

taped and subsequently used for quality control, teaching, research, or as part of the patient's medical record. In this series, 35.7 per cent of television consults were taped.

Television may have some disadvantages. It is cumbersome to move about, probably too expensive to have in every examination room, and therefore less convenient to use than a telephone. In addition, it is subject to technical difficulties which occur rarely with telephones in the United States. In this study, almost one-third (31.8 per cent) of all television consults encountered technical difficulties of one kind or another. The staff tolerated these problems very poorly, and their willingness to use the television in spite of these difficulties suggests their appreciation of the value of remote television consultation.

Summary and Conclusions

This was a pilot project and, as such, was accepted as an adjunct to ongoing clinic services. Ideally, the television and telephones would be introduced simultaneously as part of an overall care program. While the reliability and validity of remote television consultation have not been measured, in this study television was preferred to telephone for diagnosis. The relative preference for telephone consults in therapeutic matters seemed to be largely a matter of convenience which might be negated by a more mobile television unit or additional units. The technical difficulties encountered in this project could probably be overcome by the use of better quality hardware. Where on-site consultation is unavailable or uneconomical, our findings suggest that consultation via television may have several advantages over the less expensive telephone. Further studies are needed to confirm

this impression and assess the costs and benefits of these modes of off-site physician consultation.

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Prevalence of Sickle Cell Trait and HbC-Trait In Blacks from Low Socioeconomic Conditions

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Introduction

Information concerning the frequency and age-sex differentials of the sickle cell trait (HbAS) and HbC-trait

(HbAC) in Black male and female young adults is limited and inconclusive; most of the previous studies have been conducted on hospital-based patients and clinic patients or outpatients. Furthermore, the conclusions from these studies are usually based on findings in older adults (age 35 and over)¹⁻³ and rely upon less efficient tests³ for ascertaining the frequency of the two traits.* The present study which

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*Less efficient tests included cellulose acetate electrophoresis only⁴ or solubility tests or metabisulfite reduction tests (sickle cell prep).⁵

TABLE 1—Prevalence of HbAS and HbC Traits in Young Blacks of Low SES by Age and Sex*

Age	Sex	Number Tested	Percentage with Trait	
			HbAS	HbAC
15-17	Male	3837	6.44	1.77
	Female	566	6.70	1.77
	TOTAL	4403	6.47	1.77
18-20	Male	2024	6.62	1.78
	Female	533	6.75	1.69
	TOTAL	2557	6.65	1.76
15-20	Male	5861	6.50	1.77
	Female	1099	6.73	1.73
	TOTAL	6960	6.54	1.77

*Differences in age and sex related frequencies were not statistically significant by the chi-square test.

addresses these issues was conducted between 1974 and 1976.

Methods

Our samples were derived from Atterbury Job Corps, Region V. This group represents a selected population in that the Blacks included in the study are from low socioeconomic conditions (annual income of \$5,850 or less for a family of four). Most of the individuals included in our study are from large cities (Baltimore, New York, Chicago, Pittsburgh, Cincinnati, Cleveland, Gary, Indianapolis, Detroit, St. Louis, and Philadelphia). All Black participants were tested as part of their routine physical examination upon entering the program.

Reported here are the results of cellulose acetate as a primary screening procedure with verification of positive samples by citrate agar gel electrophoresis. The blood samples were collected weekly and picked up by one of the laboratory staff. The specimens (anticoagulated red blood cells) were tested immediately or stored at 4° C until analysis. The Helena Laboratory electrophoresis system (Beaumont, Texas) was used on hemolysates on Titan III cellulose acetate plates. The hemolysate is prepared by mixing two drops of

unwashed cells with 6 drops of hemolysate reagent, and electrophoresis is done at 450V for 15 minutes in a "tris" boric acid buffer (pH 8.4, ionic strength 0.025). Citrate agar gel electrophoresis is performed as described previously⁶⁻⁸ except that the gel is prepared by dissolving 2 g of Bacto-Agar (Difco Laboratories, Detroit) in 200 ml of sodium citrate/citric acid buffer (pH 6.20, ionic strength 0.05).

The chi-square test was used in evaluating differences in the frequency of the two traits according to age group and according to sex.

Results

Table 1 shows a comparison of sickle cell trait in males and females in two age groups. The data indicate that the prevalence of sickle cell trait is similar in males and females and in both age groups. Table 1 also compares the observed frequencies of HbC-trait in males and females in the two age groups. Again, no significant sex or age differences in prevalence were found.

Table 2 presents the frequency of sickle cell and HbC-traits in combined sexes for the two age groups and compares our data with the prevalence of these traits in other recent surveys of Black populations. The results of our study reflect lower mean values for both traits. The differences in our values are probably due to differences in our method of testing and variances in our defined population.

Discussion

Our experience with cellulose acetate as an initial screening procedure with verification of hemoglobin variants (HbAS and HbAC) by citrate agar electrophoresis has been reported elsewhere.⁹⁻¹¹ In the present investigation we also analyzed our data to see whether there is any evidence for an age or sex specific differential in the frequency of the sickle cell and HbC-traits in young Blacks from low socioeconomic conditions. We did not observe such differentials. Our findings are in agreement with those of others^{3, 12} and support the hypothesis that these traits are not sex-related. However, our population, like those used by others, was also a selected one. Measurement of the true prevalence of HbAS

TABLE 2—Prevalence of Sickle Cell and HbC Traits in Recent Surveys of Black Populations

	Present Study	Murphy ⁵	VA ^{4, 5}	Myerson ¹³	Heller ⁴
Mean Age or Range	15-20 X19.8	21-30	X47.8	22-92	X47.8
Year Reported	1978	1973	1972	1958	1971
No. Tested	6960	579	18102	1000	3808
HbAS Prevalence*	6.54	6.74	7.74	7.40	8.02
HbAC Prevalence	1.77	1.90	2.36	2.30	2.26

*The .94 per cent comparative difference in our data from the mean value of others, probably due to regional and technological variations, was not statistically significant by the chi-square test.

and HbAC in Blacks will have to come from a population which reflects the true Black population in the United States.

Another study has been reported showing a significant difference in the prevalence of HbAS in higher socioeconomic groups.¹ Our studies, based on a large population, fail to confirm this finding; the prevalence of sickle cell trait in our low socioeconomic sample was no different from the prevalence reported in other studies, including Black players in the National Football League with an annual income of approximately \$100,000.⁵

Summary

In the present investigation we did not observe age or sex differentials in the prevalence of sickle cell or HbC-traits in Black males or females of low socioeconomic status. When our data were compared to those of others, we found no evidence for a socioeconomic differential in the prevalence of these traits.

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Health

Health is a simple word for a concept of enormous complexity. Like other primal words (life, bread, love, self), it has its origin deep in all languages. In English, health comes from the Old English word "hāl" (whole), which still finds use in phrases like "hale and hearty" to express its positive meaning. The French word "santé" has its etymologic origin in the Latin "sanitas," with bifurcation in English (and some other languages) into "sanitary," which is one aspect of health, and "sanity," which is another.

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