, New York	hospital records	Shapiro (11)
1:1400	Los Angeles, California	hospital records	Lutz and Moor (9)

TABLE 2. Incidence of cleft lip and cleft palate in North American Negroes in Washington, D. C.

<i>Defect</i>	<i>Freedmen's Hospital</i>		<i>D.C. General Hospital</i>	
	<i>Ratio</i>	<i>%</i>	<i>Ratio</i>	<i>%</i>
Palate only.....	1:5226	.019	1:3357	.030
Lip only.....	1:26,131	.0038	1:8952	.011
Palate and Lip.....	1:13,065	.0077	1:3837	.026

variation of from 1:1789 in Baltimore, Maryland, to 1:4395 in Pennsylvania. The results of two New York City studies were 1:1465 in Brooklyn and 1:1934 in Manhattan. Los Angeles, California, had the highest incidence of 1:1400. Special attention is called to the low incidence of these defects for Negro children in Pennsylvania. Apparently they are approximately twice as rare in Pennsylvania as in the other geographic locations which are cited. The table does not show any apparent correlation between the incidence of the various studies and the source of the data, that is, whether hospital records or birth certificates were studied.

Rates of incidence of cleft lip and/or cleft palate among a group of Negro children born at two hospitals in Washington, D.C., are presented in Table 2. The incidence of cleft palate alone at Freedmen's Hospital is 1:5226 or .019%, and at the D.C. General Hospital 1:3357 or .030%. The incidence of cleft lip alone is 1:26,131 or .0038% for Freedmen's Hospital and 1:8952 or .011% for D.C. General. The incidence of cleft lip and palate occurring together is 1:13,065 or .0077% for Freedmen's and 1:3837 or .026% for D.C. General Hospital. There are differences in the frequencies of these defects at the two hospitals, D.C. General having the higher incidence in every category. Cleft lip alone and cleft lip and cleft

TABLE 3. Incidence by sex of cleft lip and cleft palate in North American Negroes in D. C. General Hospital.

<i>Type</i>	<i>Male</i>	<i>Female</i>	<i>Combined</i>
Cleft Lip	7 (11.66%)	3 (5.00%)	10 (16.66%)
Cleft Palate	17 (28.33%)	13 (21.66%)	30 (50.00%)
Cleft Lip & Palate	13 (21.66%)	7 (11.66%)	20 (33.33%)
Totals	37 (61.65%)	23 (38.32%)	60 (99.97%)

TABLE 4. Incidence by maternal age of cleft lip and cleft palate in North American Negroes in D. C. General Hospital.

<i>Range in years</i>	<i>Number</i>	<i>Percentage</i>
13-20	22	37.93
21-30	25	43.10
31-41	11	18.96
not recorded	2	

palate combined are found approximately three times more frequently in the D.C. General sample than at Freedmen's, and cleft palate alone is found one and one-half times more frequently than the other types.

The incidence of these defects has been reported as being related to a number of factors, such as sex, type of cleft, the birth weight and order, and the age of mother. In Tables 3 through 6, data are presented regarding these factors. For this section of our study, we surveyed the birth records of Negro children at the D.C. General Hospital for the years 1950 to 1963 inclusive. This was the longest continuous period during which these birth records were available. No birth data from Freedmen's Hospital are presented. We found a total of 60 cases of cleft lip and/or cleft palate. One-half or 30 were cleft palate alone, one-third or 20 were cleft lip and cleft palate combined, one-sixth or 10 were cleft lip alone.

Table 3 presents the incidence of these defects separately for each sex. Of the 10 cases of cleft lip alone, seven were males and three females; the 30 cases of cleft palate alone had 17 males and 13 females; the 20 cases of cleft lip and cleft palate combined had 13 males and seven females. Males had more clefts of each type than females and approximately twice as many clefts of the lip alone and clefts of the lip and palate combined. There was a total of 37 clefts or 62% in males as compared to 23 or 38% in females.

Table 4 presents the maternal ages and the percentages of the mothers in each of the age groups. We divided the mothers into three groups.

TABLE 5. Incidence by birth order of cleft lip and cleft palate in North American Negroes in D. C. General Hospital.

<i>Sequence</i>	<i>Number</i>	<i>Percentage</i>
1	19	34.54
2	9	16.36
3	8	14.54
4	6	10.91
5	3	5.45
6	1	1.82
7	1	1.82
8	3	5.45
9	1	1.82
10	1	1.82
11	3	5.45
not recorded	5	

TABLE 6. Incidence by birth weight of cleft lip and cleft palate in North American Negroes in D. C. General Hospital.

<i>Weight</i>	<i>Number</i>	<i>Percentage</i>
5 lbs. 8 ozs. or less	8	14.28
5 lbs. 9 ozs. to 7 lbs.	25	44.64
over 7 lbs.	22	39.28
not recorded.	4	

The largest number of the infants with clefts were born to the younger mothers between the ages of 13 and 30 years. Some investigators (4, 9) have mentioned that the fathers' ages or the relationship of the father's to the mother's age seemed to be more important. We could not investigate that factor because of incomplete information on the birth records of these children.

Table 5 presents data on the birth order of the children with these defects. We found that of this group of infants with clefts, the greatest number were the firstborn. The next highest incidences were the second, third, and fourth born. We had no data on the number of children in each family. As many families are small, that is, they have only one to three children, and the family size is often further reduced if the first child has a birth defect, we feel that the most important significance of this table is that it indicates that there is a high incidence of these clefts in the first-born.

Table 6 presents data on the birth weights of this group of infants. We placed them in three groups. The smallest group of subjects (8, or 14%) weighed less than five pounds, eight ounces at birth. The great majority of the infants in this study had normal birth weights.

Summary

A report was made about the incidence of cleft lip and/or cleft palate among North American Negro children born at two hospitals in the District of Columbia for a ten-year period. These hospitals were selected because they gave a cross section of the Negro community. One hospital (D.C. General) had a high incidence of births to mothers in the lowest socioeconomic group and the other hospital (Freedmen's) had mothers in a somewhat higher socioeconomic status. We found more clefts of every type in the D.C. General Hospital group. The birth records at the D.C. General Hospital were further surveyed for the incidence of these clefts for a period of 14 years. A total of 60 cases of clefts was found, 30 had cleft palate alone, 20 had cleft lip and cleft palate, and 10 had cleft lip alone. The incidence of these clefts was related to a group of factors, namely sex, type of cleft, the birth weights and order, and the age of the mothers. We found that more infants with these clefts were born to the younger mothers. There was not sufficient information to correlate the ages of the fathers. The birth order of the infants were first, second, or third most often, and those whose birth weights were five pounds, eight ounces or less, had fewer clefts. Males had more clefts in every category with twice as many clefts of the lip alone and cleft lip and cleft palate combined than females.

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