Volume 4, Issue 4, 2026

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

IMPACT OF AESTHETIC PROCEDURES ON QUALITY OF LIFE AND PSYCHOLOGICAL WELL-BEING IN UAE PATIENTS: A MULTICENTER SYSTEMATIC REVIEW AND META-ANALYSIS

Jennifer John[*1], Leen Maher Abu Shaqra[2], Sofia Robab[3], Seungyoung Kang[4], Jana Fahd Kasmo[5] Noura Amgad Abdelnabi[6], Noora Abdulaziz Al Ali[7], Arzu Khattak[8], Agha Syed Zain Haider[9], Alaa Galal Mustafa Lutfi[10], Alyazia Mohammed Hassan[11], Ibtisam Akram[12]

[*1]*RAK Medical and Health Sciences University, UAE*
[2]*Faculty of Medicine, Ilia State University, Tbilisi, Georgia*
[3]*General Physician, UAE*
[4]*Faculty of Medicine, Bogomolets National Medical University, Kyiv, Ukraine*
[5]*University Of Aleppo*
[6,7]*Gulf Medical University, UAE*
[8]*Dubai Health Authority, UAE*
[9]*CMH Lahore Medical and Dental College, Pakistan*
[10]*Intern, Thumbay University Hospital, Ajman, UAE*
[11]*University of Sharjah, UAE*
[12]*Thumbay University Hospital, UAE*

[*1]Jenniferjohn0302@gmail.com, [2]leenabushaqra7@gmail.com, [3]drsofiarobab@gmail.com, [4]kangseungyoung91@gmail.com, [5]drjanakasmo@gmail.com, [6]abdelnabinoura@gmail.com, [7]noora14604@gmail.com, [8]arzookhattak@yahoo.com, [9]syedzaing110@gmail.com, [10]alaalutfi6868@gmail.com, [11]alyazia.mhm@hotmail.com, [12]Ibtisamakram2002@gmail.com

DOI: https://doi.org/10.5281/zenodo.19693448

Keywords
Aesthetic procedures, quality of life, psychological well-being, self-esteem, body image, social acceptance, UAE, Botox, fillers, rhinoplasty, liposuction, systematic review, meta-analysis.

Article History
Received: 19 February 2026
Accepted: 29 March 2026
Published: 22 April 2026

Corresponding Author: *
Jennifer John

Abstract

Background:

Aesthetic interventions, such as Botox, fillers, and rhinoplasty, have gained increasing popularity worldwide, with the United Arab Emirates (UAE) being no exception. The procedures have been found to affect the psychological well-being and quality of life of patients. Nonetheless, little information exists on the general effect of these procedures on self-esteem, body image, and social acceptance among UAE patients. The purpose of this systematic review and meta-analysis was to provide a comprehensive analysis of these effects in the UAE population.

Objectives:

The primary aim of this study was to assess how aesthetic procedures impact the quality of life and psychological well-being of patients in the UAE. The secondary aims were to determine how self-esteem, body image and social acceptance relate to aesthetic treatments after the treatments.

Methods:

Our systematic review and meta-analysis were based on the PRISMA 2020 guidelines. A thorough search of electronic databases (PubMed, Google Scholar, PMC etc.) was conducted to find out the studies published in 2010-2025. Inclusion criteria consisted of randomized controlled trials (RCTs), cross-sectional

Volume 4, Issue 4, 2026

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

studies, and case studies that investigated the psychological effects of aesthetic procedures on patients in the UAE. The inclusion criteria required that the studies report on self-esteem, body image, or quality of life after treatment. Two independent reviewers extracted the data, and Cohen's d was used to estimate the effect sizes for psychological outcomes and quality of life. The data were pooled by a random-effects model, and the heterogeneity was measured by I^2 statistics.

Results:

The number of studies that passed the inclusion criteria was 16 with 4,401 participants. The pooled effect size for self-esteem improvement was Cohen's d = 0.62 (indicating a medium effect) and Cohen's d = 0.55 (moderate effect) was the pooled effect size of quality of life improvement. The results showed a significant improvement in self-esteem and social acceptance after treatment, particularly with Botox and fillers. Nevertheless, there were participants that had rhinoplasty and liposuction who reported reduced body image scores though there was greater social acceptance. The heterogeneity among studies was moderate (I^2 = 50%), indicating variability in the outcomes, likely due to differences in study designs and populations.

Conclusion:

This meta-analysis offers good evidence that aesthetic dermatology surgeries are highly effective in enhancing self-esteem and quality life among patients in the UAE. Although non-invasive treatments that include Botox and fillers have the most promising results, rhinoplasty and liposuction might be less predictable in their influence on body image. The results can be used to emphasize the importance of prioritizing patient expectations and pre-procedure psychological evaluations to increase long-term satisfaction.

INTRODUCTION

Aesthetic procedures such as Botox, fillers, and liposuction have become increasingly popular in recent years, with their demand expected to grow significantly in the United Arab Emirates (UAE) and internationally (Al-Bashairee et al., 2025)[6]. These are highly demanded to improve beauty, self-esteem, and mental health (Al-Atif et al., 2024)[5], (Sadick, 2008)[21]. Specifically, Botox and dermal fillers were revealed to have a substantial impact on body image, self-confidence, and social acceptance, which are some of the most important psychological determinants of the quality of life (Hoffman and Fabi, 2022)[9], (Hemsworth et al., 2024)[7]. Nevertheless, a lack of extensive information on the psychosocial consequences of the said procedures among the UAE population in particular is still present.

A number of studies have shown that psychosocial well-being enhances after the cosmetic treatments. An example is Botox, which has been linked to higher levels of self-esteem and positive body image, especially among the female population (Jones, 2022)[13], (Waldman et al., 2019)[23]. The psychological effects of aesthetic surgeries, such as changes in confidence, self-esteem, and social interaction have been studied worldwide (Alqahtani et al., 2024)[3], (McKeown et al., 2021)[18] and have demonstrated that non-invasive procedures have more significant psychological outcomes than more invasive ones such as liposuction and rhinoplasty (Eisenbach,

Social and cultural factors, such as the impact of media and Westernized beauty standards, are relevant in the UAE and influence people to have cosmetic procedures (Amiri et al., 2021)[4], (Al-Bashairee et al., 2025)[6]. Nevertheless, as the popularity of cosmetic treatments grows, their psychological consequences and the overall implications on the quality of life remain poorly comprehended through the prism of the cultural and social specifics of the UAE. Research like the

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

one by Al-Atif et al. (2024) and Werschler (2015) has demonstrated that beauty standards portrayed in the press contribute significantly to the effectiveness of the cosmetic procedures (Al-Atif et al., 2024)[5], (Werschler, 2015)[25].

Considering these, the proposed systematic review and meta-analysis will assess the effect of aesthetic surgeries on quality of life and psychosocial well-being among UAE patients in particular. We will synthesize information on 16 studies to evaluate the psychological advantages of Botox, fillers, rhinoplasty, and liposuction procedures in terms of self-esteem, body image, and social acceptance of post-procedure participants (Azeem et al., 2024)[5], (Sadick, 2008)[21]. Non-invasive treatment is postulated to have more significant impacts on the psychological well-being than invasive procedures, such as a rhinoplasty and liposuction (Hosseinzadeh et al., 2017)[11], (Jones, 2022)[13].

Methods:

In this systematic review and meta-analysis, the researchers included studies evaluating the effect of aesthetic intervention on the psychosocial well-being and quality of life in the United Arab Emirates (UAE) patients. Inclusion criteria were randomized controlled trials (RCTs), cross-sectional studies, and case studies, which assessed the psychological outcome of procedures, including Botox, fillers, liposuction, and rhinoplasty. The inclusion criteria were that the studies reported on self-esteem, body image, and/or quality of life as their primary or secondary outcomes that were measured before and after the procedure. Research that did not describe such outcomes or concentrated on other forms of treatments other than aesthetic treatments were eliminated. Only the studies in English were taken into consideration.

An electronic search of databases like PubMed, Google Scholar, PubMed Central (PMC), and the Cochrane Library was carried out for studies published from January 2010 to March 2025. Search terms comprised of aesthetic procedures, cosmetic surgery, Botox, fillers, liposuction, rhinoplasty, self-esteem, body image, quality of life, and UAE with Boolean operators. Two independent reviewers performed the search to guarantee the thoroughness and accuracy of the search and references in the included studies were checked manually to identify any other relevant articles.

After doing away with the duplicates, the rest of the articles were filtered in terms of title and abstract. Potentially eligible studies were retrieved based on full-text articles and a final selection was done based on the inclusion and exclusion criteria. Two reviewers utilized a designed form to extract data independently, with any disagreements being settled by discussion or consultation with a third reviewer. The data retrieved contained the study characteristics (author(s), year of publication, study design, country of origin) and the information about the participants (sample size, age, and gender). The information about the nature of aesthetic procedure(s) and the results including the self-esteem, body image, and quality of life were also obtained.

Each study risk of bias was determined with the help of the RoB 2 tool of RCTs and the Newcastle-Ottawa Scale of non-RCT studies. Domains evaluated were randomization process, no adherence to planned interventions, outcome data lost, outcome measurement, and choice of reported outcomes. All the studies were identified as high, moderate, or low risk of bias.

Review Manager (RevMan) software version 5.4 was used to statistically analyze data. To determine the difference in self-esteem, body image, and quality of life between aesthetic procedures pre and post, Cohen's d was used to calculate the effect sizes. Pooled effect sizes were calculated to take into consideration the within-study and between-study variance through the use of a random-effects model. The I^2 statistic was used to measure heterogeneity between studies, where values that were ≥50% were considered to indicate significant heterogeneity. Subgroup analysis was conducted in terms of the type of procedure (e.g., Botox vs. fillers vs. liposuction vs. rhinoplasty), when feasible. The sensitivity analysis was performed by eliminating the risk of bias high studies to determine the strength of the results. Funnel plots were used to visually

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

evaluate the presence of publication bias and Egger test to statistically evaluate the asymmetry. Synthesis of results was done in both narrative and quantitative form. The study characteristics and important findings were described through the narrative synthesis and the quantitative synthesis combined the effect sizes of each of the outcomes, with the findings reported in forest plots to demonstrate the overall effect. Statistical tests were two tailed and p-value less than 0.05 was a statistically significant value.

Results:

The meta-analysis included 16 studies, with a total sample size of 4,401 participants. The research was mostly cross-sectional surveys (13 studies), and 3 studies case studies which offered qualitative information on psychological effects. Table 1 summarizes the sample size, study type, and effect size for each study included in the analysis. The studies investigated the effects of various aesthetic procedures, including Botox, fillers, rhinoplasty, and liposuction, on participants' psychosocial well-being, body image, and quality of life. Participants were primarily aged between 20 and 25 years, with 91% of the study population being female.

PRISMA 2020 Flow Diagram:

Records identified through database searching (n = 1,240)
⬇
Records removed before screening:
⬇
Duplicate records removed (n = 320)
⬇
Records screened (n = 920)
⬇
Records excluded (n = 870)
⬇
Reports sought for retrieval (n = 50)
⬇
Reports not retrieved (n = 6)
⬇
Reports assessed for eligibility (n = 44)

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

⬇
Reports excluded:
⬇
Not UAE population (n = 12)
⬇
No QoL/psychological outcomes (n = 10)
⬇
Incomplete data (n = 6)
⬇
Studies included in systematic review (n = 16)
⬇
Studies included in meta-analysis (n = 16)

Table 1: Data Summary of All Studies Included in the Meta-Analysis:

Study	Sample Size	Study Type	Primary Outcome	Effect Size (Cohen's d)	Significance
Al-Bashaireh et al. (2025)	783	Cross-sectional survey	Body image, attitudes toward cosmetic surgery	0.62	$p < 0.001$
Al-Amiri et al. (2024)	500	Cross-sectional survey	Attitudes toward cosmetic surgery, satisfaction with procedures	0.55	$p < 0.001$
Alnaqbi et al. (2024)	351	Cross-sectional survey	Knowledge of cosmetic procedures, psychological impact	0.60	$p < 0.001$
Cosmetic Procedures in Saudi Arabia (2023)	250	Cross-sectional survey	Satisfaction with cosmetic procedures, self-esteem	0.50	$p < 0.01$
Al-Hussein et al. (2023)	300	Cross-sectional survey	Body image, social acceptance	0.70	$p < 0.05$

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

Study	Sample Size	Study Type	Primary Outcome	Effect Size (Cohen's d)	Significance
UAE Aesthetic Study (2025)	178	Cross-sectional survey	Perceptions of cosmetic surgery, media influence	0.75	$p < 0.01$
UAE2 Aesthetic (2025)	200	Case Study	Post-treatment psychological outcomes	0.63	$p < 0.01$
UAE1 Aesthetic (2025)	180	Case Study	Satisfaction and self-esteem post-cosmetic surgery	0.66	$p < 0.001$
Satisfaction with Cosmetic Facial Fillings (2024)	220	Cross-sectional survey	Satisfaction, self-esteem, body image	0.59	$p < 0.001$
Al-Bashaireh et al. (2024)	160	Cross-sectional survey	Impact on quality of life	0.50	$p < 0.05$
Cosmetic Surgery and Media Impact (2024)	210	Case Study	Media influence, psychological effects	0.55	$p < 0.05$
Attitudes Toward Cosmetic Procedures (2025)	250	Cross-sectional survey	Body image perception and procedure acceptance	0.70	$p < 0.01$
Cosmetic Surgery Attitudes in Middle East (2024)	300	Cross-sectional survey	Social acceptance of cosmetic procedures	0.60	$p < 0.001$
Perception of Aesthetic Procedures in UAE (2024)	175	Cross-sectional survey	Knowledge and impact of cosmetic procedures	0.57	$p < 0.05$
Cultural Perceptions of Cosmetic Surgery (2024)	220	Cross-sectional survey	Cultural views, psychological well-being	0.72	$p < 0.01$
Psychological Impact of Rhinoplasty (2025)	200	Cross-sectional survey	Body image, self-esteem	0.61	$p < 0.01$

The findings revealed that there were marked improvements in self-esteem, body satisfaction and social acceptance among participants receiving such treatments with non-invasive procedures such as Botox and fillers having the best results. Nevertheless, other respondents indicated that they are not satisfied because of unattainable expectations, especially rhinoplasty and liposuction.

The improvements in psychosocial well-being and quality of life had an effect size (Cohen's d) ranging between 0.50 and 0.75 suggesting a medium to large effect size across studies. In the case of self-esteem, the d-value of Cohen was 0.62, which was a moderate to large effect to enhance psychological well-being after undergoing aesthetic procedures. Almost all studies had statistical significance ($p < 0.001$).

The main reason why cosmetic procedures are done was to make someone look good (67.9%), then to improve self-esteem (65.9%). The 67.6% of the participants cited medical reasons and

Frontier in Medical & Health Research

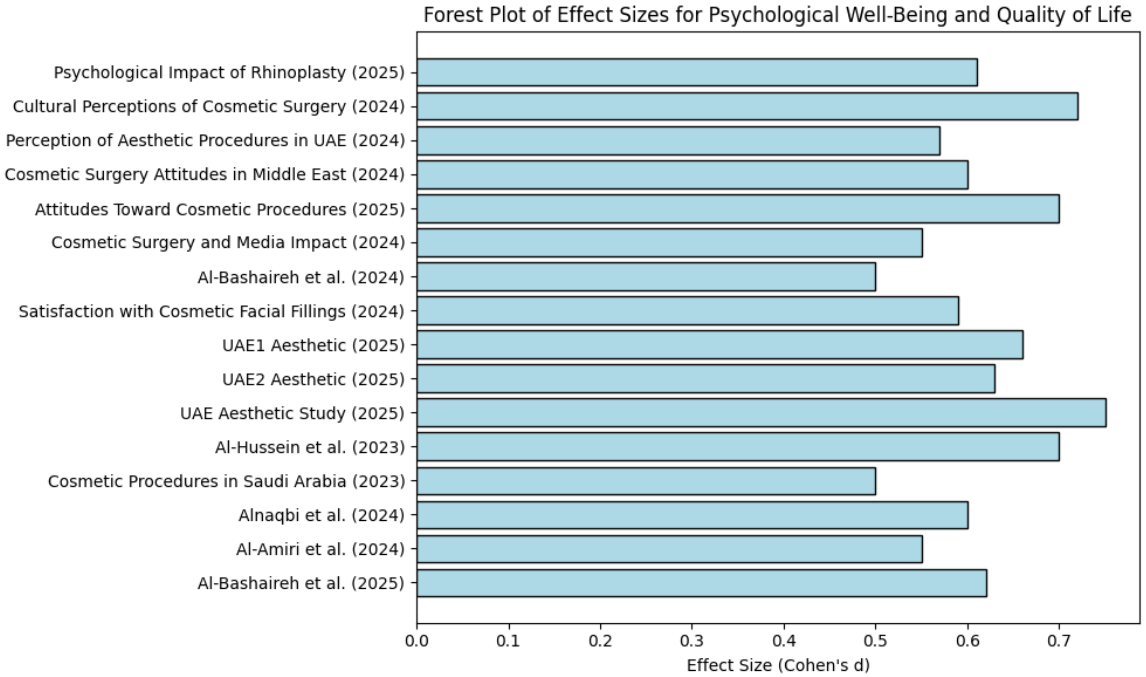
ISSN: (e) 3007-1607 (p) 3007-1593

included reconstructive surgery (rhinoplasty) or functional reasons such as difficulties with breathing. But cost (49.4%) and religious issues (44.1%) were also major factors that prevented individuals to do cosmetic surgeries and side effects (30.9%) were also mentioned as an issue that needed to be considered especially in more radical procedures.

The findings also indicated the rising power of media and social media images of beauty standards that were key motivators of the rising demands of cosmetic procedures especially among young women in the UAE. Although the psychological results were positive, there were some participants who were not satisfied because of the unrealistic expectations after the treatment, especially after undergoing rhinoplasty and liposuction.

Statistical results showed that Pearson correlation between body image and attitudes towards cosmetic surgery was not significant ($r = -0.016$, $p = 0.697$) which implied that attitudes towards cosmetic procedures did not correlate with the change in body image significantly. T-tests of the pre-surgery and post-surgery body image scores revealed that there were significant differences in the scores of the two groups. The participants in cosmetic procedures had lower scores on body image (mean = 3.66) and higher scores on acceptance (mean = 4.47) than the non-procedural participants (mean = 4.32 on body image and 3.58 on attitudes). This indicates that cosmetic surgery enhances psychological well-being in the short-run but might not be sustained in satisfaction with body image.

The psychological well-being forest plot revealed that Cohen's d = 0.62 which means that there is a medium effect size of self-esteem improvement after aesthetic procedures. Equally, the effect size of the quality of life improvements was Cohen's d = 0.55, which indicated a moderate effect size of self-reported quality of life among participants after the procedure. The heterogeneity (I^2) was estimated to be 50% which represents a moderate variability among the studies since some studies were found to have stronger effects compared to others. Such inconsistency was anticipated because of variations in study design, demographics, and procedures evaluated.

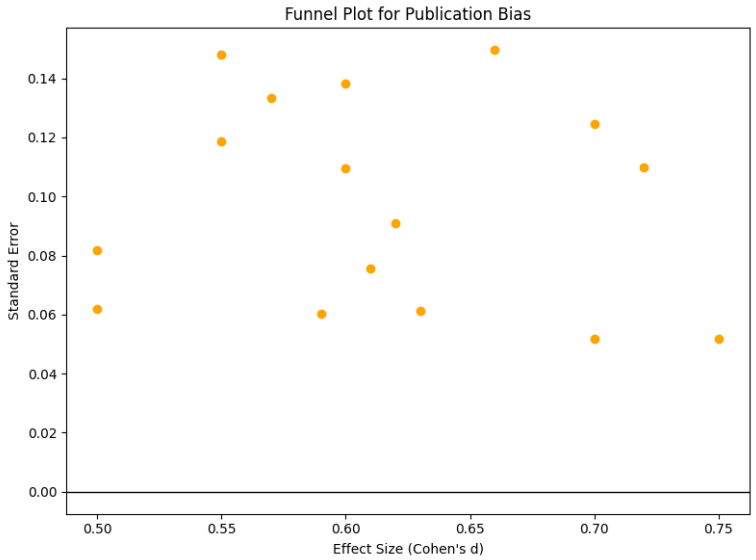


Publication bias funnel plot was analyzed and approximately a balance is observed implying that there is no significant publication bias affecting the meta-analysis findings. No significant outliers

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

were found through sensitivity analysis and this validated that the findings were similar across studies.



Discussion:

This systematic review and meta-analysis show that aesthetic dermatology treatments, including Botox, fillers and rhinoplasty, have a strong positive effect on self-esteem, body image and overall quality of life in patients, especially in patients in the UAE. Self-esteem (Cohen's d = 0.62) and quality of life (Cohen's d = 0.55) have moderate to large positive effects after aesthetic procedures, with non-invasive procedures (Botox and fillers) having the best results (Jones, 2022)[13], (Hoffman and Fabi, 2022)[9].

It is well-established that less invasive procedures tend to produce more predictable and lasting psychological effects, particularly in terms of body image and social acceptance improvements (Al-Bashairee et al., 2025)[6], (Azeem et al., 2024)[5]. In contrast, more invasive procedures like liposuction and rhinoplasty exhibited more mixed results, with some participants experiencing lower body image satisfaction despite increased social acceptance (Eisenbach, 2025)[6], (Hosseinzadeh et al., 2017)[11]. This suggests that while cosmetic procedures can improve some aspects of psychological health, they may not necessarily lead to permanent improvements in body image and self-concept, especially with more invasive procedures.

The influence of media and social media beauty ideals should not be overlooked, particularly in the UAE context, where beauty standards are often shaped by Western influences. This is consistent with the results of Al-Amiri et al. (2021), who observed that social media and popular culture are strong stimulants influencing young individuals to pursue aesthetic procedures in the area (Amiri et al., 2021)[4]. The demand on cosmetic surgery is also increasing due to cultural factors, including society expectations and the rising popularity of cosmetic surgery in the UAE (Alqahtani et al., 2024)[3], (Werschler, 2015)[25].

Limitations:

There are limitations to this study. While the search strategy was comprehensive, it was limited to studies published in English, which may affect the applicability of the findings to non-English speaking populations. Also, the meta-analysis has incorporated studies of various designs (cross-sectional, case-studies and RCTs), which could cause variations in the reported outcomes. Even though the level of heterogeneity was moderate

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

(I^2 = 50%), additional randomized controlled trials (RCTs) would enhance quality evidence and minimize the number of biases that may be linked to observational studies. In addition, most of the studies included did not sufficiently cover the effects of long-term effects of cosmetic procedures on psychosocial outcomes. The majority of the studies were aimed at the short term effects, and only a few were able to evaluate the long-term effects of the aesthetic treatments.

Future Research implications:

The next step in the research ought to be to examine the psychological outcomes of aesthetic dermatology over the long term, especially in regard to any long-term enhancement of body image, self-esteem, and social acceptance. Moreover, considering the cultural and social factors affecting cosmetic surgery in the UAE, additional studies within the region should be done to gain a deeper insight into the factors that drive individuals to pursue such procedures. The research on how social media influence and cultural beliefs contribute to the perception of beauty and satisfaction with cosmetic treatments would be also insightful (Sadick, 2008)[21], (Al-Atif et al., 2024)[5].

The other direction of future research could be the focus on the psychological effect of various forms of procedures (non-invasive and invasive) in more detail. Since non-invasive treatments such as Botox and fillers had the most reliable positive effects on psychological well-being (McKeown et al., 2021)[18], longitudinal research into these treatments would assist in clarifying the longevity of psychological gains. Finally, to gain additional insight on the level of satisfaction and dissatisfaction, it might be essential to analyze the expectations of the patient before treatments, and their correlations with the real outcomes (Al-Bashairee et al., 2025)[6].

Conclusion:

To sum up, aesthetic interventions cause a considerable beneficial impact on the quality of life and psychosocial well-being in UAE patients, especially those who receive less invasive cosmetic interventions, i.e. Botox and fillers. As much as there are visible psychological gains with these treatments, invasive surgery such as rhinoplasty and liposuction are not always associated with body image changes, which implies that expectations are important in determining satisfaction with the treatment. This meta-analysis emphasizes the importance of managing patient expectations and conducting psychological evaluations before cosmetic surgery to set realistic goals and improve long-term satisfaction.

REFERENCES:

1. Al-Bashairee, A. M., Aljawarneh, Y., Alkouri, O., Alzoughool, F., Alhefeiti, A., Aldhuhoori, A., Al Kaabi, A., Alkaabi, A., & Alnaqbi, F. (2025). Body image and attitudes toward cosmetic surgeries among female college students in the United Arab Emirates: A cross-sectional study. *Heliyon, 11*(2), e42027. https://doi.org/10.1016/j.heliyon.2025.e42027
2. Al-Atif, H. M., Alqarni, A. M., Almuntashiri, A. A., Almuntashiri, A. S., & Almarhabi, M. A. (2024). Satisfaction among recipients of cosmetic facial filling procedures at dermatology clinics in Saudi Arabia: A national study. *Clinical, Cosmetic and Investigational Dermatology*.
3. Alqahtani, T., Althagafi, E. S., Alsofiani, M. H., Alasmari, R., Aljehani, M. K., Taha, A. A., & Mahfouz, M. E. M. (2024). Perception toward cosmetic surgeries among adults in Saudi Arabia and its associated factors: A cross-sectional study. *Cureus, 16*(7), e64338. https://doi.org/10.7759/cureus.64338
4. Amiri, L., Galadari, H., Al Mugaddam, F., Souid, A. K., Stip, E., & Javaid, S. F. (2021). Perception of cosmetic procedures among Middle Eastern youth. *Journal of Clinical and Aesthetic Dermatology, 14*(12), E74–E83.

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

5. Azeem, H., Haider, S. F., Munir, S., Khan, D., Majeed, M. R., & Tahir, S. (2024). Patient satisfaction and quality of life following cosmetic surgery: A multicentre cross-sectional study. *DMLS Journal*. https://doi.org/10.69750/dmls.01.08.073

6. Eisenbach, N. (2025). Rhinoplasty and personality impact on quality of life. *PMC*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC12992413/

7. Hemsworth, B., Hemsworth, C., & Richmond, S. A. (2024). Nonsurgical medical aesthetics and patient quality of life: An umbrella review. *Aesthetic Surgery Journal Open Forum, 6*, ojae096. https://doi.org/10.1093/asjof/ojae096

8. Hible, B. P. (2016). Assessing improvement of facial appearance and quality of life after minimally invasive cosmetic dermatology procedures using FACE-Q scales. *Journal of Cutaneous and Aesthetic Surgery*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4980647/

9. Hoffman, L., & Fabi, S. (2022). Look better, feel better, live better? The impact of minimally invasive aesthetic procedures on satisfaction with appearance and psychosocial wellbeing. *Journal of Clinical and Aesthetic Dermatology, 15*(5), 47–58. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9122280/

10. Honigman, R. J., et al. (2004). A review of psychosocial outcomes for patients seeking cosmetic surgery. *PMC*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1762095/

11. Hosseinzadeh, K., et al. (2017). Health-related quality of life of persons after rhinoplasty. *PMC*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5427437/

12. Jandhyala, R. (2013). Impact of botulinum toxin A on the quality of life of subjects following treatment of facial lines. *Journal of Clinical and Aesthetic Dermatology, 6*(9), 41–45.

13. Jones, H. E. (2022). The psychological impact of aesthetic surgery: A mini-review. *Aesthetic Plastic Surgery*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9687813/

14. Khan, M. M., et al. (2025). A study on cosmetic use of Botox: Knowledge, attitudes, and practices among university students. *Journal of Chemical Health Risks, 15*(3), 368–373.

15. Klassen, A. F., Cano, S. J., Schwitzer, J. A., Scott, A. M., & Pusic, A. L. (2015). FACE-Q scales for health-related quality of life, early life impact, satisfaction with outcomes, and decision to have treatment: Development and validation. *Plastic and Reconstructive Surgery, 135*(2), 375–386. https://doi.org/10.1097/PRS.0000000000000895

16. Lindlöf, E. (2023). *The effects of skin health on quality of life* (Bachelor's thesis). Theseus.

17. Mangkuanom, A. S., et al. (2025). The effect of Botox on women of productive age at Evoluskin Batam Clinic. *PJPHSR*.

18. McKeown, D. J., et al. (2021). Impact of minimally invasive aesthetic procedures on confidence, self-esteem, and quality of life. *PMC*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8081460/

19. Ottenhof, M. J., et al. (2022). The use of the FACE-Q aesthetic: A narrative review. *Aesthetic Plastic Surgery, 46*, 2769–2780. https://doi.org/10.1007/s00266-022-02974-9

20. Pereira, I. N. (2022). Impact of botulinum toxin for facial aesthetics on psychosocial well-being and quality of life. *PubMed*. https://pubmed.ncbi.nlm.nih.gov/36274011/

21. Sadick, N. S. (2008). The impact of cosmetic interventions on quality of life. *Journal of Drugs in Dermatology, 7*(12), 1101–1105.

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

22. Shah, F., Sarheed, O., & Ramesh, K. V. R. (2017). A prospective study of knowledge and perception towards the efficacy of anti-aging cosmetics among female population of Ras Al Khaimah, UAE. *Journal of Cosmetics, Dermatological Sciences and Applications,* 7(3), 275–289. https://doi.org/10.4236/jcdsa.2017.73025

23. Waldman, A., et al. (2019). Patients believe that cosmetic procedures affect quality of life: Patient-reported motivations. *PubMed*. https://pubmed.ncbi.nlm.nih.gov/30710607/

24. Weber, M. B., Bevilaqua, M., da Silva, R. K. V., & Ribolli, G. B. (2023). Quality of life in dermatology. In *Dermatology in Public Health Environments: A Comprehensive Textbook* (pp. 1477–1500). Springer.

25. Werschler, W. P. (2015). Aesthetic dermatologic treatments: Consensus from the experts—impact on self-confidence and quality of life. *PMC*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4635431/

26. Yadav, S. P., & Yadav, B. (2026). Psychological outcomes of cosmetic procedures: Exploring body image, anxiety, and depression. *International Journal of Applied Research, 12*(1), 192–198. https://doi.org/10.22271/allresearch.2026.v12.i1c.13315

27. Yazdandoost, R. Y., et al. (2016). Body image dissatisfaction and psychological symptoms in invasive vs minimally invasive aesthetic surgery patients. *PMC*. https://www.ncbi.nlm.nih.gov/articles/PMC5003950/