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Prevalence of cosmetic and reconstructive procedures in King Fahad Hospital, Al-Baha

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ABSTRACT

Background: The study aims to provide insights into the changing landscape of cosmetic treatment and understand the prevalence of specific diagnoses, types of procedures, and patient demographics in this regional healthcare setting. **Methodology:** The study used a retrospective database design, utilizing data from patients who underwent cosmetic or reconstructive surgery procedures at King Fahad Hospital Al-Baha. Inclusion criteria include patients who received such procedures, and depending on a 95 % confidence level, the sample size was 384 individuals. Research participants collected data through a structured data sheet for procedures between 2021 and 2023, and the acquired data were analyzed using the statistical software package (SPSS). **Results:** Demographic findings reveal various patient populations, with hand injuries, redundancy, wounds, and skin lesions being the most common general diagnoses. Most patients were females (54.4%) and Saudi nationals (89.9%) and underwent scar revision, excision, and contouring deformity procedures. **Complications:** Were infrequent, with 95.7% of cases reporting no complications. Temporal analysis showed a significant increase in cosmetic and reconstructive surgery frequency from 2021 (16.7%) to 2023 (49.5%). The changes in patient characteristics included: A rise in hand injuries, there has been a shift towards more cosmetic procedures, there has been a decline in the number of non-Saudi patients. **Conclusion:** The observed demographic and clinical features highlight cosmetic interventions' dynamic nature, with changing trends in diagnoses and types of procedures over the study period. The notable increase in the frequency of surgeries suggests a growing demand for cosmetic interventions in the region.

Keywords: Plastic surgery, reconstructive surgery, Saudi Arabia, Saudis, Prevalence

1. INTRODUCTION

The number of people who undergo plastic procedures, including reconstructive and cosmetic procedures, is rising globally. In an earlier study by the British Association of Aesthetic Plastic Surgeons in 2013, the authors reported carrying out 50,122 cosmetic procedures, an increase of 17% from 2012 (Griffiths and Mullock, 2018). In addition, The Aesthetic Surgery Society in the United States showed that the prevalence of surgical treatment grew by 54 % in 2021 (Aesthetic Plastic Surgery National Databank Statistics, 2022). In Saudi Arabia, there has been a sharp increase in the prevalence of women going through cosmetic surgery alongside some men (Alharethy, 2017). King Fahad Hospital (KFH) in Al-Baha has performed several surgical and minimally invasive operations since 1980. And the desire for plastic surgery has significantly increased over the past several decades.

In addition, a previous Saudi cross-sectional study showed that 128 out of 152 participants who had undergone bariatric operations were interested in having body contouring surgery because of the massive weight loss after those surgeries (Aldaql et al., 2012). In another US study, the authors reported that middle-aged women (34,5) who were between the ages of 18 and 67 were more likely to have plastic surgery, mostly on their faces (Galanis et al., 2013). As well A Brazilian study published in 2016 revealed that in contrast to male fields, which have lower rates, female groups tend to be more open to the idea of plastic or cosmetic surgeries. Authorities have not released any statistical information regarding the scope of plastic surgery in the region. This study aims to analyze the plastic surgery cases at King Fahad Hospital from 2021 to 2023. Thorough research on its epidemiology will raise public awareness of plastic surgery.

2. METHODOLOGY

The study uses an observational retrospective database design to assess patients who underwent cosmetic or plastic surgery procedures at King Fahad Hospital (KFH), considered the biggest referred hospital in the region, between 2021 and 2023. The inclusion criteria focused on patients undergoing elective plastic surgery at King Fahad Hospital (KFH) Al-Baha. At the same time, exclusions are those procedures conducted in the emergency operating room and outpatient clinic. A sample size of 384 individuals was determined using the Qualtrics calculator with a 95% confidence level. Researchers collected data using a structured data sheet specifically designed for the study, involving gathering and recording retrospective data from hospital records. The Statistical Package for Social Science (SPSS) contained descriptive statistics to summarize demographic and procedural information and inferential statistics for relevant comparisons.

Informed consent was obtained from participants, containing details on the expected results, follow-up procedures, the right to withdraw, and the assurance that participants would not incur any costs related to the research. The ethical consideration specifies that the study will include only individuals listed as contributors in the proposal, and the researchers will not add any additional names after ethical approval. Research participants executed the data security measures to ensure confidentiality, and the researchers used tables, graphs, and descriptive narratives to present the results. The study recognized limitations inherent in its retrospective design and potential constraints in generalizability to the broader population. The researchers established a detailed timeline to guide the various data collection activities, analysis, and reporting phases, ensuring the study's timely completion.

3. RESULTS

The study included 645 patients. Hand injury, contouring deformity, wounds, and skin lesions were the most common general diagnoses, accounting for 18.8%, 26.8%, 13.3%, and 31.0% of cases, respectively (Figure 1). Most of the participants in this study were females (54.4 %, Figure 2), had Saudi nationality (89.9 %, Figure 3), and underwent procedures related to scar revision, excision, and contouring deformity procedures (Figure 4, 5).

Notably, the most significant proportion of patients (28.2%) had procedures performed on their face. Complications were infrequent, with no complications in 95.7% of cases (Table 1). In addition, 63.6 % of the patients underwent a cosmetic procedure, while 36.4 % had reconstructive surgery (Figure 6). The study showed an increasing trend in the frequency of cosmetic and reconstructive surgeries from 2021 to 2023, with percentages of 16.7%, 33.8%, and 49.5% in the respective years (Figure 7).

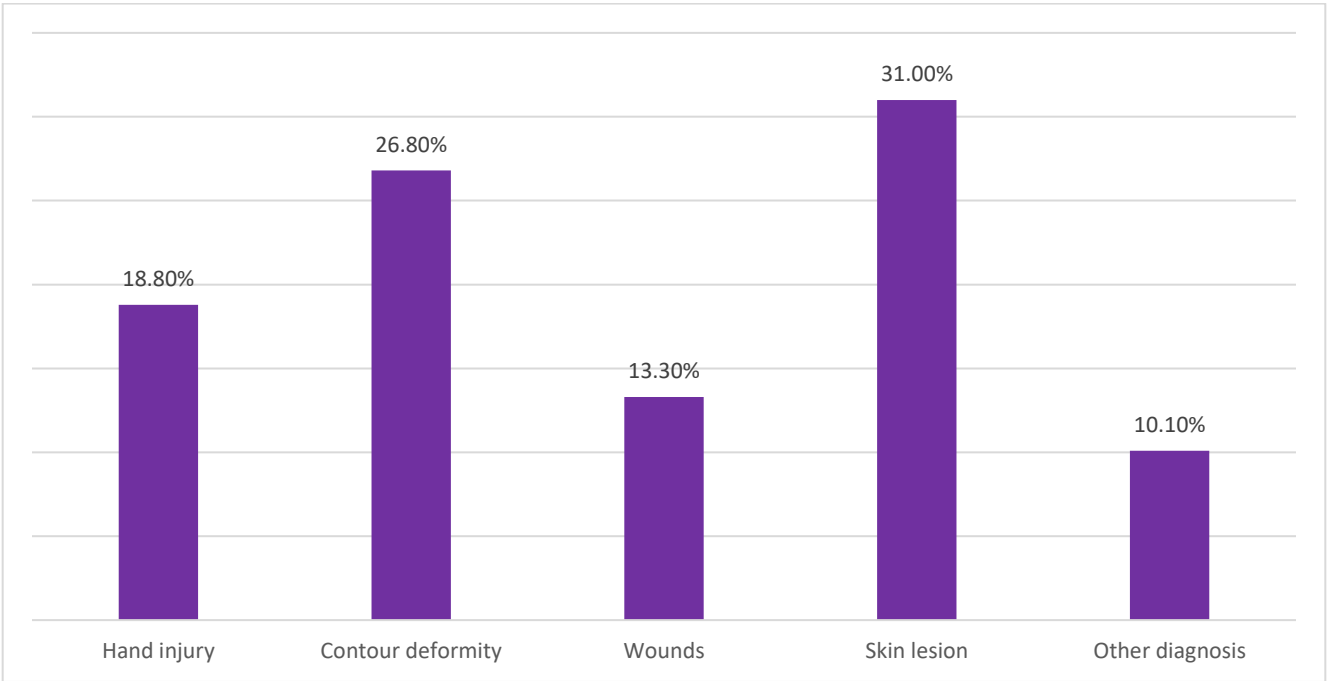


Figure 1 General diagnosis among the participants.

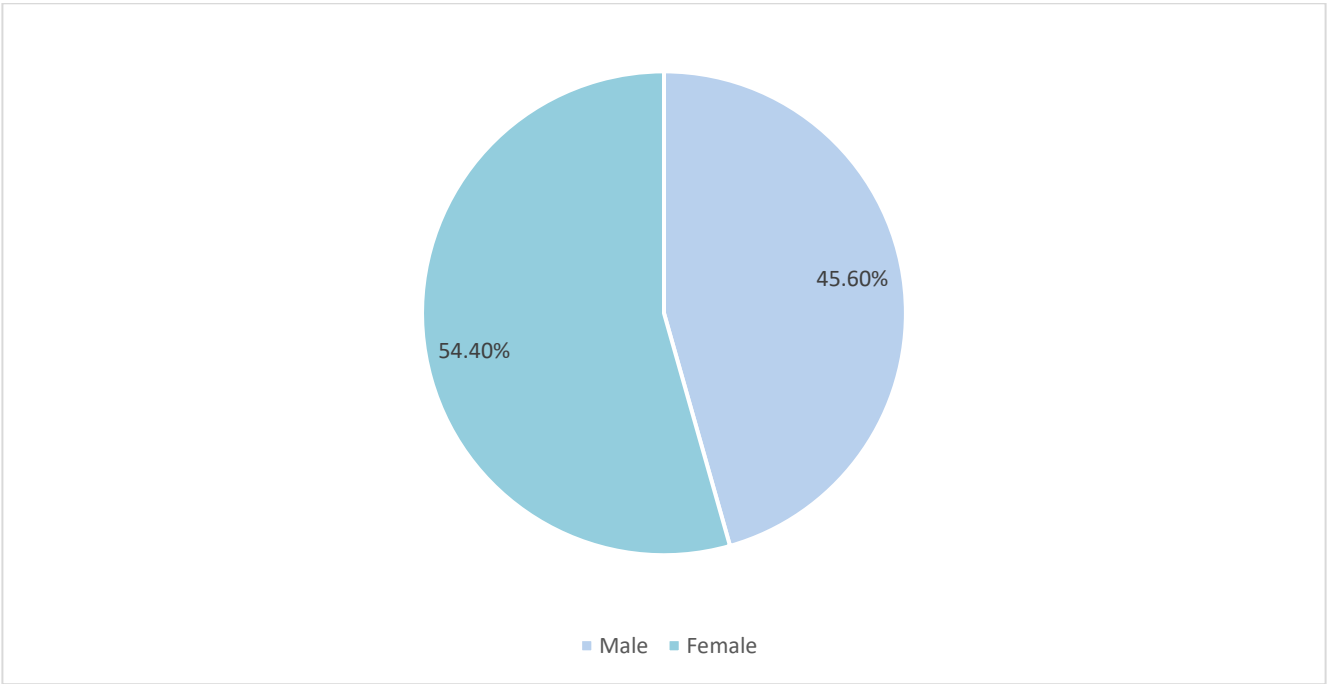


Figure 2 Gender distribution among the patients.

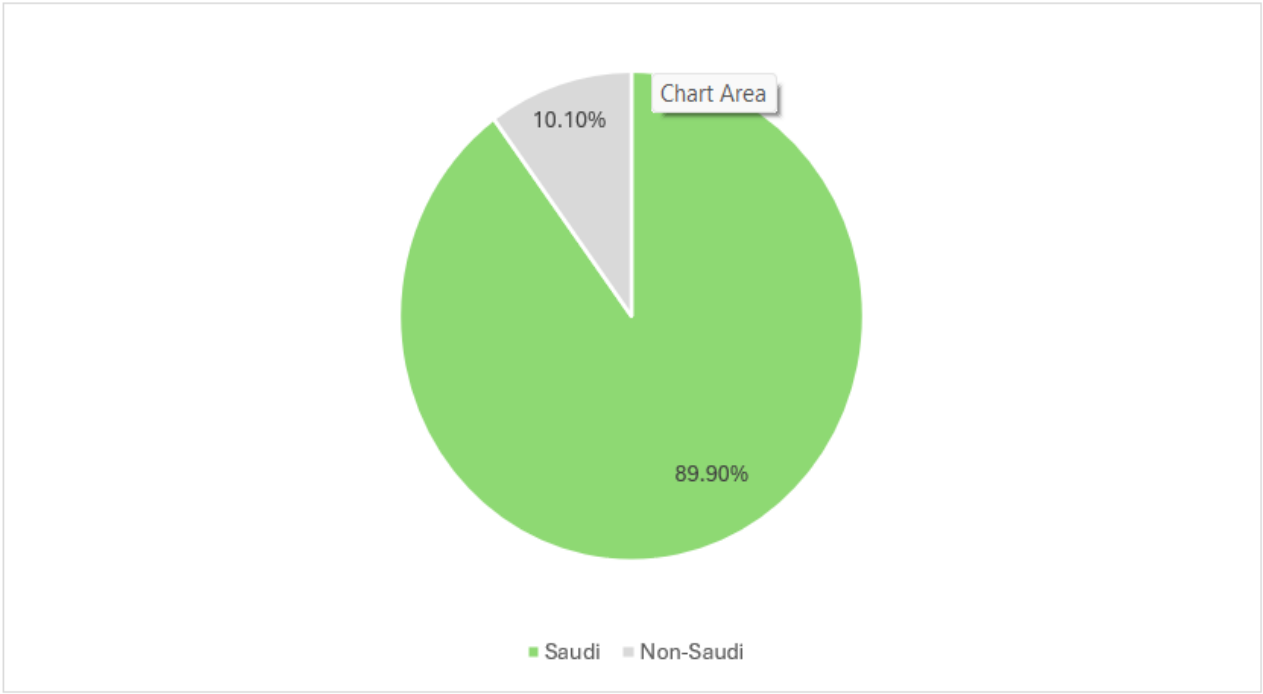


Figure 3 Nationality distribution of the patients.

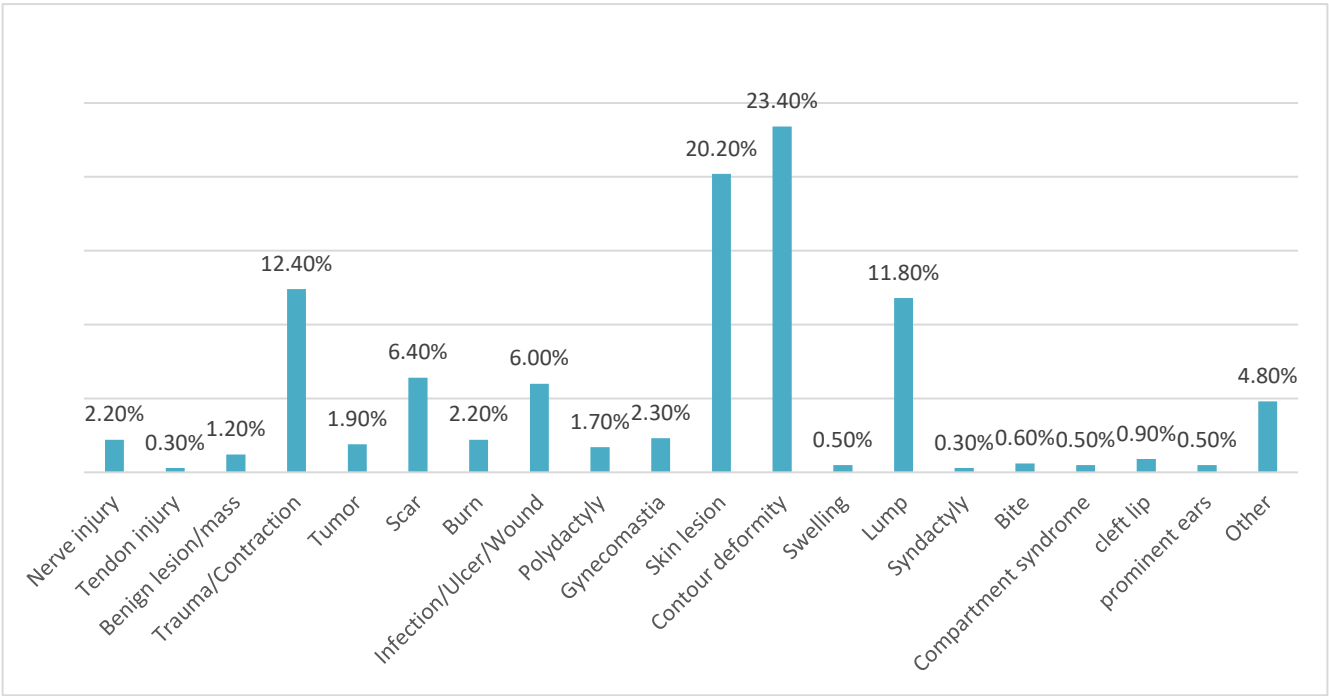


Figure 4 Diagnosis frequency among patients.

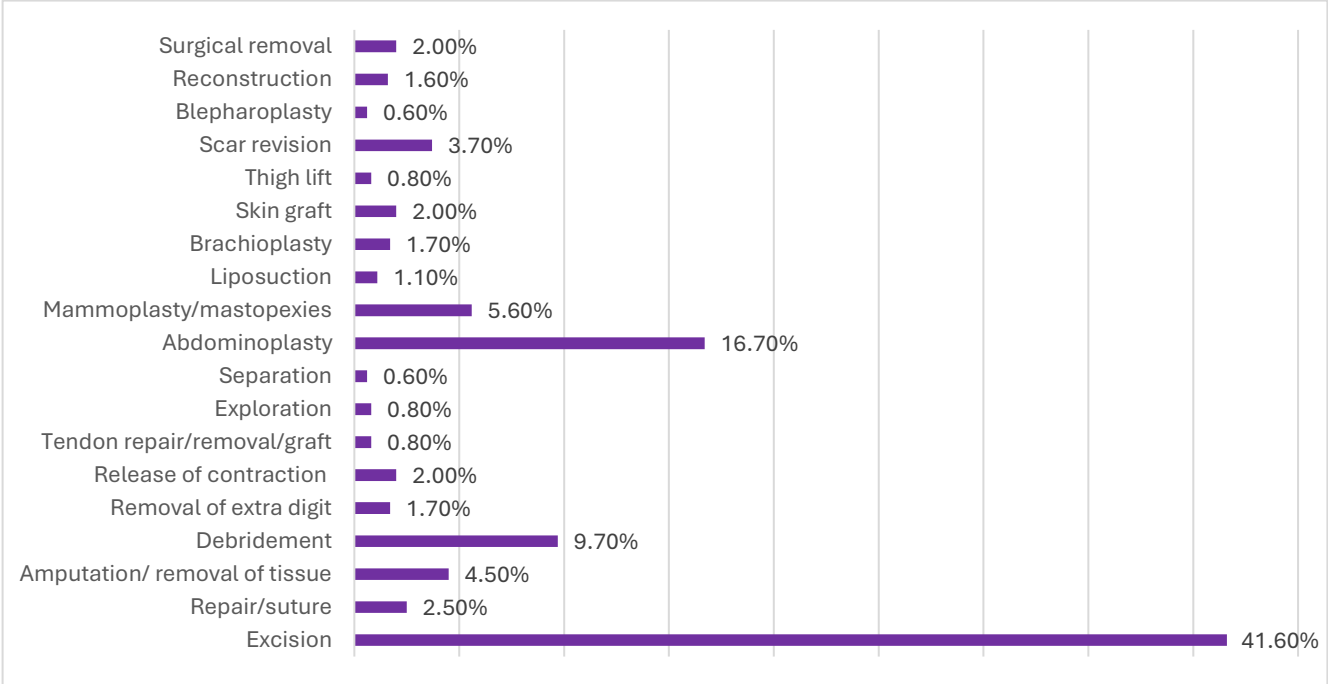


Figure 5 Procedures difference among patients.

Table 1 Demographic and clinical characteristics of the included patients

		Count	Column N %
Site	Other	120	18.6%
	Upper limb	172	26.7%
	Lower limb	42	6.5%
	Face	182	28.2%
	Bilateral	60	9.3%
	Unilateral	7	1.1%
	Breast/scalp	23	3.6%
	Back and abdomen/ nerve	39	6.0%
Cause of intervention	NA	411	63.7%
	Diabetes	12	1.9%
	RTA	40	6.2%
	Burn	15	2.3%
	Cut injury	10	1.6%
	PostBariatric procedure	67	10.4%
	Post-Pregnancy	13	2.0%
	Massive weight loss	14	2.2%
	Tumor	4	0.6%
	Trauma	13	2.0%
	Acne	3	0.5%
	Bite	3	0.5%
	Scar	8	1.2%
	Other	32	5.0%

Type of procedure	Reconstruction	235	36.4%
	Cosmetic	410	63.6%
Complications	No Complications	619	96.0%
	Scar	4	0.6%
	Infection	5	0.8%
	Partial graft loss	1	0.2%
	Pain	7	1.1%
	Swelling	2	0.3%
	Seroma/Hematoma	7	1.1%

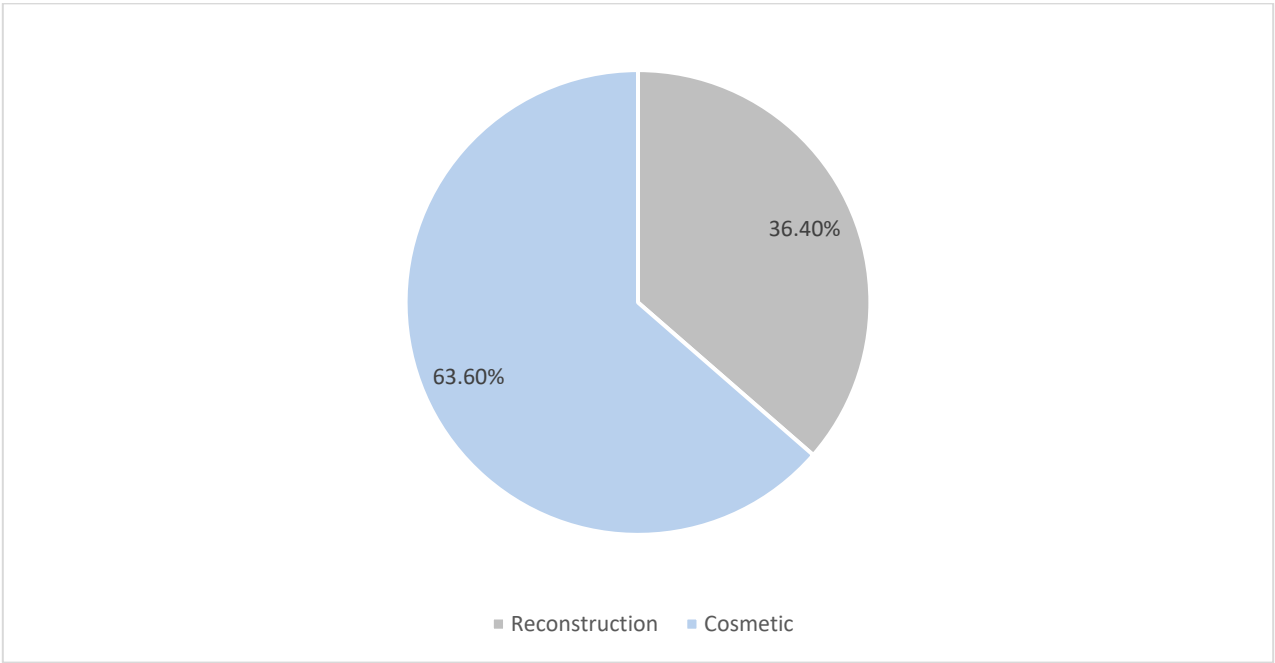


Figure 6 Type of procedure among patients.

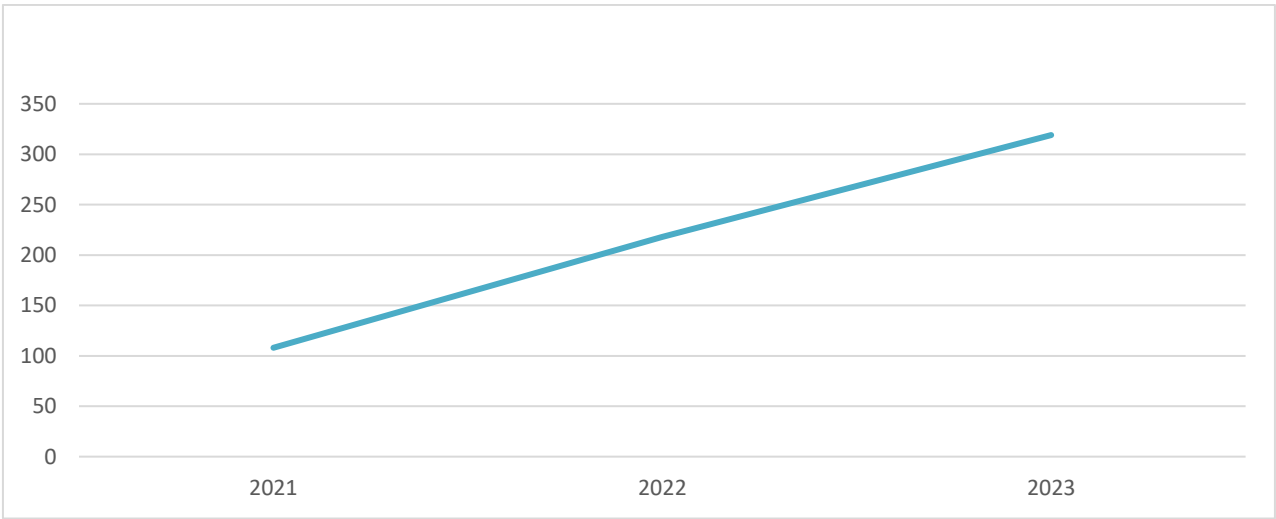


Figure 7 The frequency of included patients each year shows a significant increase in plastic and reconstructive surgery frequency.

Table 2 highlights an overview of the changes in the prevalence of different characteristics of patients and surgeries across the years 2021, 2022, and 2023. Researchers found a notable difference in the distribution of general diagnoses ($p=0.000^*$), with a marked increase in hand injuries and redundancy across the three years. While there was no significant difference in gender distribution ($p=0.839$), a noteworthy decrease in non-Saudi patients was observed over the years ($p=0.173$). Notably, there was a notable shift in the type of procedure performed ($p=0.021^*$), with a higher proportion of cosmetic procedures in later years.

Table 2 The change in the prevalence of different characteristics of patients and surgeries across different years

		Date (Year)						P-value
		2021		2022		2023		
		Count	Column N %	Count	Column N %	Count	Column N %	
General Diagnosis	Hand injury	22	20.4%	33	15.1%	66	20.7%	0.000*
	Redundancy	21	19.4%	54	24.8%	98	30.7%	
	Wounds	10	9.3%	30	13.8%	46	14.4%	
	Skin lesion	34	31.5%	70	32.1%	96	30.1%	
	Other diagnosis	21	19.4%	31	14.2%	13	4.1%	
Gender	Male	49	45.8%	98	44.7%	142	45.7%	0.839
	Female	58	54.2%	121	55.3%	177	54.3%	
Nationality	Saudi	95	88.0%	191	87.6%	294	92.2%	0.173
	Non-Saudi	13	12.0%	27	12.4%	25	7.8%	
Type of procedure	Reconstruction	52	48.1%	75	34.4%	108	33.9%	0.021*
	Cosmetic	56	51.9%	143	65.6%	211	66.1%	

4. DISCUSSION

The findings of this retrospective observational study shed light on the dynamic landscape of cosmetic and plastic surgery procedures conducted at King Fahad Hospital (KFH) in the Albaha region of the Kingdom of Saudi Arabia between 2021 and 2023. This current study aimed to explore the demographic and clinical features of patients undergoing these procedures and to assess how the frequency and types of surgeries changed over the study period. The demographic profile of the study population reflects the diverse range covered in a plastic surgery setting. Hand injuries, redundancy, wounds, and skin lesions emerged as the most prevalent general diagnoses. Hand trauma is considered a common and potentially severe one, impairing daily living and general quality of life, which may be associated with the increased prevalence of hand surgeries (Dębski and Noszczyk, 2021).

The majority of female patients (54.4%) undergoing procedures align with the global trend, where women often constitute the majority of individuals seeking cosmetic enhancements (Walker et al., 2021; Castle et al., 2002; Amiri et al., 2021; Bradshaw et al., 2019). Societal norms may influence this gender distribution, as well as beauty standards and cultural perceptions regarding cosmetic procedures in the region (Castle et al., 2002). The high percentage of Saudi nationals (89.9%) seeking cosmetic or plastic surgery at KFH Al-Baha highlights the significance of local patients in contributing to the demand for such procedures. Cultural factors, accessibility to healthcare, and the influence of media in shaping beauty ideals could contribute to the preferences observed in the study (Henriques and Patnaik, 2021). The prevalence of specific procedures, such as scar revision, excision, and abdominoplasty, reflects the spectrum of cases encountered by plastic surgeons in this setting.

Face-related procedures, notably at 28.2%, may indicate a cultural impact on facial aesthetics or a societal trend favoring facial enhancements. Complications were relatively infrequent, with 95.7% of cases having no complications. This finding is consistent with the generally low complication rates reported in cosmetic and plastic surgery literature (Khunger, 2015; Montrief et al., 2020; Hardy et al., 2014; Blok et al., 2022). The careful pre-operative assessment and surgical techniques applied at KFH Al-Baha may contribute to the favorable outcomes observed. In addition, our results represent a notable increase in the frequency of cosmetic and reconstructive surgeries across the years. This trend aligns with the global rise in cosmetic procedures observed in recent years, driven by increased societal acceptance, technological advancements, and the desire for self-improvement (Amiri et al., 2021; Henderson-King and Henderson-King, 2005; Furnham and Levitas, 2012; Hermans et al., 2022).

Some previous studies showed that the increasing acceptance of cosmetic surgeries among Saudis over the years is because of the influence of cultural expectations, self-acceptance, social factors, and media (Aldeham et al., 2023; Sindi et al., 2023). The specific reasons for the increase in plastic surgeries at King Fahad Hospital (KFH) during the study period require further investigation. The increase in hand injuries, redundancy, and wounds suggests evolving patterns in cases presented to the plastic surgery department. These findings may reflect changes in lifestyle, occupational hazards, or other external factors influencing the nature of injuries and conditions requiring surgical intervention (Thirunavukkarasu et al., 2021; Razik et al., 2022). Socioeconomic factors, cultural considerations, or variations in the expatriate population may affect the decrease in non-Saudi patients observed over the years.

The significant shift in the type of procedures performed, with a higher proportion of cosmetic procedures in later years, is noteworthy. This trend may indicate changing societal attitudes towards cosmetic interventions, with individuals increasingly seeking procedures for cosmetic enhancement rather than purely reconstructive purposes (Maisel et al., 2018). The rise of cosmetic procedures globally has been linked to social media influence, beauty standards, and the normalization of non-invasive interventions (McInnes et al., 2012). Understanding the evolving trends in cosmetic and plastic procedures has implications for healthcare providers, policymakers, and researchers. The findings suggest a growing demand for such procedures, requiring continuous adaptation of healthcare facilities to meet the population's changing needs.

5. CONCLUSION AND RECOMMENDATIONS

In conclusion, this study provides a valuable understanding of the demographic and clinical features of patients undergoing cosmetic and plastic surgery in the Albaha region of Saudi Arabia. The observed temporal trends underscore the dynamic nature of cosmetic interventions, reflecting changing societal attitudes and preferences. The findings contribute to the broader dialogue on the globalization of beauty standards and the increasing acceptance of cosmetic procedures in diverse cultural contexts. We recommend that further studies expand to a prospective manner to cover more related data about our topic. The study's limitations include its retrospective nature, reliance on existing data, and potential biases in patient selection. Additionally, the study is confined to the specific context of King Fahad Hospital (KFH) Al-Baha, limiting generalizability. Future research could expand the spectrum to include numerous healthcare institutions and a more diverse patient population.

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Authors contribution

All the Authors contributed to proposal writing, Data collection and analysis, and Manuscript preparation.

Ethical Approval

King Fahad Hospital Al-Baha City approved this study, Scientific Research Committee (KFH/IRB24122023/6)

Informed consent

Research Participants obtained written and oral informed consent from all participants in the study and from all individuals identified in this manuscript.

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Conflict of interest

The authors declare that there is no conflict of interests.

Data and materials availability

All data sets collected during this study are available upon reasonable request from the corresponding author.

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