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Original Research Article

Is there an association between African national HIV prevalence values and socio-economic status of their albino populations?

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ABSTRACT

Background: Albinos are predisposed to poverty as a result of inability to compete economically due to low education, caused by poor eye sight. Besides stigmatization and discrimination, albinos are specific sexual targets of HIV sufferers. This study investigates the relationship between HIV prevalence and socio-economic status among albinos in a tertiary hospital in Abuja, Nigeria.

Method: Bio-data (age, sex, and marital status) and socio-economic status (monthly income in US Dollars at time of presentation, level of education, and employment status) of all consecutive adult albino and normal-pigmented patients who underwent surgery were collected and analyzed. All consenting patients were tested for HIV and included in the study. The study population was divided into four groups comprising of (1) HIV positive albino patients, (2) HIV positive normal-pigmented patients, (3) HIV negative albino patients, and (4) HIV negative normal-pigmented patients. Socio-economic status of these groups was compared.

Results: A total of 198 adult patients were included in the study. 20 (20.2%) albino patients tested positive for HIV, out of which 4 had exposure to post-high school education, while 3 (3.03%) normal-pigmented patients tested positive for the virus, with 2 having had exposure to post-high school education. 21 out of 79 HIV negative albinos had exposure to post-high school education, while 73 of 96 normal-pigmented patients had such exposure.

HIV positive albino patients earned an average of 0.70 dollars per day, while HIV negative patients earned 1.97 dollars per day. Normal-pigmented HIV positive patients earned an average of 9.00 dollars per day, while those who tested negative earned 13.79 dollars per day.

Conclusion: There is an association between national HIV prevalence values in Africa and socio-economic status of their albino populations. It shows poverty-stricken African albinos to be apparently more likely to be HIV positive than their normal-pigmented counterparts. Neglecting the special educational needs of this group exposes the general society to danger.

1. Introduction

Albinism is associated with low vision [1], which readily compromises ability to imbibe instructions, and leads to poor education and lower level of skill acquisition [2]. The latter is associated with poverty [3], which has in turn been associated with high prevalence of HIV infection [4]. This unfortunate sequence may be entrenched in regions of the world with less-than-ideal economic conditions, which are perennially plagued by generally poor educational facilities and endemic poverty such as Africa [4,5]. The continent also has the highest prevalence of albinism in the world [6]. The albino population in Africa therefore may be at

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greater risk of acquisition of HIV. This study investigates the relationship between HIV prevalence and socio-economic status among albinos in a tertiary hospital in Abuja, Nigeria.

2. Patients and method

This prospective study was carried out using data obtained from consecutive patients managed at the maxillofacial surgery unit of National Hospital Abuja between February 2008 and January 2014, following approval by Hospital Ethical Committee. Bio-data (age, sex, and marital status) and socio-economic status (monthly income in US Dollars at time of presentation, level of education, and employment status) of all consecutive adult albino and normal-pigmented patients who underwent surgery were collected and analyzed. All consenting patients were tested for HIV and included in the study.

The study population was divided into four groups comprising of

1. HIV positive albino patients
2. HIV positive normal-pigmented patients
3. HIV negative albino patients
4. HIV negative normal-pigmented patients

Socio-economic status of these groups was compared.

3. Definition of terms

1. Married status is conferred if the patient was ever married.
2. Income was calculated according to Dollar value at time of presentation.

4. Results

A total of 198 adult patients were included in the study. Half (99) were albinos, among whom 43 (43.4%) were females. Among normal-pigmented patients, 40 (40.4%) were females. 20 (20.2%) albino patients tested positive for HIV, out of which 4 had exposure to post-high school education, while 3 (3.03%) normal-pigmented patients tested positive for the virus, with 2 having had exposure to post-high school education. 21 out of 79 HIV negative albinos had exposure to post-high school education, while 73 of 96 normal-pigmented patients had such exposure. HIV positive albino patients earned an average of 0.70 dollars per day, while HIV negative patients earned 1.97 dollars per day. Normal-pigmented HIV positive patients earned an average of 9.00 dollars per day, while those who tested negative earned 13.79 dollars per day, as shown in Tables 1–8. Table 9 shows the prevalence of albinism and HIV seropositivity in African countries.

5. Discussion

The shockingly low average earning of $0.7 per day among HIV positive albino patients compels one to suspect that poverty may drive the spread of the virus. The statistically significant difference in employment status between HIV positive and negative albino patients may be the reason for their pay disparity. 65% of HIV positive patients were unemployed and may have had difficulty making a decent living, thereby making them vulnerable to exploitation in commercial sex work. Sexual contact is the usual means of contracting the virus among adult Africans. HIV may not cause discomfort or death for years, but hunger will do so in a much shorter period. The average African albino lives in poverty [5,7]; constantly living in lack may make the fear of HIV infection fade in significance in their mind. This may be the reason behind the unfortunate choices made by albinos.

Quite notable is the observation that no statistically significant difference was found in values obtained for all variables tested for among normal-pigmented patients.

20.20% of albino patients were HIV positive. This is unusually high, given that the highest national prevalence value during the period of study was 4.6% [8]. The prevalence of HIV infection of 3.03% among normal-pigmented patients approximates to the Nigerian national prevalence value.

Table 1
Data obtained from HIV positive albino patients.

Age	Sex	Income per day (dollars)	Exposure to post-high school education	Employed	Married	HIV
24	M	$0.0	No	No	No	Yes
33	F	$2.0	No	Yes	Yes	Yes
30	M	$0.0	No	No	No	Yes
27	M	$0.0	No	No	No	Yes
31	F	$0.0	Yes	No	No	Yes
26	F	$0.0	No	No	No	Yes
32	F	$1.9	No	Yes	Yes	Yes
30	M	$0.0	No	No	No	Yes
20	M	$0.0	No	No	No	Yes
33	F	$2.3	No	Yes	No	Yes
29	F	$0.0	No	No	No	Yes
33	F	$0.0	Yes	No	No	Yes
32	M	$0.0	No	No	No	Yes
32	M	$4.3	Yes	Yes	No	Yes
27	F	$1.9	No	Yes	No	Yes
34	M	$0.0	No	No	No	Yes
23	F	$0.8	No	Yes	No	Yes
39	F	$0.8	No	Yes	No	Yes
34	M	$0.0	No	No	No	Yes
28	F	$0.0	Yes	No	No	Yes

Table 2
Data obtained from normal-pigmented HIV positive patients.

S/N	Age	Sex	Income per day (dollars)	Exposed to post-high school education	Employed	Married	HIV
1	38	F	$7.8	No	Yes	Yes	Yes
2	36	F	$4.6	Yes	Yes	Yes	Yes
3	45	M	$13.8	Yes	Yes	Yes	Yes