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Research Article

Epidemiological and Clinical Profile of Alopecia in Women in Kinshasa

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Abstract

Context: Alopecia is a major concern for women in sub-Saharan Africa. Unfortunately, data on this condition is almost non-existent in the Democratic Republic of Congo.

Objective: Describe the epidemioclinical profile of alopecias in women in the city-province of Kinshasa.

Methods: Cross-sectional study analyzing data collected from 100 women with alopecia attending open-air hair salons over a period of 6 months. The parameters of interest were sociodemographic and clinical.

Results: The median age was 30.5 years (interquartile range of 22 years). Single individuals (50%), students/pupils (28%), and followers of revivalist churches were the most numerous (49%). The majority of women did not consume either alcohol (76%) or tobacco (99%), and almost all were free of chronic diseases (96%). Half of the women had alopecia that had been progressing for more than 4 years (50%). Alopecia gradually developed in the majority of women (81%), and 86% of women exhibited localized forms, with a preferential bitemporal-frontal topography (41%). Most women were unaware of the circumstances surrounding the onset of their alopecia (55%), and traction alopecia was the most commonly observed clinical form (80%).

Conclusion: Traction alopecia is the domain of young women in Kinshasa. This survey highlights the importance for young women in our community to allow adequate rest time between hairstyles to avoid continuous tension on the same area of the scalp, to use gentle hair accessories, to minimize the use of chemical products and heating devices on fragile hair.

Keywords: Alopecia; Women; Hair Salons; Kinshasa

Introduction

Alopecia is hair loss beyond the physiological threshold of renewal, which is not limited to the scalp and can occur on any part of the body [1]. It is a common sign in dermatology with multifactorial etiologies: traumatic, inflammatory, nutritional, infectious, iatrogenic, genetic, or even psychological.

In the world, 2% of the global population would suffer from alopecia [2].

Clinically, alopecias are classified into two main groups: scarring and non-scarring alopecias, the latter being the most common [1]. Regarding clinical forms, they depend on different etiologies. The clinical forms particularly developed by women of African descent originate from the physical, chemical, and mechanical trauma that the frizzy hair must undergo for styling. It involves traction alopecia, central centrifugal cicatricial alopecia of the vertex, and acquired trichorrhexis nodosa [3,4].

The techniques that promote traumatic alopecia in women of African descent are: relaxing, braiding on relaxed hair, shampoos,

dyes, the use of heat, adding extensions to braids, infrequent hydration, and short rest periods between hairstyles. Wearing hairstyles with traction for more than two weeks, the pain felt after hairstyling increases the risk of alopecia. The continued use of these practices worsens alopecia [5-7].

Although not a potentially fatal disease, alopecia can seriously impair quality of life, particularly by inducing anxiety and reducing self-esteem in women. It could constitute a social handicap and cause significant physical suffering in affected individuals [8,9].

In Sub-Saharan Africa in general and in the Democratic Republic of Congo in particular, several factors contribute to a high prevalence of alopecia among women, including: media pressure, hair care habits, social pressures, precariousness, the use of low-quality hair care products, etc.

Unfortunately, data in Sub-Saharan Africa is quite scarce and almost non-existent in our country, the Democratic Republic of Congo (DRC). However, in this sub-region, the share of the cosmetic market is very significant, and activities related to this sector have a strong potential for absorbing unemployment.

The female population representing the majority of the Congolese population [10], it seemed appropriate to conduct the present study in order to describe the epidemiological-clinical profile of alopecia among women frequenting open-air hair salons located within the premises of the major markets in the city province of Kinshasa.

Methods

Nature, framework, and period of the study

It was a descriptive cross-sectional study conducted among women frequenting open-air hair salons in the city of Kinshasa during the period from April 2024 to September 2024. It was conducted in 20 open-air hair salons located within the premises of 4 major markets in the city province of Kinshasa.

Sampling

It was a convenience sampling. Our target population was grouped into 4 districts: Tshangu, Funa, Mont-Amba, and Lukunga. For each district, we considered a large market: the Liberté market for the Tshangu district, the Gambela market for the Funa district, the Kianza market for the Mont-Amba district, and the Grand Marché commonly known as Zando for the Lukunga district. At each site, we selected 5 hair salons, which allowed us to randomly select women who came for hair care in the chosen salons.

Inclusion criteria

Included in this study were all women: of Congolese origin, using hair care products and/or various styling methods, presenting alopecia, and consenting verbally or in writing (through parents or guardians for minors) to participate in the study.

Criteria for non-inclusion

Not included were women of non-Congolese origin who refused to participate in the study.

Parameters of interest

Sociodemographic parameters.

It was about age, practiced religion, marital status, profession.

Clinical parameters

It concerned the medical history (alcohol consumption, tobacco consumption, chronic illness), the duration of alopecia, the mode of onset, the circumstances of appearance, the number of plaques, their size, location, distribution, associated inflammatory signs, and the clinical form.

Data collection

The data were collected by the investigator on a pre-established and previously tested data collection form. The form included a questionnaire to be administered to each participant and a section to transcribe data related to physical examinations.

Operational definitions and concepts

The following operational definitions were used for the present study:

- **Woman with alopecia:** Any woman experiencing hair loss
- **Profession:** It is the occupation, the job, or any activity carried out by the woman, classified into 5 categories: Students, unemployed, public sector employee, self-employed, without profession.
- **Alcohol and tobacco consumption:** Qualitatively defined by presence or absence

Statistical analyses

The data processing and analysis were carried out using SPSS 27.0 software and are summarized in tables. The statistical analyses were essentially descriptive.

Ethical considerations

This study was approved by the Ethics Committee of the School of Public Health at the University of Kinshasa (Approval No.: ESP/

CE/158/2024). Our investigation was conducted in strict adherence to ethical and deontological rules, while ensuring confidentiality.

Results

The analysis involved 100 women with alopecia. The median age was 30.5 years (interquartile range of 22 years). Table I summarizes the sociodemographic characteristics of the respondents.

Table I: Socio-Demographic Characteristics.

Variable	Actual (n = 100)	Frequency (%)
Age		
13 - 22	19	19%
23 - 32	35	35%
33 - 42	15	15%
≥ 43	31	31%
Marital Status		
Single	50	50%
Married	42	42%
Divorced	4	4%
Widow	4	4%
Religious Affiliation		
Revival Church	49	49%
Protestant	25	25%
Catholic	24	24%
Brahmanist	2	2%
Occupation		
Students	28	28%
Independents	26	26%
Employees	19	19%
Unemployed	18	18%
No Profession	9	9%
Tobacco Consumption		
Yes	24	24%
No	76	76%
Alcohol Consumption		
Yes	1	1%
No	99	99%

The age group of 23 to 32 years was the majority. Half of the women were single (50%) and the largest number attended school (28%). Nearly half (49%) belonged to revival churches.

The majority of women did not consume either alcohol (76%) or tobacco (99%), and almost all (96%) were free of chronic disease (Table II).

Table II: Participants' Backgrounds.

Variables	Actual (n = 100)	Frequency (%)
Alcohol Consumption		
Yes	24	24%
No	76	76%
Tobacco Use		
Yes	1	1%
No	99	99%
Chronic Illness		
Yes	4	4%
No	96	96%

The data regarding the characteristics of alopecia are summarized in Table III below, which reveals that half of the women had alopecia that had been present for more than 4 years (50%). Alopecia gradually developed in the majority of women (81%), and 86% of the women exhibited localized forms, with a preferential bitemporal-frontal topography (41%). Most women were unaware of the circumstances surrounding the onset of their alopecia (55%), and traction alopecia was the most commonly observed clinical form (80%).

Discussion

The present study aimed to describe the epidemiological and clinical profile of alopecia in women in Kinshasa. The condition most often affects young women, particularly those under 32 years old, attending school, and single. Traction alopecia was the most common clinical type in this group.

The age-related data described a higher proportion of women in the age group of 23 to 32 years. This observation is in agreement with the results described by Sani and al [11] in Ibadan and Dég-

Table III: Clinical Characteristics of Patients (n = 100).

Category	Subcategory	Frequency (n)	Percentage (%)
Duration of Condition	0 - 9 years	83	83%
	10 - 19 years	15	15%
	≥ 20 years	2	2%
Distribution	Located	86	86%
	Diffuse	14	14%
Mode of Onset	Brutal	19	19%
	Progressive	81	81%
Etiology	Trauma	41	41%
	Ignored	55	55%
	Menopause	1	1%
	Postpartum	3	3%
Topography (Location of Alopecia)	Bitemporo-frontal	41	41%
	Bitemporal	17	17%
	Vertex	16	16%
	Bitemporofronto-atrial	4	4%
	Parietal	3	3%
	Temporal	3	3%
	Frontal	2	2%
	Other	4	4%
Inflammatory Signs	Yes	29	29%
	No	71	71%
Clinical Forms of Alopecia	Traction alopecia	80	80%
	Androgenic alopecia	12	12%
	Congenital alopecia	2	2%
	Telogen effluvium	2	2%
	Central Centrifugal cicatricial alopecia	2	2%

boé and al [12] in Cotonou. These authors found a more abundant population respectively in the age groups of 20 to 29 years and 25 to 40 years. This female segment of the active population is indeed very significant in our country according to demographic studies [10]. Nevertheless, this predominance could also be explained by the high activity in hair care within this age group.

As in a previous study in Burkina Faso [13], the present study found a high rate of female students in the group of school-aged children. The young age of the women could explain this predominance.

Half of the women in this study were single. This could be explained by the negative impact of this pathology on physical and mental level, as well as on the interpersonal relationships of the affected individuals. Indeed, these individuals may suffer from interpersonal and social stigma, which can influence their quality of life. These various factors could reduce chances of getting married.

All the women attended churches, and among them, revival churches were the preferred places. The profile of women's religious affiliations differs significantly from that of the Congolese population in general, as reported by the recent Target study [14].

According to this study conducted in 2020, Catholics and Protestants remain the majority in the DRC. From this perspective, our study has a selection bias, which could limit the extrapolation of our results.

About one in five women (24%) consumed alcohol during this survey. Excessive alcohol consumption dehydrates the body because it stimulates exudation. This can lead to the drying out of hair fibers, making them dry and brittle. Nevertheless, it should be noted that the degradation of hair quality does not occur directly after one glass of alcohol. The impact results from excessive, abusive, and regular alcohol consumption [15]. It can also be caused by the accumulation of other aggravating factors with alcohol, such as tobacco, which was found in one participant.

Half of the women had alopecia lasting ≥ 4 years. This situation could not only be due to ignorance but also to the issue of accessibility to healthcare facilities in sub-Saharan Africa. These women most often start by treating their hair loss with locally made cosmetic formulations before considering consulting a dermatologist. This long duration could explain the significant disparities observed in the number and size of the patches seen in these women.

Just over half of the women (54%) did not know the cause of their hair loss. Niang and al [16], as well as Nnoruka [17], had made the same observation in their studies. It is therefore common to encounter women who do not know the source of their alopecia and continue to adopt dangerous hair practices in Sub-Saharan Africa.

The significant role that trauma plays in this study is in line with numerous surveys in sub-Saharan Africa [11,12,16,17]. The various treatments and hairstyles that women used during this survey explain this predominance.

The predominant locations of alopecia were the temporal and frontal regions, results in agreement with Dlova and al [18] in South Africa and Callender and al [19] in a study conducted among women of African descent in the United States. Indeed, these areas are the first to repeatedly suffer trauma, particularly in traction alopecia.

The majority of women in this study presented with localized alopecia, results that disagree with those described by Niang., *et al*. [16] in Senegal and Nnoruka in Nigeria [17]. These authors had found a greater number of women presenting with diffuse alopecia. This difference could be explained by the types of study: only women admitted to hospital settings in the studies conducted in Senegal and Nigeria, in the community in our study. Women with diffuse alopecia are likely to visit the hospital due to the severity.

The predominance of traction alopecia corroborates numerous studies conducted on African, Afro-Caribbean, and African-American women [3,4,20]. This could be explained by the distinctive structural properties of their hair and the various treatments and hairstyles they use. Indeed, the particularities of curly hair regarding its structure, growth, and density predispose them to this type of alopecia [3].

Finally, excessive hair pulling from various hairstyles can be responsible for traction folliculitis [21,22], which may explain the presence of inflammatory signs observed in 29% of the participants.

The observations made during this survey, however, must be interpreted with caution. Indeed, the first limitation pertains to the cross-sectional nature of the study, which prevents any extrapolation of the results to the general population. Secondly, the bias introduced by the small size of our sample.

Despite methodological limitations, the observations made during this survey serve as a wake-up call to address appropriate messages to caregivers, women using hair care practices, and professionals in the field.

Conclusion

In Kinshasa, alopecia most often affects young women, and traction alopecia is the most common clinical type. This survey therefore highlights the importance for women in our community to allow adequate rest time between two hairstyles to avoid continuous tension on the same area of the scalp, to use gentle hair accessories, to minimize the use of chemical products and heating devices on fragile hair.

Authors' Contributions

- **Mutombo Tshitupa Mira:** Principal researcher, contributed to the design, data collection, writing, and the English version of the summary.
- **Iteke Mohesa**: Participated in the writing, literature review, discussion, and critical revision of the manuscript.

- **Kakiesse Musumba Veronique:** Participated in the design, literature review, and critical revision of the manuscript.
- **Odimba Tundanonga René:** Participated in the typing and editing of the manuscript
- **Matanda Nzanza Richard:** Supervised the design, writing, and interpretation of the results

Conflict of Interest

The authors declare that they have no conflict of interest.

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