

The influence of social media uses on people's decisions to undergo aesthetic procedures: a cross-sectional study.

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Abstract

Introduction: The general trend toward cosmetic aesthetic procedures is increasing, especially with the high social media utilization rates in attaining medical information. This study examines the factors influencing patients' decisions to undergo aesthetic procedures. **Methods:** A cross-sectional study was conducted among adult subjects who underwent at least one aesthetic procedure. Data was collected using a structured questionnaire, including questions about sociodemographic characteristics and questions assessing the study participants' perception of aesthetic procedures and the factors influencing their decisions to undertake them. Informed consent was taken from each participant, and ethical clearance was obtained from the institutional research body in Jordan. **Results:** Of 1620 respondents, 90.4% were females. The mean age of the participants was 26.2 ± 8.8 years. All participants (100%) use social media, and 87.2% said it helped them become more aware of aesthetic procedures. In 41.2%, the idea of aesthetic procedures was guided by self-belief. Instagram was the most popular social media influencer (46.2%), where 40.1% of participants spent more than 3 hours on it. Social media significantly increased awareness of aesthetic procedures among aged 26-40 years, females, and employed respondents. Moreover, respondents aged between (18-25) years, male gender, single or divorced or widowed, students with a monthly income of more than 1000 JDs (\approx 1410 \$), and had a Diploma or bachelor's degree in a health-related major were significantly posting personal photos on social media. Respondents who spent more than 6 hours using Facebook, Snapchat, TikTok, and Twitter, and those who spent between 3 to 6 hours using YouTube, WhatsApp, and Instagram, were significantly posting more than ten personal photos per week. Acne scarring treatment was the most popular procedure the study participants underwent (49.9%). Damage repair was the most common key reason for aesthetic procedures while looking younger was the most popular minor reason. In 52.7%, a dermatologist is the one who performed the procedure. All participants agreed on the direct effect of the cost of the procedure on the decision to undertake it. **Conclusion:** The study highlighted the high impact of social media platforms and their influence on patients undergoing aesthetic non-surgical dermatological procedures, especially the platforms that mainly share photos and videos, such as Instagram. For this study, most of the procedures were done for damage repairs. However, the trends toward specific aesthetic procedures over others differ from region to region, and physicians must be aware of this trend for a better understanding of their patient's needs at the

local level, which gives rise to better resource allocation. In addition, the cost of the procedure directly influences the decision to undertake it.

Keywords: Aesthetics, social media, procedures, decisions, dermatology

1. Introduction

Aesthetic procedures are one of the increasing types of surgeries patients undergo, even though the perception of physical attraction, personal well-being, and aging process are varied across cultures worldwide. Since 1949, the number of aesthetic procedures has risen from 15,000 to 15.7 million in 2016. In 2018, aesthetic surgeries constituted approximately 14% of all surgical procedures and 18% of overall procedures performed in the USA (1, 2).

Physical attractiveness is a psychosocial factor that increases self-confidence and self-esteem, as well as perceived improvements in career success, earnings, social status, academic performance, and even athletic performance. However, the links to actual improvements must be clarified (3, 4). People may now modify features of their physical appearance significantly with cosmetic operations because of the availability of several elective aesthetic medical procedures. It has been demonstrated that physical, psychosocial, psychological, and emotional aspects, such as body image, self-esteem, education, and culture, influence the motivation for elective aesthetic medical procedures (5, 6).

According to the international society of aesthetic plastic surgery, over 24 million aesthetic procedures were done in 2020, with over 10 million being surgical procedures. The USA had the highest number of surgeries performed (700s). The report stated that breast augmentation (1.6 million), liposuction (1.5 million), and eyelid surgeries (1.2 million) were the most prevalent procedures. It also showed a remarkable effect of age as specific age groups tend to choose a particular type of procedure (7). These figures are 3-fold higher compared to what was reported in 2003. The American Society for Aesthetic Plastic Surgery (ASAPS) reported that over eight million aesthetic procedures were carried out in 2003 in the United States, representing a threefold increase in just five years. It has continued to rise over the past ten years (8). Moreover, there has been a surge in teenagers having these procedures. According to the American Society of Plastic Surgeons (ASPS), in 2011, 230,000 aesthetic procedures were carried out on people under 18; this figure indicated a 16-fold increase in treatments carried out on teenagers compared to 1996 (9).

One research aimed to evaluate attitudes and acceptability of cosmetic treatments among people in Riyadh, Saudi Arabia, emphasizing the Middle Eastern demographic. While over 70% of participants thought that aesthetic treatment might help people feel better about themselves, around 27% disagreed, according to the survey (10). Another study of Saudi Arabian women found that wearing a veil is not a barrier to obtaining aesthetic treatment and that boosting one's self-esteem is the

most frequent reason for getting aesthetic work done (11). The rise in aesthetic treatments being performed in the UAE has been attributed to several factors, including media influence, perceptions of the ideal human form, professionalism, and high standards of aesthetic surgery in the UAE (12).

These days, the impact of social media on different aspects of life cannot be neglected. It may alter people's perceptions and encourage them to undertake aesthetic procedures. Recently, a great interest in aesthetic procedures has emerged in Arabian countries. The number of aesthetic dermatological and aesthetic surgeries was on the rise and involved a population of both sexes, significantly younger people. The study aimed to explore factors that motivate and influence the choices to undergo aesthetic non-surgical dermatological procedures in Jordan.

2. Materials and Methods

An observational, survey-based, cross-sectional study was conducted in Jordan among adult males and females 18 years of age and above. Participants were selected using multistage sampling techniques and contacted using telephone interviews to obtain their approval and fill out the questionnaire. The estimated time for questionnaire completion was 20 minutes. The authors aimed to achieve the largest sample size to improve precision and decrease the margin of error.

The data were collected using a structured questionnaire that contained 20 questions. The questionnaire collected data on sociodemographic characteristics, including age, sex, marital status, educational level, occupation, address, and income.

In addition, data were collected regarding factors influencing the choices to undertake aesthetic procedures, including the type of procedures, the person who performed them, social media utilization, the applications used, the effect of social media on aesthetic procedures, and the financial impact on undergoing such procedures.

The data was collected and organized using a Microsoft Excel sheet and then transferred to the statistical package for social sciences (SPSS) software, version 25. Statistical analysis was done, and frequencies and percentages were used to describe categorical variables, while the mean and standard deviation were used to describe continuous variables. Inferential statistics (Chi-Square test) was used to test for association between different study variables.

Participation in the study was voluntary, and informed consent was taken from each participant after explaining that no participant-identifying data would be collected and their data would be used for research purposes only. The Institutional Research Body (IRB) approved the study in Jordan.

3. Results

A total of 1620 participants were recruited for the study; most were females (1465, 90.4%). The mean age of the participants was 26.2 ± 8.8 years; most were within the age group of 18-25 years old (65.5%). Approximately two-thirds of the participants were single (67.6%), while 30.4% were married.

Students constituted more than half of the study population (54.7%), and a monthly income of less than 500 JDs (≈ 705 \$) was the most prevalent (69.9%). About 36.8% had a diploma or Bachelor's degree in a non-health-related field, while 31.7% had a diploma or Bachelor's in a health-related field, followed by a 21.9% with a high school degree or less (Table 1).

Table 1: Sociodemographic characteristics of study participants

	Mean (SD)	N	N %
Age in years	26.2 (8.8)		
Age category	18-25 years	1061	65.5%
	26-40 years	416	25.7%
	More than 40 years	143	8.8%
Gender	Female	1465	90.4%
	Male	155	9.6%
Marital status	Single	1095	67.6%
	Married	492	30.4%
	Divorced/widowed	33	2.0%
Where do you live in Jordan?	Ajloun	146	9.0%
	Amman	443	27.3%
	Aqaba	12	0.7%
	Balqa'a	26	1.6%
	Irbid	788	48.6%
	Jarash	35	2.2%
	Karak	29	1.8%
	Ma'an	6	0.4%
	Madaba	20	1.2%
	Mafrq	36	2.2%
	Tafilah	7	0.4%
	Zarqa'a	72	4.4%
Occupation	Employed	421	26.0%
	Unemployed	313	19.3%
	Student	886	54.7%
What is the range of your monthly income?	Less than 500 JDs	1133	69.9%
	500-1000 JDs	350	21.6%
	More than 1000 JDs	137	8.5%
What is the highest level of education or degree you have received?	Less than or have a high school degree	355	21.9%
	Some colleges but no degree	49	3.0%
	Diploma or bachelor's degree in a health-related major	514	31.7%
	Diploma or bachelor's degree in a non-health-related major	596	36.8%
	Master's degree or PhD	106	6.5%

All of the study participants reported using social media. About 87.2% claimed that the usage of social media networks had assisted them in becoming more aware of aesthetic procedures. More than half (53.6%) reported that they post their photos on social media, with Instagram being the most popular

network (46.4%), followed by WhatsApp (34.2%), Facebook (30.0%), and Snapchat (25.9%). The weekly rate of posting personal photos on social media was zero in 818 (50.5%) participants. In comparison, 32 (2%) participants posted more than ten photos per week, and the rest reported posting personal photos but less than ten weekly (Table 2).

Table 2: General information about social media use among study participants

	N	N %	
Do you use social media?	Yes	1620	100.0%
	No	0	0.0%
Is social media networking assisting you in becoming more aware of aesthetic procedures?	Yes	1413	87.2%
	No	207	12.8%
Do you post your photos on social networking media?	Yes	869	53.6%
	No	751	46.4%
Which social media network do you post your photos on mostly	Facebook	486	30.0%
	Instagram	751	46.4%
	Snapchat	420	25.9%
	YouTube	15	0.9%
	TikTok	46	2.8%
	Twitter	89	5.5%
	WhatsApp	554	34.2%
How many photos do you post per week?	0	818	50.5%
	Less than 10	770	47.5%
	10-30	32	2.0%
	31-50	0	0.0%
	More than 50	0	0.0%

Around 41.2% gathered the idea of undergoing an aesthetic procedure from their thoughts, followed by beauty influencers (18.3%), family and friends (13.7%), and social media advertisements (13.1%), with Instagram (Meta company) being the most mobile application to influence their perception toward aesthetic procedures (46.2%) followed by Facebook (Meta company) (32.2%), Snapchat (Snap Inc) (11.1%), and YouTube (Google) (8.0%). Most participants admitted following an aesthetic

dermatologist or practitioner on social media and social media influencers (70.7% and 77.6%, respectively). Of the study participants, 44.5% were neutral about supporting aesthetic procedures on social media, nearly two-thirds preferred a consultation with aesthetic practitioners who are famous on social media, and a third of them agreed on filming aesthetic procedures on social media for advertising purposes. Financial gain or fame may be the main reason behind this observation (Table 3).

Table 3: Participants' perspectives on the influence of social media on aesthetic procedures

	N	N %
Where did the idea for the aesthetic procedures you underwent come from in the first place?	My doctor	121 7.5%
	Spouse or partner	31 1.9%
	Family & friends	222 13.7%
	TV & advertisement	70 4.3%
	Thought of it myself	667 41.2%
	Social media advertisement	213 13.1%
Which of the following mobile applications influenced your perception to do aesthetic procedures?	Beauty influencer	296 18.3%
	Facebook	522 32.2%
	WhatsApp	39 2.4%
	Twitter	25 1.5%
	Snapchat	180 11.1%
	Instagram	748 46.2%
	TikTok	98 6.0%
	YouTube	129 8.0%
Do you follow aesthetic dermatologists or practitioners' web pages on social media networks?	None	390 24.1%
	Yes	1145 70.7%
Do you follow social media influencers?	No	475 29.3%
	Yes	1257 77.6%
I support aesthetic procedures advertisement on social media	No	363 22.4%
	Yes	412 25.4%
I prefer consulting aesthetic practitioners who are famous on social media	No	487 30.1%
	Neutral	721 44.5%
	Yes	1038 64.1%
I agree with filming aesthetic procedures on social media for advertising purposes	No	313 19.3%
	Neutral	269 16.6%
	Yes	476 29.4%
	No	659 40.7%
	Neutral	485 29.9%

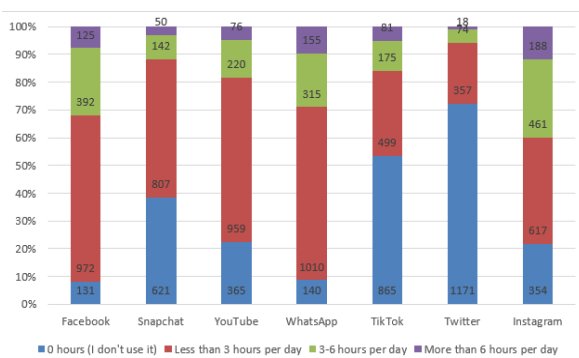


Figure 1: Duration of use of different social media networking sites by study participants.

Figure 1 shows respondents' daily time using different social media applications. 649 (40.1%) spent more than 3 hours using Instagram, and 517 (31.9%) spent more than 3 hours using Facebook. Likewise, 470 (29.0%), 296 (18.3%), 256 (15.8%), 192 (11.9%), and 92 (5.7%) spent more than 3 hours daily using WhatsApp, YouTube, TikTok, Snapchat, and Twitter respectively.

More than a third of respondents (65%) selected that they have done aesthetic procedures to repair damage to their look as the critical reason, while feeling happier and better overall and improving the

total quality of life were selected by 54%, followed by increasing self-confidence (49%). While looking younger and better was the most popular minor reason (Figure 2).

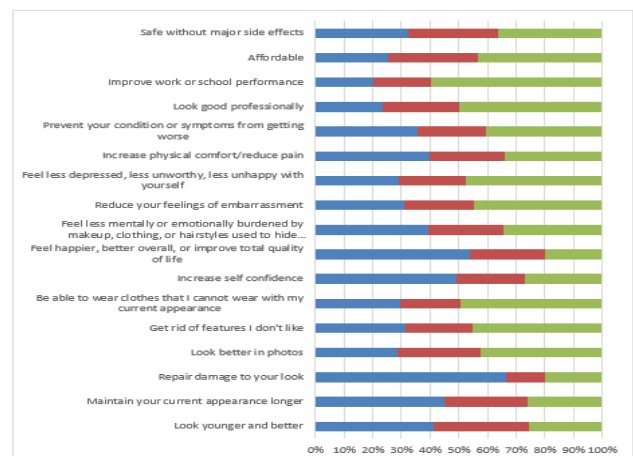


Figure 2: Driving reasons to perform an aesthetic procedure among study participants.

Social media has a role in increasing the awareness of aesthetic procedures among those with an age range between (26-40) years (P-value= 0.014), female gender (p-value= 0.000), and unemployed responders (p-value=0.039). The rest of the results are shown in Table 4.

Table 4: Factors associated with the role of social media in the awareness of aesthetic procedures

	Is social media networking assisting you in becoming more aware of aesthetic procedures?			P-value	
	Yes	No	Total		
Age	18 – 25 years	910 (56.2%)	151 (9.3%)	1061 (65.5%)	0.014
	26 – 40 years	380 (23.5%)	36 (2.2%)	416 (25.7%)	
	Above 40 years	123 (7.6%)	20 (1.2%)	143 (8.8%)	
Gender	Female	1309(80.8%)	156 (9.6%)	1465 (90.4%)	0.000
	Male	104 (6.4%)	51 (3.1%)	155 (9.6%)	
Marital status	Single	947 (58.5%)	148 (9.1%)	1095 (67.6%)	0.204
	Married	439 (27.1%)	53 (3.3%)	492 (30.4%)	
	Divorced + Widowed	27 (1.7%)	6 (0.4%)	33 (2.0%)	
Occupation	Employed	372 (23.0%)	49 (3.0%)	421 (26.0%)	0.039
	Unemployed	284 (17.5%)	29 (1.8%)	313 (19.3%)	
	Student	757 (46.7%)	129 (8.0%)	886 (54.7%)	
What is the range of your monthly income?	Less than 500 JDs per month	988 (61.0%)	145 (9.0%)	1133 (69.9%)	0.985
	500 - 1000 JDs per month	306 (18.9%)	44 (2.7%)	350 (21.6%)	
	More than 1000 JDs per month	119 (7.3%)	18 (1.1%)	137 (8.5%)	
What is the highest level of education or degree you have received?	Less than or have a high school degree	304 (18.8%)	51 (3.1%)	355 (21.9%)	0.539
	Some college but no degree	45 (2.8%)	4 (0.2%)	49 (3.0%)	
	Diploma or bachelor's degree in a health-related major	445 (27.5%)	69 (4.3%)	514 (31.7%)	
	Diploma or bachelor's degree in a non-health-related major	528 (32.6%)	68 (4.2%)	596 (36.8%)	
	Master's degree or PhD	91 (5.6%)	15 (0.9%)	106 (6.5%)	
Total		1413 (87.2%)	207 (12.8%)	1620 (100.0%)	

Posting personal photos on social media was significantly associated with being aged between (18-25) years (p-value= 0.000), male (p-value= 0.000), Single or divorced or widowed (p-value= 0.000), students (p-value= 0.000), having a monthly

income more than 1000 JDs (≈ 1410 \$) (p-value= 0.002), having Diploma or Bachelor's degree in a health-related major (p-value= 0.003), following aesthetic dermatologists or practitioners web pages on social media networks (p-value= 0.000) (Table 5).

Table 5: The association between posting personal photos on social media and the other variables

		Do you post your photos on social networking media?			P-value
		Yes	No	Total	
Age	18 – 25 years	667 (41.2%)	394 (24.3%)	1061 (65.5%)	0.000
	26 – 40 years	165 (10.2%)	251 (15.5%)	416 (25.7%)	
	Above 40 years	37 (2.3%)	106 (6.5%)	143 (8.8%)	
Gender	Female	753 (46.5%)	712 (44.0%)	1465 (90.4%)	0.000
	Male	116 (7.2%)	39 (2.4%)	155 (9.6%)	
Marital status	Single	699 (43.1%)	396 (24.4%)	1095 (67.6%)	0.000
	Married	148 (9.1%)	344 (21.2%)	492 (30.4%)	
	Divorced + Widowed	22 (1.4%)	11 (0.7%)	33 (2.0%)	
Occupation	Employed	204 (12.6%)	217 (13.4%)	421 (26.0%)	0.000
	Unemployed	119 (7.3%)	194 (12.0%)	313 (19.3%)	
	Student	546 (33.7%)	340 (21.0%)	886 (54.7%)	
What is the range of your monthly income?	Less than 500 JDs per month	599 (37.0%)	534 (33.0%)	1133 (69.9%)	0.002
	500 - 1000 JDs per month	177 (10.9%)	173 (10.7%)	350 (21.6%)	
	More than 1000 JDs per month	93 (5.7%)	44 (2.7%)	137 (8.5%)	
What is the highest level of education or degree you have received?	Less than or have a high school degree	195 (12.0%)	160 (9.9%)	355 (21.9%)	0.003
	Some college but no degree	27 (1.7%)	22 (1.4%)	49 (3.0%)	
	Diploma or bachelor's degree in a health-related major	307 (19.0%)	207 (12.8%)	514 (31.7%)	
	Diploma or bachelor's degree in a non-health-related major	290 (17.9%)	306 (18.9%)	596 (36.8%)	
	Master's degree or PhD	50 (3.1%)	56 (3.5%)	106 (6.5%)	
Is social media networking assisting you in becoming more aware of aesthetic procedures?	Yes	771 (47.6%)	642 (39.6%)	1413 (87.2%)	0.052
	No	98 (6.0%)	109 (6.7%)	207 (12.8%)	
Do you follow aesthetic dermatologists or practitioners web pages on social media networks?	Yes	651 (40.2%)	494 (30.5%)	1145 (70.7%)	0.000
	No	218 (13.5%)	257 (15.9%)	475 (29.3%)	
Total		869 (53.6%)	751 (46.4%)	1620 (100.0%)	

Age group (18-25 years) was posting personal

photos on social media 1.6-fold more than (the 26-

40 years) age groups and 2.4-fold more than (those above 40) (62.9%, 39.7%, and 25.9% from each age group, respectively). Also, single respondents were 2.1-fold more than married (the p-value for all was 0.000).

Posting more than ten personal photos per week was significantly associated with being in the age group of (18-25), female gender, widowed and divorced, employed, having a monthly income of more than 1000 JDs (\approx 1410 \$), less than or having a high school degree, those who follow aesthetic dermatologists or practitioners web pages on social

media networks, those who spent more than 6 hours using Facebook, Snapchat, TikTok, Twitter, spent between 3 to 6 hours using YouTube, WhatsApp, and Instagram (p-value for all less than 0.05). However, those who did not post personal photos were significantly associated with being married, unemployed, having a monthly income between 500 to 1000 JDs (\approx 705 to 1410 \$), having a diploma or Bachelor's degree in a non-health-related major, and spending less than 3 hours using Facebook, and those who did not use the rest of social media applications (p-value for all less than 0.05) (Table 6).

Table 6: Variables associated with the number of personal photos per week

		How many photos do you post per week?				P-value
		Zero	Less than 10	More than 10	Total	
Age	18 – 25 years	480 (29.6%)	560 (34.6%)	21 (1.3%)	1061 (65.5%)	0.000
	26 – 40 years	242 (14.9%)	166 (10.2%)	8 (0.5%)	416 (25.7%)	
	Above 40 years	96 (5.9%)	44 (2.7%)	3 (0.2%)	143 (8.8%)	
Gender	Female	755 (46.6%)	681 (42.0%)	29 (1.8%)	1465 (90.4%)	0.033
	Male	63 (3.9%)	89 (5.5%)	3 (0.2%)	155 (9.6%)	
Marital status	Single	483 (29.8%)	588 (36.3%)	24 (1.5%)	1095 (67.6%)	0.000
	Married	326 (20.1%)	160 (9.9%)	6 (0.4%)	492 (30.4%)	
	Divorced + Widowed	9 (0.6%)	22 (1.4%)	2 (0.1%)	33 (2.0%)	
Occupation	Employed	224 (13.8%)	188 (11.6%)	9 (0.6%)	421 (26.0%)	0.002
	Unemployed	185 (11.4%)	123 (7.6%)	5 (0.3%)	313 (19.3%)	
	Student	409 (25.2%)	459 (28.3%)	18 (1.1%)	886 (54.7%)	
What is the range of your monthly income?	Less than 500 JDs per month	584 (36.0%)	527 (32.5%)	22 (1.4%)	1133 (69.9%)	0.003
	500 - 1000 JDs per month	186 (11.5%)	159 (9.8%)	5 (0.3%)	350 (21.6%)	
	More than 1000 JDs per month	48 (3.0%)	84 (5.2%)	5 (0.3%)	137 (8.5%)	
What is the highest level of education or degree you have received?	Less than or have a high school degree	169 (10.4%)	172 (10.6%)	14 (0.9%)	355 (21.9%)	0.020
	Some college but no degree	21 (1.3%)	27 (1.7%)	1 (0.1%)	49 (3.0%)	
	Diploma or bachelor's degree in a health-related major	243 (15.0%)	262 (16.2%)	9 (0.6%)	514 (31.7%)	
	Diploma or bachelor's degree in a non-health-related major	327 (20.2%)	262 (16.2%)	7 (0.4%)	596 (36.8%)	
	Master's degree or PhD	58 (3.6%)	47 (2.9%)	1 (0.1%)	106 (6.5%)	
Is social media networking assisting you in becoming more aware of aesthetic procedures?	Yes	688 (42.5%)	696 (43.0%)	29 (1.8%)	1413 (87.2%)	0.001
	No	130 (8.0%)	74 (4.6%)	3 (0.2%)	207 (12.8%)	
Do you follow aesthetic dermatologists or practitioners' web pages on social media networks?	Yes	536 (33.1%)	585 (36.1%)	24 (1.5%)	1145 (70.7%)	0.000
	No	282 (17.4%)	185 (11.4%)	8 (0.5%)	475 (29.3%)	
How many hours do you spend using Facebook	I don't use it	68 (4.2%)	56 (3.5%)	7 (0.4%)	131 (8.1%)	0.050
	less than 3 hours per day	506 (31.2%)	450 (27.8%)	16 (1.0%)	972 (60.0%)	
	3 - 6 hours per day	187 (11.5%)	199 (12.3%)	6 (0.4%)	392 (24.2%)	
	more than 6 hours per day	57 (3.5%)	65 (4.0%)	3 (0.2%)	125 (7.7%)	
How many hours do you spend using Snapchat	I don't use it	410 (25.3%)	204 (12.6%)	7 (0.4%)	621 (38.3%)	0.000
	less than 3 hours per day	338 (20.9%)	454 (28.0%)	15 (0.9%)	807 (49.8%)	
	3 - 6 hours per day	53 (3.3%)	84 (5.2%)	5 (0.3%)	142 (8.8%)	
	more than 6 hours per day	17 (1.0%)	28 (1.7%)	5 (0.3%)	50 (3.1%)	
How many hours do you spend using YouTube	I don't use it	220 (13.6%)	141 (8.7%)	4 (0.2%)	365 (22.5%)	0.001
	less than 3 hours per day	445 (27.5%)	494 (30.5%)	20 (1.2%)	959 (59.2%)	
	3 - 6 hours per day	115 (7.1%)	99 (6.1%)	6 (0.4%)	220 (13.6%)	
	more than 6 hours per day	38 (2.3%)	36 (2.2%)	2 (0.1%)	76 (4.7%)	
How many hours do you spend using WhatsApp	I don't use it	75 (4.6%)	62 (3.8%)	3 (0.2%)	140 (8.6%)	0.004
	less than 3 hours per day	537 (33.1%)	461 (28.5%)	12 (0.7%)	1010 (62.3%)	
	3 - 6 hours per day	139 (8.6%)	164 (10.1%)	12 (0.7%)	315 (19.4%)	
	more than 6 hours per day	67 (4.1%)	81 (5.1%)	7 (0.3%)	155 (9.6%)	
How many hours do you spend using TikTok	I don't use it	500 (30.9%)	355 (21.9%)	10 (0.6%)	865 (53.4%)	0.000
	less than 3 hours per day	222 (13.7%)	267 (16.5%)	10 (0.6%)	499 (30.8%)	
	3 - 6 hours per day	69 (4.3%)	102 (6.3%)	4 (0.2%)	175 (10.8%)	
	more than 6 hours per day	27 (1.7%)	46 (2.8%)	8 (0.5%)	81 (5.0%)	
How many hours do you spend using Twitter	I don't use it	654 (40.4%)	498 (30.7%)	19 (1.2%)	1171 (72.3%)	0.000
	less than 3 hours per day	135 (8.3%)	215 (13.3%)	7 (0.4%)	357 (22.0%)	
	3 - 6 hours per day	24 (1.5%)	46 (2.8%)	4 (0.2%)	74 (4.6%)	
	more than 6 hours per day	5 (0.3%)	11 (0.7%)	2 (0.1%)	18 (1.1%)	
How many hours do you spend using Instagram	I don't use it	260 (16.0%)	85 (5.2%)	9 (0.6%)	354 (21.9%)	0.000
	less than 3 hours per day	319 (19.7%)	293 (18.1%)	5 (0.3%)	617 (38.1%)	
	3 - 6 hours per day	176 (10.9%)	269 (16.6%)	16 (1.0%)	461 (28.5%)	
	more than 6 hours per day	63 (3.9%)	123 (7.6%)	2 (0.1%)	188 (11.6%)	
Total		818 (50.5%)	770 (47.5%)	32 (2.0%)	1620 (100.0%)	

Moreover, following web pages concerning aesthetic procedures was significantly found among

respondents aged 25-40 years (p-value= 0.000), female (p-value= 0.000), found that social media

help them to be more aware of aesthetic procedures (p-value= 0.000), and those who had the idea for the

aesthetic procedures from beauty influencer (p-value= 0.023 (Table 7).

Table 7: The association between the following web pages concerning aesthetic procedures and other variables

		Do you follow aesthetic dermatologists or practitioners' web pages on social media networks?			P-value
		Yes	No	Total	
Age	18 – 25 years	754 (46.5%)	307 (19.0%)	1061 (65.5%)	0.000
	26 – 40 years	317 (19.6%)	99 (6.1%)	416 (25.7%)	
	Above 40 years	74 (4.6%)	69 (4.3%)	143 (8.8%)	
Gender	Female	1063 (65.6%)	402 (24.8%)	1465 (90.4%)	0.000
	Male	82 (5.1%)	73 (4.5%)	155 (9.6%)	
Marital status	Single	781 (48.2%)	314 (19.4%)	1095 (67.6%)	0.502
	Married	339 (20.9%)	153 (9.4%)	492 (30.4%)	
	Divorced + Widowed	25 (1.5%)	8 (0.5%)	33 (2.0%)	
Occupation	Employed	292 (18.0%)	129 (8.0%)	421 (26.0%)	0.318
	Unemployed	232 (14.3%)	81 (5.0%)	313 (19.3%)	
	Student	621 (38.3%)	265 (16.4%)	886 (54.7%)	
What is the range of your monthly income?	Less than 500 JDs per month	807 (49.8%)	326 (20.1%)	1133 (69.9%)	0.746
	500 - 1000 JDs per month	242 (14.9%)	108 (6.7%)	350 (21.6%)	
	More than 1000 JDs per month	96 (5.9%)	41 (2.5%)	137 (8.5%)	
What is the highest level of education or degree you have received?	Less than or have a high school degree	246 (15.2%)	109 (6.7%)	355 (21.9%)	0.462
	Some college but no degree	36 (2.2%)	13 (0.8%)	49 (3.0%)	
	Diploma or bachelor's degree in a health-related major	371 (22.9%)	143 (8.8%)	514 (31.7%)	
	Diploma or bachelor's degree in a non-health-related major	411 (25.4%)	185 (11.4%)	596 (36.8%)	
	Master's degree or PhD	81 (5.0%)	25 (1.5%)	106 (6.5%)	
Is social media networking assisting you in becoming more aware of aesthetic procedures?	Yes	1059 (65.4%)	354 (21.9%)	1413 (87.2%)	0.000
	No	86 (5.3%)	121 (7.5%)	207 (12.8%)	
Where did the idea for the aesthetic procedures you underwent come from in the first place?	Your doctor	91 (5.6%)	30 (1.9%)	121 (7.5%)	0.023
	Spouse or partner	21 (1.3%)	10 (0.6%)	31 (1.9%)	
	Family and friends	140 (8.6%)	82 (5.1%)	222 (13.7%)	
	TV and advertisement	48 (3.0%)	22 (1.4%)	70 (4.3%)	
	You thought of it yourself	463 (28.6%)	204 (12.6%)	667 (41.2%)	
	Social media advertisement	153 (9.4%)	60 (3.7%)	213 (13.1%)	
	Beauty influencer	229 (14.1%)	67 (4.1%)	296 (18.3%)	
Total		1145 (70.7%)	475 (29.3%)	1620 (100.0%)	

Among people who underwent aesthetic procedures, nearly half of them were for acne scarring treatment (49.9%), followed by laser hair removal (20.3%) and Microdermabrasion (8.1%). In more than half of them, a dermatologist was the one who performed the procedure (52.7%), followed by the

plastic surgeon (25.9%) and the beauty technician (25.6%). All the study population agreed that the one who performed aesthetic procedures should have special training and that the price of the aesthetic procedure would directly influence their decision to undertake it (Table 8).

Table 8: Participants' perspectives and personal experiences regarding aesthetic procedures

		N	N %
Which of the following procedure have you done?	Acne scarring treatment	809	49.9%
	Botulinum toxin	76	4.7%
	Cellulite treatment	16	1.0%
	Chemical peeling	65	4.0%
	Eyelid surgery	9	0.6%
	Facelift using threads	18	1.1%
	Laser hair removal	329	20.3%
	Laser brown spots/melasma	52	3.2%
	Laser for redness/rosacea/red spots	33	2.0%
	Laser for rejuvenation	114	7.0%
	Leg vein treatment	17	1.0%
	Liposuction	31	1.9%
	Microdermabrasion	132	8.1%
	Noninvasive fat reduction	37	2.3%
	Soft tissue fillers	128	7.9%
	Tattoo removal	14	0.9%
Who performed the aesthetic procedure for you?	Dermatologist	853	52.7%
	General practitioner	93	5.7%
	Dentist	103	6.4%
	Plastic surgeon	420	25.9%
	Beauty technician	415	25.6%
Do you think the person who does the aesthetic procedures should have special training?	Yes	1620	100.0%
Does the price of aesthetic procedures influence your decision?	Yes	1620	100.0%

4. Discussion

The increasing demand for cosmetic aesthetic procedures highlights the importance of assessing patients' backgrounds and perceptions of them and the factors influencing their decisions to undergo aesthetic non-surgical dermatological procedures.

For now, attractive people still have an advantage over less attractive people in social interactions, employment opportunities, and other facets of daily life. Attractive people are more likely to be employed than less attractive people in virtual job interviews (13), and the same tendency is observed in actual interviews (14). In high school, attractive

ladies are more than ten times more likely to marry than the least attractive ones (15). Therefore, we can all agree that success depends on attractiveness.

For now, it is well known that there is a significant increase in the use of social media platforms in the medical field. Especially in aesthetic medicine, the presence of social media may help educate people on different aesthetic procedures and dismiss the false information that originates from non-medical sources.

In the present study, we investigated the factors that affect the decision-making of the general population to undergo aesthetic procedures. This study showed that 87.2% of the participants claimed that social media assisted them in becoming more aware of aesthetic procedures. It is found that the patients' knowledge about aesthetic procedures directly influences their perception of it. Additionally, awareness of aesthetic procedures gained via social media was higher in females, people aged 26-40 years, and unemployed persons (P value of 0.000, 0.014, and 0.039, respectively). At the same time, marital status, monthly income, and education level had no association. Moreover, a more favorable attitude toward aesthetic procedures was found among people who utilized more social media platforms (16-18). In this study, Instagram was the most common source for people to gain their perception of aesthetics because it mainly involves sharing photos and videos that directly demonstrate the procedures or their outcomes.

While TV and doctors played a minor role in influencing the idea of the participants to perform aesthetic procedures, most of them claimed that it was their thoughts (42.1%). These thoughts might have been found initially on social media in the first place, which might underestimate the effect of social media and highlight their unmentioned additional effect. Another study showed that friends and family (43%) and physicians (39%) were the most popular sources of gaining interest in aesthetic procedures, while online sources were less prevalent (8%) (19).

Satisfaction about personal body image appearance, the increasing use of photo filters on Instagram and other relative applications, and the desire to be more beautiful in photos were all the leading causes of looking for cosmetic surgeries (20). Interestingly, posting personal photos was highly related to marital status, with 2.5 folds more in the single than married population.

Agrawal H and Agrawal S reported that most social media users were 18-24 years old, with the majority posting less than five personal photos weekly. In addition, they found that 53.3% and 33.7% of the study population posted personal photos on Instagram and Facebook, respectively (21). Our study shows that posting personal photos on social media was higher in participants aged 18-25 years old, with 2.4 folds more than those who are above 40 years, wonder if this value was not affected by social media assists in becoming more aware of aesthetic procedures. Also, we found that

participants, who post more than ten personal photos per week on social media, believe that social media networking assists them in becoming more aware of aesthetic procedures. Also, more than half of Agrawal H and Agrawal S respondents used social media for more than 3 hours per day (21). On the other hand, more than half of our respondents spent less than 3 hours using social media applications.

The popularity of non-surgical aesthetic procedures, which increased recently, was accused by information continually published by private clinical and commercial companies, as reported by Sinha et al. (22). In contrast to our study. Despite the education level, which had no association, individuals with no clinical or medical background, like beauty influencers on social media, were the first place to gain information or the idea to undergo aesthetic procedures (P= 0.023).

About half of the participants in the Agrawal H and Agrawal S study preferred visiting non-dermatologists for cosmetic procedures because dermatologists had a busy schedule and more costs. Respondents felt that dermatologists' visits were not needed (21). On the other hand, 52.7% of our respondents preferred dermatologists to perform the aesthetic procedures for them, and they agreed on the direct effect of the cost of the procedure on the decision to undertake it.

Our study showed that acne scarring treatment was the most common reason, followed by laser hair removal and soft tissue fillers. This pattern may differ according to the region and the trends. In a study that used Google search trends about non-surgical cosmetic procedures in different regions worldwide, it was found that Brazil was the country with the most interest in the term "Botox," while collagen injection was the highest trend in Australia; the study went further and demonstrated even variations in seasonal trends. For example, the term "Botox" was highest during February, March, and May and lowest from June to December (23). This may explain why geographical considerations and seasonal variations may affect the choice to undertake specific aesthetic procedures over others. On the other hand, awareness of general public trends may help physicians and beauty technicians understand the trends in the cosmetic market and aid them in allocating their resources accordingly.

In contrast to our study in which acne scarring removal was the most popular, a study showed that laser and energy-based procedures were the most popular in Colombia, Lebanon, Malaysia, Russia, and Turkey. This study surveyed 30 participants from the countries mentioned above (1). In addition, safety consideration was the primary reason not to undergo the procedures. While similar to our study results (100% of our study population), Colombian and, to a lesser extent, Russian participants considered financial barriers the primary reason. In addition, BOTOX® (OnabotulinumtoxinA), laser resurfacing, and laser hair removal were the most commonly performed procedures, according to Nicholas et al.

report (19).

5. Conclusion

The study highlighted the high impact of social media platforms and their influence on patients undergoing aesthetic non-surgical dermatological procedures, especially the platforms that mainly share photos and videos, such as Instagram. For this study, most of the procedures were done for damage repairs. However, the trends toward specific aesthetic procedure over other differs from region to region, and physician must be aware of these trends for a better understanding of their patients' need at the local level, which gives rise to better resource allocation. In addition, the cost of the procedure was found to influence the decision to undertake it directly.

Statements and Declarations

Competing Interest: no conflict of interest for all authors

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7. Ethical Approval

The present study was designed in accordance with the ethical principles of the Declaration of Helsinki. The study protocol and design was approved by the institutional board review at Yarmouk University number (22-12-3466). All participants signed an informed consent form.

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