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Acne in a School Setting: Epidemiological and Clinical Aspects, and Students Attitudes

Fatoumata Biro Diallo[1,2*], Mariame Toure[1,2], Moussa Savane[1,2], Cecile Augustine Gbanhala[1,2], Mamadou Dioulde[1], Kanté[1,2], Fanta Kaba[1], Issiagha Camara[1], Boh Fanta Diane[1,2], Thierno Mamadou Tounkara[1,2], Mohamed Maciré Soumah[1,2] and Mohamed Cisse[1]

[1]Department of Dermatology-STDs, Donka Day Hospital, Donka University Hospital, Conakry, Guinea

[2]Faculty of Health Sciences and Techniques, Gamal Abdel Nasser University of Conakry, Conakry, Guinea

ABSTRACT

Background: Acne is a chronic inflammatory skin disease of the pilosebaceous follicle, particularly common during adolescence, a period marked by significant hormonal and psychosocial changes. In West Africa, and more specifically in Guinea, epidemiological data on acne among schoolchildren remain limited.

Objective: To describe the epidemiological and clinical characteristics of acne and the attitudes of students towards acne in schools in Conakry.

Materials and Methods: This was a descriptive and analytical cross-sectional study conducted from April 10 to June 5, 2023, in public and private secondary schools in the five communes of Conakry. Data were collected using a self-administered, anonymous, and pre-tested questionnaire. Statistical analysis was performed using R software, version 4.2.1.

Results: A total of 501 students were included in the study. The prevalence of acne was 92%, mainly affecting adolescents aged 18 to 22 years, with a slight female predominance. The lesions were mostly mild in severity. Nearly 73% of the students reported discomfort related to acne. The use of dermatological care remained low, while self-medication was common.

Conclusion: Acne is extremely common among adolescents attending school in Conakry and constitutes a significant dermatological and psychosocial health problem. The low rate of access to specialized care highlights the need to strengthen awareness campaigns in schools and improve access to dermatological services.

***Corresponding author**

Diallo Fatoumata Biro, Assistant Head of Clinic Department of Dermatology, Faculty of Health Sciences and Techniques, Gamal Abdel Nasser niversity of Conakry, Conakry, Guinea.

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Introduction

Acne is a chronic inflammatory dermatosis of the pilosebaceous follicle, characterized by a multiform presentation combining retention and inflammatory lesions of varying intensity, including open or closed comedones, papules, pustules, nodules, and sometimes cysts [1-4]. It is one of the most common dermatological conditions in adolescence and represents a major reason for consultation in dermatology worldwide. Physiopathologically, acne results from a complex interaction between hyperseborrhea induced by pubertal hyperandrogenism, abnormal follicular keratinization, proliferation of Cutibacterium acnes, and the activation of local inflammatory mechanisms. C. acnes plays a central role in this cascade by stimulating the release of pro-inflammatory mediators and extracellular enzymatic products, particularly lipases, proteases, and hyaluronidases, thus contributing to follicular and per follicular inflammation [5].

Acne preferentially affects adolescents, with an estimated prevalence of over 80% in this age group worldwide [6]. However, it is not limited to adolescence, as approximately 20 to 40% of adults and nearly 25% of women continue to suffer from it in adulthood, reflecting the sometimes persistent or recurrent nature of this condition [6]. Several factors influence the onset and evolution of acne lesions, including heredity, hormonal variations, certain dietary factors, the use of unsuitable cosmetic products, stress, and other environmental or microbial factors [5]. The multiplicity of these determinants explains the great variability in clinical presentations and therapeutic approaches observed across different populations.

The international medical literature is abundant regarding the epidemiological, clinical, and therapeutic aspects of acne [6-10]. Nevertheless, reported prevalence rates vary widely from one country to another, depending on the age of the populations studied, the diagnostic criteria used, and the sociocultural contexts. In South Asia, Yaqoob et al. reported a prevalence of 53.4% among

adolescents in Pakistan in 2021, with a female predominance [7]. In Europe, a study conducted in France by Daniel et al. among 913 adolescents aged 11 to 18 years found a high prevalence of 72% [8]. These data confirm the extremely common nature of acne during adolescence, even in very different health and socioeconomic contexts.

In Africa, several studies have also highlighted a high prevalence of acne in school settings. In Burkina Faso, Ouédraogo et al. reported in 2017 a global prevalence of 54.8% among students, with a female predominance. The main factors perceived by students as associated with acne were diet (40.05%), puberty (25.43%), and the use of cosmetic products (14.03%) [9]. In Cameroon, Mbuagbaw et al. found a prevalence of 59.8% among school-aged adolescents aged 10 to 21 years [11]. In Nigeria, Yahya reported as early as 2009 a particularly high prevalence of 90.7% among students aged 11 to 19 years, highlighting the magnitude of the phenomenon in some regions of sub-Saharan Africa [12].

Despite this high frequency, acne often remains trivialized, particularly among adolescents, where it is frequently considered a normal physiological manifestation of puberty. This perception contributes to a delay in seeking care and encourages inappropriate therapeutic practices, such as self-medication or the use of traditional or cosmetic products that may potentially worsen the condition. However, acne can have major psychosocial repercussions at this age, affecting self-esteem, body image, social relationships, and sometimes academic performance. Several studies have shown an association between acne and a significant impairment of quality of life, as well as an increased risk of anxiety, social withdrawal, and low self-esteem in affected adolescents [13-19].

In West Africa, although some data are available in a few countries, studies specifically focusing on acne in school-aged adolescents remain limited. In Guinea, epidemiological data on acne in schools are virtually nonexistent, even though the adolescent population represents a significant proportion of the general population. This lack of local data hinders the implementation of appropriate prevention, awareness, and dermatological care strategies in schools. Furthermore, students' attitudes and behaviors regarding acne, particularly in terms of seeking treatment, self-medication, and perception of the disease, are still poorly documented in the Guinean context.

It is against this backdrop that we undertook the present study in schools in Conakry, the capital of Guinea. This study aims to provide up-to-date data on the prevalence of acne among school-going adolescents, its clinical characteristics, and students' attitudes towards this condition, in order to contribute to a better understanding of this dermatological problem and its psychosocial implications. The results of this study could provide a useful basis for developing awareness programs in schools and for improving access to appropriate dermatological care for adolescents.

Objective of the study

To describe the epidemiological and clinical profile of acne, as well as the attitudes and practices of school-going adolescents towards this condition in the city of Conakry.

Materials and Methods

Study Type, Setting, and Period

This was a descriptive and analytical cross-sectional study conducted over a two-month period, from April 10 to June 5, 2023, in secondary schools (middle and high schools) in the city of Conakry, the capital of the Republic of Guinea. The study was conducted in five administrative districts of the city, namely Kaloum, Matoto, Ratoma, Dixinn, and Matam, to ensure geographical representativeness of the urban school population.

The selected schools included: the Lycée du 2 Octobre (Kaloum district); the Roi Hassan II school complex and the Lycée Senghor (Matoto district); the Lycée-Collège de Cobaya and the Kofi Annan school complex (Ratoma district); the Lycée Donka and the Sainte-Marie school complex (Dixinn district); and the Lycée du 1er Mars (Matam district).

Study Population

The study population consisted of secondary school students (middle and high school) regularly enrolled in the selected schools and present at the time of data collection during the study period.

Inclusion and Exclusion Criteria

All students present on the day of the survey who agreed to participate were included in the study. For minor students, participation was conditional on obtaining prior written informed consent from their parents or legal guardians, as well as the student's assent. Students who refused to participate, those absent at the time of data collection, and students who returned incomplete or unusable questionnaires were excluded.

Sample Size

The minimum sample size was calculated using Schwartz's formula, adapted for cross-sectional studies, taking into account an estimated prevalence of acne in a school setting, a 95% confidence level, and a margin of error set at 5%. An increase in the calculated size was applied to account for non-responses and incomplete or invalid questionnaires.

Data Collection and Variables Studied

Data collection was carried out using a self-administered, anonymous, and pre-tested questionnaire, developed specifically for the objectives of the study. The questionnaire included closed and semi-open questions and allowed for the collection of information on several categories of variables. Sociodemographic variables included age, sex, level of education (middle school or high school), and municipality of residence.

Clinical variables concerned the presence or absence of acne, the type of lesions observed (comedonal, inflammatory, or mixed lesions), the location of the lesions (face, trunk, and/or other sites), and the severity of acne, assessed using a simplified clinical classification adapted for school-based surveys.

Associated factors studied included family history of acne, certain dietary habits, the use of cosmetic products, pubertal status, and the stress perceived by the students. Students' attitudes and practices regarding acne included seeking medical care, self-medication practices, the use of traditional or cosmetic products, and the perceived psychosocial impact of acne on daily life. Before administering the questionnaire, students were informed of the objectives, practical procedures, and the voluntary nature of their participation in the study. The questionnaires were completed in the classroom, under the supervision of the research team, with an estimated average completion time of 15 to 30 minutes.

Data Management and Analysis

The collected data were entered using the KoboToolbox platform and then exported to R software (version 4.2.1) for statistical analysis. Qualitative variables were described using frequencies

and proportions, while quantitative variables were summarized using the mean and standard deviation.

Statistical analyses were conducted to explore the associations between the presence or severity of acne and the various factors studied, using appropriate statistical tests depending on the nature of the variables. The statistical significance level was set at $p < 0.05$.

Ethical Considerations

Before the start of the study, administrative authorization was obtained from the relevant educational authorities and the heads of the schools involved. Student participation was voluntary and contingent upon obtaining written informed consent from the parents or legal guardians of minor students, as well as the assent of the students themselves. The anonymity of the participants and the confidentiality of the collected information were strictly respected throughout the data collection, management, and analysis process, in accordance with the ethical principles applicable to research involving human subjects.

Results

General characteristics of the studied population. A total of 512 students were initially selected from secondary schools in the five communes of the city of Conakry. Of these, 11 students were excluded due to incomplete or unusable questionnaires. Thus, 501 students were finally included in the analysis.

Among the included students, 461 presented with acne lesions, corresponding to an overall acne prevalence of 92.0%, while 40 students (8.0%) had no acne lesions at the time of the survey.

The majority of students surveyed reported being familiar with acne, representing 72.5% of participants, while 27.5% reported not being familiar with this condition. Puberty was the most frequently cited factor associated with acne (81.0%), followed by seborrhea (53.5%), menstruation in girls (35.1%), and stress (22.6%). The use of inappropriate cosmetic products was reported by 21.4% of students, smoking by 10.4%, and a family history of acne by 7.6%. Taking medication was rarely mentioned (0.6%). Regarding dietary factors, butter was the most frequently implicated food (63.4%), followed by peanuts (19.4%) and other foods (17.3%). Among the students surveyed, 72.7% reported feeling bothered by their acne lesions, while 27.3% reported no discomfort. When lesions appeared on the face, 41.7% of students reported taking no action, 39.3% resorted to self-medication, and only 19.8% considered seeking medical advice. Among students practicing self-medication, the most commonly used treatments were topical ointments (23.9%) and medicated soaps (9.6%). The use of mixtures of natural products was reported by 4.0% of students, while taking tablets was rare (0.8%).

Discussion

This cross-sectional study conducted among 501 secondary school students in the five communes of Conakry aimed to describe the epidemiological and clinical profile of acne and the attitudes of adolescent students towards this condition. The results These findings highlight a very high prevalence of acne in the school setting, a significant psychosocial impact, and low utilization of dermatological care. In our study, the overall prevalence of acne was 92.0%, with a predominance among adolescents aged 18 to 22 years. This proportion is comparable to that reported by Bagatin et al. in Brazil, who observed a prevalence of 96.0% among school-aged adolescents [13], and remains higher than that described by Roengritthidet et al. in Thailand (81.66%) [14]. In contrast, significantly lower prevalences have been reported in other contexts, notably by. In Egypt (24.39%) Saudi Arabia (53.5%) In Burkina Faso (56.27%). These differences could be explained by the heterogeneity of diagnostic methods, the criteria for defining acne, the age of the studied populations, and the sociocultural contexts[15-17].

The high prevalence observed in our study can be explained by the predominance of adolescents in late puberty, characterized by increased androgen production. This hyperandrogenism stimulates the activity of the sebaceous glands, leading to hyperseborrhea, follicular obstruction, and the appearance of comedonal lesions, which are central mechanisms in the pathophysiology of acne. The fact that our study was conducted exclusively in a secondary school setting, mainly comprising adolescents, could also contribute to this high prevalence.

The average age of students with acne was 18.4 ± 2.4 years, a result close to that reported. In sub-Saharan Africa, where the average age ranged between 15 and 19 years (16.7 ± 1.3 years) [18]. This similarity confirms that acne is a predominant pathology of adolescence, regardless of geographical context.

A slight female predominance was observed in our study (51.6%). This observation is consistent with several previous studies and could be explained by hormonal fluctuations related to the menstrual cycle, as well as by the more frequent use of cosmetic products and makeup among adolescent girls, factors known to influence the development of acne [7-15].

In our study population, more than three-quarters of the students reported having acne, and nearly 73% felt self-conscious about their lesions. These results are comparable to those reported by Tayel et al. in Egypt, where low self-esteem was observed in 66.9% of adolescents with acne [15]. As well as to those of Rigopoulos et al. in Greece, who showed that 64.4% of students felt that acne negatively affected their self-image [19].

The embarrassment experienced by the students could be explained by the preferential location of the lesions on the face, a highly visible area closely linked to body image and social interactions. Although often trivialized as a physiological condition of adolescence, acne can have a significant psychological impact, highlighting the need for comprehensive care that integrates psychosocial dimensions.

In our study, butter was the most frequently cited dietary factor (63.4%), followed by seborrhea (53.5%) and menstruation (35.1%). These perceptions are consistent with data from the international literature. Ražnatović Đurović et al. in Montenegro reported that the consumption of fatty foods, makeup, stress, and sweating were perceived as factors associated with acne by more than two-thirds of the students [20]. Similarly, Rigopoulos et al. identified diet, hormones, poor hygiene, and stress among the main factors perceived as causal or exacerbating [19].

The links established by the students between diet, hyperseborrhea, menstruation, and acne are consistent with the pathophysiological mechanisms described in the literature. However, these associations are based primarily on perceptions and not on causal evidence, which underscores the importance of strengthening therapeutic education to correct certain beliefs and prevent the use of potentially harmful practices.

Regarding attitudes towards acne, our study showed that 41.7% of students did not use any therapeutic measures, while 39.3%

practiced self-medication. Only 19.8% considered a medical consultation. These results are comparable to those reported by Kouotou et al. In sub-Saharan Africa, 18.5% of students resorted to self-medication, and only 10.5% had consulted a dermatologist [18]. Similarly, Ražnatović Đurović et al. observed that nearly 80% of adolescents with acne had never consulted a doctor [20]. Conversely, Tayel in Egypt reported a higher rate of healthcare utilization (66.7%) likely reflecting better access to care or increased awareness. In France [15]. showed that dermatologists, general practitioners, and pharmacists were the main sources of therapeutic information for acne patients [21].

In our context, the low rate of dermatological consultations could be explained by the trivialization of acne as a transient condition of adolescence, by economic constraints, and by limited access to specialized care. This situation encourages self-medication and the use of inappropriate products, which can worsen lesions and promote scarring complications.

Limitations of the Study

This study has certain limitations that should be highlighted. First, the cross-sectional nature of the study does not allow for the establishment of causal relationships between acne and the factors perceived as associated with it. Second, the assessment of acne and associated factors was based primarily on students' self-reports, thus exposing the study to potential information or reporting bias. Furthermore, the severity of acne was assessed using a simplified clinical classification, without systematic confirmation by a specialized dermatological examination, which may have led to an overestimation of the prevalence. Finally, the study was conducted in an urban school setting, which limits the generalizability of the results to all Guinean adolescents, particularly those living in rural areas or who are not enrolled in school.

Conclusion

This study highlights a very high prevalence of acne among adolescents attending school in Conakry, confirming that this condition constitutes a major dermatological health problem in the school setting. Acne primarily affects adolescents in late puberty, with a slight female predominance, and is accompanied by a significant psychosocial impact. Despite this high frequency, recourse to dermatological care remains low, with self-medication or no treatment being more common. These results underscore the need to strengthen awareness campaigns in schools, improve therapeutic education for adolescents, and facilitate access to appropriate dermatological care in order to prevent complications and improve the quality of life of affected students.

Conflicts of Interest: None

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References

1. Williams HC, Dellavalle RP, Garner S (2012) Acne vulgaris. Lancet 379: 361-372.
2. Feuillolay C, Pecastaings S, Le Gac C, Fiorini-Puybaret C, Luc J, et al. (2016) A Myrtus communis extract enriched in myrtucommulones and ursolic acid reduces resistance of Cutibacterium acnes biofilms to antibiotics used in acne vulgaris. Phytomedicine 23: 307-315.
3. Han R, Blencke HM, Cheng H, Li C (2018) The antimicrobial effect of CEN1HC-Br against Cutibacterium acnes and its therapeutic and anti-inflammatory effects on acne vulgaris. Peptides 99: 36-43.
4. Dessinioti C, Katsambas A (2017) Difficult and rare forms of acne. Clin Dermatol 35: 138-146.
5. Bajor B (2007) In vitro models for the evaluation of anti-acne technologies. In: Acné et sa thérapie. Paris: Éditions Médicales https://www.taylorfrancis.com/chapters/edit/10.3109/9781420018417-22/vitro-models-evaluation-anti-acne-technologies-john-bajor.
6. Dréno B (2010) Données récentes sur l'épidémiologie de l'acné. Ann Dermatol Venereol 137: S49-S51.
7. Yaqoob S, Saleem A, Jarullah FA, Asif A, Essar MY, et al. (2021) Association of acne with face mask in healthcare workers amidst the COVID-19 outbreak in Karachi, Pakistan. Clin Cosmet Investig Dermatol 14: 1427-1433.
8. Daniel F, Dreno B, Poli F, Auffret N, Beylot C, et al. (2000) Descriptive epidemiological study of acne on scholar pupils in France during autumn 1996. Ann Dermatol Venereol 127: 273-278.
9. Amina Nomtondo Ouedraogo, Sandrine Soutongo Sita Kabre Ouedraogo, Muriel Sidnoma Ouedraogo, Fagnima Traore, Patrice Gilbert Tapsoba, et al. (2017) Acne: prevalence, perceptions and beliefs among pupils and students in Ouagadougou, Burkina Faso. Our Dermatol Online 8: 10-16.
10. Seité S, Rougier A, Dréno B (2012) Enquête sur la prise en charge des patients acnéiques en France. Ann Dermatol Venereol 139: 611-616.
11. Mbuagbaw J, Abongwa C, Ozoh G, Blackett K (2006) The prevalence of acne vulgaris in secondary school students in Yaoundé, Cameroon. Internet J Dermatol 5: 1-4.
12. Yahya H (2009) Acne vulgaris in Nigerian adolescents: prevalence, severity, beliefs, perceptions, and practices. Int J Dermatol 48: 498-505.
13. Ediléia Bagatin, Denise Lourenço Timpano, Lilia Ramos dos Santos Guadanhim, Vanessa Mussupapo Andraus Nogueira, Luiz Roberto Terzian, et al. (2014) Acne vulgaris: prevalence and clinical forms in adolescents from São Paulo, Brazil. An Bras Dermatol 89: 428-435.
14. Roengritthidet K, Kamanamool N, Udompataikul M, Rojhirunsakool S, Khunket S, et al. (2021) Association between diet and acne severity: a cross-sectional study in Thai adolescents and adults. Acta Derm Venereol 101: 00611.
15. Tayel K, Attia M, Agamia N, Fadl N (2020) Acne vulgaris: prevalence, severity, and impact on quality of life and self-esteem among Egyptian adolescents. J Egypt Public Health Assoc 95: 30.
16. Abo El-Fetoh NM, Alenezi NG, Alshamari NG, Alenezi OG (2016) Epidemiology of acne vulgaris in adolescent male students in Arar, Kingdom of Saudi Arabia. J Egypt Public Health Assoc 91: 144-149.
17. Nomtondo Amina Ouédraogo, Gilbert Patrice Tapsoba, Muriel Sidnoma Ouédraogo, Soutongo Sita Sandrine Kabré Ouédraogo, Fagnima Traoré, et al. (2017) Acne and quality of life among pupils in Ouagadougou (Burkina Faso). Int J Innov Appl Stud 20: 1-6.
18. Kouotou EA, Nansseu JRN, Defo AC, Bissek ZK (2015) Acné juvénile: une pathologie fréquente chez les adolescents scolarisés d'Afrique subsaharienne. Health Sci Dis 16: 1-5.
19. Rigopoulos D, Gregoriou S, Ifandi A, Efstathiou G, Georgala S, et al. (2007) Coping with acne: beliefs and perceptions in a sample of secondary school Greek pupils. J Eur Acad Dermatol Venereol 21: 806-810.
20. Ražnatović Đurović M, Janković J, Đurović M, Spirić J, Janković S (2021) Adolescents' beliefs and perceptions of acne vulgaris: a cross-sectional study in Montenegrin schoolchildren. PLoS One 16: e0253421.

21. Fabienne Ballanger, Jean Paul Claudel, Marie-Thérèse Leccia, Nicole Auffret, Anna Stromstedt Camerati, et al. (2023) Truncal acne in adolescents and young adults: self-reported perception. Acta Derm Venereol103: adv5123.