

Original Research Article

Epidemiology and clinical profile of vitiligo in Ibadan, Nigeria

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ABSTRACT

Background: Vitiligo patients are seen routinely in the Dermatology Outpatient Clinic of the University College Hospital Ibadan, Nigeria. However, the epidemiologic and clinical profile of these patients is not documented. The aim of this study was to document the clinical (age of onset, location, severity, class of vitiligo) and sociodemographic characteristics of these patients.

Methods: This is a retrospective descriptive study of patients treated for vitiligo from January 2005 to December 2009 at the University College Hospital (UCH) Ibadan dermatology outpatient clinic. Patient records were retrieved and a study proforma was used to assess patient's information. Data was analyzed using SPSS version 16.

Results: Over the study period, 130 vitiligo patients seen but only 111 case notes were retrieved. The mean age at onset in children was 7.8±4.0 and 34.6±17.1 in adults, M:F was 1:1. The commonest type of vitiligo was acrofacial, area of onset was the face/scalp in 59.2%, re-pigmentation was reported in 66%, active lesions in 59.7%, severity of vitiligo was <9% in 90%, Vitiligo was in visible (exposed) parts of the body 84.7% and asymptomatic in 92.7%.

Conclusions: The clinical profile of vitiligo in Ibadan, Nigeria is similar to that observed in other places with only females having a genital onset and acrofacial vitiligo being the dominant type seen. Also, treatment modality varies between children and adults.

Keywords: Clinical profile, Epidemiology, Nigeria, Vitiligo

INTRODUCTION

Vitiligo is an acquired skin disorder characterized by sharply demarcated depigmented lesions of variable sizes and shape which have the tendency to increase in size during the patient's lifetime.¹ The course of vitiligo is unpredictable with periods of remission and exacerbation.² The natural history is that of slow progress, but it may stabilize or exacerbate rapidly.¹ Depigmentation is more apparent in individuals with darker skin tones. The spotted appearance of vitiligo can be traumatizing and stigmatizing.^{3,4}

Prevalence of vitiligo varies from country to country; varying from 0.09% to 2.8%.⁵⁻⁸ Vitiligo can occur at any

age, but peak incidence is in the second or third decades of life.⁹ Average age of onset of vitiligo is before twenty years in at least half of adult cases and five years in children.¹⁰

Vitiligo is generally asymptomatic although, itching or burning of the vitiligo patches may be experienced.^{1,11} Lesions usually appear on sun-exposed or hyperpigmented areas or on sites of stretch and pressure (face, dorsum of hands and fingers, external genitalia, knees and elbows) though any part of the body can be affected.¹

The aim of this study was to document the epidemiology, clinical (age of onset, location, severity, class of vitiligo)

and sociodemographic characteristics of vitiligo patients attending the Dermatology Outpatient Clinic of the University College Hospital Ibadan, Nigeria.

METHODS

This is a retrospective descriptive study of clinical characteristics of patients treated for vitiligo from January 2005 to December 2009 at the University College Hospital (UCH) Ibadan Dermatology Outpatient Clinic, a tertiary center and it serves as a referral center for six surrounding states.

One hundred and thirty new vitiligo patients were seen during the study period and 111 of the 130 case notes were recovered from the medical records. A questionnaire was used to assess patient’s information. Clinical and socio-demographic characteristics were documented as follows;

- Age of patients divided into <17 years for childhood and >18 years for adults,
- Site of vitiligo lesions,
- Extent/severity of vitiligo was based on the rule of nine; the palms including digits represent 1% of body surface area (BSA),¹²
- Class of vitiligo based on Nordlund’s classification into; localized (focal, segmental), generalized (acrofacial, vulgaris, mixed) and universal vitiligo,¹³
- Area of onset,
- Activity of disease (spreading or not spreading),
- Visibility of lesions (lesions on exposed parts of the body),
- Sociodemographic characteristics (age at onset, duration of vitiligo, age at presentation, family history of vitiligo, leukotrichia and koebner’s phenomenon) were documented.

Ethical clearance for the study was given by the research and ethics committee of the hospital. Permission to assess patient case records was also, obtained from the hospital administration.

Data was entered using SPSS version 16.¹⁴ Quantitative variables are summarized using means, median, standard deviation and range while frequencies and proportions are used for categorical variables. The level of significance was at 5%.

RESULTS

Over the study period of 5 years, 1970 patients were seen in the dermatology clinic of which 130 were vitiligo patients giving a prevalence of 6.6%. One hundred and eleven case notes were retrieved giving a retrieval rate of 85%. The cases recorded were made up of 35 (31.5%) children and 76 (68.5%) adults. There were 56 males and 55 females giving a M:F of 1:1. The mean age, age at onset and duration before presentation for children was

8.4±4.0, 7.8±4.0 and 4.1±2.5 years respectively and 38.9±16.3, 34.6±17.1 and 5.9±5.6 years respectively for adults.

Duration of disease was over 1 year in 88% with a range of 0-22 years. Family history of vitiligo was recorded 2.7% with self-medication practiced in 26.9% prior to the dermatology clinic attendance and 83.4% had been to non-dermatology clinics. History of treatment for another medical condition was recorded in 6 adults (hypertension and spondylosis) but not in any child. Fifty percent of the adults were married, 48.7% single and 1.3% widowed. Table 1 shows the socio-demographic variables.

Table 1: Sociodermographic variables.

	Male (n=56)	Female (n=55)	Total (n=111)
Age at presentation (years)			
0-5	2(3.8)	5(9.0)	7(6.3)
6-10	6(10.7)	11(20.0)	17(15.3)
11-17	4(7.1)	6(10.9)	10(9.0)
18-29	20(35.7)	12(21.8)	32(28.8)
30-39	7(12.5)	7(12.7)	14(12.6)
40-49	5(8.9)	5(9.0)	10(9.0)
50-59	8(14.3)	1(1.8)	9(8.1)
≥60	4(7.1)	8(14.6)	12(10.8)
Age at onset of vitiligo (years)			
0-5	2(3.8)	7(12.7)	9(8.2)
6-10	8(14.3)	13(23.6)	21(19.1)
11-19	8(14.3)	10(18.2)	18(16.4)
20-29	17(30.4)	8(14.6)	25(22.7)
30-39	5(8.9)	3(5.5)	8(7.3)
≥40	15(26.8)	14(25.5)	29(26.4)

The treatment given to the patients is shown in Figure 1. The commonest treatment given was topical meladinine and it was used in 69% of children and 75.4% of adults. Hydrocortisone was used in 10.3% of children and 10.8% of adults. Prednisolone was not used in children.

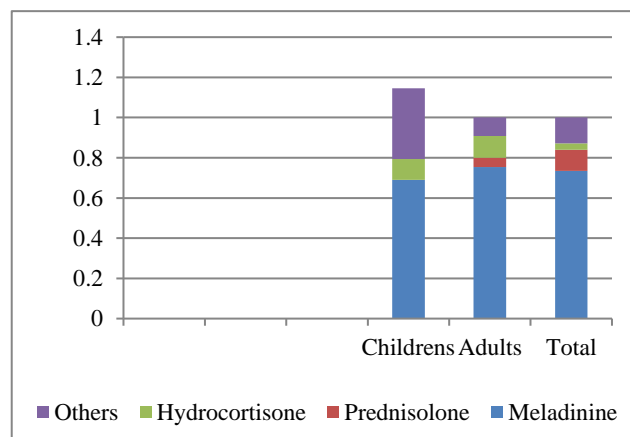


Figure 1: Treatment modalities.



Figure 2: Acral vitiligo.



Figure 3: Segmental vitiligo.



Figure 4: Vitiligo re-pigmenting.

The commonest type of vitiligo was acrofacial followed by vulgaris (Figures 2 and 3). However, in men the commonest type was vulgaris while segmental and acrofacial occurred equally in females. The commonest area of onset was the face/scalp with only females having the genitals as area of onset. Re-pigmentation following

treatment (Figure 4) was reported in 66% of patients with females (77%) re-pigmenting better than males (56 %). A history of active lesions was reported in 59.7% of patients with 66.7% of men reporting it compared to 56.3% of females. Using the “rule of nine”, the severity of vitiligo was <9% in 90%, 10-18% in 7% and greater than 19% in 2.8% of patients. Leukotrichia was reported in 6.1% of patients (males 9.1%, females (3.6%). Vitiligo was in visible (exposed) parts of the body 84.7% and asymptomatic in 92.7%. Koebner’s phenomenon was observed in 3.6% of patients and this was only in females. Table 2 shows the clinical characteristics.

Table 2: Clinical characteristics vitiligo.

	Male n (%)	Female n (%)	Total n (%)
Area of onset*			
Buccal mucosa	1(2.0)	1(1.9)	2(1.9)
Face/scalp	34(68.0)	27(51.0)	61(59.2)
Lower limb	8(16.0)	7(13.2)	15(14.6)
Neck	2(4.0)	3(5.7)	5(4.9)
Upper limb	2(4.0)	9(17.0)	11(10.7)
Genital	0(0.0)	5(9.4)	5(4.9)
Trunk	3(6.0)	0(0.0)	3(3.0)
Gluteal	0(0.0)	1(1.9)	1(1.0)
History of symptoms*			
Itch	3(5.5)	3(5.5)	6(5.5)
Itch/sunburn	1(1.8)	1(1.8)	2(1.8)
Asymptomatic	51(92.7)	51(92.7)	102(92.7)
Classification of vitiligo*			
Segmental	10(17.9)	14(26.0)	24(21.8)
Vulgaris	21(37.5)	8(14.8)	29(26.4)
Focal	4(7.1)	11(20.4)	15(13.6)
Acrofacial	19(34.0)	14(26.0)	33(30.0)
Acral	2(3.8)	5(9.3)	7(6.4)
Universal	0(0.0)	2(3.8)	2(1.8)

DISCUSSION

The prevalence of vitiligo in this study was found to be 6.6% which is higher than what was reported in other hospital based studies.^{6,7} This prevalence may not be a true representative of the community prevalence as this was a clinic based study in a tertiary center where the worst of cases are seen.

Vitiligo was more prevalent in adults in this study. One of the theories for the pathogenesis of vitiligo is autoimmunity and autoimmune diseases are said to occur more in adults.^{15,16,17} Also, vitiligo is one of the skin diseases in which Koebner’s phenomenon occurs. Koebner’s phenomenon occurs more in adults compared to children.¹⁸ It is hypothesized that this may be the reason for the preponderance of vitiligo in adults although in this environment these hypothesis have not been tested. A similar preponderance of adult vitiligo has

been reported in other studies of the clinical profile of vitiligo.¹⁹⁻²¹

Age at presentation was mainly 6-10 years in the children and 18-29 years in adults. This may have been because, this is the age at which children begin to play outside and attend school with the lesions becoming obvious to outsiders thus causing their parents to be more concerned and bring their children to the hospital. Also, when

children begin to play with each other, they become self-conscious of their vitiligo and sensitive to being teased by other children. Adults in their second and third decades of life are the working population and may become self-conscious of their lesions before their colleagues. A similar age at presentation of less than 10 years of age in children and of second to third decades of life in adults has been documented in Barros et al and Akay et al.^{19,15}

Table 3: Summary statistics for variable.

Variable		Mean (SD)	Median (IQ range)	Highest	Lowest
Age at presentation	Children	8.4(4.0)	8.0(5.0)	17	1
	Adult	38.9(16.3)	32.5(24)	78	18
Age at onset	Children	7.8(4)	8.0(5.0)	17	1
	Adult	34.6(17.1)	29.0(17.1)	78	1
Duration before presentation	Children	4.1(2.5)	3.0(4.0)	8	0
	Adult	5.9(5.6)	4.0(4.0)	22	1

There was no gender based difference in prevalence of vitiligo in this study. In China, no gender based differences was reported²² unlike in Turkey where more males had vitiligo²³ and in Tanzania, India, Turkey and Tunisia where more females had vitiligo.^{22,23,9,15,21,24} Vitiligo can affect anyone, the significance of this difference in gender affectation is not known by the authors.

Majority of the children in this study had an onset of vitiligo at age 6 to 10 years. Childhood vitiligo is defined as vitiligo onset before 12 years of age though in children, onset before age 5 years is common.¹⁰ This study is in keeping with this definition with 80% of the children having an onset before 10 years of age. Also, this study is in keeping with what has been documented in other studies.^{22,25} Age at onset of adult vitiligo in this study was mainly in the third and after the fifth decades of life. This age at onset for adults in this study is in keeping with what has been documented in other studies.^{19,21-24}

Duration before presentation to the clinic varied between 1 year and more than twenty-two years. More than 80% of the patients presented to the clinic with lesion duration of more than 1 year in both children and adults. This delay in presentation may have been due to ignorance and the fact that, vitiligo is asymptomatic and not life threatening. Documented studies of vitiligo like this study, reveal a variable duration of presentation though, most patients present to the clinic within 2 years of lesion appearance.^{21,25}

A low report of a family history of vitiligo was found. Vitiligo though, not a heritable disease is associated with a family history of vitiligo. People who have a family

history of vitiligo especially if it's a first-degree relation tend to have an earlier onset of vitiligo.²⁶ This low incidence of a family history of vitiligo is in consonance with other studies.^{6,21,23,24,27} However, in Tunisia and Turkey a higher incidence was reported.^{9,15}

A large percentage of the patients in this study had not engaged in self-medication before presenting to the clinic. In Nigeria over the counter remedies are easily available and most patients would have tried a remedy before presenting to the doctor. Vitiligo is an uncommon, asymptomatic and quite striking skin disease that most people don't readily have a solution to. This may be the reason for the low percentage of history of self-medication and high percentage of hospital attendance in this study. Kiprono et al in Tanzania had more people who had practiced self-medication.²¹

Vitiligo was active in most of the patients especially in the males resulting in the patients presenting within one year of onset. The patients may have feared being covered by these lesions. A similar high report of active disease was reported by Barros et al from Brazil.^{9,19,21,23,24} However, in China, less than half the patients had active disease.²²

There was a high percentage of re-pigmentation in this study with females re-pigmenting better than males (Figure 4). The reason for more re-pigmentation in females is not known, studies to test this association will need to be done. Other studies have not compared gender difference in re-pigmentation. In China, a similar high percentage of re-pigmentation was reported.²²

The reason for the non-repigmentation in the other patients may have been due to inadequate interval

between treatment and assessment as most of these assessments were done before 6 months of treatment. Also, some of these patients were lost to follow-up and so re-pigmentation could not be assessed in them. Re-pigmentation following treatment in vitiligo begins between 3-6 months and most patients do not want to wait this long for re-pigmentation. Also, this assessment of re-pigmentation was by the patients who would likely claim no re-pigmentation since they are expecting full re-pigmentation. Vitiligo, based on its natural history also displays a variable re-pigmentation pattern with some patients never re-pigmenting or re-pigmenting after years and not months of therapy.²⁸

Treatment modality in the dermatology clinic was mainly PUVASOL (psoralen and sun exposure) and steroids. The different modalities of the treatment of vitiligo include the use of steroids and photochemotherapy (PUVA, NBUBV and BBUBV).^{11,29} In Nigeria, facilities for these are scarce and so patients use the PUVASOL modality which has been found to be effective in other places also.¹¹ The only difference in treatment modality between children and adults was the lack of use of systemic steroids in the children. Vitiligo, is a skin disease that requires treatment for a long time and long term systemic steroids use is known to be associated with problems of growth in children.¹¹ This may have been the reason for lack of use of systemic steroids in these children who had vitiligo.

This was mainly in the head/scalp region followed by the lower limbs and the upper limbs. Only females had the genitals as the area of onset. Vitiligo lesions usually appear on sun-exposed or constitutionally hyperpigmented areas although any part of the body can be affected.¹ Area of onset in this study was mainly in sun exposed parts. A similar area of onset as in this study has been reported by other authors.^{6,19,21,23,24} However, area of onset was mostly lower limb in another study from Nigeria and Turkey and hands in Germany.^{9,20,30}

A lot of the patients were asymptomatic. Vitiligo lesions are generally asymptomatic and may not be noticed by the patient although, itching or burning may precede or accompany the onset of the lesions in a few patients.¹¹ There was no complaint of sunburn in the patients in this study. Vitiligo being a depigmenting disease results in the loss of the protective effect of melanin with resultant sun burn. The patients in this study may not have complained of sun burn because most of them had a small area of affectation. Symptomatology was not reported in other documented reports of vitiligo most probably as vitiligo is mainly asymptomatic.^{6,7,20,21,25}

Body surface area of involvement was low in most patients as acrofacial vitiligo was the main type observed and these areas are not large. The natural course of vitiligo is usually unpredictable but is often progressive and the size of the lesions may vary from a few millimeters to several centimeters.^{1,11} Also, most of the

patients in this study presented to the clinic within 2 years of appearance of the lesions; so it is not known if they had reached their maximum body area of involvement. Lesion severity in other studies have also been noted to be <9% of the body surface area in most patients.^{21,22,24}

Acrofacial vitiligo was the most prevalent type. Universal vitiligo was the least seen and this was only in adults. The documented predominant type of vitiligo from various studies vary; being vulgaris in some and focal in others.^{6,19,21,22,26,20,31} Universal vitiligo was also the least seen class in a study from Kuwait.²⁵

Leukotrichia and Koebner's phenomenon were observed in a few patients. Reports of leukotrichia from various studies vary with some in consonance with this study and others at variance.^{9,15,27} Also, koebnerisation of lesions was variable being low as in this study in studies from Turkey and India and high in Tunisia.^{9,15,27}

Most of the patients in this study had their lesions in the head/scalp area and the extremities which are exposed/visible parts of the body. These are areas of the body which are easily seen. Vitiligo usually occurs on sun-exposed parts and these are usually visible parts of the body.¹ Other studies on clinical features of vitiligo reveal a similar report of visibility of lesions.^{9,20} However in Tanzania, lesions were located in non-visible parts in most patients.²¹

CONCLUSION

The clinical profile of vitiligo in Ibadan, Nigeria is similar to that observed in other places with only females having a genital onset and acrofacial vitiligo being the dominant type seen. Also, treatment modality varies between children and adults.

This was a retrospective study with consequent limitation in the retrieval of case notes, incomplete documentation of information and inability to clarify some information from patients

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