

## Article

# Awareness of Cosmetic Procedures among Adults Seeking to Enhance Their Physical Appearance: A Cross-Sectional Pilot Study in Central Jordan

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**Abstract:** The increase in urban society in the use of cosmetic practices to rejuvenate oneself or obtain a more appealing appearance has influenced the practices of cosmetic dermatologists, general medical practitioners, plastic surgeons, and dental practitioners, among others. The pharmaceutical industry has evolved to meet customers' desire to be more physically attractive irrespectively of age and gender. This study aimed to preliminarily explore Jordanian adults' awareness of dental, facial, and other cosmetic procedures. The reasons for undergoing such cosmetic procedures and self-reported knowledge of the side effects or risks associated with these interventions were also explored. The results show that the participants had undergone various procedures to enhance their looks, attractiveness, and confidence. None of the female participants wanted to emulate a celebrity. Most participants were aware of the side effects associated with cosmetic procedures, which may be attributed to their educational backgrounds, as the participants' minimum qualification was 12th grade and their easy access to information services such as electronic media. A multicenter, large-scale, regional study is required to determine the associations, correlations, and recommendations for individuals seeking cosmetic treatment, cosmetic health providers, and policymakers.

**Keywords:** botulinum neurotoxin; high-intensity focused ultrasound; radiofrequency micro-needling; bleaching; whitening; laser hair removal; cosmetic procedure



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## 1. Introduction

The goal of cosmetic procedures is to enhance an individual's appearance. Altering physical appearance is an age-old process. Irrespective of age and gender, everyone aspires to look young, attractive, and beautiful. In the present world, people are becoming more and more fascinated by physical appearance or beauty. In a country such as the USA, beauty is defined by the media through magazines, television, and social media. The desirable situation is depicted as a person with a perfect career, family, and social status and a perfect physique or impeccable looks [1]. There has been a global rise in the number of individuals undergoing cosmetic procedures to achieve that perfect look.

According to the ISAPS (International Society of Aesthetic Plastic Surgery), in 2018, there was an increase in nonsurgical procedures of 11.6% and an increase in all cosmetic procedures of 5.1% [2]. In 2006, around 11.7 million cosmetic surgeries and nonsurgical

procedures were performed in the United States [3]. In 2014, 15.6 million cosmetic procedures (both minimally invasive and surgical) were performed. This represented an increase in these procedures of 3% since 2013, accounting for around 12.9 billion dollars [4]. In 2019, 18.1 million cosmetic surgeries and 16.1 million minimally invasive procedures were performed in the USA [5]. Since 1997, a whopping 475% increase in such procedures has been observed. A similar rise in the trend to enhance a person's look has also been observed in developing countries. Among Asian countries, India and China have the highest shares in this field [6]. This rise may be attributed to the media and social pressure to excel in the workforce, look attractive, change physical features that individuals are not happy with, and gain confidence. Young, physically attractive people tend to excel or have more confidence than others [7,8]. The emphasis on individual physical appearance in media coverage, the internet, and television has led to an increase in cosmetic procedures. Due to beauty ideals, people increasingly seek aesthetic surgery and anti-aging cosmetics in their quest for eternal youth [9–11]. More and more people are becoming aware of cosmetic procedures through these platforms because of easy access to information technology. Women, in general, are more aware and pay more attention to cosmetics (appearance) and fashion.

A literature search revealed that there are reports available on the knowledge of individuals who have undergone cosmetic procedures. However, there are no reports on this matter for people living in central Jordan. Therefore, this pilot study compared the knowledge between adult men and women regarding cosmetic procedures or surgery, including the types of procedures they opt for, awareness of the adverse effects associated with them, the reasons for undergoing procedures, and satisfaction with the results of different procedures.

## 2. Materials and Methods

The study was conducted in July–October 2022 and used a questionnaire that was completed by individuals willing to undergo cosmetic procedures to enhance their physical appearance. The participants were individuals from Safwan Dermatology and Aesthetic Clinics (Amman, Jordan) and were sourced in collaboration with the Safe World Aesthetic Network for Medical Management and Continuing Medical Education (Amman). The study's objective was to investigate the awareness, knowledge, and risks associated with cosmetic procedures. The results were statistically analyzed with Sigma Plot version 12 and Prism version 5.0. The study included individuals aged 18 to 60, both males and females, irrespective of educational background and marital and financial status (Table 1). The minimum qualification was graduation from 12th grade. The study was carried out with the consent of the participants after receiving ethics committee approval. The participants (18 years or older) were Jordanian or residents of Jordan who did not suffer from a chronic or psychological disease. The participants were not on chronic medications. Nonlactating and nonpregnant female participants were included in the survey.

**Table 1.** Demographic parameters of the included participants.

Variable	Males ( <i>n</i> = 20)	Females ( <i>n</i> = 40)
Age (years) <sup>a</sup>	27.0 [25.0–30.8] (19.0–60.0)	30.5 [27.8–37.3] (21.0–58.0)
Marital status (%) (Single/Married/Divorced)	65/35/0	40/45/15
Physical activity (%) (Active/Sedentary)	60/40	80/20
Fitzpatrick skin type (%) (1/2/3/4/5/6)	5/35/40/15/5/0%	5/37.5/47.5/10/0/0%

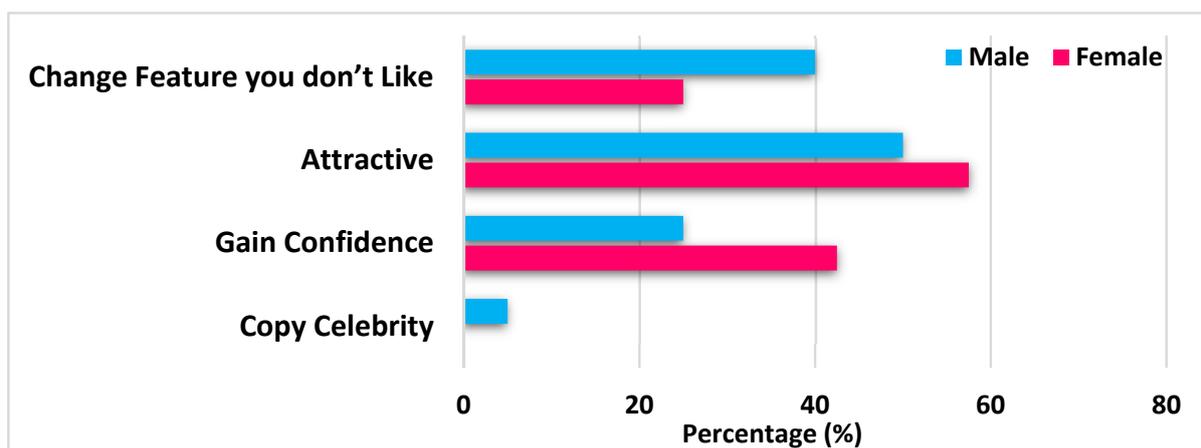
Notes: <sup>a</sup> Median [interquartile] (range).

## 3. Results

The participants' demographic parameters are presented in Table 1. All participants had received the COVID-19 vaccine, and the survey was conducted immediately post-COVID-19. The questionnaire included the following questions:

### 3.1. Reasons for Undergoing Cosmetic Procedures

The participants' main reason for undergoing cosmetic procedures was 'to look attractive' (females: 62%; males: 50%), as presented in Figure 1, followed by 'to gain confidence with an enhanced physical appearance' (females: 42.2%; males: 25%) and 'to change features which they did not like' (females: 24.4%; males: 50%). None of the female participants wanted 'to copy a celebrity or look like them', whereas 10% of men wanted to look like a celebrity.



**Figure 1.** Reasons for undergoing a cosmetic procedure among Jordanian participants.

### 3.2. Depth of Knowledge Regarding Cosmetic Procedures Prior to the Survey

The results presented in Figure 2 as percentages show responses related to participants' knowledge prior to participation in the survey. In this section, we assessed the knowledge of individuals who had undergone different procedures prior to the survey.

#### 3.2.1. Radiofrequency Microneedling (RFMN)

Around 20% of the male participants had some knowledge; however, many were unaware about RFMN (50%), whereas 15% had general knowledge, and only 11.0% had tried the procedure. 75% of female participants had general knowledge, and 7.5% had some knowledge. Around 12.5% of female participants had undergone RFMN.

#### 3.2.2. High Intensity Focused Ultrasound (HIFU)

More than 67.5% of female participants had general knowledge about HIFU, and 22.5% of females had already tried it. Regarding males, 55% were not aware of this cosmetic procedure, while only 5% had tried this procedure. About 15% of participants had general knowledge.

#### 3.2.3. Dermal Procedures

Similarly, about 65% of female participants had undergone dermal procedures, and 27.5% had general knowledge. In contrast, 25% of males had some knowledge in this area, 20% of individuals had general knowledge, and around 10% had undergone this type of procedure, while 35% of participants had no knowledge about such procedures. Dermal procedures include BoNT, hyaluronic acid, and platelet rich plasma (PRP) injection.

#### 3.2.4. Whitening

The majority of the female participants had good knowledge of skin whitening procedures. A quarter of the females had tried this type of procedure. Regarding male participants, 15% had some knowledge, 30% had general knowledge, only 5% had undergone skin whitening, and around 45% had no knowledge of whitening. Whitening includes

the use of retinol, retinyl propionate, lactic acid, Kojic acid, Tranexamic acid, nicotinamide, and other similar chemicals alone or in combination.

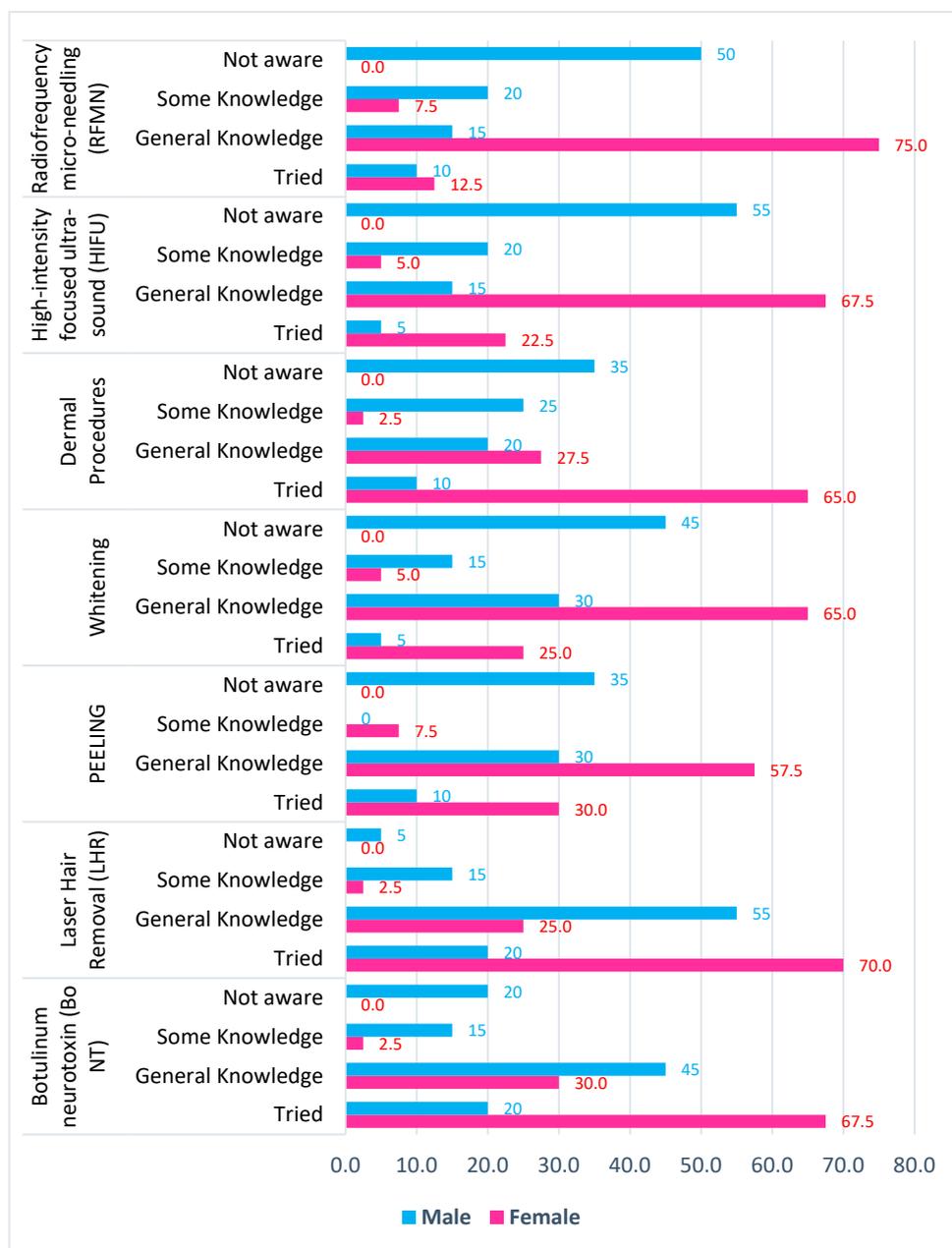


Figure 2. Depth of knowledge about cosmetic procedures prior to the survey.

### 3.2.5. Peeling

Male participants need better knowledge about peeling since only 30% had general knowledge in this area, and 10% had tried this procedure. Regarding female participants, the statistics were the opposite. More than 57.5% of females had general knowledge in this area, and 30% had tried this cosmetic procedure. The peeling procedure involves the use of 30% salicylic acid for 30 min.

### 3.2.6. Laser Hair Removal

Laser hair removal (LHR) is a popular procedure, and most female participants had sufficient knowledge in this area. Most female participants (70%) had tried LHR, unlike

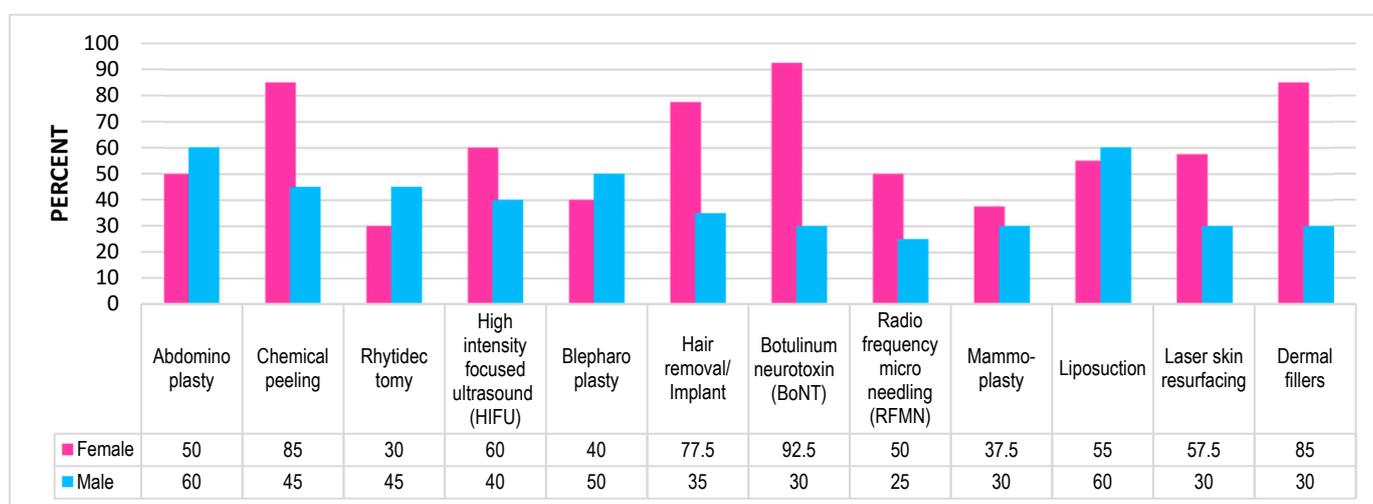
male participants (20%). Slightly over half of the male participants had general knowledge about this procedure.

### 3.2.7. Botulinum Neurotoxin (BoNT)

More than 62.5% of females had undergone botulinum neurotoxin (BoNT) injection, and all female participants knew about BoNT. Only 15% of the male individuals had some knowledge regarding BoNT, 45% had general knowledge about BoNT, and around 20% of individuals had tried BoNT. It is interesting to note that most participants were well aware of the BoNT procedure they would undergo. However, some male participants still needed to learn about other procedures.

### 3.3. Awareness among the Participants concerning Cosmetic Procedures Prior to Treatment

As expected, more female participants were aware of BoNT (92.5%) than males (30%). For dermal fillers, 85% of female and 30% of male participants knew about the procedure. 75% of females and 35% of males had some awareness of hair transplants or hair removal procedures. Females were more aware of HIFU (60%) than male participants (40%). Around 55% of female participants were aware of liposuction versus 60% of male participants, and concerning laser skin resurfacing and mammoplasty, 57.5% and 37.5% of females knew about these procedures compared to 30% of male participants. These procedures had been performed on 33.3% of individuals, a minuscule percentage compared to other cosmetic procedures. Men had more knowledge (60%) than women (50%) about abdominoplasty, also known as a tummy tuck. Additionally, males (50%) had more awareness regarding rhytidectomy than females (40%). Figure 3 depicts the awareness levels of participants prior to treatment.

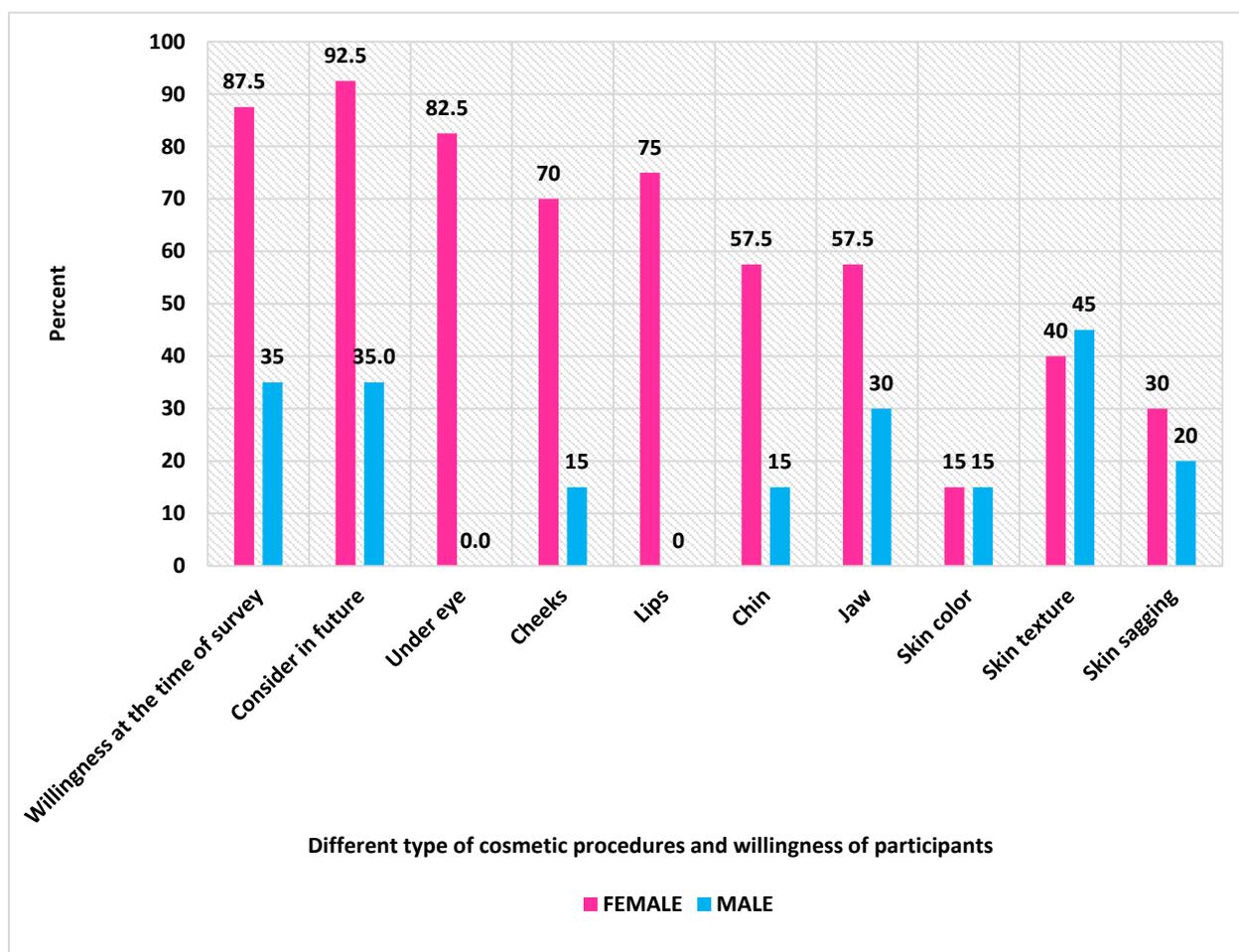


**Figure 3.** Awareness levels of participants prior to treatment.

### 3.4. Preference of Participants Willing to Undergo Different Cosmetic Procedures

Participants who had not undergone a CP were asked about their willingness to undergo a CP. More females were more interested in enhancing their physical appearance through different CPs than males. When the participants were asked about their willingness to undergo a procedure, 35% of male participants were willing to have a procedure done, whereas 87.5% of females said they required it now, and 92.5% said they were willing to have it done in the future (Figure 4). Most female individuals who visited the clinic were interested in under-eye procedures, accounting for around 82.5% of people who underwent this procedure, whereas none of the males had undergone this procedure. A similar result was observed in lip procedures, where 75% of the individuals in the survey had undergone lip enhancement with lip fillers; however, none of the male individuals had. Female participants (70%) primarily opted for cheek fillers, a procedure also known as

cheek augmentation, whereas only 15% of male participants had undergone this procedure. The percentages of female and male individuals who had enhanced their jawlines were 57.5% and 30%, respectively. Around 57.5% of females and 15% of males had enhanced their chins using chin filler to give shape and enhance the jawline. More male participants (45%) had undergone skin texture procedures than females (40%). Around 30% of women and 20% of men had undergone various processes for their sagging skin. Skin whitening procedures were less popular than other procedures (15%), as fair/light skin predominated in this population sample. Many people were interested in improving their appearance by enhancing their under-eye area and sculpting their jaw, cheeks, and chin, giving them a defined and well-structured profile or physical appearance.



**Figure 4.** The willingness of participants to undergo different cosmetic procedures at the time of the survey and to consider it in the future.

### 3.5. Awareness among Individuals of the Adverse Effects/Risks Associated with Cosmetic Procedures

The awareness level among the participants regarding adverse effects or risks associated with procedures is shown in Figure 5. Few men knew about the adverse effects of sagging skin procedures, whereas 30% of women knew about them. Most females (73.3%) and 30% of males were aware of the risk of bruises and edema, whereas 50% were aware of the risk of redness after the procedure. Almost half of the women and one quarter of the men were aware that some procedures might lead to scarring or bleeding. A few participants (20% of females and 10% of males) were aware of both hyperpigmentation and hypopigmentation. Some females (30%) knew about the side effects of sagging skin and headaches, while only 10% of males knew about headaches.

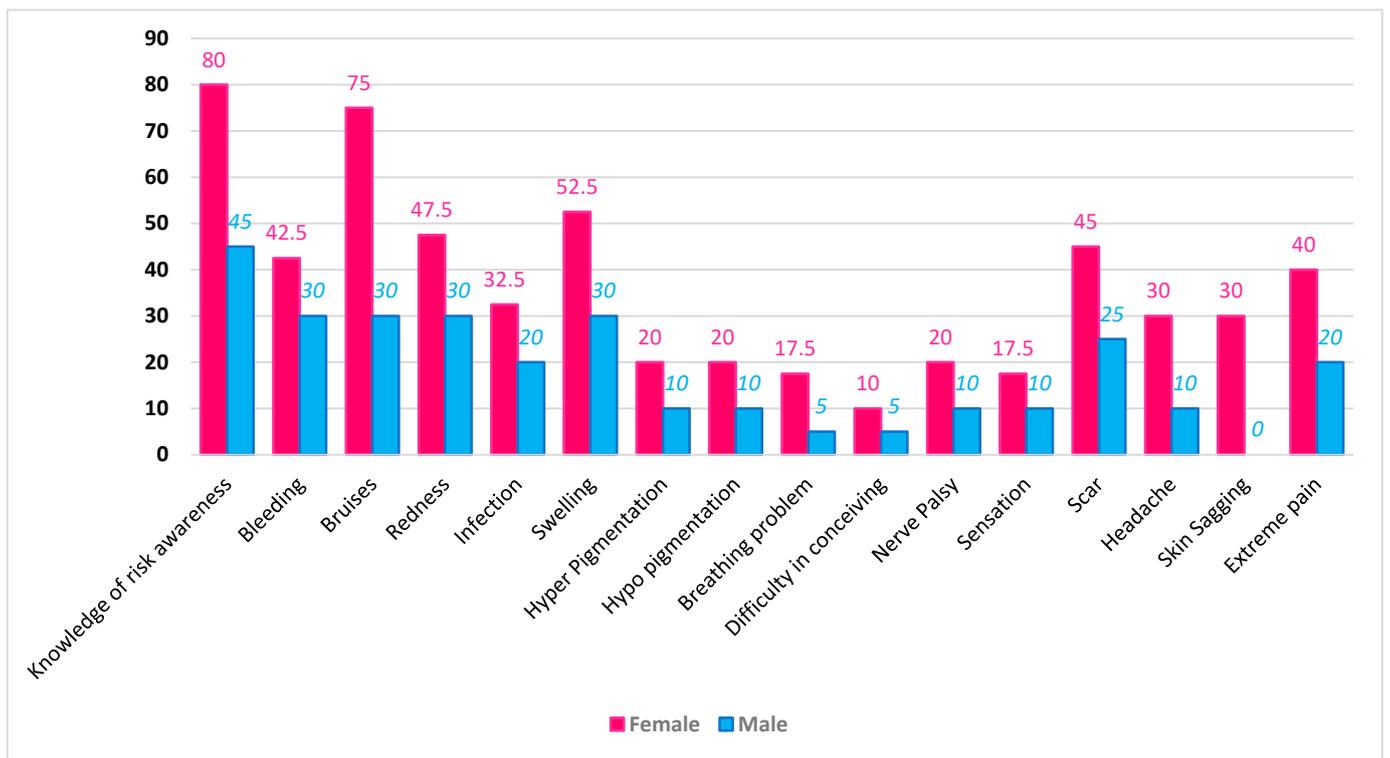


Figure 5. Participants’ awareness regarding the risk factors associated with cosmetic procedures.

3.6. Opportunity to Try Different Cosmetic Procedures by Jordanian Participants

Some participants stated that they would be willing to undergo specific procedures if given the opportunity and with the necessary resources (money) covered. Around 97.5% of female participants voted for the dermal filling and BoNT procedures, whereas 45% of male participants opted for BoNT and 30% opted for dermal fillers. More male participants voted for peeling and skin tightening than females (Figure 6).

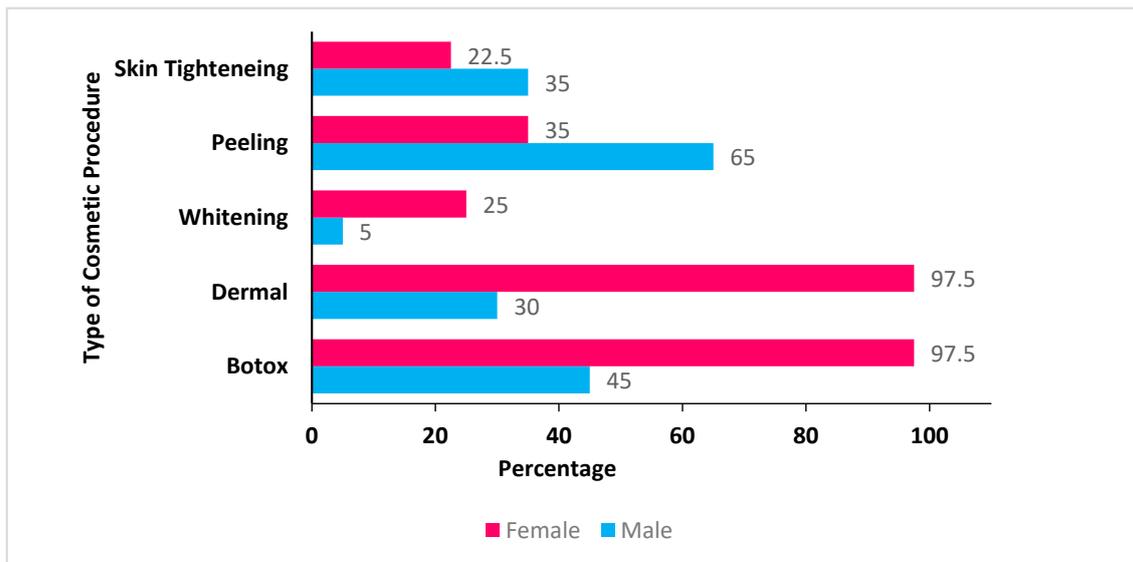


Figure 6. Participants’ desired cosmetic procedures when offered free of charge.

3.7. Effectiveness of Cosmetic Procedures

In this section, participants were asked their opinion on the effectiveness of the procedures on a scale from 0 to 10. The results indicate no significant differences in opinion

regarding the effectiveness of laser hair removal, while for dermal procedures, BoNT, RFMN, and HIFU, female participants graded their effectiveness significantly higher than male participants (Figure 7).

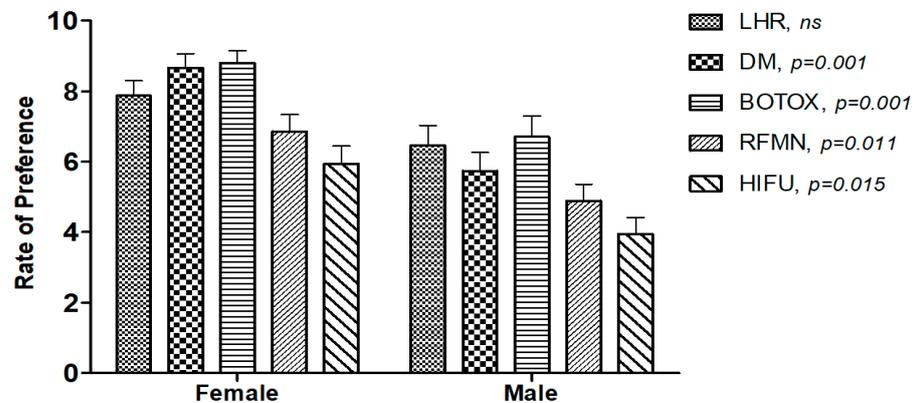


Figure 7. Effectiveness of cosmetic procedures as rated by participants.

#### 4. Discussion

The number of people seeking cosmetic surgeries has increased, and one of the reasons for this may be the increased popularity of minimally invasive procedures, such as BoNT and filler injections [12]. This may be justifiable as we observed this trend in our study, with 80.6% of individuals opting for BoNT and dermal filling. In BoNT procedures, botulinum toxin is injected to relax or paralyze the facial muscles associated with wrinkles on the forehead and around the eye region. Cheek filler procedures, also known as cheek augmentation, are conducted to increase the volume of the cheeks and the area around the cheekbones. They create a plumping effect on the skin, making it look youthful. Abdominoplasty, also known as a tummy tuck, is undergone to give a toned shape to the abdomen. HIFU is a relatively new technique that tightens the skin.

According to prior research, one of the key motivators for cosmetic surgery is changing one's body image [13]. In the present study, 24.4% of the individuals had undergone cosmetic surgeries or procedures to change body parts that they were not satisfied with. After six months, women who had received cosmetic surgeries graded their attractiveness significantly better [13]. According to Brown et al. [14], self-rated physical attractiveness significantly affects willingness to undergo cosmetic procedures. In our study, 60% of participants stated that they had undergone a procedure to increase their attractiveness. This justifies the statement that physical attractiveness is one of the critical factors for more and more people opting to undergo a procedure. Kamburoglu and Ozgur [15] reported similar results, where most of the adolescent participants were happy with the outcome of the CP in terms of increasing self-esteem, improving body image, and making friends. A study on Chinese women who had experienced teasing due to their physical appearance in their adolescence opted for surgery and experienced a confidence level boost due to their enhanced physical appearance post-surgery [16].

There is well-grounded evidence showing that self-esteem increases after surgery. Around 77% of participants stated that they were satisfied with the results of procedures such as LHR, dermal methods, and BoNT. These participants said their confidence level was higher after the procedure, which aligns with a previous report [17] where women stated that they felt more attractive after breast augmentation. In a recent qualitative study, Chinese women stated that they had become a new person by shedding their old image after surgery [18]. According to a study conducted by the Dove Global Beauty Research Commission (2016), around 89% of women in Australia admitted to having canceled an appointment to meet friends, special occasions, and job interviews on days they felt they were not looking good [19]. These findings demonstrate physical appearance's value

in individuals' lives, including factors such as self-esteem and performance in a given task [20].

According to Sarwer et al. [21], the idea of a perfect woman has changed. In today's world, the ideal woman has a perfect physical appearance and excellent features, which are only present in a minority of people. Magazines and television are all focused on this perfect woman, and average women who lead ordinary lives dream of this perfect picture and seek cosmetic procedures to look like celebrities and to look more attractive. However, in our study, none of the participants wanted to look like a celebrity. Instead, most wanted to look more attractive, change their body image, and gain confidence, while less than 10% of the male participants had undergone a CP to look like a celebrity. In a cross-cultural study conducted on Chinese and Dutch women, Wu Y et al. [22] showed that the reason for cosmetic surgery might be related to the positive association between physical appearance and materialistic success.

In the present study, all participants were aware of some risks associated with CP. Most female participants (80%) were aware of risks, compared to 45% of male participants. Most participants were aware of bruises, swelling, scars, and redness. Thapa observed a similar trend [23]. Adejeji et al. [6] reported that 83.1% of the participants were aware of side effects (deformation of body parts, cancer, keloid, death, infection, and bleeding). Awareness of the risk factors associated with CP may be attributed to the awareness among the population of procedures and their education, since all the participants in the present study were educated. Some patients had experienced side effects that lasted for a few days and then disappeared. The findings were convincing; more women were aware of the risk factors than men.

It may be noted that the enormous social pressure on women to conform to the ideas of society in terms of attractiveness, as evidenced by the increase in the number of women with eating disorders and concern for their body image, has led them to opt for cosmetic surgery. Studies have shown that, in different domains of society, there is a bias towards attractive women and discrimination towards unattractive women [24,25], especially among young women [26]. Hence, it is not surprising that more and more women are opting for facial and dental cosmetic procedures [27–29]. However, our study showed an increase in the number of males who had undergone cosmetic procedures, and a rise in this number has been seen in recent years when compared to previous years. A similar observation was made by Furnham and Levitas [30]. They attributed this to the media propagating the current view of cosmetic surgery.

As mentioned above, women are expected to have more knowledge about beauty enhancement treatments than men. Indeed, studies have shown that female participants have more knowledge in this area and have undergone more procedures [6,31,32]. A similar trend was observed in our study concerning knowledge and the various procedures participants underwent. According to Brown et al., this may be attributed to the social pressure on women to always be attractive and conform to specific beauty standards [14]. The limitations of this study are the need for more data from others and the lack of earlier studies concerning Jordan.

## 5. Conclusions

Within the limitations of the present cross-sectional study, the factors behind the decision by participants to undergo cosmetic procedures were shown to be: to enhance body image, increase physical attractiveness, and gain self-confidence. As there is not much literature or scientific evidence to show the correlation between altered body image and gain in self-confidence, there is a need for further research in this area to identify the specific reasons behind the desire for these procedures. Identifying specific reasons may help us address them more effectively. Further research is needed to explore the increase in male participants undergoing enhancement procedures in recent years.

**Author Contributions:** S.M.A., A.K.S. and R.R.N. conceived and designed the experiments; S.M.A. and A.K.S. performed the experiments; S.M.A., A.K.S., R.R.N. and K.I.A. analyzed the data; S.M.A., A.K.S. and R.R.N. wrote the paper; S.M.A., A.K.S., R.R.N. and K.I.A. edited the final manuscript. All authors have read and agreed to the published version of the manuscript.

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**Institutional Review Board Statement:** The study was carried out in accordance with the Declaration of Helsinki and approved by the ethics committee of clinic (ERB/SDAC/2022/4/1, 6 April 2022).

**Informed Consent Statement:** Written informed consent was obtained from the patient(s) to publish this article.

**Data Availability Statement:** The data presented in this study are available (at clinic) and on request from the corresponding authors. The data are not publicly available to maintain confidentiality.

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**Conflicts of Interest:** The authors declare that they have no conflict of interest.

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