

# Special Features of Acne in Adult Women: A Prospective Study about 264 Cases

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## Abstract

Adult female acne is a chronique dermatosis of increasing incidence; hyperandrogenism is present in many cases, but there are patients without hormonal abnormalities. The aim of the study is to have an epidemiological and clinical profile of acne in women over 18, to determine the risk factors and aggravating factors of women's acne, to determine the impact of acne the woman on the quality of life (QoL) and determine the existence or not of a correlation between severity and QoL in women's acne.

A survey of 264 medical records with adult female acne complaints was conducted. We investigated age, ethnicity, clinical profile of acne, complementary exams, previous treatment, prescribed treatment and evolution.

**Results:** The mean age was 33.9 years and the predominant clinical grade of acne was moderate inflammatory. The face was the most affected area.

**Conclusion:** The clinical manifestations of women are moderate, with predominance of inflammatory lesions. Treatment is similar to that of acne vulgaris; however, special attention should be taken and it also have a real impact on life quality.

## Introduction

The acne of women is more and more frequent. It is different compared to acne of adolescence, on the one hand it particularly recurrent and dragging [1]. On the other hand, the end of adolescence is a crucial moment when self-image gives confidence in the transition to adulthood and in the choice of lasting personal and professional relationships. As a result, acne can have a significant impact on the quality of life in these adult women. Thus, the therapeutic management of women's acne is difficult because of the prolonged duration of the treatment, the impact on the quality of life, the stress and the increased use of cosmetic products causing the woman to fall, often, in a vicious circle [2].

Because of all these data, women's acne should be treated as a specific problem to improve the management

of this common and complex pathology at the same time. The objective of our study was to have an epidemiological and clinical profile of acne in women over 18, to determine the risk factors and aggravating factors of women's acne, to determine the impact of acne the woman on the quality of life (QoL) and determine the existence or not of a correlation between severity and QoL in women's acne.

## Methods

### Data Sources and Study Population

We conducted a 3-year prospective study in the dermatology department of Hassan II University Hospital in Fez, from January 2014 to January 2017. We included in our study 101 women whose age was > 18 years, seen in specialized consultation for acne. All patient data were

collected through a computerized application over the course of the consultations (Figure 1). The assessment of lesion types, extension outside the face and the presence of scar was evaluated using the ECLA Acne Score Scale and QoL assessment using a specific questionnaire. Acne Cardiff Acne Disability Index CADI validated in Moroccan dialect [3,4].

### Statistical Analysis

For the quantitative variables we calculated the minimum, the maximum, the average, and the standard deviation. For qualitative variables we calculated the numbers and the percentage. A univariate study was conducted to investigate the distribution of young (18 > age < 25) and adult (age > 25 years) acne women according to certain variables. To find the relationship between the ECLA grid and the CADI questionnaire, correlations were made as both variables (ECLA grid scores and CADI questionnaire) were quantitative.

Thus, we calculated the:

- The  $r^2$  which corresponds to the coefficient of determination; the latter measures the proportion of the variability of a variable (the quality of life scores), which can be explained by the other variable (ECLA),
- The coefficient  $\beta$  which represents the average variation of the dependent variable (quality of life scores) when the ECLA increases by one unit. Statistical analysis and score calculation were done by Epi info V. 3.4, a  $p < 0.05$  was considered significant.

### Results

264 women were recruited from among 395 acne patients during the same period, which represents a high prevalence of this form in our population (67%) with a clear predominance of persistent acne (90%) compared with late acne after 25 years (10%). There were also 35% of adult women (> 25 years old). The majority of women had a good level of education (82.1%) with an average socio-economic level (96%); mostly from urban areas (97%). The mean age of first menses was 13.4 years  $\pm$  1.5, ranging from 10 to 18 years. The median was 13 years old. In our sample 50.4% of women had menstrual cycle disorders, 14.8% of cases having a notion of drug intake but no concept of worsening acne lesions. It is also noted that the use of cosmetics was reported in 34.6% of cases and the family history (ATCD) of acne was present in 47.5%. Smoking has not been reported in any case. Taking medication outside of acne treatment has been reported in 14.8% but its concept of provoking acne.

The mean duration of evolution of acne was 7.8 years  $\pm$  4.9 ranging from 0 to 22 years. The median was 8 years old. Several risk factors and aggravating factors were sought: disorders of the menstrual cycle (50.4%), smoking (0%), the use of cosmetics (34.6%), especially foundation (25.7%), family antecedents (47.5%), worsening by sun exposure (33.6%), aggravation by menstruation (54.4%) and worsening by food (43.5%) especially fatty foods (36.6%). There was no significant difference in these risk and aggravating factors between young and adult acne women. Clinically, the majority of women were phototype IV (71.2%), with predominantly inflammatory lesions (94%) and scars (62.3%). The scars were objectified in 86.1% cases especially the non-inflammatory (68.3%). Almost all patients had acne lesions on the face, especially in the cheeks (82.1%) and the lower face (78.2%). Extra-facial localization of acne was noted in 42.5% and hirsutism was associated in patients in 32.6%.

Acne in women was mostly moderate in 54.4%, minimal in 32.6% and severe only in 12.8% of cases. The overall ECLA severity score was mean 4.9  $\pm$  2.5 (range 1 to 11). Paraclinical examinations were requested as part of the exploration of hormonal disorders in the presence of a menstrual cycle disorder, signs of hyperandrogenism, or in front of trauma or recurrent forms. Polycystic ovarian syndrome (PCO) was present in 46 cases. In our sample, the patients were placed on local treatment in 84.1% of the cases as an association in most cases (77.2%) and under general treatment in 28.7% with a predominance of estrogen-progestin treatments (14.8%). Good drug tolerance was judged in 52.4% while side effects were noted in 3 cases, mainly due to irritation by local treatments. The relapse was marked in 4 cases pushing to change the treatment or to proceed to oral treatment. Unfortunately, therapeutic compliance was bad for all patients.

The quality of life was mostly impaired in 6.1 adult women compared to young women (5.8) but without significant difference. In our study there was no correlation between quality of life and severity in acne with significant results, which means that even minimal acne can have an impact on the quality of life.

### Discussion

Our study confirms the frequency of acne of the woman particularly that of the adult woman which agrees with the data of the literature. Many authors have focused on the prevalence of acne in the adolescent population, but little on its prevalence in adults. However, the

frequency of adult acne seems to be increasing in recent years.

It can be seen in 54% of women and 40% of men, and its prevalence does not decrease significantly with age [5]. This predominance of women may be more of a bias since women consult more than men. In our study the prevalence of female acne was high (67%) compared to acne patients seen during the same period. Goulden and Cunliffe, in 1997, do not find any difference in prevalence by social class or profession. In our population it was mostly women employees 36.6% with a NSE mostly average (97%) and having a high level of study [6]. Hospital recruitment probably does not allow us to conclude on these numbers because of selection bias. In addition, some professional categories, less affected by their image, may not consult.

The low percentage of patients with low NSE can be explained by the difficulty of access to care because the majority of patients came from an urban area (97%). Stress is often involved in the worsening of acne, and even lack of sleep can aggravate acne, paradoxically acne itself induces stress [7]. In our study we did not evaluate this factor. Several studies have reported the association of menstrual cycle disorder and women's acne which can sometimes mean an associated hyperandrogenism [8]. Our results are consistent with the literature in which half of the women were found to have menstrual cycle disorders (50.4%).

The causal role of cosmetics in the occurrence or persistence of acne in adult women was described in 1970 by Kligman and Mills [9]. The incriminated cosmetic treatments were essentially the application of ointment on black skin, glossine in the hair and vegetable oils of unknown composition on the head. This concept was taken up in practice by all dermatologists, then in the literature [6,8]. In our study 34.6% of women used cosmetics, especially foundation (25.7%) and depigmenting creams (4.9%). These findings are explained by the fact that most acne women sought camouflage lesions as well as acne scars. A number of agents are known to promote acne lesions, however no drug intake promoting the onset of acne has been objectified in our study [10]. Food has always been implicated in acne, and the hypothesis of an influence of diet has been refuted by several studies [11-15]. In our study aggravation by food was reported in 43.5% of cases especially for fatty foods (36.6%).

Clinically, we mainly observed mild to moderate acne with predominantly inflammatory lesions, comedons and

scars with a phototype especially IV differently to the data of the literature which can be explained by the effect of the sun in our context. elsewhere 33.6% of women reported worsening of their acne by the sun. At any age, acne can have an impact on the quality of life of patients, sometimes even this repercussion may be more important than other chronic conditions [16].

This dermatosis has a great impact on the quality of life. The psychological impact of acne, especially in women, is not always proportional to the severity of acne. It is therefore essential to take care of even minor forms of acne. Similarly our results show that there is no correlation between the severity and the alteration of the QoL in acne. The presence of facial acne in women undeniably has a negative impact on social life and psychological well-being [17-21].

The evaluation of the psychological impact of acne has been facilitated by the validation of standardized scales. For example, the Cardiff Acne Disability Index (CADI) quantifies the impact of acne. This scale has recently been adapted to the Moroccan dialect [22]. In our study QoL was more impaired in adult women (6.1) than younger women (5.8) ( $p > 0.05$ ). The importance of this negative impact of acne, both professionally and privately, rarely acknowledged in consultation, should prompt us to take early and appropriate care of these women.

Acne is a common and affective disease that requires both therapeutic and psychological management. The treatment is long and the adhesion of the patients is necessary. It is therefore imperative to obtain the cooperation of the patient by clear explanations of the mechanisms of the treatments prescribed but also of their mode of use. There is no diet to follow but especially to reduce the intake of aggravating foods. It should also be explained to patients that the sun, if transiently reduces the inflammatory nature of the lesions, facilitates comedogenesis. Summer improvement is usually followed by a fall spurt. The choice of treatment will be oriented by the type of acne, its extent but also the cost / effectiveness and benefit / risk. It is the judicious combination of different treatments that gives the best results.

The treatment of women's acne presents two major peculiarities:

- This clinical form is often resistant to well-conducted treatments.
- Hormonal treatments may be considered to treat these women, which is not feasible in many other forms of acne.

## Conclusion

After adolescence, acne affects a lot of women, this can be associated with a significant impact on psychological, social and emotional well-being. The clinical presentation of women's acne differs from that of juvenile acne. Treatment options should be tailored to the individual needs of patients, and treatment regimens should consider both the clinical specificity and pathophysiological characteristics of acne in adult women. Through this study we have specified the acne characteristics of women over 18 years old.

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