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Original Article

A retrospective review of the spectrum of scalp hair loss at the Lagos State University Teaching Hospital Dermatology Clinic

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Abstract

Background Scalp hair loss (HL) is not uncommon but the documentation of the spectrum of it in clinical settings is rare. This study aimed to document the prevalence, spectrum and any gender based differences in types of scalp hair loss.

Methods This was a retrospective chart review of 131 cases of HL treated at the out-patient dermatology clinic of the Lagos State University Teaching Hospital from January 2017 to December 2022. Data extracted included age, age at onset, gender, duration, family history of HL, pattern of HL (patchy or diffuse), symptoms (pain, pruritus) and type of HL.

Results The prevalence of HL was 3.9% and the median (IQR) age at onset of hair loss was 28 (19.37) years. The age of onset of HL occurred more between 20-29 years of age. The population was mostly female; 61.1%. Patients aged 20-39 years were predominantly affected (51.9%). Hair loss was patchy in 82.4% and symptomatic in 67.2%. Alopecia areata (AA) was the most diagnosed type of HL and the least diagnosed HL was telogen effluvium (TE). Self-medication was noted in 26.7%. Acne keloidalis nuchae and FD occurred only in males. Discoid lupus, psoriasis and CCCA occurred more in females. Traction alopecia and TE occurred only in females.

Conclusion Hair loss is an uncommon presentation in the clinic. It occurs more in females and alopecia areata is the commonest HL diagnosed. The pattern of HL is mostly patchy and non-scarring. Gender and age influence HL types.

Key words
Hair loss; Alopecia; Discoid lupus; Alopecia areata.

Introduction

Hair loss (HL) is not uncommon and it is associated with quality of life impairment in some affected individuals.[1-3] The prevalence of HL has been documented variously and found to vary depending on the setting of the study. In clinical settings, prevalence is reported to vary from 1.3 to 66.3%[3-5] while in community settings, the prevalence varies from 9.9 to 40%.[1,6,7] Although, HL occurs in all age groups, the prevalence and types of HL differ with age. In addition, the prevalence of HL increases with age and the mean age of HL in adults' ranges from 29 to 59 years.[1-3,10]

Hair loss is broadly classified as scarring and non-scarring. The scarring type of HL accounts for 50 to 81% and the non-scaring type for 19 to 50%.[2,3,8] In adults, the reported types of HL include central centrifugal cicatricial alopecia

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(CCCA), traction alopecia (TA), androgenetic alopecia (AGA), folliculitis decalvans (FD), discoid lupus erythematosus (DLE), psoriasis, telogen effluvium (TE), seborrheic dermatitis (SD) and alopecia areata (AA).[2,3,5]

The prevalence of HL also varies based on gender. In some studies, HL is more prevalent in males[1,3,5] while in others, it is more prevalent in females.[5,6,8,9] The type of hair loss also varies with gender with some types of HL being more common in males while others are more common in females.[2,3,11,12] Traction alopecia, DLE, TE and CCCA are more common in females[11,13] while acne keloidalis nuchae (AKN), FD, dissecting cellulitis (DCT) and AGA are more common in males.[2,12,14]

Except for one study, there is no recent study on the spectrum of HL in adult Nigerians. In addition, there has been no report of the spectrum of scalp hair loss, the proportion of skin clinic patients who were treated for hair loss nor the types of hair loss in different genders in our clinic. A documentation of the spectrum of hair loss apart from contributing to knowledge will be useful in planning for treatment, policy formulation with regard to the acquisition of skills for evaluation and treatment of HL in the clinic. The aim of this study was to document the prevalence of HL, the spectrum of scalp hair loss and any gender based differences in types of scalp hair loss. The study hypothesis is that, the spectrum of HL will differ with gender and age.

Methods

This was a retrospective chart review of 131 cases of HL treated at the out-patient dermatology clinic of the Lagos State University Teaching Hospital from January 2017 to December 2022. The study was conducted over an eight-week period (January to February 2023) following ethical approval by the ethical committee of the hospital (LREC/06/10/1921). Hair loss is diagnosed in the clinic based on clinical history, examination, dermoscopy and biopsy with histopathology when needed. Case notes of all the patients diagnosed to have hair loss at their first clinic attendance within the study period were retrieved and relevant information was documented using a questionnaire designed for the study.

Data extracted from the case notes included age, age at onset of HL, gender, duration of HL, family history of HL, pattern of HL (patchy or diffuse), symptoms (pain, pruritus) and type of HL. Any case note with incomplete data was excluded from the study. In addition, self-treatment or treatment by non-dermatologists before dermatology clinic attendance and the treatment modality was documented.

Data was analyzed using the IBM SPSS statistics package Version 25. Age, age at onset of HL and duration of HL were converted from numerical to categorical variables. Test of normality was conducted. Continuous variables are presented as median and inter-quartile range. Categorical variables are presented as percentages.

Results

The prevalence of HL was 3.9%, with 131 out of the 3,381 new patients who visited the clinic having been given the diagnosis. Females accounted for 61.1% (80/131) of patients with HL. Patients aged 20-39 years were predominantly affected (51.9%) and the median (IQR) age at presentation was 33 (22,42) years. The age of onset of HL was between 20-29 years of age and the median (IQR) age at onset of hair loss was 28 (19,37) years **(Table 1)**. A family history of hair loss was reported in 6.9% (9/131).

Table 1 Socio-demographic data.

Variable	*Frequency (n=131)*	*Percentage (%)*
Age group (years)		
< 20	23	17.6
20 - 29	29	22.1
30 - 39	39	29.8
40 - 49	23	17.6
50 - 59	9	6.9
≥ 60	8	6.1
Range	13 - 73	
Age at onset		
<10	5	3.8
10 - 19	28	21.4
20 - 29	39	29.8
30 - 39	28	21.4
40 - 49	18	13.7
≥50	11	8.4
Undocumented	2	1.5
Range	7 - 69	
Duration of hair loss (years)		
< 1	36	27.5
1 - 4	59	45.0
5 - 9	15	11.5
≥ 10	21	16.0
Range	0.1 - 20	

Hair loss was patchy in 82.4% (108/131) and diffuse in 17.6% (23/131). HL was symptomatic in 67.2% (88/131). Non-scarring and scarring alopecia were noted in 59.5% (78/131) and 40.5% (53/131) respectively. Alopecia areata (AA) was the most diagnosed type of HL followed by DLE and the least diagnosed HL was telogen effluvium (TE) **(Table 2)**. Symptoms reported were pruritus only in 70.5% (62/88), pain only in 11.4% (10/88), both pruritus and pain in 18.2% (16/88). Prior to dermatology clinic attendance, a form of treatment had been tried by 26.7% (35/131) of the patients. Treatment modalities prior to dermatology clinic attendance included antifungals in 37.1%, antibiotics in 28.6%, steroids in 11.4%, cryotherapy in 2.8%, antihistamine in 5.7%, moisturizer in 5.7% and 17.1% were unable to recall what they had used.

The documented type of HL differed with age. Discoid lupus, psoriasis and CCCA occurred more in the age group 30-39 years, SD and FD in those aged 20-39 years and, AA in the age group less than 20 years **(Figure 1)**.

There was a gender-based difference in the diagnosed types of HL. Acne keloidalis nuchae (AKN) occurred only in males. Discoid lupus, psoriasis and CCCA occurred more in females and FD occurred more in males. Traction alopecia and TE occurred only in females. There was no gender-based difference in the occurrence of AA and SD **(Figure 2)**.

Discussion

Hair loss although prevalent and associated with quality of life impairment in some individuals is not readily documented in our environment.[3,12,15] This study has documented the prevalence, type and pattern of HL in our dermatology clinic.

Table 2 Pattern and type of hair loss.

Diagnosis	*Pattern of hair loss*		*Total (%)*
	Patchy (%)	*Diffuse (%)*	
Alopecia Areata	28 (87.1)	6 (12.9)	34 (26.0)
Discoid lupus	23 (85.2)	4 (14.8)	27 (20.6)
Psoriasis	17 (81.0)	4 (19.0)	21 (16.0)
Folliculitis decalvans	12 (75.0)	4 (25.0)	16 (12.2)
Seborrhoeic dermatitis	13 (86.7)	2 (13.3)	15 (11.5)
Central centrifugal cicatricial alopecia	5 (83.3)	1 (14.8)	6 (4.6)
Acne Keloidalis Nuchae	4 (100.0)	0 (0.0)	4 (3.1)
Androgenic alopecia	2 (66.7)	1 (33.3)	3 (2.3)
Systemic lupus	2 (100.0)	0 (0.0)	2 (1.2)
Traction alopecia	1 (50.0)	1 (50.0)	2 (1.5)
Telogen effluvium	1 (100.0)	0 (0.0)	1 (0.8)
Total	108 (82.4)	23 (17.6)	131 (100)

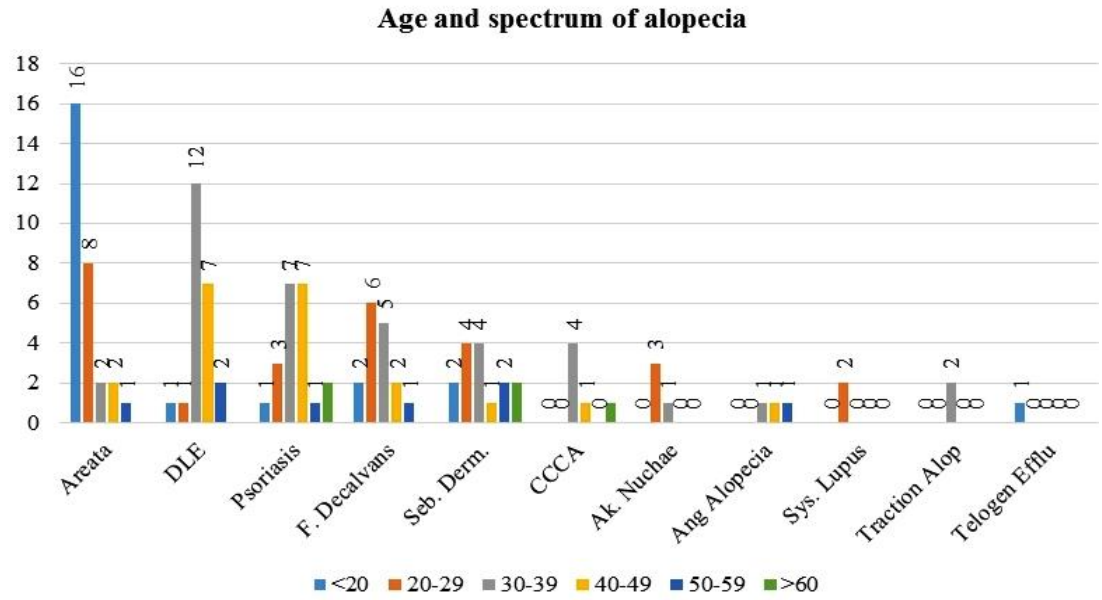

Figure 1 Age based distribution of types hair loss.

The prevalence of HL in the study was low compared to that reported in similar studies.[1,3,5,6] The low prevalence in our study may be due to a lack of awareness that HL can be treated in the clinic. It may also be because some females in Nigeria may not decide to seek treatment for HL because they typically can cover their hair with wigs and scarves. The studies with a high prevalence of HL unlike our study had more males diagnosed with HL.[1,3,6] Males, unlike females are unable to cover their HL. In this environment, men who have HL typically shave off all their hair because a skin cut on the scalp is considered stylish and socially acceptable. So, its' when the HL becomes symptomatic that clinic attendance becomes necessary.

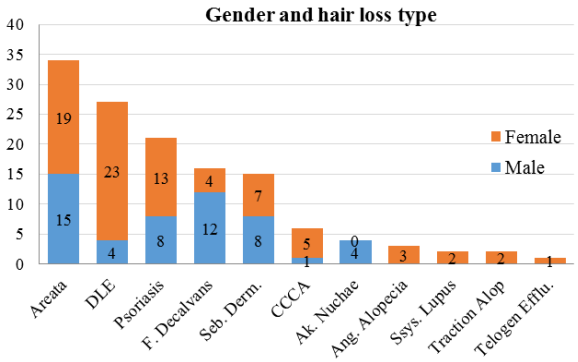

Figure 2 Gender based distribution of hair loss.

The female gender was disproportionately affected. This may be because females are more likely to report HL for cosmetic and social reasons. In addition, most of the HL types in this study specifically occurred in females. The gender affected by HL appears to vary irrespective of the setting of the study. In some studies, females are more affected[2,5] and in others, males are more affected.[1,3,6]

Hair loss was more prevalent in individuals in their fourth decade of life. Hair grooming styles, the onset of certain HL types like androgenetic alopecia (AGA) and the ability to pay for clinical evaluation may be responsible for this age bracket being predominantly affected. The age predominantly affected differs in different studies.[1,2,5] The age at onset of HL was mostly in the 20-29-year age group. This is the age of onset of psoriasis and discoid lupus, two of the three most common HL types in this study.[16,17] Onset of hair loss was also found to decrease with increase in age. The authors opine that this is because of the HL types seen in this study. Hair loss types reported to increase with age are AGA, TA and CCCA which were infrequent in this study.

A family history of HL was uncommon in this study and this is in keeping with the HL types identified in the study. Our study reports a lower rate of a family history of HL compared to a similar study by Alimash *et al*.[5] The prevalent HL types in this study were of an inflammatory origin unlike that reported in the study by Alimash *et al.* in which AGA which is associated with a family history was the prevalent HL type.[5]

The commonest pattern of HL was patchy in consonance with other studies.[3,18-20] A patchy pattern of hair loss is typical of alopecia areata, discoid lupus, folliculitis decalvans and psoriasis which were the commonest types of HL documented in this study.

Hair loss was associated with symptoms in most of the patients and most common symptom was pruritus. A few patients had both pain and pruritus and even fewer had only pain. Most of the HL types in this study: FD, SD is usually associated with pain and pruritus. There were however, no studies to compare symptomatology with as this was not the focus of similar prevalence studies.[2,3]

Hair loss was non-scarring in most of the patients. The commonest type of HL in most studies of the spectrum of HL is typically a non-scarring alopecia in consonance with this study.[1-3]

The most common type of HL was AA. This was followed by DLE, psoriasis, FD and SD. Central centrifugal cicatricial alopecia, AKN, AGA, non-scarring alopecia associated with systemic lupus, TA and TE were uncommon. The commonest type of HL differs from study to study. In some studies, AA is the most common HL type.[21,22] In others it is TA, DLE,[3] AGA.[1,2,5] Traction alopecia and AGA were the least diagnosed types of hair loss in the clinic. The low documentation of these types of HL in the clinic is because these HL types are common in the community and they are asymptomatic. Previous studies within our community have documented how common AGA and TA are as well as, the lack of awareness that they can be treated.[10,23,24] In addition, these types of HL are regarded as a normal part of aging by the populace with a consequent lack of interest in treatment.[10,23,24] Similar to our study, TA and CCCA are not commonly reported in prevalence studies.[3,5] Conversely, AGA was reported more in other studies.[2,5]

The spectrum of hair loss differed based on gender. Acne keloidalis nuchae was reported only in males. This was not surprising as AKN is an androgen-dependent type of HL and it is rarely reported in females.[2,3,12,14] Discoid lupus, psoriasis and CCCA occurred more in females. Discoid lupus and psoriasis being autoimmune diseases are more common in females accounting for the associated hair loss being more common in females.[2,16,17] CCCA is known to affect females predominantly, as was observed in this study.[25] Folliculitis decalvans occurred more in males. FD tends to have a male preponderance but the reason for this is uncertain.[2,3] TA and AGA occurred only in females. Traction alopecia is commonly associated with hair grooming practices in females with afro hair and thus not an unlikely complaint in this gender.[10,15,26] However, it was surprising to have only females presenting with AGA. Androgenetic alopecia is common in males and perceived as a normal phenomenon that is socially acceptable in males but not in females.[2,23,24] We opine that, this is why only females reported AGA. A similar study by Van-Galvan *et al.* reported AGA more in females than males.[2] There was no gender based difference in the occurrence of AA and SD. Our study differs from that of Madubuko *et al.* who reported more AA in males and more SD in

females.[3]

The type of HL diagnosed differed with age. Discoid lupus (DLE) and psoriasis occurred more in the 30-39 years' age group in keeping with the age of occurrence of autoimmune diseases.[16] Central centrifugal cicatricial alopecia (CCCA) was also diagnosed in those aged 30-39 years. Seborrheic dermatitis (SD), AKN and folliculitis decalvans (FD) in those aged 20-39 years, and alopecia areata in the age group less than 20years. These are the ages of occurrence of these diseases as documented in literature.[12,14,19] Our study compares favourably with similar studies.[2,3]

Self-medication or treatment prior to dermatology clinic attendance was uncommon but included the use of antifungals, antibiotics, triple action creams (creams containing steroids, antibacterials and antifungals), cryotherapy, antihistamine and moisturizer. The practice of self-medication is not usual in HL patients especially in those in whom it is symptomatic.[5] Alomaisi *et al.* reported a higher incidence of self-medication than the patients in this study.[5] We are unable to explain this difference in level of self-medication as the commonest type of HL in their study was AGA and that in this study was AA.

Study limitations include the retrospective design with the inability to interrogate some of the data.

Conclusion

Hair loss is an uncommon presentation in the clinic. Hair loss occurs more in females and alopecia areata is the commonest HL diagnosed in the clinic. The pattern of HL is mostly patchy and non-scarring. Gender and age influence HL types.

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