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ORIGINAL RESEARCH

Assessment of Physical and Technological Influencing Factors of Women toward Plastic Surgeries and Cosmetic Procedures

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ABSTRACT

Background: Women undergoing cosmetic operations has increased significantly. The decision to doing plastic surgeries and cosmetic procedures influenced by several factors. Also, there are several complications results from performing plastic surgeries and cosmetic procedures ranging from mild to severe complications, such as infections, systemic toxicity, hematologic and electrolyte issues, intravascular fluid changes, and wound complications, and death.
Objectives: To assess physical, technological and demographic factors of women toward plastic surgeries and cosmetic procedures.
Methodology: This Was cross sectional, descriptive study comprised 178 women who performed plastic surgery and cosmetic procedure. a questionnaire was constructed which was designed after an intensive review of the various literature sources. IBM Statistical Software for Social Sciences (SPSS V. 25) was applied for analysis purposes.
Results: The total 178 women enrolled in this study their mean age and SD were (26.78 ±6.582), with 35.4% being secondary school graduates and institute graduates. Most had barely sufficient incomes, with 51 students and 114 singles. Rhinoplasty was the most common type of plastic surgery, laser hair removal common type of cosmetic procedure. Most participants were not influenced by physical factors, but were highly influenced by non-invasive procedures and advancements in technology. There was a significant association between age, education, marital status, and income level for various procedures.
Conclusion: Cosmetic procedures and plastic surgery are common among women for aesthetic reasons, with technological advancements motivating women. Some types of plastic surgery were associated with socio-demographic factors such as age with rhinoplasty, liposuction, blepharoplasty, filler and abdominoplasty.

Keywords: influencing factors, physical, technological, cosmetic procedure, plastic surgery.

INTRODUCTION

While not for everyone, beauty is highly valued by the majority of individuals in society. Many people may have recognized the value of beauty in society, but the truth is that for women, beauty is a symbol of intellect, reproductive attractiveness, social standing, and the possibility of receiving assistance from others. individuals think that beautiful individuals have good qualities, but they don't think that ugly people would have such qualities [(1)]. Plastic surgery traces its roots back to 600 B.C in India when Sushrutha laid the foundations of this specialty. Today almost 65 years after the first plastic surgical unit was

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established in India, the specialty has expanded and evolved rapidly but faces many challenges as it grows further [2]. Plastic surgery is specifically concerned with the removal, replacement, repair, and reconstruction of abnormalities in the shape and function of the skin and the underlying anatomical structures, such as the breast, perineum, extremities, head and neck, and trunk [3] 92% of all cosmetic surgeries performed on women, according to the 2018 plastic surgery statistics report [4] Additionally, aesthetic (cosmetic) surgery is performed on anatomical features that have undesired shapes in plastic surgery. Thus, there are several chances for clinical success due to the variety of plastic surgery [5]. In general cosmetic surgery deals with medical operations that preserve and enhance a person's physical attractiveness [6] In recent years, there has been a steady rise in interest in cosmetic surgery in the US. According to the American Society of Plastic Surgeons (ASPS), 15,595,955 cosmetic surgery operations were carried out by its members in 2020. This total included 13,281,235 minimally invasive cosmetic surgical procedures, such as chemical peels, neuromodulator injections, soft tissue filler injections, and blepharoplasty, and roughly 2,314,720 cosmetic surgical procedures, such as augmentation mammoplasty, blepharoplasty, rhytidectomy, liposuction, and rhinoplasty [4]. Plastic surgery is a surgical specialty. It can be used to improve how someone looks and to reconstruct facial and body tissue defects. These issues may be caused by illness, injury (trauma), or birth disorders. Plastic surgery restores and improves function, as well as appearance. It can include surgery on any part of the anatomy except the central nervous system (brain and spinal cord [7]. Technology advancements in cosmetic surgery have reduced the cost of operations while also making procedures safer, less invasive, and faster to recover from. As a result, people are now less fearful and more open to considering cosmetic surgery as a potential alternative for enhancing their physical appearance. Self-esteem, body image, quality of life, teasing, social media, and religious beliefs are just a few factors that influence people to think about and get cosmetic surgery [8]. There is a considerable chance of postoperative problems in spite of these considerations. Infections, local anesthetic systemic toxicity (LAST), hematologic and electrolyte problems, intravascular fluid changes, and wound complications are among the frequent side effects. postoperative consequences may be either immediate, as LAST, or delayed for months, such surgical site hematomas [9].

AIMS OF THE STUDY

To assess physical, technological and demographic factors of women toward plastic surgeries and cosmetic procedures.

METHODOLOGY

Study Design

The current study was conducted through applying cross sectional design. The study was performed, from 20 September to 20 November 2024. at cosmetic and plastic surgery clinics and dermatological clinics and centers and ENT clinics at Ranya city.

The setting of the study:

The study was implemented at Rania city located in Kurdistan region of Iraq and its population estimated to be 242,204 according to the statistic of 2019. at cosmetic and plastic surgery clinics and dermatological clinics and centers and ENT clinics

Sample size:

The required sample size (n) for this study would be calculated by using the single population proportion formula, it included z2=%95 confidence level and equal 1.96, (P) is the prevalence of plastic surgery obtained in a research conducted in Sulaymaniyah which is prevalence of cosmetic surgery 13.4% (10) , (d2) is the level of precession or sampling error and equal %5(0.05). According to a result of calculating formula,178 women meet inclusion criteria for participation.

Sample size calculation:

$$\text{Sample size} = \frac{Z^2 * p x (1-p)}{D^2}$$

$$\text{Sample size} = \frac{1.962 * 0.134 (1-0.134)}{0.05^2} = 178.16 = 178$$

According to this formula, essential sample size that required for this study was 178 women who met the inclusion criteria of the study.

Sample and Sampling of the study:

Non-probability sampling, the purposive sample comprised 178 women who performed plastic surgeries and/or cosmetic procedures. All participants were selected to get involved in data collection after an agreement to be a sample in this study. They were interviewed and their records were perused.

The study instrument :

To meet the objectives of the study, A questionnaire was constructed which was designed after an intensive review of the various literature sources to assessment of physical and technological influencing factors of women toward plastic surgeries and cosmetic procedures .also measuring tools ,and questionnaire applied in a prior related study were included to make appropriate questionnaires. Questionnaire consists of three parts **part one** socio demographic variables (age, income, education, marital status, residential area, occupation,) **part two** include types of plastic surgeries and cosmetic procedures, **part three** physical factors which consist of four variables and technological factors which consist of five variables .

Data collection technique

The questionnaire was conducted to collect quantitative data from clinics at Ranya city ,Kurdistan region, Iraq. Method of data collection was an interview technique with face to face approach with each patient personally by the researcher. The Kurdish language was used for communication and brief introduction about objective of the study was provided to each respondents prior to interview and explanation were given about questions if unclear by study samples, as well questioner was filled by researcher due to participants level of education and also to obtaining most appropriate answer, as well as time were required to collect data with each sample was (15-20) minute, in addition the period taken to collect data was from 20 September to 20 November 2024.

Data analysis:

The questionnaire was cross-checked for consistency and completeness and coded, IBM Statistical Software for Social Sciences (SPSS V.25) was applied for analysis purposes, for description of participant demographic factors frequency and percentage were used, chi square test was used for find out association between socio demographic factors also p-value <0.05 indicate significant association. tables, text and figures were used for clarity in data presentation.

RESULTS

Socio demographic characteristic

Results in (table1) show that 178 women enrolled to the study their mean age and SD (26.78±6.582) majority of participants 35.4 % of participants were aged between 22-26, also 27 % of them secondary school graduate and institute graduate.93 out of 178 their income were barely sufficient, only 4.5 % rural resident, majority of them 51 out 178 were student and 114 out of them were single.

Types of plastic surgeries and cosmetic procedures

Results in (figure 1) present that Rhinoplasty is the most common type of plastic surgery 63.5 %, fat grafting is second most common, and laser hair removal is most common 53.9% cosmetic procedure performed by women about, followed, laser skin and

dermal filler is third common type which performed by study participants, botox performed by 31 women out of all, others procedure 14 out of all.

Physical and technological factors influence women

Results in (table2) show that most of participants not influenced by physical factors such as injury from an accident 148, health problem 105, congenital abnormally 171, weight change 135. (table 3) show that 47 women very influenced by non-invasive procedures and advancement in technology to do plastic surgery or cosmetic procedure. while most of participants not influenced by improvement in digital technology 72, new techniques 86 and cost of procedures 64.

Association between socio demographic characteristics of the study sample and types of plastic surgeries and cosmetic procedures

Results in (table4) show that There was significant association between (rhinoplasty with age and level of education), (liposuction with age and level of education and marital status), facelift with income level. blepharoplasty with age, botox with age and residential area and marital status and occupation, laser skin with age, filler with age and residential area and marital status and occupation, abdominoplasty with age, laser hair removal with residential area, grafting with residential area and marital status and occupation, but other procedure/ surgery has not any association with any socio demographic.

DISCUSSION:

This study performed to assess the physical, technological and demographic factors of women toward plastic surgeries and cosmetic procedures. Results reveal that nose surgery which known as rhinoplasty is the most widely performed plastic surgery among study sample the results of these study lie with another study aimed to present the demographic characteristics of Saudi patients undergoing cosmetic procedures among 1864 patients which is rhinoplasty in the first place 30.4 % [11] in contrast to another study which performed in China that is retrospective cohort study that 1382 eye surgery performed in a total 4550 [12].

while these study revealed that among cosmetic procedures laser hair removal is the procedure that most widely performed among the study sample while the another study performed in united states among 511 soft tissue filler count the first place 94 [13], and another cross sectional study performed in united Arab emirates which is filler is most widely performed 13.5% [14].

The recent study showed that injury with an accident don't influenced the women decision to cosmetics 83.1% also congenital malformations don't influenced 96.1% these findings not coordinate to another community based cross sectional study in Saudi Arabia which is accident as a predictive factors by 38.9,also malformation 33.8% [15].

The technological advances in cosmetic surgery have made it safer and less invasive with a faster recovery time and decreased costs of procedures. Thus, people have become less anxious and more willing to consider and accept cosmetic surgery as a possible option for altering their physical appearance [16]. Results of the current study show that technological factors have impact on women's decision to undergo last surgery and cosmetic procedures in different ways 62.9 % influenced by noninvasive procedures, either by newer techniques 64% and cost of the study 51.7%. The results of these study with another There was significant association between (rhinoplasty with age and level of education) (0.022,0.012), (liposuction with age and level of education and marital status) (0.002,0.019, <0.001), facelift with income level (0.001). blepharoplasty with age (0.01), botox with age and residential area and marital status and occupation (<0.001,0.023,0.002,0.012), laser skin with age (0.025), filler with age and residential area and marital status and occupation (0.04,0.004,<0.001,<0.001), abdominoplasty with age (0.001), laser hair removal

with residential area (0.002), grafting with residential area and marital status and occupation (0.004,<0.001,0.02), but other has not any association with any variables. These results near to the study that performed in china found there was association of eye surgery and botox injection and nevus removal with multiple variables such as level of education and age and also marital status and employment [12].

CONCLUSIONS:

Cosmetic procedures and plastic surgeries is widely performed issue in society performed by women in different types for cosmetic ad aesthetic reasons many factors behind them that motivate women physical factors less affect women but technological improvement motivate women ,there was association found between some types of plastic surgery and socio demographic factors.

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TABLES & FIGURES:

Table (1): distribution of socio demographic characteristics of the study sample

Variable	Category	Frequency	Percentage (%)
Age	17 -21	40	22.5
	22 – 26	63	35.4
Mean and SD (26.78±6.582).	27 – 31	33	18.5
	32 – 36	25	14
	37 – 41	12	6.7
	42 - 47	5	2.8
Level of education	Unable to read and write	6	3.4
	Able to read and write	7	3.9
	Primary school graduate	22	12.4
	Secondary school graduate	48	27
	Institute graduate	48	27
	Collage graduate	40	22.5
	Post graduate	7	3.9
Income level	Insufficient	3	1.7
	Barely sufficient	93	52.2
	sufficient	82	46.1
Residential Area	Rural	8	4.5
	Urban	81	45.5
	Suburban	89	50
Occupation	unemployed	42	23.6
	employed	48	27.
	house wife	37	20.8
	student	51	28.7
Marital Statue	Widowed	1	0.6
	single	114	64
	married	62	36.8
	divorced	1	0.6

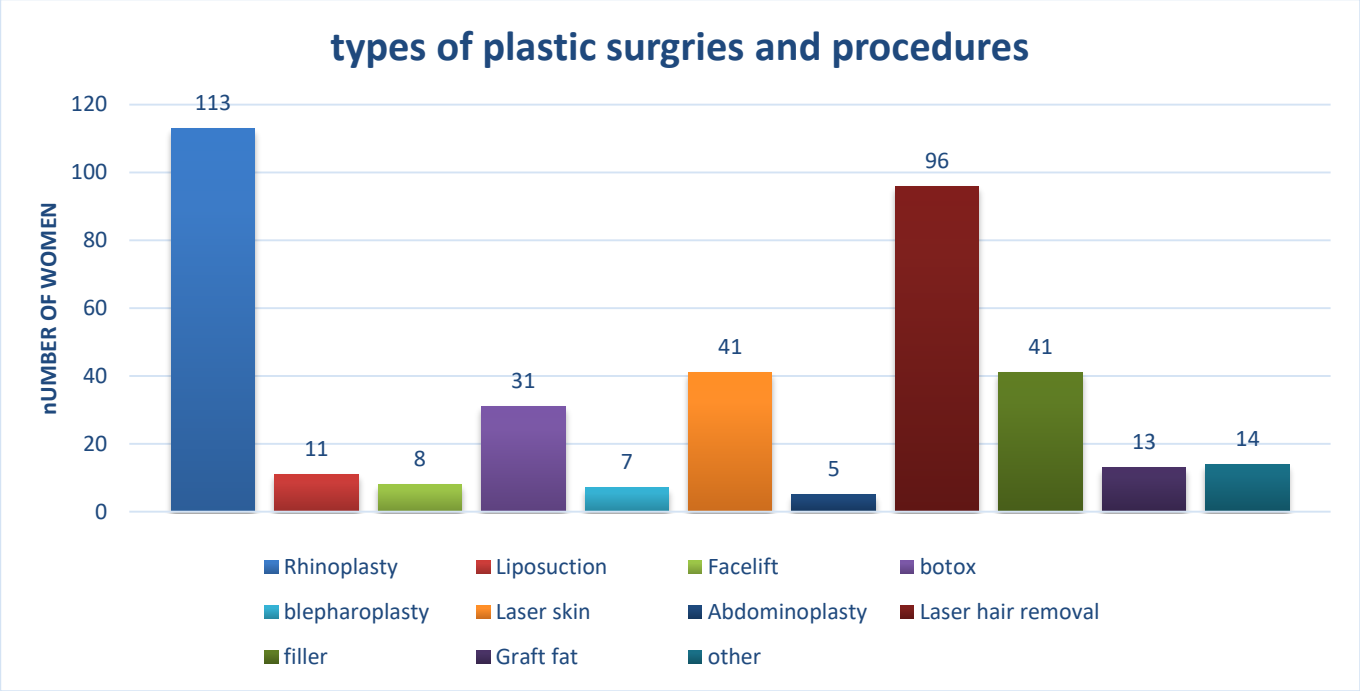

Figure (1): Distribution of types of plastic surgeries and cosmetic procedures

Table (2): physical factors influence women toward plastic surgeries and cosmetic procedures

Physical Influencing Factors	Don't Apply to me	Sometimes Apply to me	Very Much Apply to me	Mean	SD
My decision to do these procedure (s) / surgery (s) is due to having health problem	105 (58.9%)	38 (21.3%)	35 (19.7%)	0.61	0.797
My decision to do these procedure (s) / surgery (s) is due to having an injury from an accident	148 (83.1%)	8 (4.5%)	22 (12.4%)	0.29	0.676
My decision to do these procedure (s) / surgery (s) is due to being born with congenital abnormally	171 (96.1%)	6 (3.4%)	1 (0.6%)	0.04	0.233
My decision to do these procedure (s) surgery (s) is due to having significant changes in my weight	135 (75.8%)	36 (20.2%)	7 (3.9%)	0.28	0.531

Table (3): Technological factors influence women toward plastic surgeries and cosmetic

Technological influencing factors	Don't Apply to me	Sometimes Apply to me	Very Much Apply to me	Mean	SD
I decided to do these procedure (s)/surgery (s) because availability of non-invasive procedure influence women decision to undergo surgery (s)/ procedure(s)	66 (37.1%)	65 (36.5%)	47 (26.4%)	0.89	0.792
I decided to do these procedure (s)/surgery (s) because advancement in medical technology improve accessibility to patients	65 (36.5%)	66 (37.1%)	47 (26.4%)	0.90	0.789
I decided to do these procedure (s)/surgery (s) because newer techniques less likely result in	64 (36.0%)	63 (35.4%)	51 (28.7%)	0.93	0.803

complications compared to traditional method					
I decided to do these procedure (s)/surgery (s) because digital technology helped women's perceptions of beauty interest in cosmetic procedure (s)/plastic surgery(s)	72 (40.4%)	56 (31.5%)	50 (28.1%)	0.88	0.821
I decided to do these procedure(s)/surgery((s) because advancement in medical technology improved affordability to patients	86 (48.3%)	56 (31.5%)	36 (20.2%)	0.72	0.781

Table (4): Association between socio demographic characteristics of the study sample with types of cosmetic procedures and plastic surgeries

Types	Test Result	Age	Residential Area	Level of Education	Income Level	Marital Status	Occupation
Rhinoplasty	Chi square	13.096	1.384	16.333	2.423	2.347	3.727
	p-value	0.022	0.501	0.012	0.298	0.503	0.292
Liposuction	Chi square	19.527	1.178	15.166	5.005	20.516	6.427
	p value	0.002	0.555	0.019	0.082	<0.001	0.093
Facelift	Chi square	10.822	1.493	4.693	13.311	0.905	1.186
	p value	0.055	0.474	0.584	<0.001	0.824	0.756
Blepharoplasty	Chi square	15.068	2.088	4.184	0.440	0.271	1.098
	p value	0.010	0.352	0.652	0.803	0.965	0.778
botox	Chi square	32.763	7.514	5.595	00.679	14.532	10.889
	p value	<0.001	0.023	0.470	0.712	0.002	0.012
Laser skin	Chi square	12.852	1.572	2.553	4.239	4.839	4.952
	p value	0.025	0.456	0.862	0.120	0.184	0.175
Filler	Chi square	11.616	11.158	6.630	5.251	17.442	18.185
	p value	0.040	0.004	0.356	0.071	<0.001	<0.001
Abdominoplasty	Chi square	20.252	0.572	9.537	0.451	4.629	5.400
	p value	<0.001	0.751	0.146	0.798	0.201	0.145
Laser hair removal	Chi square	9.878	12.659	6.460	0.233	4.407	5.951
	p value	0.079	0.002	0.374	0.890	0.221	0.114
Graft	Chi square	17.136	1.157	10.852	0.644	10.0	9.817
	p value	0.004	0.561	0.093	0.725	<0.001	0.020
Other	Chi square	17.650	1.892	11.716	1.296	2.487	5.202
	p value	0.061	0.756	0.469	0.862	0.870	0.518