

Knowledge, perception and attitude towards aesthetic medicine among medical residents in Pakistan: A cross-sectional study

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Abstract

Background: Aesthetic medicine is a rapidly expanding specialty that blends clinical science with artistry, and patient centered care. While the Global demand for minimally invasive procedures is rising, its integration into medical education and structured training remains limited in many developing countries, including Pakistan.

Objective: To explore the knowledge, perception, and attitude of medical residents in Pakistan regarding aesthetic medicine, including its training requirements, and role in clinical practice.

Methods: A descriptive cross-sectional survey was conducted among 89 medical residents from public and private hospitals in Pakistan using a structured questionnaire assessing demographics, prior exposure, knowledge, perception, and attitude toward aesthetic medicine. Data was analyzed using descriptive statistics.

Results: The mean age of participants was 30 years; 43% were male and 57% female. Only 11% had attended a private course or workshop in aesthetic medicine. While 94% correctly identified botulinum toxin, fillers, and lasers as central to the field, 16% expressed uncertainty about its evidence base. A majority (62%) supported recognition of aesthetic medicine as a separate specialty with more than 83% agreed that aesthetic procedures improve psychological well-being.^{3,6} Patient inquiries about cosmetic procedures were reported by 69% of residents, and 60% acknowledged cultural influences on patient preferences. Despite positive perceptions, 74% had never performed an aesthetic procedure.

Conclusion: Medical residents in Pakistan show strong interest and favorable perception towards aesthetic medicine, but exposure and structured training remain limited. Formal integration of aesthetic medicine as a distinct specialty could help bridge knowledge gaps and prepare physicians to meet growing patient demand.

Keyword: Aesthetic medicine; Medical residents; Perceptions; Cosmetic procedures.

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Introduction

Aesthetic medicine, which includes minimally invasive and non-invasive procedures such as botulinum toxin injections, dermal fillers, chemical peels, and lasers,

has become a central part of modern healthcare.^{1,5} Internationally, neurotoxin injections and fillers rank among the most frequently performed procedures.⁹ Beyond cosmetic enhancement, evidence increasingly shows that aesthetic treatments can improve self-esteem, body image, and quality of life.^{3,6,12}

In Pakistan, however, the field remains under regulated, with inconsistent training pathways and minimal formal inclusion in medical curricula.^{4,7} This gap is concerning given the rising patient awareness, increasing demand for aesthetic procedures, and the risks associated with unregulated practice. As future leaders in healthcare, medical residents' knowledge, perception, and attitude is pivotal in shaping how aesthetic medicine is integrated into safe, evidence based, and culturally appropriate clinical practice.^{8,10}

This study evaluates the knowledge, perceptions, and attitudes of medical residents in Pakistan toward aesthetic medicine, with a focus on training needs, evidence-based practice, and recognition of cultural influences.

Methods

A descriptive cross-sectional survey was conducted among 89 medical residents from public (n=9) and private (n=80) hospitals in Pakistan. Participants were enrolled from the first to third years of residency.

A structured, self-administered questionnaire captured demographic data, prior exposure to aesthetic medicine, knowledge of aesthetic procedures, and perceptions regarding training and clinical relevance.

Responses were analyzed using descriptive statistics

with SPSS version 16.

Participation was voluntary, with informed consent obtained from all respondents. Data were anonymized to ensure confidentiality.

Results

The mean age of participants was 30 years. Of 89 residents, 38 (43%) were male and 51 (57%) were female. Most were affiliated with private hospitals (91%), while only 10% were from public institutions. By residency year, 22% were in their first year, 36% in their second, and 43% in their third (**Table 1**).

Only 10 residents (11%) had attended a private course or workshop in aesthetic medicine, and 11 (12%) reported informal self-study. Most (76%) reported no prior exposure (**Table 2**).

Nearly all respondents (94%) correctly identified botulinum toxin, dermal fillers, and lasers as central to aesthetic medicine, and 95% recognized that chemotherapy was unrelated. Wrinkle reduction was identified as the most common use of botulinum toxin by 90% of participants. In addition, 76% correctly identified lasers as useful for tattoo removal, hair removal, and skin rejuvenation (**Table 2**).

Table 1 Demographic characteristics of participants.

Demographics		n (%age)
Mean age		30±5.0 yrs.
Gender	Male	38 (43%)
	Female	51 (57%)
Type of hospital	Public	9 (10%)
	Private	80 (91%)
Year of residency	1st year	19 (22%)
	2nd year	32 (36%)
	3rd year	38 (43%)

Table 2 Information regarding prior exposure and knowledge of the participant.

Exposure and knowledge	n (%)
Have you attended any course/workshop on aesthetic medicine?	
- Workshop/Seminar/Webinar (private)	10 (11%)
- Self-study	11 (12%)
- None	68 (76%)
The primary domain of aesthetic medicine was correctly identified as cosmetic procedures.	83 (94%)
Correctly identified chemotherapy as not commonly used in aesthetic medicine.	84 (95%)
The most common use of botulinum toxin is identified as wrinkle reduction.	79 (90%)
Lasers correctly identified as applicable for tattoo removal, hair removal, and skin rejuvenation.	67 (76%)

Seventy percent believed aesthetic medicine should be recognized as a separate multidisciplinary specialty. While 53% considered it evidence-based, 33% remained unsure. A strong majority (82%) agreed that it is an important emerging field, and 57% supported the creation of a dedicated postgraduate curriculum (Table 3).

Most residents (83%) believed aesthetic procedures improve psychological well-being. Over half (62%) viewed them as both a medical need and a luxury, while 60% acknowledged cultural norms as influential in shaping patient preferences (Table 4).

Discussion

This study highlights a growing interest in aesthetic medicine among Pakistani medical residents, reflecting global trends. Worldwide, aesthetic medicine has evolved from being seen as purely cosmetic to a fully recognized specialty with documented psychosocial benefits.^{3,6,12} Our findings align with prior research showing that such procedures can boost self-confidence, reduce anxiety, and enhance quality of life.¹³

Despite these positive perceptions, training and exposure remain limited. Only 11% of residents had attended structured workshops, and less than one-third had any procedural experience. Similar gaps have been reported internationally, even in developed countries.^{7,8,10} Without structured pathways, many physicians rely on short courses or self-learning, raising concerns about patient safety, ethical practice, and procedural competence.¹⁴

The uncertainty among one-third of residents about the evidence base highlights the need for academic integration. Although procedures such as botulinum toxin and fillers are supported by robust evidence,^{15,16} misconceptions persist in regions lacking formal training. Incorporating aesthetic medicine as a separate specialty could provide an evidence-based foundation and reduce misinformation.

Table 3 Information regarding perceptions, attitudes on aesthetic medicine of the participants.

Questions	Options	N (%)
Aesthetic medicine should be a separate multidisciplinary specialty.	Agree	62 (70%)
	Disagree	17 (19%)
	Not Sure	10 (11%)
Belief that aesthetic medicine is evidence-based	Agree	47 (53%)
	Disagree	13 (14%)
	Unsure	29 (33%)
Aesthetic medicine as an important emerging field.	Agree	72 (81%)
	Disagree	04 (4%)
	Unsure	13 (15%)
Separate postgraduate training curriculum for the doctors intend to pursue this new emerging field.	Agree	51 (57%)
	Disagree	09 (10%)
	Unsure	29 (33%)

Table 4 Psychological and cultural perspectives on aesthetic medicine.

Questions	Options	N (%)
Aesthetic procedures improve psychological well-being.	Agree	73 (82%)
	Disagree	08 (9%)
	Unsure	08 (9%)
View aesthetic procedures as both medical need (e.g., reconstructive, psychological health) and luxury (e.g., cosmetic enhancement).	Medical need	6 (7%)
	A luxury	25 (28%)
	Both	55 (62%)
	Unsure	03 (3%)
Cultural norms influence	Yes: 53	53 (60%)
Aesthetic patient preferences.	No: 15	15 (17%)
	Not sure: 21	21 (23%)

Cultural influence emerged as another key factor. Sixty percent of residents recognized that patient preferences are shaped by cultural norms, a finding consistent with literature from other regions where ideals of beauty differ widely.^{4,11} In South Asia, cultural perceptions of fairness, symmetry, and aging strongly shape demand.¹⁷ Recognizing these nuances is critical to delivering ethical, patient-centered care.

Finally, the fact that 70% supported recognizing aesthetic medicine as a specialty reflects a growing understanding that this field is not confined to one branch of medicine, but rather is a discipline that blends expertise from several areas, including dermatology, plastic surgery, maxillofacial surgery, and general medicine.^{1,7,9} Formal recognition could standardize education, improve patient outcomes, and

reduce the risks associated with unqualified practice.

Strengths and limitations A major strength of this study is that it is among the first to explore perceptions of aesthetic medicine among Pakistani medical residents. However, the small sample size and overrepresentation of private institutions may limit its generalizability. Larger, multi-center studies are recommended to better capture national perspectives.

Conclusion

Medical residents in Pakistan demonstrate strong interest and generally favorable perceptions of aesthetic medicine, particularly regarding its role in psychological well-being and clinical care. However, exposure and structured training remain limited. Integrating aesthetic medicine as a separate medical specialty with a structured curriculum, supported by evidence-based education and multidisciplinary collaboration could enhance safe and ethical practice while respecting cultural sensitivities and meeting growing patient demand.

Declaration of patient consent The authors certify that they have obtained all appropriate patient consent.

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Author's contribution

SS: Have made substantial contributions to conception and design, acquisition of data, analysis and interpretation of data. Have been involved in drafting the manuscript and revising it critically for important intellectual content.

HL,RP,GS: Have made substantial contributions to acquisition of data, analysis and interpretation of data. Have been involved in revising it critically for important intellectual content.

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