

## A Study of Attitude and Incident of Elective Cosmetic Gynecology among Saudi Female

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### Abstract

**Objective:** To assess the knowledge and willingness of Saudi female patients to undergo cosmetic gynecology surgeries to improve their sexual life and evaluate the incidence of patients undergoing cosmetic gynecology of Saudi females toward these surgeries.

**Result:** A total of 325 respondents participated in this study. Most of them aged between 31 - 40 years. Majority were married (68.92%). Overall, 27.69% underwent cosmetic gynecology surgeries and 33.85% had positive attitude towards the procedure.

**Conclusion:** Elective cosmetic gynecology surgeries are increasingly popular globally. However, our study showed prevalence is very low in the Saudi community, and the knowledge of these surgeries among women in Saudi Arabia is not well known. Factors associated with the women's knowledge were age, education, marital status, and occupation.

**Keywords:** Elective Cosmetic Gynecology; Labiaplasty; Attitude

### Introduction

#### Background

Cosmetic gynecology is a growing and important field today. However, it is important to understand the various procedures performed and the existing scientific and marketing data to increase clinical judgment when recommending such procedures. Although there may be many reasons to undergo cosmetic gynecological procedures, women electing to undergo such procedures usually do so to improve their sexual desirability, self-confidence, and sexual function [1]. The cosmetic procedures involve several anatomical areas including the clitoral hood, clitoral prepuce, clitoral frenulum, labia minora, labia majora, vaginal introitus, hymen, vagina proper, perineum, perineal body and membrane, and the anal sphincter [1].

### Literature Review

#### Clitoral cosmetic surgery

##### Clitoral hoodoplasty

A buried clitoris is a one that is covered by skin with a vanished clitoral prepuce and the absence of the preputial opening. Clitoral phimosis is a condition characterized by a hypo-trophic clitoral prepuce and the presence of varying degrees of preputial openings [4]. For conditions that lead to occlusion of the clitoral prepuce (such as lichen sclerosis, lichen simplex chronicus, squamous cell hyperplasia, epithelial cyst and female genital cutting), hydrodissection with reverse V-plasty can be used. Alteration of this procedure can also be used in clitoral hood reduction. Hydrodissection itself breaks down adhesions and washes off smegma and debris [2-4]. A clinical study on hoodoplasty was performed by Ostrzenski and this study created a classification for clitoral hoodoplasty depending on the underlining cause. These causes included occluded clitoral prepuce, hypertrophic-gaping clitoral prepuce, and asymmetrical subepidermal hypertrophy. Clitoral prepuce anomalies can be remedied using three different surgical procedures. These techniques include hydrodissection with reverse V-plasty, reduction with reverse V-plasty, and subepithelial reduction [3].

##### Clitoral frenuloplasty

For women who want to improve the aesthetic appearance of their clitoris, clitoral frenuloplasty may be performed. This surgical procedure changes the anatomical structure of the clitoris to a more pleasing appearance. Currently only anecdotal evidence exists to support this procedure. Clitoral frenuloplasty usually involves reducing hypertrophy but can be done to achieve a more pleasing contour, shape, size, and symmetry of the clitoral frenulum [5].

#### Labial cosmetic surgery

##### Labia minora labiaplasty

Labia minora labiaplasty for labial hypertrophy was first published in 1976 [6]. After that several articles were published. Hodgkinson and Hait were first to suggest doing labia minora labiaplasty for aesthetic reasons in 1984 [7]. Alter studied hundreds of cases who underwent labia minora and clitoral hood reduction and found that central wedge resection with lateral clitoral hood reduction was a safe and effective operation with only a few complications and high patient satisfaction [8]. It is important to note however that central wedge excision labiaplasty is a type of V-plasty which will create a transverse scar postoperatively on a vertically located longitudinal organ. This may hinder its use in cosmetic gynecology. The ACOG considers cosmetic procedures in gynecology to be acceptable when there is a medical indication for the procedure [1]. These indications include repair or reversal of genital cutting, labial hypertrophy and asymmetrical labial growth due to congenital conditions, chronic irritation, or increased androgenic hormones. The ACOG also reported concerns about side effects and complications of cosmetic vaginal surgery like dyspareunia [1]. When an inferior V-shaped resection procedure is performed, there is reported dyspareunia that usually lasts 3 - 90 days with a median of 28 days. Another complication is wound dehiscence due to the short length of the labia after the operations, which could be under 1 cm from the labium base. The Kocher's clamps that are used in the operation may also crush the tissues below the excision point which leads to a devitalized area after surgery [9].

##### Labia majora labiaplasty

The first to publish a technique for labia majora labiaplasty was Felicio in 2007 [10]. After that, other study also conducted labia majora labiaplasty for labial hypertrophy. All of these attempts involved a vertical partial excision of the labia majora [7,15]. A technique for autologous fat transfer for labia majora labiaplasty was first published by Vogt [11]. This type of labia majora labiaplasty is short term

and patients ought to be informed before operating. Some of the complications of labia majora labiaplasty include hematoma formation and chronic moderate edema that may last over 4 weeks [12]. It should also be noted that since the labia majora is a vertical and longitudinal tissue, any horizontal excision will yield an unnatural horizontal scar. Therefore, horizontal excisions are discouraged and should be avoided.

### Vaginal cosmetic surgery

#### Hymenoplasty (revirgination)

Hymenoplasty or revirgination procedures are operations that restore the hymeneal gross anatomic integrity. The reasoning behind such operation may include restoring the hymeneal integrity for rape patients, restoring the hymeneal integrity after female cutting, or a hymeneal repair to eliminate signs of history of sexual vaginal activity. A desire to mask a woman's sexual history is usually predominantly seen in areas where premarital virginity is the cultural expectation. In the western world, there is a growing trend to establish a secondary virginity either to prevent sexually transmitted diseases, prevention of pregnancy, maintaining sexual abstinence for religious reasons, or having a changed personal opinion on premarital sex. The mode of surgical procedure used depends heavily on the personal experience of the surgeon. Currently, the ACOG does not recommend revirgination procedures due to a lack of supporting data regarding the safety and efficacy of such procedures [1].

#### Vaginal rejuvenation

Vaginal rejuvenation as defined by Goodman [13] is a term that encompasses the use of perineoplasty and/or vaginoplasty in order to tighten the vaginal canal and to elevate and strengthen the perineal body. This use of terminology like "Laser Vaginal Rejuvenation (LVR)" or "Designer Laser Vaginoplasty (DLV)" isn't clear on its operative implications. Goodman states that neither the patients nor the medical professionals fully understand what these marketing terms mean. Procedurally, there is no differences that distinguish marketing terms like LVR and DLV from the traditional gynecologic procedure of colpoperineoplasty. Techniques used in vaginal rejuvenation can include vaginoplasty, where the vaginal mucosa is excised from the vaginal fornixes with a modified anterior or high posterior colporrhaphy and excision of the lateral vaginal mucosa.

One of the goals of vaginoplasty as stated above is to tighten a relatively lax upper vagina [5]. A study examined 53 cases where patients had a sensation of a wide vagina combined with a decreased or lack of ability to reach orgasm [14]. The study's goal was to investigate the acceptability and satisfaction after the procedure as well as if it increased the sensation of vaginal tightness and sexual gratification reported by the women. The authors found that such procedure had a high satisfaction rate and increased sexual performance and orgasms in the subjects.

Ostrzenski conducted a clinical study was conducted related to sensation of wide/smooth vagina and the various causes for it. One of them was surgical interventions to correct specific abnormalities such as the new surgical technique called vaginal rugation restoration [4]. Vaginal rugation restoration recreates the diminished vaginal columnar rugae using CO<sub>2</sub> laser and is aimed to acquire a sensation of wide/smooth vagina which is lost with consists of three distinct procedures to reconstruct anterior, lateral, and posterior defects of the vaginal introitus.

American College of Gynecology recommends that procedures such as vaginal rejuvenation should not be offered to patients, since they are not medically indicated, and the effectiveness and safety of such procedures have not yet. The American College of Gynecology concludes that, it is deceptive to give the impression that vaginal rejuvenation, designer vaginoplasty, revirgination, G-spot amplification, or any such procedures are accepted as routine surgical procedures [3].

### G-spot augmentation

The hypothesis for surgical technique of G-spot augmentation was based on the hypothesis that de novo creation of an irregularity around the pubo-cervical fascia along the anterior wall of vagina, where G-spot is presumed to be present, will increase sexual satisfaction. In this procedure, autologous fat transfer was used for G-spot augmentation. While other procedure suggested using collagen injection into the anterior wall of the vagina in the area of G-Spot may be used [16]. Similar to other above mentioned cosmetic procedures, the American College of Gynecology recommends not offering G-spot amplification to patients, due to lack of medical indication. Additionally, safety and effectiveness of these procedures have not been documented.

### Rationale

Gynecologic cosmetic procedures include anatomic alteration of the female genital area. Reasons that many women undergo cosmetic gynecological procedures include improving sexual desirability, self-confidence, and sexual function. However, per the American College of Gynecology, these procedures are not medically indicated.

### Objective of the Study

- To assess the knowledge and willingness of Saudi female patients to undergo cosmetic gynecology surgeries to improve their sexual life.
- To evaluate the incidence of patients undergoing cosmetic gynecology of Saudi females toward these surgeries.

### Methodology

#### Study design

This is a cross-sectional study among female patients attending obstetrics & gynecology clinic at east Jeddah hospital.

#### Study population

Saudi Female citizens and residents attending obstetrics and gynecology clinic at east Jeddah hospital.

#### Eligibility criteria

- Inclusion criteria: All female between the age of 60 and 18 years old.
- Exclusion criteria: Male - Female over 60 years old or below 18 years old - Captivated women - Women with mental issue.

#### Study area

Obstetrics and gynecology clinic at east Jeddah hospital - Jeddah - Kingdom of Saudi Arabia.

#### Sample size

Sample size will be detected through sample size calculator of 95% confidence level for population size = 1583 with margin error 5% = 310.

**Sample technique**

Simple random.

**Data collection**

Data collection will take place in Jeddah. A structured questionnaire was developed to cover the research objectives. The questionnaire was originally developed in English and then translated into Arabic; its validity was reviewed by selected health care experts and professionals and tested on a sample of the target population. Selected patients will be interviewed by Interns. Patients will be approached while waiting for services at the primary care centers and given a brief description of the study and informed about the study objectives and procedures, and that data collected would be used only for the stated research purposes. If they agreed to participate, the student will administrate the questionnaire verbally. Almost 10 minutes will be needed to complete the questionnaire. The process will be continued till the required sample size is completed.

**Socio-demographic variables:**

- Age of the participants at the time of the interview was recorded in complete years and identified as 18-30, 31-40, 41-50, 51-60.
- Sex defined as male or female.
- Marital Status defined as: married, divorced or widowed.
- Nationality defined as: Saudi, Non-Saudi.
- Education defined as a completed level: primary education, diploma, graduate, post graduate.
- Awareness of any gynecological surgery: clitoral plasty - labiaplasty - Vaginal Cosmetic Surgery - G-spot augmentation - nothing.
- Welling to do any gynecological surgery defined as Yes/No.
- Welling to do any of the following procedures: clitoral plasty - labiaplasty - Vaginal Cosmetic Surgery - G-spot augmentation.
- The cause: appearance - functional - sexual discomfort - improve self-esteem/confidence.

**Data analysis**

All data through the study will be digitally entered. Subsequently, these data will be analyzed using SPSS version 23.

**Ethical considerations**

This study is ethically approved by .....

**Result**

A total of 325 respondents from 18 - 30 years (27.08%) and 31-40 years (52%) of age participated in this study. 68.82% of participants were married. The majority were Saudi with a bachelor's and post-graduate degree (Table 1).

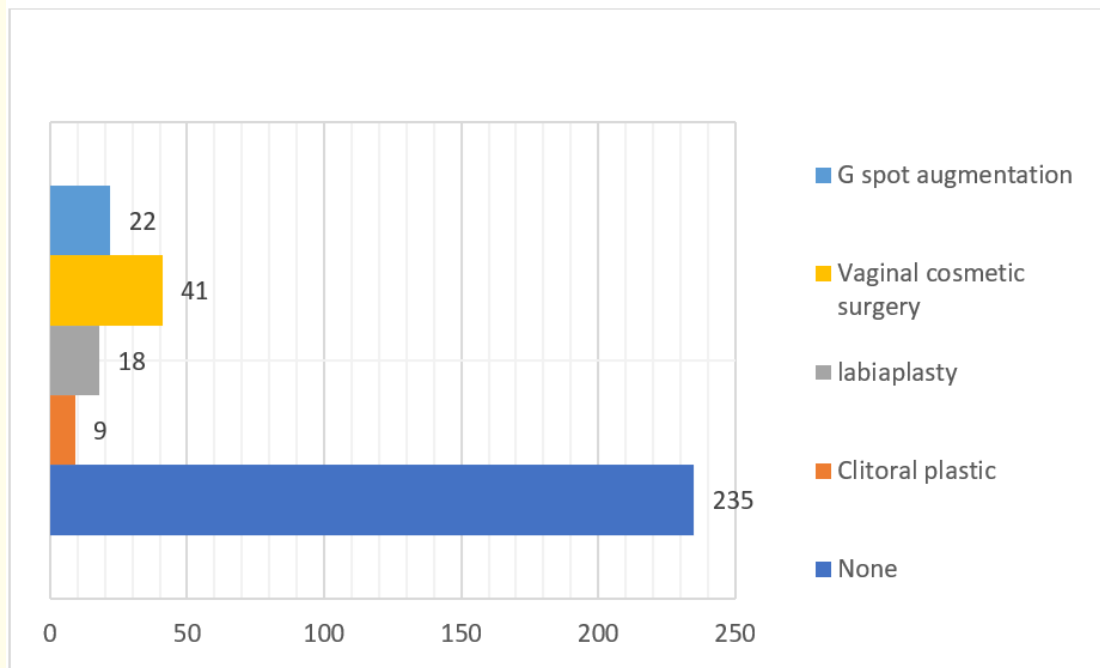
Items		N	%
Age	18 - 30 years	88	27.08
	31 - 40 years	169	52
	41 - 50 years	45	13.85
	51 - 60 years	23	7.08
Marital status	Single	71	21.85
	Married	224	68.92
	Divorced or widowed	30	9.23
Nationality	Non-Saudi	33	10.15
	Saudi	292	89.85
Educational level	High school	20	6.15
	Diploma	19	5.85
	Graduate	215	66.15
	Post-graduate	71	21.85

**Table 1:** Sociodemographic characteristic of participants.

Table 2 shows 214 (65.85%) of respondents had known at least one cosmetic surgical procedure. Approximately 34% were willing to get any gynecological surgery and 28% performed at least one of the following gynecological surgical procedures: clitoral plastic, labiaplasty, vaginal cosmetic surgery and G spot augmentation (Graph 1).

Items		N	%
Knowing about any gynecological surgery	Nothing	111	34.15
	At least one of the following procedures: <ul style="list-style-type: none"> <li>• Clitoral plastic</li> <li>• labiaplasty</li> <li>• Vaginal cosmetic surgery</li> <li>• G spot augmentation</li> </ul>	214	65.85
Willingness to get any gynecological surgery	No	215	66.15
	Yes	110	33.85
Performed any of the following procedures	No answers	235	72.31
	At least one of the following procedures: <ul style="list-style-type: none"> <li>• Clitoral plastic</li> <li>• labiaplasty</li> <li>• Vaginal cosmetic surgery</li> <li>• G spot augmentation</li> </ul>	90	27.69

**Table 2:** Distribution of knowledge and willingness of female patients to undergo cosmetic gynecology surgeries.



**Graph 1:** Prevalence of cosmetic gynecology.

Participants had different goals for getting gynecological surgical procedures: 58 (32.95%), improve appearance, 63 (35.80%) increase self-confidence, 34 (19.32%) performance improvement and 21 (11.93%) feeling uncomfortable during a sexual relationship (Table 3).

Items		N	%
Goal of treatment	Improve appearance	58	32.95
	Increase self-confidence	63	35.80
	Performance improvement	34	19.32
	Sexual discomfort	21	11.93

**Table 3:** Main goal of participants in seeking cosmetic gynecology surgery.

There was a significant difference among participants who had some knowledge about gynecological surgery and their characteristics involving age and educational level ( $p$  value < 0.05) (Table 4 and 5). Furthermore, Age group and marital status were significantly associated with participants who would like to undergo any cosmetic gynecological surgery ( $p$  value < 0.05) (Table 4 and 6). In addition, the reason for getting treatment was significantly associated with marital status (Table 6). Nationality was not significant with any of the goals (Table 7).

Items			Age						P value	
	18-30		31-40		41-50		51-60			
	N	%	N	%	N	%	N	%		
Knowing about any gynecological surgery	Nothing	41	46.59	48	28.40	12	26.67	10	43.48	0.014*
	At least one of the following procedures: • Clitoral plastic • labiaplasty • Vaginal cosmetic surgery • G spot augmentation	47	53.41	121	71.60	33	73.33	13	56.52	
Willingness to get any gynecological surgery	No	67	76.14	104	61.54	24	53.33	20	86.96	0.004*
	Yes	21	23.86	65	38.46	21	46.67	3	13.04	
Performed any of the following procedures	No answers	68	77.27	119	70.41	30	66.67	18	78.26	0.474
	At least one of the following procedures: • Clitoral plastic • labiaplasty • Vaginal cosmetic surgery • G spot augmentation	20	22.73	50	29.59	15	33.33	5	21.74	
Goal of treatment	Improve appearance	16	32.65	31	32.98	8	33.33	3	33.33	0.142
	Increase self-confidence	25	51.02	31	32.98	6	25	1	11.11	
	Performance improvement	4	8.16	20	21.28	6	25	4	44.44	
	Sexual discomfort	4	8.16	12	12.77	4	16.67	1	11.11	

Table 4: Relationship between age and knowledge, and willingness to undergo cosmetic gynecology surgeries.

Items			Educational level						P value	
	High school		Diploma		Graduate		Post-graduate			
	N	%	N	%	N	%	N	%		
Knowing about any gynecological surgery	Nothing	12	60	9	47.37	77	35.81	13	18.31	0.001*
	At least one of the following procedures: • Clitoral plastic • labiaplasty • Vaginal cosmetic surgery • G spot augmentation	8	40	10	52.63	138	64.19	58	81.69	
Willingness to get any gynecological surgery	No	14	70	14	73.68	143	66.51	44	61.97	0.758
	Yes	6	30	5	26.32	72	33.49	27	38.03	
Performed any of the following procedures	No answers	13	65	13	68.42	155	72.09	54	76.06	0.758
	At least one of the following procedures: • Clitoral plastic • labiaplasty • Vaginal cosmetic surgery • G spot augmentation	7	35	6	31.58	60	27.91	17	23.94	
Goal of treatment	Improve appearance	2	18.18	3	30	43	35.83	10	28.57	0.072
	Increase self-confidence	4	36.36	3	30	45	37.50	11	31.43	
	Performance improvement	4	36.36	0	0	19	15.83	11	31.43	
	Sexual discomfort	1	9.09	4	40	13	10.83	3	8.57	

Table 5: Relationship between educational level and knowledge, and willingness to undergo cosmetic gynecology surgeries.



Items	Marital status						P value	
	Single		Married		Divorced/Widowed			
	N	%	N	%	N	%		
Knowing about any gynecological surgery	Nothing	32	45.07	68	30.36	11	36.67	0.071
	At least one of the following procedures: • Clitoral plastic • labiaplasty • Vaginal cosmetic surgery • G spot augmentation	39	54.93	156	69.64	19	63.33	
Willingness to get any gynecological surgery	No	56	78.87	141	62.95	18	60	0.036*
	Yes	15	21.13	83	37.05	12	40	
Performed any of the following procedures	No answers	58	81.69	156	69.64	21	70	0.136
	At least one of the following procedures: • Clitoral plastic • labiaplasty • Vaginal cosmetic surgery • G spot augmentation	13	18.31	68	30.36	9	30	
Goal of treatment	Improve appearance	14	35.90	38	31.40	6	37.50	0.013*
	Increase self-confidence	21	53.85	36	29.75	6	37.50	
	Performance improvement	1	2.56	30	24.79	3	18.75	
	Sexual discomfort	3	7.69	17	14.05	1	6.25	

Table 6: Relationship between marital status and knowledge, and willingness to undergo cosmetic gynecology surgeries.

Items	Nationality					P value
	Non-Saudi		Saudi			
	N	%	N	%		
Knowing about any gynecological surgery	Nothing	13	39.39	98	33.56	0.153
	Clitoral plastic	4	12.12	20	6.85	
	labiaplasty	10	30.30	60	20.55	
	Vaginal cosmetic surgery	5	15.15	85	29.11	
	G spot augmentation	1	3.03	29	9.93	
Willingness to get any gynecological surgery	No	22	66.67	193	66.67	0.948
	Yes	11	33.33	99	33.33	
Performed any of the following procedures	No answers	22	66.67	213	72.95	0.608
	Clitoral plastic	2	6.06	7	2.40	
	labiaplasty	2	6.06	16	5.48	
	Vaginal cosmetic surgery	5	15.15	36	12.33	
	G spot augmentation	2	6.06	20	6.85	
Goal of treatment	Improve appearance	8	57.14	50	30.86	0.235
	Increase self-confidence	4	28.57	59	36.42	
	Performance improvement	2	14.29	32	19.75	
	Sexual discomfort	0	0	21	12.96	

Table 7: Relationship between age and knowledge, and willingness to undergo cosmetic gynecology surgeries.

Table 8 shows a regression result with a 95% confidence interval using stepwise selection, starting with the full model. This model predicted participants would like to undergo cosmetic gynecological surgical procedures from those who had knowledge of the procedures or not. A significant regression equation was found (p value = 0.0001, R<sup>2</sup> = 0.0375). The predicted willingness to undergo cosmetic gynecological surgery is equal to logit (P)= -1.397594 + (1.038649) (Knowing about any gynecological surgery). Female patients who have some knowledge about any gynecological surgery are 2.82 times more likely to undergo cosmetic gynecological surgical procedures.

Variables	β	OR (CI)	P value
Knowing about any gynecological surgery	1.038649	2.825397 (1.646015, 4.849814)	0.000

**Table 8:** Logistic regression model of predictors for participants who would like to undergo cosmetic gynecological surgical procedures.

### Discussion

Although the demand of elective cosmetic gynecology surgery is increasing worldwide to enhance the aesthetic appearance of the vulva/vaginal region, and vaginal repairs to enhance or restore sexual function that is degraded due to childbirth or aging; this study demonstrates the attitude of women in Saudi Arabia toward it is average, considering the result of an international survey showed an insufficient knowledge female genital cosmetic surgery [17,18]. This can be because most women are not paying attention to their genital area or are unaware of their normal appearance. Overall, cosmetic gynecology surgery is not medically required but Some women request it looking for a better appearance, increases self- esteem, enhances performance improvement, and minimizes sexual discomfort [3].

Age and education of the women were associated with their knowledge of cosmetic gynecology surgery. A higher proportion of women in Saudi Arabia aged 31 - 40 years were knowledgeable about it compared to a previous report that the majority of the procedures were performed amongst women of ages 20 - 29 years [17] and 16 - 35 years in another study [19]. Moreover, married women were less likely to perform any cosmetic surgeries. This could be because married women might still want to have more babies.

It is a well-known that social media have the ability to increase public awareness of women’s health and care but to do such procedures; a high-quality study must be performed, collect data that support the effectiveness of these surgeries, and counsel any potential short- and long-term complications like pain, infection, bleeding, scarring, adhesion, dyspareunia, and altered sensation that may lead to reoperation. Furthermore, women have to be aware that altering genitalia does not mean it’s abnormal.

### Conclusion

Elective cosmetic gynecology surgeries are increasingly popular globally. However, our study showed prevalence is very low in the Saudi community, and the knowledge of these surgeries among women in Saudi Arabia is not well known. Factors associated with the women’s knowledge were age, education, marital status, and occupation.

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