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# Study of Knowledge, Attitude and Practices of Plastic Surgery among Females Students at Faculty of Education, Taif University, Saudi Arabia

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**Abstract Background:** This study investigates the knowledge, attitudes and practices of cosmetic surgery among faculty of education female students at Taif University (KSA). Methods: An observational cross-sectional study design was used to carry out the study at College of Education, Taif University. A self-administered questionnaire was first developed to collect the data necessary to fulfill the objectives of the research. The population under study included a random sample in which the questionnaire was distributed to female educational students at Taif University. The sample size was estimated by using a single proportion formula with an acceptable margin of error at 5%. The sample size obtained was 234. Those who completed the questionnaires were 220 students. **Results:** The mean age of the participants was 19.919±0.834. Out of 234 Taif female educational students in our study, the majority of participants (220, 94.0%) have heard about cosmetic surgery and completed the questionnaire. Mass Media was the source of knowledge for (79.1%) of participants who had already heard about cosmetic surgery. Only one-fourth of students (25.0%) of surveyed female educational students recognized the best definition of plastic surgery as a "surgery to restore function or normal appearance and (51.8%) recognized the best definition of cosmetic surgery as "a surgery that modifies or improves the appearance of a physical feature electively". Abdomioplasty and rhinoplasy were the most common mentioned types of cosmetic surgery they remembered. (40.0%) of students whose mothers employed accept doing cosmetic surgery and only (11.8%) of non-employed mothers accept doing surgery. This difference was statistically significant (p=0.000). Mean age of students who accept doing cosmetic surge yeas higher than those do not accept but difference in mean age was statistically insignificant (p= 0.063). About two-thirds of participants (66.4%) agreed that "women perform more cosmetic surgery than men". No one of participants reported undergoing cosmetic surgery. Conclusion and recommendations: The students did not know the exact meaning of cosmetic surgery and plastic surgery. Mass media play an important role as a source of information, we recommend further studies to find out other personal factors affecting attitude towards plastic surgeries and to study other population beyond educational institutions.

**Keywords:** plastic surgery, knowledge, attitude and practice, Al Taif university

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## 1. Introduction

Plastic surgery has continued to grow as a specialty. There is a intense increase in the number of cosmetic surgical techniques performed in the Western hemisphere in the past 10 years. [1] Nearly 8.3 million cosmetic surgical and nonsurgical procedures were performed in 2003. These numbers represent an increase of 299% between 1997 and 2003, and the number has an additional grown in the last decade. [2]

In the United States, for instance, 11.7 million cosmetic procedures were performed in 2007, with the vast majority being minimally invasive procedures (American Society

for Aesthetic Plastic Surgery, 2008). [3] Others suggest that these statistics underestimate the actual number of procedures being performed, as they do not cover appearance enhancing treatments performed by non-plastic surgeons. [4]

There are three reasons likely to play a role in the recent increase of cosmetic surgery. These factors include medical progressions, patient features, and media effects. [5]

Mass media has a great impact on determining both personal appearance and potentially one's decision to select cosmetic surgery. For decades, the public has imitated the hairstyles, clothing, and body types of the famous, and as a result, many studies have determined that mass media influences, such as magazines, TV shows, and movies, may affect body image satisfaction and self-esteem. [5] So, It is tremendously important to recognize the psychological

processes that lead a person to undergo aesthetic medical treatments, including cosmetic surgery. [6]

Body image is often considered to consist of two components: body image orientation, referring to how important body image is for a person, and body image evaluation, signifying how satisfied a person is with his or her own body. [7]

Plastic surgery has two branches, cosmetic surgery and reconstructive plastic surgery. Cosmetic surgery aims to improve the aesthetic appearance of a person, while plastic surgery may include this, or just the reconstruction (reconstructive surgery). Reconstructive plastic surgery aims to improve function; however, it may also involve trying to approximate normal appearance, but that is not its primary function. Reconstructive plastic surgery is often referred as simply reconstructive surgery. [8]

Some parts of the world completely separate cosmetic surgery and plastic surgery and term cosmetic surgery as elective surgery, non-essential surgery, surgery which the patient chooses to have; while plastic surgery is understood to mean surgery to reconstruct or improve appearance after injury or illness. [9]

According to a new study conducted by the International Society of Aesthetic Plastic Surgeons, nearly 15 million cosmetic processes were performed across the world in 2011. The third annual report, entitled "Global Study of Aesthetic/Cosmetic Surgery Procedures Performed in 2011," The results revealed some interesting trends in aesthetic preferences as well as various health issues. For example, the United States unsurprisingly ranked first among countries performing breast augmentations, while three Asian countries — China, Japan, and South Korea — ranked in the top-five countries performing rhinoplasties (nose jobs). [10]

According to statistics released today by the International Society of Aesthetic Plastic Surgery (ISAPS), Over 20 million cosmetic surgical and nonsurgical techniques were performed globally in 2014, There is more than 2,700 board-certified aesthetic plastic surgeon members in 95 countries. Breast augmentation is highest among women while eyelid surgery is prevalent among men For surgical procedures, Botulinum Toxin remains the most common cosmetic process overall for both men and women.[11] However, to date, knowledge, attitudes and practices about plastic surgery have largely been unexplored among female students in Taif Region.

## 2. Aim of the Study

## 2.1. The Objectives of This Study were to

- 2.1.1. Assess knowledge and attitudes of Faculty of Education female students toward plastic surgery.
- 2.1.2. Determine the prevalence of Plastic surgery among Saudi female college students in Taif City.

#### 3. Material and Methods

## 3.1. Study Design

Cross- sectional study design.

## 3.2. Study Area

This study was conducted at Taif University in Taif city which is located in the western region of Saudi Arabia. The study was conducted at girls' section.

## 3.3. Study Population and Sampling

The study population was a sample of female education college students at girls' section of Taif university. Multistage random sample technique was used to determine the students needed for the study. In the first stage to choose one of theoretical colleges as we used simple random sampling technique; educational college was chosen randomly. At the second stage we also used simple random sampling technique to choose one academic years students to participate. In the third stage we used systematic random sample to choose the participated students

The population under study included a random sample of 234 students; in which the self- administered questionnaire was collected from all female students included in the study at Taif University. The sample size was estimated by using the single proportion equation in Raosoft package, the required sample size 200 students at 95% confidence interval. Margin of error accepted was 5%. Random sample of two-hundred and thirty four students were participated.

## 3.4. Study Tools

A self-administered questionnaire was developed to collect data necessary to fulfill the objectives of the research. It included four section;. The first section contained personal data (age, college, academic year, marital status, residency, family income, parents; education and job). Three further sections focused on information related to knowledge, attitudes and practices towards plastic surgery amongst this study group.

#### 3.5. Study Time

This study was conducted in October and November (2016).

## 3.6. Statistical Design

Collected data were verified and coded prior to computerized data entry. The Statistical Package for Social Sciences (SPSS version 22.0) was used for data entry and analysis. Percentages, mean, range and SD were used as descriptive statistics. Chi-square test was used for testing the association and/or difference between categorical variable. Fisher exact test was applied whenever indicated (if the frequency is less than 5 in one or more of cells in contingency tables)

# 3.7. Administrative and Ethical Considerations

Permission from Medical College Administration in Taif city before starting the study and the aim of the study was explained to them.

Verbal consent was obtained from each participant to voluntary participate in the study. Data were treated confidentially during all stages of the research.

## 3.8. Budget

This study was fully self-funded.

## 4. Results

Table 1 shows the socio- demographic data of the studied students. Mean age of the studied students was  $19.91\pm0.834$  years. All of them were single. (52.6%) of fathers had a secondary educational level and only (14.9%) had university education. Less than half of fathers had a professional work (44.9%), (16.7) were office workers, (27.4%) were soldiers. Most of students' mothers had no formal education (74.4%) and most of them do not work (83.8%).

Table 2 represents knowledge of students about plastic surgery. Out of 234 Taif female educational college students, almost all (220, 94.01%) had heard about plastic surgery.

Regarding source of information; (79.1%) of students had used mass media as a source of information, (22.3%) mentioned friends. Newspapers were the source of knowledge in (12.7%) of students,(9.5) reported relatives and (5.9%) reported other sources as teachers and lectures.

Table 1. Demographic characteristics of the studied participants

variables	No. (234)	% 100.0
Age:		
Mean± SD	19.91± 0.834	
Marital Status:		
Single	234	100.0
Fathers' Educational level:		
No formal education	22	9.4
Elementary	54	23.1
Secondary	123	52.6
university	35	14.9
Mothers' educational level:		
No formal education	174	74.4
Elementary	23	9.8
Secondary	37	15.8
university	0	0.00
Fathers' employment status		
Professional	105	44.9
Office workers	39	16.7
Military	64	27.4
others	26	11.0
Mothers' Employment status		
Unemployed	181	77.4
Employed	53	22.6
Family Income:		
Less than 5000	63	26.9
5000-	133	56.8
10 and more	38	16.2

As regard of definition of plastic surgery, three quarters (75.0%) considered it as a distortion of God's creation. Others (one quarter) mentioned some of correct definition of plastic surgery; there was no differentiation between plastic and cosmetic surgery. (20.5%) considered it a surgery to improve appearance electively, 10.9% mentioned that it is a surgery to restore function and 4.5% mentioned that it can be used to remove or add some parts.

Table 3 shows the attitude of students about plastic surgery. Most of students (61.8%) disagreed that cosmetic surgery is accepted socially and (72.3%) did not approve themselves doing cosmetic surgery. One hundred and seventy five (79.5%) did not accept to have cosmetic surgery later on. (73.6%) of students agreed that cosmetic surgery is forbidden by religion. More than half of students found that cosmetic surgery is a waste of money.

Table 2. Knowledge of study students about plastic surgery

	No. (234)	%
Have you heard about Plastic surgery?		
- Yes	220	94.0
- No	14	6.0
Source of information		
- Friends	49	22.3
- Relatives	21	9.5
- Mass Media	174	79.1
- Other sources	13	5.9
Knowledge about correct definition of plastic		
surgery: -Correct knowledge	55	25.0
· ·	165	75.0
-Incorrect knowledge and do not know  Most common types of plastic surgery do you	103	73.0
know (55):		
-Correct abnormalities resulting from birth defect	49	89.1
-Correct abnormalities due to health defects or accidents	51	92.7
Knowledge about correct definition of cosmetic surgery:		
correct knowledge	114	51.8
-incorrect knowledge or do not know	106	48.2
Awareness about different types of cosmetic surgery(114):		
-Breast augmentation or Breast reduction	23	20.2
-Blepharoplasty	20	17.5
-Rhinoplasty	34	29.8
-Lip enhancement or Liposuction	20	17.5
-Laser for skin	29	25.4
-Check augmentation	18	17.4
-Abdominoplasty	37	32.5
Respondents' fears about cosmetic surgery?		
- Deaths	38	17.3
- Wrinkling/ disfigurements	76	34.5
- Damage and loss of function	36	16.4
- Infections	20	9.1
- Not harmful	50	22.7
Are there general rules to do plastic or cosmetic surgery?		
- Do If there is disfigurement or loss of function	116	52.7
- Do not change God's creation	104	47.3
Are you aware of availability of plastic surgery in Taif City?		
- Yes	30	13.6
- Do not know	190	86.4

Table 3. Attitude of students about plastic surgery

	Faculty of Education		
	Strongly agree And agree	Do not know	Disagree And strongly disagree
Do you think cosmetic surgery accepted socially?	35 (15.9%)	49 (22.3)	136 (61.8)
Do you approve of cosmetic surgery	40 (18.2%)	21 (9.5%)	159 (72.3%)
Support those who undergo cosmetic surgery to be better	72 (32.7%)	42 (19.1%)	106 48.2%)
Will you accept to have cosmetic surgery later	16 (7.3%)	29 (13.2%)	175 (79.5%)
Cosmetic surgery forbidden by religion	162 (73.6%)	22 (10.0%)	36 (16.4%)
Cosmetic surgery is a waste of money	125 (56.8%)	49 (22.3%)	46 (20.9%)
Would feel shy to inform people when undergoing cosmetic surgery	76 (34.5%)	102 (46.4%)	42 (19.1%)
Might undergo cosmetic surgery upon request of their spouse	84 (38.2%)	63 (28.6%)	73 (33.2%)
Mass media affects decisions regarding cosmetic surgery	158 (71.8%)	41 (18.6%)	21 (9.5%)
Women do cosmetic surgery more than men	144 (65.5%)	60 (27.2%)	16 (7.3%)
You will have fears if you decide to do cosmetic surgery	42 (19.1%)	106 (48.2%)	72 (37.2%)

Table 4. Practice of plastic surgery among studied students

	Faculty of Education		
	No. (220)	%	
Did you go through any type of cosmetic surgery?	0	100.0	
Do you know someone who had performed cosmetic surgery?			
- Yes	13	5.9	
- No	207	94.1	
If yes, Whom?			
Mother	1	7.7	
Sister	2	15.4	
Friend	8	61.5	
Cousin	2	15.4	
If yes what?			
Rhinoplasty	2	15.4	
Laser for skin	7	53.8	
Abdominoplasty	3	23.1	
Check augmentation	1	7.7	

Table 5. Relationship between socio-demographic factors and students' opinion about acceptance of cosmetic surgery

	agree	Not sure	Do not agree	total	P value
Family income					
Less than 5000	7 (11.5)	4 (6.6)	50 (82.0)	61(27.7)	
5000-10000	11 (9.1)	13 (10.7)	97(80.2)	121 (55.0)	0.000
More than 10000	22 (57.9)	4 (10.5)	12 (31.6)	38 (17.3)	
Total	40(18.2)	21(9.5)	159 (72.3)	220	
Working of mothers:					
Working	20 (40.0)	4 (8.0)	26 (52.0)	50 (22.7)	
Not working	20(11.8)	17 (10.0	133 (78.2)	170(77.3)	P= 0.000
Age of students	20.025±0.86	19.52±0.511	19.94±0.855	19.92±0.84	.063

Less than half of students (46.4%) cannot determine If they will be shy to have cosmetic surgery. Only (38.2%) agree to have cosmetic surgery upon request of spouse.

Most of students agreed that mass media affects decisions regarding doing cosmetic surgery. About two-thirds of students belived that women perform cosmetic surgery than men. Only 19.1 agreed that they will have fears to do theses surgeries.

Table 4 shows the practice of plastic surgery among study participants. IT was found that no one of students had received plastic surgery before. Thirteen students

(5.9%) mentioned that they knew others who did. Most of them where friends (61.5%), sister and cousins (15.4%) each and mother (7.7%).

Laser for skin as a practice was the first operation mentioned by students, followed by abdominoplasty, then rhinoplasty and lastly check augmentation.

Table 5 shows the relation between opinion of female students about acceptance of cosmetic surgery and some socio- demographic factors. It was found that (57.9%) of students belong to families had income more than 10000 Riyal Saudi accept doing cosmetic surgery as compared to

(9.1%) among students of family income (5000-10000) and (11.5%) among those less than 5000. This difference was statistically significant (p= 0.000).

Regarding working of mothers, (40.0%) of students whose mothers employed accept doing cosmetic surgery and only (11.8%) of non-employed mothers accept doing surgery. This difference was statistically significant (p=0.000).

Mean age of students who accept doing cosmetic surge yeas higher than those do not accept but difference in mean age was statistically insignificant (p= 0.063).

## 5. Discussion

Cosmetic surgery is becoming progressively prevalent in different parts of the world, both among men and women. [12] Saudi Arabia ranks 22<sup>nd</sup> amongst the top 25 countries with the highest rates of cosmetic processes in the world according to a study conducted by the international society of Aesthetic Plastic Surgeons (ISAPS) in 2013. The study discovered also that Turkey and Saudi Arabia are the only Muslim countries with a total number of 104,767 and 46,962 surgical procedures done in 2011 in turn. [13]

Cosmetic surgery has become a trend in Saudi Arabia nowadays because it has become socially acceptable to go under the knife for aesthetic reasons and that people have assigned greater importance to the notions of beauty. [14]

According to our knowledge no studies have been performed in the West region of Saudi Arabia about knowledge of extra- medical students about plastic surgery not only cosmetic surgery. The objectives of this study were to assess the knowledge and attitudes about plastic surgery among Saudi female college students of faculty of education in Taif City. Out of 234 Taif female educational college students, almost all (220, 94.0 %) had heard about plastic surgery. On the other hand only 14 (6.0%) of students did not hear about plastic surgery. It would be exciting to know why they did not hear about plastic surgery.

Mass media was the commonest source of information mentioned by the students (79.1%), followed by friends (22.3%). Relatives were mentioned by (9.5%). Other sources as formal learning mentioned by (5.9%). Our result is in agreement with Otene et al., 2016 [15] and Al Doheyan et al., 2016 [16] where they found that mass media was the first source of information about plastic surgery mentioned by the study subjects.

In this study most of students cannot differentiate between plastic surgery and cosmetic surgery which is sometimes considered as a part of plastic surgery. Only fifty-five (25.0%) of the students mentioned the correct definition of plastic surgery, which is sometimes known as reconstructive surgery, "a surgery to restore function or normal appearance by remaking defective organs or parts due to birth disorders, trauma, burns and diseases". [17] A study in 2012 [18] in India among health care workers about plastic surgery, found that there is a little awareness about plastic surgery as a specialty.

About half of students (51.8%) mentioned the correct definition of cosmetic surgery which is performed on

normal healthy body parts that deals with maintenance, restoration or enhancement of one's physical appearance through elective surgical and medical techniques. [17] In agreement of our study, a study conducted in 2016 [16] among female medical students at King Abdul Aziz hospital in Riyadh, also found that nearly about have of the students recognized the best definition of cosmetic surgery. Also Otene etal., 2016 [15] found that (50.6%) of basic science students in Nigeria either gave wrong answer or had no knowledge about correct definition of cosmetic surgery.

Regarding types of cosmetic surgery they knew (Table 2); Out of 114 students who defined correctly cosmetic surgery; abdominoplasty, rhinoplasty and laser for the skin were the most commonest types mentioned (32.5%, 29.8% and 25.4% respectively). In contrast to our study, a study conducted by Al Doheyan et al 2016 [15] at Al Riyadh, the medical students mentioned breast augmentation as the most common surgery they knew as a knowledge and rhinoplasty was mentioned by only (5.2%) of students. But when age was taken into consideration in the same study; rhinoplasty was mentioned as the first cosmetic surgery that done by students less than 21 years and non- married females. In agreement to this study where rhinoplasty was mentioned as one of most cosmetic surgeries they knew; Dr Fageeh [14] said that "The most common surgery requested is nose reshaping in Saudi Arabia. Also abdominoplasty was mentioned as attitude by the students in the same study carried out by Al Doheyan et al.,. 2016 for women more than 21 years but not mentioned as a knowledge. [16]

Regarding fears from doing cosmetic surgeries; Wrinkling and disfigurement were the first cause of fears, followed by death and then damage and loss of function and lastly infections. All these causes were mentioned also by the students in a study carried out by Otene et al., (2016) [15] but cancer was mentioned in his study as a first cause of fears and not mentioned entirely in our research. In this study only 77.3% found that cosmetic surgery is not harmful; in contrast, 91% of Otens et al., respondents believed that cosmetic surgery is harmful.

Regarding general rules that should obeyed to do plastic or cosmetic surgery; more than half of the students (52.7%) believed that it should done only if indicated as if there is disfigurement or loss of function and the others (47.3%) mentioned that we should not change God's creation. They not mentioned beauty in general as cause for doing cosmetic surgery. Religion and culture is a major influence on Saudi girls on thinking about cosmetic surgery. In contrast to this study; others studies mentioned that securing a partner or getting job are main causes to underwent cosmetic surgery. [19]

Table 2 shows the attitude of students about plastic surgery. There is no differentiation between cosmetic and plastic surgery as a whole. The attitude of students towards cosmetic surgery is mostly negative. Most of students (61.8%) disagreed that cosmetic surgery is accepted socially and majority of them (72.3%) did not approve themselves doing cosmetic surgery. We think that attitude towards elective cosmetic surgery differ from place to other. Some as Chinese population found that body should not be intact as it is a guarantee from parents. [20] and people like normal things. [24] Ton Tam et al., in

a study conducted in Hong Kong [20] (2012) found that participants were not even welling to marry women have had cosmetic surgery. On the other hand, this research is inconsistent with Al Doheyan and colleagues (2016) [16] who mentioned that female medical students attitude towards cosmetic surgery at Al Riyadh is reasonable and most of the students agreed that cosmetic surgery is common in general. In this study, only (32.7%) agreed to support those who undergo cosmetic surgery and most of them (79.5%) did not agree to have themselves cosmetic surgery later in life. A study conducted in Hong Kong [20] also reported that participant is even not welling to have social relationship with those do cosmetic surgery.

(73.6%) of students agreed that cosmetic surgery is forbidden by religion. The attitudes of students towards cosmetic surgery is influenced by culture and religion. This finding is not astonishing as these are major concerns in Saudi Arabia. Majority of our respondents did not agree of cosmetic surgery as majority of them also feel they should be satisfied with however they have been made (created) as a result some of those who desire to have cosmetic surgery done are often scoffed at. Similarly, in a study in the UK, researchers focused on religious beliefs and attitudes toward cosmetic surgery after noting that "research exploring religiosity as a possible factor predicting the likelihood of undergoing cosmetic surgery is sparse" [23]. It was further suggested in the UK study that "religiously conservative individuals of all faiths will have stricter views about "deception" and sins of vanity, and will be less likely to undergo cosmetic surgery than more liberal or atheist individuals." [23]

About two-thirds of students (65.5%) agreed that women did cosmetic surgery more than men. In terms of factors affecting the likelihood of having cosmetic surgery, for instance, the obtainable proof suggests that women report a greater likelihood of willingness to undergo various cosmetic procedures compared with men [20] & [21] which has been explained as a function of the greater sociocultural pressure on women to attain ideals of physical and sexual attractiveness.

Table 3 represents the practice of plastic surgery among studied students. In this study no one of female students who participated in the research had received plastic surgery before and only (5.9%) mentioned that they knew others who did; most of them were friend and about onethird were family members. In agreement to our research, a study conducted in Nigeria (2016) [15] among basic sciences students found that very rare number of students have had or know person who did these surgeries. Also, a study conducted at King Abdul Aziz University in Jeddah Saudi Arabia [16] found that only (2.2) of students had undergone cosmetic surgery but (12.4%) of them indicated that at least one family member had undergone cosmetic surgery. On the other hand, this study is in disagreement with a study conducted among female medical students in Al Riyadh (2016) [16] who found that (9%) of participants received cosmetic surgery. May be medical students have more chance to know about plastic surgery and to do. Also, a study conducted among female college students in Philadelphia in United states found that about (5%) of students did a cosmetic surgery operation. [24]

Laser for skin as a practice done by others was the first operation mentioned by students. The same was found in other studies [17] as laser for skin was the first practice mentioned

(38.2%) of students mentioned that they might undergo cosmetic surgery upon request of their spouse. This means that the students were aware of importance of cosmetic surgery to change appearance. Park, Calogero, Harwin and DiRaddo (2009) [25] showed that other people's negative comments on one's appearance trigger interest in cosmetic surgery, especially for individuals who are sensitive to social rejection. Similarly, Sherry, Hewitt, Lee- Baggley, Flett, and Besser (2004) [26] reported that cosmetic surgery is considered by some people to be a way to fulfill other people's expectations and to garner attention or admiration.

The study investigated factors that influence attitudes toward cosmetic surgery among students. Table 5 shows that Family income of students and working status of mothers were significantly affect opinion of students about cosmetic surgery and age of students was insignificantly affect their opinion. In agreement to this study; others found that higher income among patients, safety of surgical procedures and low cost of treatment has served to reduce patient anxiety about cosmetic procedures. [27]

## 6. Conclusion and recommendations

There is no differention between cosmetic surgery and plastic surgery. Mass media plays an important role as a source of information. we recommend further studies to find out other personal factors affecting attitude towards plastic surgeries and to study other population beyond educational institutions.

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