AUCTORES
Globalize your Research

Journal of Dermatology and Dermatitis
Akpadjan Fabrice *

Open Access

Research Article

Prevalence and Clinical Aspects of Dermatoses Among Hairdressers in the City of Parakou in 2021

Agbessi Nadège [1], Akpadjan Fabrice [2]*, Dégboé Bérénice [2], Houétchékpo Sotondji Vianelie [1], Adégbidi Hugues [1], Koudoukpo Christiane [1], Do Ango - Padonou Florencia [2]

[1] Faculty of Medicine of Parakou, University of Parakou (Benin).

[2] Faculty of Health Sciences of Cotonou, University of Abomey Calavi (Benin).

***Corresponding Author:** Fabrice AKPADJAN, Faculty of Health Sciences of Cotonou, University of Abomey Calavi (Benin).

Received date: February 06, 2023; **Accepted date:** March 15, 2023; **Published date:** September 13, 2023

Citation: Agbessi Nadège, Akpadjan Fabrice, Dégboé Bérénice, Houétchékpo S. Vianelie, Adégbidi Hugues, et al, (2023), Prevalence and Clinical Aspects of Dermatoses Among Hairdressers in the City of Parakou in 2021, *Dermatology and Dermatitis*, 8(4); **DOI:10.31579/2578-8949/109**

Abstract

Introduction: Hairdressing is a profession that exposes people to many products responsible for dermatoses. The objective of this study was to determine the prevalence and the different types of dermatoses observed among hairdressers in the city of Parakou.

Method: This was a descriptive and analytical cross-sectional study of hairdressers in the city of Parakou using probability sampling. The data were analyzed with the Epi-info7.2.2 software. The comparison of frequencies was done with the Pearson Chi2 statistical test and the significance threshold was set at p strictly less than 5%.

Results: A total of 77 hairdressers had dermatoses out of 360 surveyed. The average age was 22.81 +/-8.14 years with extremes of 10 and 52 years. The sex ratio was equal to 0.56. The hand was the most affected area (61.04%). Macular and papular lesions were the most common (29.87%). The most frequent dermatoses were contact dermatitis (10.21%) with 4.72% of wear and tear dermatitis, 4.45% of irritation dermatitis and 1.11% of allergic contact dermatitis, acne (5%) and ungual damage (1.67%).

Conclusion: The prevalence of dermatitis among hairdressers is not negligible in Parakou. Communication sessions for a continuous change of behavior would certainly contribute to the reduction of the latter.

Keywords: hairdressers; dermatoses; prevalence, parakou

Introduction

The hairdressing profession represents one of the leading causes of professional dermatosis (PD) [1]. In Europe,hairdressers rank first among all occupational groups with the highest prevalence of PD varying according to studies from 12.90% to 83.00% [2]. There is little data in Africa on PD, however a study conducted in Ibadan in 2013, estimated the prevalence at 68% consisting of 32.74% fornail disorders, 28.75% for traumatic skin disorders and 2.64% for hand dermatitis [3]. In Benin, the hairdressing profession is part of the artisanal sector which represents 13% of the GDP. Occupying the 3rd place in termsof employment after agriculture and trade, it welcomes many young people who are illiterate or have dropped out of school [4]. Hairdressing is also a profession that exposes people to many products responsible for dermatitis. It was therefore important to study dermatoses among hairdressers in the city of Parakou in 2021 by determining their prevalence and their different clinical aspects.

Framework and Methods

This was a cross-sectional, descriptive, analytical study, which took 4 months to collect. It took placein the general population in Parakou (Benin). The study population consisted of all hairdressers: managers and apprentices practicing in the city. The inclusion criteria for this study were presence in the workplace, membership in the salon and free and informed consent of the respondents. Sampling was probability based on the WHO two-stage cluster sampling technique. Data were collected through a face-to-face interview with the respondents followed by a dermatological examination by a specialist. Noskin tests or paraclinical investigations were performed on the respondents. The diagnosis of dermatoses was essentially clinical. All lesions of the skin, hair or nails that occurred after the start of work or that worsened after the start of work and that were not accidental were considered occupational dermatoses. Data were entered with Epi Data version 3.1 and analyzed with Epiinfo version 7.2.2 and $p < 0.05$ was considered statistically significant.

Results

During the survey, 77 hairdressers out of 360 had dermatoses. This represents an overall prevalence of 21.39%. The average age of the hairdressers was 22.81 ± 8.14 years with extremes ranging from 10 to 52 years. The age range from 10 to 20 years was the most represented. The predominance was female with a sex ratio of 0.56. The majority of hairdressers had primary school education (44.72%). Single people represented 70.56% of the hairdressers. Almost all of the hairdressers had received conventional training (99.17%), while 0.83% had been trained in professional centers. The hairdressers surveyed who had been working for3 to 5 years represented 29.72%. More than half of the hairdressers were apprentices (64.17%). The most common specialties were braiders and hairdressers (60.83%), wigmakers (52.22%) and colorists (52.22%). Personal atopy was present in 20% and family atopy in 7%. Allergic rhinitis was the most common personal atopy (46.48%) and asthma (33.33%) was the most common family atopy. There were 8.33% occupational dermatoses of which 4.44% were contact dermatitis; and 13.06% non-occupational dermatoses. Contact dermatitis (5.56%) and acne (5.00%) were the most common types of non- occupational dermatitis (Table I). During the survey 73 hairdressers complained of having dermatological lesions. Of these 22 (30.16%) had reported burning sensations, 13 (17.81%) had reported pruritus as associated symptoms and 38 (52.05%) reported no symptoms. The hands (Table II) were the most affected area (61.04%). The most objectified elementary lesions were macular and papular lesions with an equal percentage of 29.87%. Contact dermatitis was the predominant dermatosiswith a total prevalence of 10.27%. Also, the prevalence of dermatoses was higher in the first year of practice (13.21%). After the first year of practice, this prevalence decreased to 6.54% before 3 years.

	Number (N=77)	**Percentage (%)**	**Prevalence**
Contact Dermatitis			
Wear and tear dermatitis	17	22.08	4.72
Irritation dermatitis	16	20.78	4.44
Allergic contact eczema	4	5.19	1.11
Acne	18	23.37	5
Nail damage			
Onycholysis	3	3.90	0.83
Onychomycosis	3	3.90	0.83
Ulceration	4	5.19	1.38
Atopic Eczema	4	5.19	1.38
Sudamina	3	3.90	0.83
Contact urticaria	1	1.30	0.27
Cheloid	1	1.30	0.27
Dyschromia	1	1.30	0.27
Keratoderma	1	1.30	0.27
Psoriasis	1	1.30	0.27

Table I: Distribution according to the types of dermatoses objectified in hairdressers in Parakou, 2021.

	Number (N=77)	Percentage (%)
Hands: back, palms, edges, interdigital spaces Fingers	47	61.04
Face: Forehead, Cheeks, Chin, Retroauricular folds, Lips	18	23.37
Wrist	5	06.50
Feet: sole, toes, edges, inter-toe spaces	3	03.90
Neck/neckline	3	03.90
Forearm / arm	1	01.30

Table II: Distribution of dermatoses according to site among hairdresserssurveyed in Parakou, 2021.

Discussion:

In Parakou among hairdressers, the predominance was female with a sex ratio of 0.56. Bichara and al. [1] reached a similar result (62%) among hairdressers in Casablanca in 1997, as did Perkins and al. [6] (82.20%) in 2005. This female predominance could be justified by the fact that women are more suited to the hairdressing profession and are more interested in it, since it is essentially a matter of hair aesthetics. Women have a certain competence in aesthetics that allows them to advise and enhance their clients. The average age of the respondents was 22.81 ± 8.14 years with extremes ranging from 10 years to 52 years. The age range of 10 to 20 years old represented 52.50%. These results are similar to the average age of 19 years found by Guo et al. in Tainan in 1994 [7]. Saiful and al. [8] had also found a young population with a mean age of 26.69 ± 8.56 among hairdressers in Dhaka city in 2015. Indeed, the profession of hairdressing involves long hours of standing to perform certain tasks. This could explain the predominance of this young and energetic population. In this study, the primary level of education predominated (44.72%) among hairdressers. This result is consistent with that of Saiful et al. [8] who also found that 65.50% of the hairdressers in Dhaka city had a primary level of education in 2015. In contrast, Douglas and al. [9] observed that 68.50% of hairdressers in River-state, Nigeria had attained secondary school level of education. This difference could be explained by the fact that in Benin the primary level of education is considered sufficient to communicate with clients. In addition, the lack of a minimum education requirement to enrollin hairdressing apprenticeship in Benin could explain the low level

of education. There were 64.17% apprentices and 35.83% head hairdressers respectively. Guo and al. [7] found similar results in their study in the city of Tainan (Taiwan), 63.27% of hairdressers were apprentices. Perkins and al. [6] found that 75.90% of the hairdressers were head hairdressers. This difference in results is justified by the fact that in Benin, hairdressing is one of the craft trades favored by school dropouts. These young people find it an alternative way to enter the labor market quickly, since the apprenticeship lasts only three years. In the present study, 44.44% of the hairdressers had less than 3 years of work experience (year of completion of the apprenticeship). This would be due to the fact that apprentices predominated in our study. The prevalence of occupational dermatoses among hairdressers in the present study was 8.33%. This result is higher than that found by Leino and al. in 1998. In his cohort of 355 hairdressers, the prevalence of occupational dermatoses was 2.80% [10]. Guerra and al. [11] in Italy in 1992 found a prevalence of 12.50%. Finally, our results differ from those of Archibong and al. [3], Saiful and al. and Guo and al. [7] who had reported a prevalence of 68.13%; 76.70% and 83.00% among hairdressers in Ibadan (2013), Dhaka (2015) and Taiwan (1994) respectively. These results are difficult to compare because of the disparity between the studies. This finding could be justified by the differences in selections, methodology, and diagnostic criteria in these different studies. The prevalence of PD was almost identical regardless of the respondent's title (8.66% in apprentices and 7.75% in chefs). Guo and al. [7] and Wall and al. [13] found that the frequency of PD was higher among apprentices with 98.39% and 97% respectively (Australia). This difference could be explained by the fact that in Benin not all hairdressing managers have apprentices in their salons. A good number of hairdressers are therefore obliged to perform tasks that expose them to dermatitis. This reality on our territory could justify the fact that the prevalence of PD among hairdressers is similar regardless of their titles in the hairdressing salon. In this study, the prevalence of PD was highest in the first year of practice (13.21%) and decreased to 6.54% by 3 years (year of completion of apprenticeship). Uter and al. [14] also found a high prevalence of PD (39.00%) in hairdresser apprentices during their first years of apprenticeship. Archibong and al. [3] found similar results with a prevalence of 33% before 12 months of practice and then a decrease to 13.33%. In a similar vein, Stovall et al. [15] observed that the prevalence of PD decreased with increasing years of practice in the hairdressing sector. These results are confirmed by Bergoend and al. [16] who found that the appearance of dermatoses in hairdressers is early during the apprenticeship,which is a high-risk period. This similarity of results would be due to the fact that during the first year, hairdresser apprentices are more subjected to work such as hair rinsing, shampooing. They would also be expected to perform menial tasks such as washing towels. After the first year of apprenticeship, there is a change in the activities of the apprentice, as they are more capable of performing other tasks. This would account for the decrease in the prevalence of dermatitis after the first year of practice. Contact dermatitis was the most common PD among hairdressers with a prevalence of 4.44%. This rate is close to the 5% found by Omokhodion and al. [17] in Ibadan in 2009. Archibong and al. [3] found a similar prevalence of 6.64% in Ibadan in 2013. While in the Caucasian population, Bichara and al. [1] reported a prevalence of 58.60% in Casablanca in 1997. This rate is close to the 53% found by Guo and al. [7] in Taiwan in 1994. The low prevalence of contact dermatitis in the African population is thought to be due to the narrower range of hair chemicals available in Africa. The assertion that the black race is more resistant to contact dermatitis could also explain these differences in prevalence [18]. Note that the prevalence of PD among hairdressers by personal atopy was 33.80%. This rate is lower than the 75% found by Bichara and al. [1] in Casablanca in 1997. A higher prevalence of 87.5% was observed by Archibong and al. [3] in Ibadan. Thisdifference could mean that subjects with a history of atopy prefer other professions to avoid exposure to allergenic products or that when they areapprentices in hairdressing, they tend to leave this profession early.

Conclusion

Two out of ten hairdressers were affected by dermatoses in the city of Parakou in 2021. Most of the conditions were asymptomatic and were mainly located on the main tool of the workers: the hands. Clinically, contact dermatitis was the most common and the prevalence of PD is not negligible. It is therefore important that awareness sessions on protective measures be intensified for a better health of this population.

References

1. Bichara M, Laraqui C, Caubet A, Mehaji AK, Belamallem I, Othmani S, et al. (1999). Prevalence of contact dermatitis among hairdressers in Casablanca. Rev Fr d'Allergol, 39(7):551-560.
2. Crepy MN. (2000). Occupational dermatoses of hairdressers. Doc for Med Trav, 81:61-68.
3. Archibong J, Henshaw E, Ogunbiyi A, George A. (2018). Occupational skin disorders in a subset of Nigerian hairdressers. Pan Afr Med J, 31:1-10.
4. Sylvain VA. (2016). Women and artisanal activities in the city of parakou (north east benin). Cah du cbrst, 10:417-432.
5. National Institute of Statistics and Economic Analysis. Cahier des villages et quartiers de ville du departement du Borgou. Rgph-4. 2016;3-10.
6. Perkins JB, Farrow A. (2005). Prevalence of Occupational Hand Dermatitis in U.K. Hairdressers. Int J Occup Environ Health, 11(3):289-293.
7. Guo YL, Wang BJ, Lee JYY, Chou SY. (1994). Occupational hand dermatoses ofhairdressers in Tainan City. Occup Environ Med, 51(10):689-692.
8. Ahmed MU. (2015). Occupational Dermatitis among the hair dressers of selected area of Dhaka City. MOJ Public Heal, 2(2):61-63.
9. State R, Douglas KE, Agbi JO, Akpovienehe O, Joe A. (2013). Occupational HandDermatitis among Hair Dressers in a Semi-urban Community in Rivers State, South-South Nigeria. Niger Heal J, 13(3):125-130.
10. Leino T, Tammilehto L, Hytönen M, Sala E, Paakkulainen H, Kanerva L. (1998). Occupational skin and respiratory diseases among hairdressers. Scand J Work Environ Heal, 24(5):398-406.
11. Guerra L, Tosti A, Bardazzi F, Pigatto P, Lisi P, Santucci B, et al. (1992). Contact dermatitis in hairdressers: the Italian experience. Contact Dermatitis, 26:101–117.
12. Cervantès MH, Sellier N, Loriot J, Verdier R, Dujols P, Picot MC. (2004). Perception of occupational skin risk among hairdressers. Archives des Maladies Professionnelles et de Medecine du Travail, ;65(6):470-479.
13. Wall LM, Gebauer KA. (1991). Occupational skin disease in Western Australia. Contact Dermatitis, 24:101-9.
14. Uter W, Pfahlberg A, Gefeller O, Schwanitz HJ. (1998). Prevalence and incidence of hand dermatitis in hairdressing apprentices: results of the POSH study. Prevention of occupational skin disease in hairdressers. Int Arch Occup Environ Health, 71(7):487-492.
15. Stovall G, Lester L, Oler J. (1983). Occupational dermatitis among hairdressers. J Occup Med, 25(12):871-878.
16. Bergoënd H, Martin P, Givert-Crapet C, Khaldi-Merad K DE. (1993). The occupational dermatoses of hairdressers. Arch Mal Prof. 1993;54(3):337-343.
17. Omokhodion FO, Balogun MO, Ola-Olorun FM. (2009). Reported occupational hazards and illnesses among hairdressers in Ibadan, South West Nigeria. West Afr J Med, 28(1):20-23.
18. Modjtahedi SP, Maibach HI. (2002). Ethnicity as a possible endogenous factor in irritant contact dermatitis: Comparing the irritant response among Caucasians, blacks, and Asians. Contact

Dermatitis, 47(5):272-278.

S

DOI:10.31579/2578-8949/109