

Original Research Article

Clinical characteristics of childhood vitiligo in Nigeria

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ABSTRACT

Background: Literature specifically documenting clinical characteristics of childhood vitiligo are few when compared to the documentation in adults in Nigeria. This study aims to document the clinical characteristics of childhood vitiligo.

Methods: This was a retrospective cross-sectional study of 35 children diagnosed to have vitiligo from January of 2005 to December of 2010 at the dermatology outpatient clinic of the University College Hospital, (UCH) Ibadan. A proforma was used to extract socio-demographic variables and clinical features from the charts. Ethical clearance for the study was given by the research and ethics committee of the hospital.

Results: Over the 5 year period, 35 out of 264 children were diagnosed to have vitiligo giving an incidence of 13.3 %. The children were made up of 34.3% males and 65.7% females. At presentation, 71.4% of the children were aged 0-10 years. In 80% of the children, age at onset of vitiligo was before age 10 years especially at age 6-10 years. The commonest area of onset was the face/scalp (51.4%) and the commonest type of vitiligo was segmental. Severity of vitiligo was <9% in 97.1% of cases. Vitiligo was in an exposed part of the body in 88.6% of the children. Only females had the genitalia as area of onset of vitiligo.

Conclusions: Childhood vitiligo is mainly segmental, re-pigments well and occurs more in females. Only females have the genital area as the area of onset.

Keywords: Childhood, Clinical characteristics, Nigeria, Vitiligo

INTRODUCTION

Vitiligo, a skin disease characterised by depigmented patches occurs in children just as in adults.¹⁻³ Childhood vitiligo is said to be vitiligo occurring before twelve years of age.⁴ Literature specifically documenting clinical characteristics of childhood vitiligo are few when compared to the documentation in adults.^{3,5} Also, even fewer articles have been written showing that vitiligo in childhood differs to some extent from vitiligo in adults.^{3,5}

The worldwide prevalence of vitiligo in childhood is said to be 0.0 to 2.16%.⁶ Documented literature on clinical

characteristics of childhood vitiligo show the head and neck to be the most common area of onset, and age at onset of vitiligo to be below 10 years.^{3,5,7} Family history of vitiligo in childhood is variable with some authors documenting it and others reporting it as insignificant.^{3,7} Also, a family history of vitiligo is said to result in an earlier onset of childhood vitiligo.⁴ The most common type of vitiligo in childhood, is vitiligo vulgaris although segmental vitiligo is found more in childhood than in adulthood.^{3,7}

In Nigeria, hospital based studies of skin diseases show vitiligo prevalence to vary from 5 and 6% and that,

vitiligo does occur in children.^{1,8} Also, a hospital based study of childhood dermatoses amongst 441 children revealed a vitiligo prevalence of 5.3%.¹ Little is known about clinical characteristics of childhood vitiligo in Nigeria. This study aims to document the clinical characteristics of childhood vitiligo.

METHODS

This was a retrospective cross-sectional, descriptive study of 35 children diagnosed to have vitiligo from January of 2005 to December of 2010 at the dermatology outpatient clinic of the University College Hospital, (UCH) Ibadan. This hospital is a teaching hospital with two dermatologists as the clinicians. Ethical clearance for the study was given by the research and ethics committee of the hospital.

Case files were retrieved from the hospital registry after permission from the hospital management. A study proforma was used to document socio-demographic data and clinical characteristics.

The socio-demographic data included:

- Age at presentation
- Age at onset of vitiligo anatomical area of onset
- Duration before presentation
- Family history of vitiligo.

Clinical characteristics included:

- Type of vitiligo
- Re-pigmentation
- Spread of lesions/ active lesions
- Koebner's phenomenon.

Severity of vitiligo was based on the rule of "nine".

Inclusion criteria

- Any child, 17 years old and below who was clinically diagnosed as having vitiligo and attended to in the clinic during the study period was recruited into the study.

Exclusion criteria

- Any chart with incomplete data was excluded from the analysis.

The type of vitiligo in this study, was based on the Nordlund classification.⁹

Statistical analysis

Data was analysed using the Statistical Package for the Social Sciences, version 16 (SPSS 16).¹⁰ Means, frequencies and percentages are presented.

RESULTS

Over the 5 year period, 264 children attended the dermatology outpatient clinic out of which 35, had vitiligo giving an incidence of 13.3 %. The children were made up of 12 males (34.3%) and 23 females (65.7%).

Table 1 shows the distribution of the socio-demographic and vitiligo-related variables. At presentation, 71.4% of the children were aged 0-10 years. In 80% of the children, age at onset of vitiligo was before 10 years especially at age 6-10 years. Of the 35 children, only 14.5% presented to the clinic within 1 year of onset of vitiligo.

Table 1: Distribution of demographic features.

Variable	Male (n=12)	Female (n=23)	Total (n=35)
Age at presentation (years)			
0-5	2 (16.7)	5 (21.7)	7 (20.0)
6-10	6 (50.0)	12 (52.2)	18 (51.4)
11-17	4 (33.3)	6 (26.1)	10 (28.6)
Age at onset of vitiligo (years)			
0-5	2 (16.7)	7 (30.4)	9 (25.7)
6-10	7 (58.3)	12 (52.2)	19 (54.3)
≥11	3 (25.0)	4 (17.4)	7 (20.0)
Duration before presentation (years)			
≤1	4 (33.3)	1 (4.3)	5 (14.3)
>1	8 (67.7)	22 (95.7)	30 (85.7)

Only 1 of the 35 children had a family history of vitiligo and this person was male. Self-medication was reported in 17.1% of the children (5 males and 1 female) and 82.9% of the children went for treatment in the hospital.



Figure 1: Segmental vitiligo with leucotrichia.

No child was being treated for any other medical condition (diabetes, thyroid disease) and 100% of the children were asymptomatic. Re-pigmentation following

treatment occurred in 82.9% with 90% of the females re-pigmenting compared to 71.4% of the males. Only females had the genitalia as area of onset of vitiligo. The commonest treatment given was topical meladinine and it was used in 69% of children, and topical Hydrocortisone was used in 10.3% of children. Oral prednisolone was not used in the children.

Table 2 shows the distribution of clinical features. A history of spread of lesions at presentation was reported in 72.7% of the children. The commonest area of onset was the face/scalp (51.4%) in both males and females, followed by the upper limbs (20.0%). The prevalent type of vitiligo was segmental (45.7%) in both males and females. Using the “rule of nine”, the severity of vitiligo was <9% in 97.1% of cases. Leukotrichia was reported in 8.6% cases. Vitiligo was in a visible (exposed) part of the body in 88.6% of the children.

Table 2: Clinical features.

Variable	Male (n=12)	Female (n=23)	Total (n=35)
History of spread			
Yes	8 (66.7)	16 (76.2)	24 (72.7)
No	4 (33.3)	5 (23.8)	9 (27.3)
Area of onset			
Buccal mucosa	1 (8.3)	0 (0.0)	1 (2.9)
Face/scalp	6 (50.0)	12 (52.2)	18 (51.4)
Lower limb	3 (25.0)	1 (4.3)	4 (11.4)
Neck	1 (8.3)	0 (0.0)	1 (2.9)
Upper limb	1 (8.3)	6 (26.1)	7 (20.0)
Vulva	0 (0.0)	4 (17.3)	4 (11.5)
Severity of vitiligo*			
0-9	12 (100)	21 (95.5)	33 (97.1)
10-18	0 (0.0)	1 (4.5)	1 (2.9)
Koebnerization			
Yes	0 (0.0)	1 (4.3)	1 (2.9)
No	12 (100)	22 (95.7)	34 (97.1)
Leukotrichia			
Yes	1 (8.3)	2 (8.7)	3 (8.6)
No	11 (91.7)	21 (91.3)	32 (91.4)
Visibility (lesion on exposed part)			
No	2 (16.7)	2 (8.7)	4 (11.4)
Yes	10 (83.3)	21 (91.3)	31 (88.6)
Classification of vitiligo			
Segmental	6 (50.0)	10 (43.5)	16 (45.7)
Vulgaris	3 (25.0)	3 (13.0)	6 (17.1)
Focal	0 (0.0)	5 (21.7)	5 (14.3)
Acrofacial	2 (16.7)	4 (17.4)	6 (17.1)
Acral	1 (8.3)	1 (4.3)	2 (5.7)

*Some figures are missing due to non-documentation of information, so only available figures were analyzed.

Table 3 shows the summary statistics for the age, age at onset and duration before presentation. 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.

Table 3: Summary statistics for variable.

Variable	Mean (SD)	Median (IQ range)	Highest	Lowest
Age at presentation	8.4 (4.0)	8.0 (5.0)	17	1
Age at onset	7.8 (4)	8.0 (5.0)	17	1
Duration before presentation	4.1 (2.5)	3.0 (4.0)	8	0

DISCUSSION

The prevalence of vitiligo in this study was high compared to the world-wide and community based study of prevalence of vitiligo.^{6,11} This prevalence is high as this study was conducted in a teaching hospital; a place where people who are severely affected by a disease or have unexplained conditions would come to thereby creating a biased high cohort of patients. The prevalence of vitiligo in this study is higher than that on a study of childhood vitiligo from Nepal and that from a hospital based study of dermatoses in 441 children in Nigeria.^{1,12} The Nigerian study was not a specific study on vitiligo and was conducted over a three year period unlike the present study, which was conducted over a 5 year period. Mean age at onset of vitiligo was 7.8 years. This is higher than that reported in other studies on childhood vitiligo but similar to reports from Greece and China.^{2,3,7,13,14} Most of the children had an onset of vitiligo before 10 years of with most having an onset at age 6 to 10 years. Similar studies on clinical characteristics of childhood vitiligo, show an onset below 10 years of age with most children developing vitiligo at age 6 to 10 years as in this study.¹³ Also, the age at presentation was mostly at age 6 years and above. This may have been because, this is the age at which children begin to have social interactions; play dates, attend school with the lesions becoming obvious to outsiders with attendant curiosity, questioning, teasing and embarrassment. This is the age also, when children become self-conscious of their vitiligo and sensitive to being teased by other children. A similar age at presentation to the clinic was reported by de Barros et al.¹⁵

In this study, there was a gender based difference in the occurrence of vitiligo with females more affected irrespective of age onset and at presentation. Various studies of childhood vitiligo report a similar female preponderance as this study.^{2,3,5,7,13-16}

These children presented to the hospital for treatment more than a year after the onset of vitiligo. This is despite a low incidence of self-medication in this population. All the children in this study were asymptomatic. The delay in seeking treatment may have been due to this lack of symptoms and vitiligo is mostly an asymptomatic skin disease.¹⁷

A similar delay as in this study has been reported Iran, Saudi Arabia, Greece and China.^{2,5,13,14}

Only one child in this study had a family history of vitiligo. This is not enough to conclude that a family history of vitiligo is low in Nigeria. However, from clinical observation, family history of vitiligo is mostly negative. Studies on childhood vitiligo show a variable incidence of a family history, being low in some and high in others.^{2,3,5,7,13,14,16}

One of theories in the pathogenesis of vitiligo is autoimmune.¹⁸ No child in this study had an autoimmune disease. Reports of auto immune diseases vary in childhood vitiligo Thyroid disease (Hashimoto thyroiditis) has been reported in children who have vitiligo.^{5,7,13,18} and in other studies, no child was reported to have an autoimmune disease as in this study.^{5,7}

A history of spread of lesions was reported in a high percentage of the children. Although, most of these children delayed in seeking treatment, the report of spread of lesions meant that the vitiligo was active. This may have informed the attendance at the clinic. Mu et al following their comparison of vitiligo in children less than 3 years of age and those above 3 years of age, concluded that, a younger age at onset of vitiligo is associated with spread of vitiligo lesions.¹⁹ A similar of history spread of vitiligo in childhood was reported in a study from Brazil.⁷

The head and neck were the commonest area of onset in this study followed by the upper limb. Various studies on childhood vitiligo reveal the head and neck as the commonest area of onset as in this study.^{3,5,7,13-15} Also, only females had the genital area as the area of onset. It is not known why only the females had the genitals as area of onset. Other studies on childhood vitiligo have not documented this peculiarity in area of onset.^{5,13,19}

Re-pigmentation following treatment was high in this study. Early treatment of childhood vitiligo is advocated. Good repigmentation was also reported in Saudi Arabia following a study of 176 children who had vitiligo.⁵ Vitiligo was recorded in less than 9% of the body surface area. So, vitiligo was not really extensive in these children in contrast to Mu et al's position, that, childhood vitiligo is extensive.¹⁹ Kayal et al reported a similar low body surface area affectation.¹⁶

Koebner's phenomenon was observed in only one child. However, studies of childhood vitiligo in India, Saudi Arabia reported Koebner's phenomenon although in a low percentage of children.^{3,5,7,13,16} The authors opined that, the occurrence of Koebner's phenomenon in these children was due to a high degree of mobility and attendant trauma in these children.^{3,5,7,13,16} Vitiligo was located in almost all the children on exposed (visible) areas of the body. Vitiligo can occur in any part of the body although sun exposed areas of the body which are

also the exposed areas are mostly affected.²⁰ Other studies on childhood vitiligo show a similar occurrence of vitiligo on exposed body parts as in this study.^{2,3,13-15}

Segmental vitiligo was the commonest type of vitiligo in this study followed by acrofacial and vulgaris. Authors postulate that, segmental vitiligo was the commonest presentation because the parents of these children may have been mystified by these lesions being confined to one side of the body or that in Nigeria, childhood vitiligo is truly mainly segmental. Further studies on childhood vitiligo is needed to verify this finding. A similar report of segmental vitiligo being the commonest in childhood vitiligo was reported in Brazil and in China.^{14,15} This however, is in contrast to reports from other studies where vulgaris is the commonest type seen.^{5,7,13} Although, Agarwal et al in India and Nicolaidou et al in Greece documented acrofacial and focal vitiligo respectively, as the commonest type seen in childhood vitiligo.^{2,3}

Limitation: This was a retrospective study; some data could not be analyzed due to poor documentation. Also, the number of patients in this study are few making generalization of findings difficult.

CONCLUSION

Childhood vitiligo is commonly segmental, re-pigments well and occurs more in females. Only females have the genital area as the area of onset.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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