

## Hairdressing Practices and Alopecia among Women Aged 15 to 45 in Bamako

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### Abstract

### Original Research Article

**Introduction:** Alopecia is the pathological loss of hair, a frequent sign in dermatology whose etiologies are multifactorial. Alopecia in women can lead to a loss of self-esteem leading to depression and thus alter the quality of life. Better knowledge of the etiologies will make it possible to prevent certain types of alopecia in women and to improve case management. The aim of this work is to study the causes of alopecia in women aged 15 to 45 in the dermatology department of the National Center for Support in the Fight against Disease (CNAM). **Methods:** This was a descriptive cross-sectional study from February 2018 to February 2019, all women aged 15 to 45 consulting in the service during the study period. **Case definition:** alopecia any patient between the ages of 15 and 45 consulting for localized or diffuse hair loss. **Results:** We recruited 102 cases of alopecia out of 7223 women, i.e. a prevalence of 1.41%. The 25-35 age group represented 39%, with an average age of 28. Married women numbered 48, or 47.06%. Civil servants accounted for 28.43%. 87.25% of cases resided in urban areas. The duration of disease progression ranged from 1-12 months for 48.04% to 1-3 years for 36.28% and more than 3 years for 15.68%. The styling practices found in our cases: weaving, straightening, additions, represented respectively (97.06%, 53.92%, 72.54%); braids with addition every 04 weeks was practiced by 30 of our cases. Potash was used by 72.54% of cases for straightening. Our patients straightened their hair at a periodic rate of 3 months for 31.51% of cases, a rate of 6 months for 26.03% of cases. Alopecia was frontal seat, Traumatic alopecia was found in 33.33% of subjects practicing straightening. Rural women suffered from inflammatory causes (P=0.00005). Close straightening sessions expose to the risk of traumatic alopecia (P=0.03). **Conclusion:** The etiologies of alopecia are dominated by traumatic causes. This underlines the harmful effect of certain styling practices in our patients. A case-control study is necessary to better support the risk factors for alopecia.

**Keywords:** Etiologies, alopecia in women, CNAM Bamako.

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## INTRODUCTION

The hair is an element of human hair, more or less extended on the top, the sides and the back of the head. It has a role of heat protection and temperature regulation. Hair has had a particular importance in all civilizations. They are the expression of oneself but also of the image that we want to give to our own person. Hair is an attribute of beauty and seduction in women. Depending on the color, the cut or the way of doing one's hair, it reveals a social, cultural, religious or political affiliation. They often have a relationship with the seduction, intimacy and modesty of the person. Any affections relating to it could constitute a social

handicap and significant psychological suffering. Alopecia is the pathological loss of hair.

It is a frequent sign in dermatology, the etiologies of which are multifactorial. These conditions can be inflammatory, infectious, traumatic or iatrogenic. Androgenic alopecia is the most common variety affecting both men and women. The study of hair pathologies remains difficult because of the slow growth, and the multiple factors involved in the genesis. A study carried out in Morocco showed a female predominance with a sex ratio M/F= 0.8 [1]. In blacks, the hair is frizzy, twisted with greater sebaceous secretion [2]. This environment would be the seat of a

particular bacterial flora. In our context, the hair represents a key element of feminine beauty. There is thus a great diversity of hairstyles to exalt beauty through the hair. The hairstyles are made at each celebration (religious feast, wedding, baptism, New Year). On the occasion of hairstyles, women are led to practice straightening, additions, wigs which are all practices that can be harmful to the hair.

Alopecia in women can lead to a loss of self-esteem leading to depression and thus alter the quality of life. Several works have been carried out on alopecia by sub-Saharan authors [3, 4]. These works mainly report practices, but do not describe pathologies according to styling practices. Better knowledge of the etiologies of alopecia will make it possible to prevent certain types of alopecia in women and to improve case management. The aim of this work is to study the causes of alopecia in women aged 15 to 45 in the CNAM dermatology department.

## METHODS

This was a descriptive cross-sectional study from February 2018 to February 2019.

### Population:

The study population was represented by all women aged 15 to 45 consulting in the service during the study period.

### Case Definition:

Alopecia was defined as any patient aged 15 to 45 consulting for localized or diffuse hair loss.

### Classification of traumatic alopecia: [5]

Alopecia by compulsion: trichotillomania
Alopecia by Tics: tic, friction, banging of the head
Traction alopecia: traction in the context of abuse
Friction pressure alopecia: prolonged immobilization (coma, intervention, insufficient nursing) vigorous massage, trachoreiamania
Pruriginous dermatoses: necrotic acne, folliculitis, lichenification, prurigo nodular excoriations, pediculosis, psoriasis, seborrheic dermatosis
Thermal alopecia: burns, hair drying, hot curlers, hot oil
Post radiotherapy alopecia

## RESULTS

We recruited 102 cases of alopecia out of 7223 women aged 15 to 45 who consulted during the period with a prevalence of 1.41% (results). The 25-35 age group represented 39%, the average age was 28 years. Married women numbered 48 or 47.06. Civil servants accounted for 28.43%. In our series, 87.25% of cases resided in urban areas. The duration of evolution of the disease varied from 1-12 months for 48.04% from 12 months to 3 years for 36.28% and more than 3 years for 15.68%. The styling practices found in our cases: Weaving, straightening, additions, represented with respectively (97.06%, 53.92%, 72.54%) braids with addition every 04 weeks was practiced by 30 of our

### Inclusion Criteria:

All patients meeting the case definition and who agreed to participate in the study were included in this study.

### Non-Inclusion Criteria:

Any patient who did not meet the case definition was excluded from this study. Men consulting for alopecia, women under 15 or over 45.

### Case Admission Procedure:

All our cases were recruited during routine consultations.

Diagnosis was clinically based.

### Ethical Aspects:

- The informed consent of the cases was obtained before each inclusion.
- The anonymity of the cases was guaranteed.
- The inclusion did not represent any risk for the cases.
- No invasive procedure was performed.

The following variables were studied:

**Socio-demographic:** Age, profession, residence, marital status

### Etiological Diagnosis

**Practical and Cosmetic Habit:** Weaving, adding, straightening, shampoo, hair cream, hair dye.

**Nature:** Scarring or non-scarring.

**Seat:** Frontal, vertex, temporal, parietal, occipital.

cases. In our series potash was used in 72.54% of cases for straightening (Fig. 1). Our patients straightened their hair at a periodic rate of 3 months for 31.51% of cases, a rate of 6 months for 26.03% of cases and a rate of every 12 months for 17.81% of cases. The alopecia was frontal (Fig. 2). Traumatic alopecia was found in 33.33% of subjects practicing straightening. Rural women suffered from inflammatory causes ( $P=0.00005$ ). Close straightening sessions expose to the risk of traumatic alopecia ( $P=0.03$ ).



Fig. 1



Fig. 2

## DISCUSSION

We carried out a 12-month study on the causes of scalp alopecia in women aged 15-45 at the CNAM. The choice of the woman is linked to the fact that in our context women are the most interested in hair problems, the hair constituting an important element of feminine beauty in our culture. The choice of this age group of 15 to 45 years is explained by the fact that this group is the

most sensitive. This is the period from adolescence to adulthood. The difficulties of our study are, among other things, the absence of additional examinations such as the trichogram and hormonal assays. The limits to the CNAM dermatology department alone, which does not take into account the cases identified in other departments. However, this work makes a substantial contribution to the knowledge of the causes of alopecia in women in Bamako. In our series, alopecia represented 1.41% of the reasons for consultations among the study population; it is 1% in an American series [6]. Most of our cases came from the district of Bamako, women in Bamako have easier access to the center located in commune IV of the district of Bamako, compared to rural women. Disparities appear according to the etiologies encountered, rural women consulted for inflammatory causes ( $P=0.0005$ ). These are cases of chronic evolution linked to serious pathologies such as lupus. The average age of onset of the problem was 26 years old, which can be explained by the predominance of traumatic causes, in fact in hairdressing habits begins at an early age. The average age of the cases was 28 years with extremes of 15 and 45 years, the cases of age between 25 and 35 years were the most represented, this reflects the precocity of hair problems in our country, indeed many authors report that the onset of the problems is around the age of fifty [7] however the disparities compared to Western studies can be explained by the etiologies encountered. In our series the main causes of alopecia were traumatic causes, inflammatory causes such as lupus, androgenic alopecia, alopecia areata. In Western series [8] Androgenic alopecia is the most common cause and remains the most studied. This high proportion of traumatic causes can be explained by cultural practices, in particular braids, additions and straightening. Black hair with skin fragility due to its dry twisted structure [2] and many weak points. This feature could explain the high proportion of traumatic causes; indeed in our series weaving was practiced in 97% of cases. The role of traumatic causes in black women has already been reported by Brazilian authors [9]. In our series these practices were described in all age categories ( $P=0.5$ ), straightening was reported in 71% of our cases, subjects practicing straightening developed more traumatic alopecia ( $P=0.008$ ). However, this observation must be nuanced in the sense that styling practices are often intertwined, with the same person sometimes practicing straightening, adding hair or wearing a wig at the same time. Among our cases, 49% practiced both straightening and weaving with the use of additions. The impact of these practices on the scalp also depends on other factors such as the frequency of use of hair straightening products, the frequency of styling and the nature of the product used. Our cases used potash straightening; the harmful nature of this process on the hair has already been described by several authors [10]. Traumatic causes were more frequent in young subjects aged 25 to 35 compared to older subjects ( $p=0.008$ ); these subjects represent the most active, certainly the

most sensitive to fashion effects. However, data from the literature describe an increase in the proportion of androgenic alopecia with age.

## CONCLUSION

The etiologies of alopecia are dominated by traumatic causes. This highlights the harmful effect of certain styling practices in our cases. A case-control study is necessary to better support the risk factors for alopecia.

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