

Unlawful practice of aesthetic medicine, patient attractiveness, and consequences

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ABSTRACT

Background: The global expansion of aesthetic medicine has been paralleled by the rise of illegal procedures performed outside medical settings, exposing patients to avoidable complications. **Objective:** The objective was to assess the attractiveness of illegal aesthetic practices, reported complications, and risk perception in a northern Moroccan population. **Methods:** We conducted a prospective, analytical, cross-sectional survey between February and July 2023 at a tertiary dermatology center in Northern Morocco. An online questionnaire (Google Forms) disseminated via social networks collected sociodemographic data, aesthetic practices, adverse effects, and risk perception. Data was analyzed using SPSS v.2021 (chi-squared; $p < 0.05$). **Results:** A total of 234 respondents participated; most were women (61.9%), aged twenty-one to thirty years (58.9%), with a university education (73.2%). Prior attendance at beauty centers was common (62.1%), and 56.4% desired future procedures, strongly influenced by celebrities and social media (78.7%). Illegal procedures were reported by 26.7%, mainly laser hair removal and hydrfacial (42.7%). Among injected participants, 86.2% received no information on pre- or post-procedure precautions. Post-procedure events included redness (83.1%), irritation (70.9%), asymmetry (32.7%), abscesses (12.3%), and granulomas (7.2%); prolonged sequelae occurred in 23.5%. Dissatisfaction after care in nonmedicalized settings was high (63.3%). Cost (70.3%) and social media advertising (47.8%) were the main reasons for choosing such venues. **Conclusion:** Illegal aesthetic practices are highly attractive to young women and generate frequent, sometimes severe, complications. Regulatory reinforcement, product traceability, and targeted education—especially through social media—with dermatologists as key stakeholders are essential.

Key words: Illegal aesthetic medicine, Fillers, complications, Social media, Regulation

INTRODUCTION

Aesthetic medicine has expanded rapidly worldwide, reflecting the growing importance of physical appearance [1]. While procedures performed by trained physicians are generally safe, a parallel market has emerged where interventions are offered in beauty salons or spas by unqualified providers using uncertified products [2]. These practices expose patients to both immediate complications (erythema, infection) and severe adverse events such as vascular occlusion, skin necrosis, or blindness after filler injections [3]. Delayed complications, including nodules and granulomas, often linked to biofilms, have also been reported [4]. Social and cultural factors, particularly the influence of celebrities and social media, play a major role in

normalizing such procedures, especially among young women [5]. This study aimed to evaluate the extent of illegal aesthetic practices in northern Morocco, document their complications, and assess patient risk perception.

MATERIALS AND METHODS

We conducted a prospective, analytical, cross-sectional study at the Department of Dermatology and Venereology, Mohammed VI University Hospital Center of Tangier, between February and July 2023. The participants were adults residing in northern Morocco. Data was collected using a structured questionnaire specifically designed

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for this study and disseminated via Facebook, WhatsApp, and Instagram. The questionnaire explored sociodemographic characteristics, motivations for aesthetic procedures, types and sites of procedures performed, complications experienced, risk perception, and preferred practitioners. Responses were collected anonymously through Google Forms and analyzed with SPSS v.2021. Qualitative variables were expressed as frequencies and percentages, and comparisons were made using the χ^2 test, with significance at $p < 0.05$. Participation was voluntary and preceded by electronic informed consent. Anonymity and confidentiality were guaranteed. The study was conducted in accordance with the Declaration of Helsinki (2013 revision).

Ethics Statement

The study was conducted in accordance with the Declaration of Helsinki (2013 revision). All participants provided electronic informed consent. Personal data confidentiality was ensured.

RESULTS

A total of 234 participants completed the survey. Most were women (61.9%), predominantly aged twenty-one to thirty years (58.9%), and university educated (73.2%). Prior attendance at beauty centers for aesthetic care was reported by 62.1%, and 19.3% attended regularly. Future interest in procedures was expressed by 56.4%, and 78.7% acknowledged influence from celebrities and social media when considering interventions (Table 1). Illegal procedures performed in salons or spas were reported by 26.7%, with laser hair removal and hydrafacial being the most common (42.7%). Among participants who had received injections, 86.2% had not been informed about pre- and post-procedure precautions. Adverse events included redness (83.1%), irritation (70.9%), and persistent skin changes (63.3%). More severe complications were also noted, including asymmetry (32.7%), abscesses (12.3%), and granulomas (7.2%) (Fig. 1); prolonged sequelae were reported by 23.5%. Overall dissatisfaction after care received in nonmedicalized settings was high (63.3%). Cost

Table 1: Previous and future use of aesthetic care.

Variable	Category	Percentage (%)
Previous use	Visited beauty centers	62.1
Previous use	Regular use	19.3
Future interest	Interested in procedures	56.4
Influence	Social media/celebrities	78.7

(70.3%) and social media advertising (47.8%) were the main reasons for choosing such venues (Fig. 2). Regarding risk perception, 62% considered these practices hazardous, mainly due to infection (82%) and unsatisfactory or asymmetric outcomes (71%), whereas fewer than twenty percent identified blindness or stroke as major risks. Most participants considered dermatologists as authorized professionals (79.2%), followed by general practitioners (50.9%). Conversely, 43.5% believed beauticians were authorized, and 11.6% thought anyone could perform these procedures (Fig. 3). Finally, 68.3% favored regulatory reinforcement to curb illegal practice.

DISCUSSION

Our findings highlight the significant attractiveness of illegal aesthetic practices, particularly among young, educated women strongly influenced by social media. This aligns with international reports showing that exposure to online beauty standards increases body dissatisfaction and the likelihood of seeking aesthetic procedures, even outside medical contexts [1,5]. The complications observed in our cohort are consistent with global literature, which describes a wide spectrum

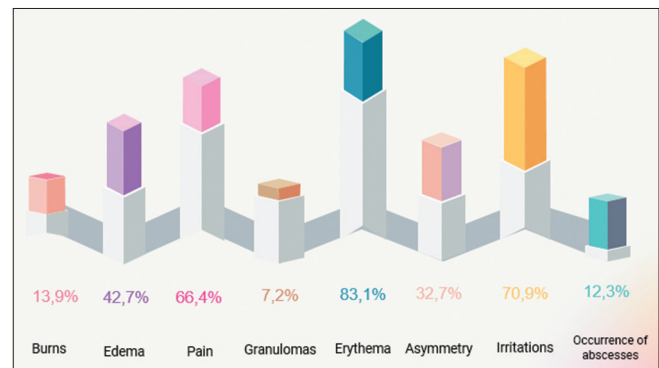


Figure 1: Observed effects after interventions in non-medical centers.

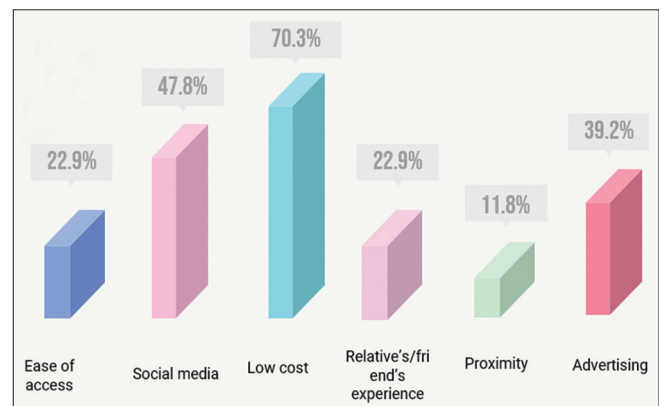


Figure 2: Criteria for choosing beauty centers.

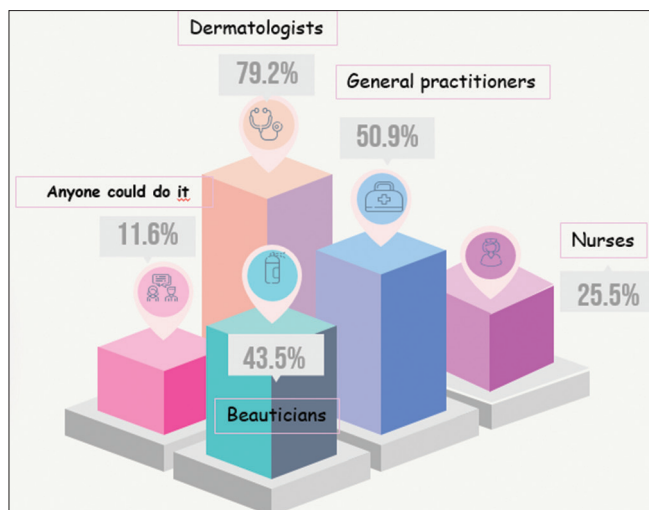


Figure 3: Professionals authorized for this practice according to the participants.

of adverse effects ranging from mild local reactions to severe events such as vascular occlusion and blindness [2,3]. Although rare, vascular complications are devastating, and their prevention relies on anatomical expertise and proper injection techniques—skills absent in non-medical settings. The management of vascular occlusion requires prompt recognition and immediate administration of high-dose hyaluronidase with adjunctive measures, as recommended in clinical guidelines [6]. Such resources are generally unavailable outside healthcare environments, increasing the risk of irreversible sequelae. Delayed reactions such as nodules and granulomas, reported in 7.2% of our respondents, are often related to biofilm formation and chronic immune-inflammatory responses [4,7]. These complications are challenging to treat, often requiring combined therapies with hyaluronidase, corticosteroids, and antibiotics targeting biofilms, or surgical excision in refractory cases. Although less frequent, systemic complications have also been described, including non-thrombotic pulmonary embolism and fatal outcomes following illegal filler injections [8,9]. Such cases underscore that aesthetic procedures are true medical interventions requiring qualified practitioners, certified products, and safe environments. Even when performed by experienced physicians, fillers are not entirely free of complications [10]. This reality further strengthens the argument for strict prohibition of non-medical practices and the implementation of coordinated strategies, including regulatory enforcement, product traceability, public education via social media, and the central involvement of dermatologists in patient safety and advocacy.

CONCLUSION

Illegal aesthetic practices are particularly attractive to a young, socially networked population and are associated with frequent and sometimes severe complications. Prevention requires stricter regulation, product control, enhanced surveillance, and targeted education, with dermatologists and health authorities working jointly to curtail this growing public health concern.

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Statement of Human and Animal Rights

All the procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the 2008 revision of the Declaration of Helsinki of 1975.

Statement of Informed Consent

Informed consent for participation in this study was obtained from all participants.

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