

Knowledge and Attitude towards Vaginoplasty and Perineoplasty among Jordanian Females

Walid Al-Qerem^{1*}, Ameen Alassi¹, Jumana Alazab², Badi'ah Alazab¹, Judith Eberhardt³, Hanin Moh'd Kalloush¹, Rahaf Alarwany⁴, Anan Jarab^{5,6}

¹ College of Pharmacy, Al-Zaytoonah University of Jordan, Amman, Jordan.

² College of Medicine, The University of Jordan, Amman, Jordan.

³ School of Social Sciences, Humanities and Law, Teesside University, Borough Road, Middlesbrough TS1 3BA, United Kingdom.

⁴ Department of Medical Laboratory Sciences, The University of Jordan Amman, Jordan.

⁵ College of Pharmacy, Al Ain University, Abu Dhabi, United Arab Emirates

⁶ Department of Clinical Pharmacy, Faculty of Pharmacy, Jordan University of Science and Technology, Irbid, Jordan.

ABSTRACT

Introduction: The global increase in female genital cosmetic surgery (FGCS), including procedures like vaginoplasty and perineoplasty, has raised concerns regarding their safety and effectiveness. Therefore, this study aimed to address this gap by assessing the knowledge and attitudes of Jordanian females towards vaginoplasty and perineoplasty.

Study design: A cross-sectional online survey was conducted among 522 Jordanian females aged 18 or older.

Methods: Quantile regression models were employed to identify variables associated with females' knowledge and attitudes towards vaginoplasty and perineoplasty.

Results: The study revealed a low level of knowledge regarding vaginoplasty and perineoplasty, despite positive attitudes towards these surgeries. Significant associations were found between knowledge levels and both age and occupation. Similarly, attitudes were significantly associated with age and socioeconomic status.

Discussion: These findings underscore the need for targeted educational campaigns to enhance awareness about these procedures and their associated risks. Moreover, there should be a focus on evaluating physician-patient communication to ensure informed decision-making.

Keywords: Women's health, Vaginoplasty, Perineoplasty, FGCS, Episiotomy, Attitude, Knowledge.

INTRODUCTION

There has been a continuous increase globally in the number of females who undergo female genital cosmetic surgery (FGCS) [1]. These types of surgeries include, but are not limited to, vaginoplasty and perineoplasty [1].

Vaginoplasty is a procedure used to repair/tighten the vaginal canal or to create a vagina for transgender individuals. It is typically performed for several

conditions, including congenital vaginal agenesis, pelvic trauma or tumors, as well as part of gender-affirming surgery [2, 3]. Conversely, perineoplasty is used to construct/tighten and restore function of the perineum, the muscle at the vaginal opening. Thus, it is performed on females who have loose skin around the vagina, excessive scar tissue following vaginal delivery or episiotomy, and for those who have urinary incontinence [4–6]. Vaginoplasty and perineoplasty may overlap and are often performed during a single surgery [7, 8]. Several potential complications are associated with these procedures, including dyspareunia, scarring, altered sensation,

*Corresponding author: Walid Al-Qerem

Waleed.qirim@zuj.edu.jo

Received: 6/11/2023 Accepted: 30/1/2024.

DOI: <https://doi.org/10.35516/jjps.v17i2.1960>

infection, and adhesions [9].

According to the American College of Obstetricians and Gynecologists (ACOG), vaginoplasty and perineoplasty are not considered medically indicated surgeries and thus are not endorsed by ACOG. Some surgeons claim that these procedures can increase genital sensitivity and thereby improve sexual satisfaction; however, ACOG argues against this notion due to lack of documentation on the safety and effectiveness of such procedures, as well as insufficient studies on long-term complications and patient satisfaction [9]. Therefore, females opting for these surgeries should be fully informed about the associated risks, benefits, and necessity to make an informed decision. Physicians are advised to discuss patients' reasons for seeking these surgical interventions [9].

To the best of the authors' knowledge, no studies have evaluated the knowledge and attitudes of Jordanian females toward vaginoplasty and perineoplasty procedures. Therefore, the present study aimed to assess Jordanian females' knowledge and attitudes toward these surgeries.

METHOD

Study design

This cross-sectional study was conducted online from January to May 2023. An open voluntary questionnaire was created using Google Forms and distributed through female-only Jordanian Facebook groups. The questionnaire included initial questions about participants' sex, age, and place of residence to ensure they met the inclusion criteria of being Jordanian females aged 18 or older.

Participants had access to the information and consent form online, which outlined details such as the principal investigators, co-investigators, study purpose, duration of participation, nature of participation, procedures, confidentiality measures, communication of overall results, funding details, voluntary participation rights, right to withdraw, and contact information for queries. Ethical approval for the study was granted by the research ethics committee of Al-Zaytoonah University of Jordan (ref

#27/07/2022-2023).

Sampling Strategy and Sample Size

A convenience sampling technique was employed, based on a 95% significance level and a 5% margin of error, to determine the minimal required sample size, which was calculated to be 385 participants [10]

Study Instrument

The questionnaire used in this study was developed following a comprehensive literature review and consultation with an expert panel consisting of a gynecologist, a surgeon, and a clinical pharmacist. The questionnaire ensured anonymity for participants.

The first part of the questionnaire included definitions of vaginoplasty and perineoplasty procedures, explained the study's objectives, and assured respondents of their anonymity. It also gathered sociodemographic information, such as age, marital status, education level, and whether participants were studying or working in the medical field. Household monthly income was categorized as low (less than 500 Jordanian Dinars [JOD]), moderate (500-1000 JOD), and high (above 1000 JOD).

The second part assessed participants' knowledge about vaginoplasty and perineoplasty, including their complications, anesthetic requirements, and healing times.

The final part of the questionnaire consisted of eight items aimed at evaluating participants' attitudes toward vaginoplasty and perineoplasty. Positive attitude statements were rated on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). These statements included beliefs that these procedures should be performed post-episiotomy, could benefit females with a loose vaginal opening, and that surgeons should obtain patient consent. Negative attitude items were also included, where scoring was reversed (1 for "strongly agree" and 5 for "strongly disagree"). These negative statements included beliefs that these procedures should be performed purely for cosmetic reasons or to satisfy a partner, as well as beliefs that all females should undergo them after childbirth or with aging, and for those with urinary problems without exception.

Survey Validity and Reliability

The questionnaire items were initially designed in English and then translated into Arabic by two linguistic professionals. The translated version was subsequently back-translated into English, and the two English versions were found to be comparable. To ensure the readability and comprehensibility of the questions, a pilot study involving 35 females was conducted. Data collected from this pilot study were excluded from the final analysis. The internal consistency of the derived latent variables (knowledge and attitude scores) was assessed using Cronbach’s alpha [11], yielding a value of 0.712, which is considered acceptable [12].

Statistical analysis

Data analysis was performed using SPSS version 28.0. Frequencies and percentages were used to present categorical variables [13], while continuous variables were expressed as median (95% CI). Attitude and knowledge scores were calculated by summing scores across designated items. Cronbach’s alphas were computed to evaluate the internal consistency of the latent variables. To identify variables associated with knowledge and attitude

scores, two quantile regression models were constructed. Independent variables included age, education level, family income, marital status, and whether respondents were employed or studying in the medical field. The significance level was set at $p < 0.05$.

RESULTS

The study sample comprised 522 females with demographic characteristics detailed in Table 1. Of these, 188 (36%) were aged 26-35 years, whereas only 61 (11.7%) were aged 46 years and older. Regarding education, 379 (72.6%) had obtained either a bachelor’s degree or a diploma, and 90 (17.2%) had pursued postgraduate education. Only 53 (10.2%) reported their highest education level as high school or elementary school. In terms of family income, 224 (42.9%) came from households with moderate financial resources, while 102 (19.5%) and 196 (37.5%) had low and high incomes, respectively. Regarding their field of work or study, 247 (52.7%) were either employed in a medical profession or studying in a medical-related field. Lastly, 306 (58.6%) of the participants were married.

Table 1 Participants’ sociodemographic characteristics.

		Frequency (%)
Age	18-25	148 (28.4%)
	26-35	188 (36%)
	36-45	125 (23.9%)
	46 or older	61 (11.7%)
Level of education	High School or lower	53 (10.2%)
	Bachelor’s/Diploma	379 (72.6%)
	Postgraduate	90 (17.2%)
Family income*	Low income	102 (19.5%)
	Moderate income	224 (42.9%)
	High income	196 (37.5%)
Do you work/study in a medical-related field?	No	275 (52.7%)
	Yes	247 (47.3%)
Marital status	Single	216 (41.4%)
	Married	306 (58.6%)

*Family income: Low <500 JOD, Moderate 500-1000 JOD, and High < 1000 JOD

Table 2 provides details on respondents' general knowledge of the surgical procedure. The question most frequently answered correctly was whether the procedure requires anesthesia, with 348 (66.7%) participants answering correctly. Additionally, 219 (42%) participants correctly affirmed that vaginoplasty may affect subsequent vaginal deliveries. The least correctly answered question was whether permanent vaginal discoloration is considered a possible complication, with only 99 (19%) participants answering correctly. Similarly, only 125 (23.9%) participants correctly identified stress as a potential complication following the procedure. Moreover, regarding the statement "Complete healing from vaginoplasty/perineoplasty only requires a short period of time," where "no" is the correct answer, only 109 (20.9%) participants answered correctly. The median knowledge score was 3 (ranging from 1 to 6) out of a maximum possible score of 12, and the knowledge questionnaire demonstrated acceptable internal consistency, confirmed by computing Cronbach's alpha (0.87).

Table 3 summarizes participants' attitudes towards vaginoplasty/perineoplasty. In terms of unfavorable attitudes, 183 (35.1%) participants strongly agreed or agreed that vaginoplasty should be performed for cosmetic reasons, while 128 (24.5%) believed it should be performed solely to satisfy a sexual partner. Moreover, 125 (23.9%) and 90 (17.2%) strongly agreed/agreed with the notion that all women should undergo the procedure immediately after delivery and that all elderly women should undergo the surgery, respectively. Additionally, 161 (30.8%) participants strongly agreed or agreed that all females suffering from urinary problems should undergo vaginoplasty.

In terms of favorable attitudes, 125 (23.9%) participants expressed strong disagreement or disagreement with performing the surgery after an episiotomy. Furthermore, 97 (18.6%) participants strongly disagreed or disagreed with the notion that performing vaginoplasty/perineoplasty may benefit females with a loose or stretched vaginal opening. Finally, 59 (11.3%) participants strongly disagreed or

disagreed that surgeons should first ask for the patient's consent before conducting the procedure. The median score for favorable attitudes was 16 (ranging from 14 to 19) out of a possible score of 25, and the median score for non-favorable attitudes was 11 (ranging from 9 to 12) out of a maximum possible score of 15. The internal consistency of the non-favorable and favorable attitude items was acceptable, with a Cronbach's alpha of 0.81.

Quantile regression was used to assess the variables associated with knowledge and attitude scores (Tables 3 and 4). The results indicated that participants in the age group 18-25 had significantly higher knowledge and attitude scores compared to those aged 46 and older (coefficient = 2.5, 95% CI (0.759 - 4.241), $p = 0.005$ and coefficient = 2.5, 95% CI (0.634 - 4.366), $p = 0.009$, respectively). Participants who were not employed or studying in a medical field had significantly lower knowledge scores compared to their counterparts (coefficient = -1.00, 95% CI (-1.962 - -0.38), $p = 0.042$). Furthermore, individuals in the low and moderate family income groups demonstrated significantly lower attitude scores compared to those in the high-income group (coefficient = -1.50, 95% CI (-2.78 - -0.220), $p = 0.022$ and coefficient = -1.25, 95% CI (-2.235 - -0.265), $p = 0.013$, respectively).

DISCUSSION

The present study evaluated Jordanian females' knowledge and attitudes toward vaginoplasty and perineoplasty. In Jordan, research on female genital cosmetic surgery (FGCS), including vaginoplasty and perineoplasty, is notably scarce. This gap underscores a critical need for robust educational and awareness campaigns. The study's findings reveal a widespread lack of knowledge about these procedures among Jordanian women, despite a generally positive attitude toward them. It is evident that while there is increasing demand for FGCS, understanding and informed decision-making lag behind. The limited published research in this area signifies gaps in Jordanian women's knowledge of the prevalence, safety, efficacy, and long-term effects of

FGCS. Therefore, this study serves as a foundational step for further research and exploration in response to the growing interest and demand for such procedures.

Table 2 Females’ knowledge regarding vaginoplasty/ perineoplasty complications and other related questions.

11u11d11`q1	No	I don't know	Yes
Which of the following is considered a complication from vaginoplasty/perineoplasty [Nerve damage and loss of sensation]*	70 (13.4%)	298 (57.1%)	154 (29.5%)
Which of the following is considered a complication from vaginoplasty/perineoplasty [Labial asymmetry]*	123 (23.6%)	212 (40.6%)	187 (35.8%)
Which of the following is considered a complication from vaginoplasty/perineoplasty [Permanent discoloring]*	121 (23.2%)	302 (57.9%)	99 (19%)
Which of the following is considered a complication from vaginoplasty/perineoplasty [Death of the tissue in the surgery area]*	74 (14.2%)	271 (51.9%)	177 (33.9%)
Which of the following is considered a complication from vaginoplasty/perineoplasty [Painful intercourse]*	70 (13.4%)	260 (49.8%)	192 (36.8%)
Which of the following is considered a complication from vaginoplasty/perineoplasty [Sexual arousal disorder]*	78 (14.9%)	297 (56.9%)	147 (28.2%)
Which of the following is considered a complication from vaginoplasty/perineoplasty [Urinary problems]*	101 (19.3%)	273 (52.3%)	148 (28.4%)
Which of the following is considered a complication from vaginoplasty/perineoplasty [Stress]*	110 (21.1%)	287 (55%)	125 (23.9%)
Which of the following is considered a complication from vaginoplasty/perineoplasty [May affect the next vaginal delivery]*	77 (14.8%)	226 (43.3%)	219 (42%)
Which of the following is considered a complication from vaginoplasty/perineoplasty [Some of the complications may require an additional surgery]*	56 (10.7%)	275 (52.7%)	191 (36.6%)
Does vaginoplasty/perineoplasty need anesthesia?*	13 (2.5%)	161 (30.8%)	348 (66.7%)
Complete healing from vaginoplasty/perineoplasty only requires a short period of time **	109 (20.9%)	287 (55%)	126 (24.1%)

*The correct answer is “yes”.

**The correct answer is “no”.

Table 3: Females' attitudes towards vaginoplasty/ perineoplasty.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Negative Attitudes					
I think that vaginoplasty/perineoplasty should be performed for cosmetic reasons.	25 (4.8%)	158 (30.3%)	179 (34.3%)	101 (19.3%)	59 (11.3%)
I think that vaginoplasty/perineoplasty should be performed to satisfy the sexual partner.	19 (3.6%)	109 (20.9%)	143 (27.4%)	136 (26.1%)	115 (22%)
I think that all females need to undergo vaginoplasty/perineoplasty after childbirth (without exception).	24 (4.6%)	101 (19.3%)	135 (25.9%)	163 (31.2%)	99 (19%)
I think that all old females need to undergo vaginoplasty/perineoplasty.	12 (2.3%)	78 (14.9%)	144 (27.6%)	187 (35.8%)	101 (19.3%)
I think that vaginoplasty/perineoplasty should be performed to females with urinary problems (without exception)	26 (5%)	135 (25.9%)	187 (35.8%)	119 (22.8%)	55 (10.5%)
Positive/Favorable Attitudes					
I think that vaginoplasty/perineoplasty should be performed after episiotomy.*	42 (8%)	193 (37%)	162 (31%)	81 (15.5%)	44 (8.4%)
I think that females who have loose/stretched vaginal opening may benefit from vaginoplasty/perineoplasty procedures.*	47 (9%)	251 (48.1%)	127 (24.3%)	69 (13.2%)	28 (5.4%)
I think that surgeons should take patients' consent before performing vaginoplasty/perineoplasty procedures.*	194 (37.2%)	219 (42%)	50 (9.6%)	29 (5.6%)	30 (5.7%)

Table 4. Quantile regression model for Knowledge scores (n=522).

Parameter Estimates (q=0.5)					
Parameter		Coefficient	p	95% Confidence Interval	
				Lower Bound	Upper Bound
(Intercept)		3.00	<0.01	1.34	4.66
Family income	Low income	0.00	1.00	-1.20	1.20
	Moderate income	0.00	1.00	-0.92	0.92
	High income	0	.	.	.
Marital status	Single	-0.50	0.37	-1.60	0.60
	Married	0	.	.	.
Education	High School or less	0.50	0.57	-1.24	2.24
	Bachelor's/Diploma	0.00	1.00	-1.15	1.15
	Postgraduate	0	.	.	.
Age group	18-25	2.50	<0.01	0.76	4.24
	26-35	1.00	0.16	-0.41	2.41
	36-45	0.00	1.00	-1.45	1.45
	46 and more	0	.	.	.
Work/study in a medical-related field	No	-1.00	0.04	-1.96	-0.04
	Yes	0	.	.	.

Table 5. Quantile regression model for Attitude scores (n=522).

Parameter Estimates (q=0.5)					
Parameter		Coefficient	p	95% Confidence Interval	
				Lower Bound	Upper Bound
(Intercept)		26.50	<0.01	24.72	28.28
Family income	Low income	-1.50	0.02	-2.78	-0.22
	Moderate income	-1.25	0.01	-2.23	-0.27
	High income	0	.	.	.
Marital status	Single	0.50	0.41	-0.68	1.68
	Married	0	.	.	.
Education	High School or less	-0.75	0.43	-2.61	1.11
	Bachelor's/Diploma	-0.25	0.69	-1.48	0.98
	Postgraduate	0	.	.	.
Age group	18-25	2.50	0.01	0.63	4.37
	26-35	1.50	0.05	-0.01	3.01
	36-45	1.00	0.21	-0.56	2.56
	46 and more	0	.	.	.
Work/study in a medical-related field	No	-0.25	0.63	-1.28	0.78
	Yes	0	.	.	.

Overall, this research observed a low level of knowledge about vaginoplasty and perineoplasty among Jordanian women, despite positive attitudes toward the surgery. These findings parallel those of a study conducted in Nigeria, where only 27.7% of 310 participants had any knowledge of FGCS procedures [14]. They also align with findings from an international survey on women's knowledge and attitudes toward genital appearance, which found that only 39% of women had ever read an informative article on FGCS [15].

Age was found to significantly influence participants' knowledge and attitudes toward vaginoplasty and perineoplasty. Females aged 18-25 demonstrated twice the level of knowledge about the procedures and associated risks compared to older women. Additionally, this age group exhibited more favorable and positive attitudes toward the procedures. This could be attributed to recent efforts in disseminating sexual and reproductive health information through scientific methods, particularly targeting younger demographics. Another plausible

explanation is that younger women tend to be more attuned to concerns regarding the appearance of their genitalia [16].

This finding is consistent with research from Nigeria, where younger respondents were eight times more likely to be knowledgeable about FGCS procedures compared to older respondents. Moreover, reports indicate that the majority of FGCS procedures are performed on women aged 16 to 35 (Liao et al., 2010) [13]. However, these findings contrast with a study conducted in Australia, which found that sociocultural influences on seeking FGCS did not vary significantly across different age groups. In that study, females of all ages sought consultations with general practitioners (GPs) regarding concerns about genital anatomy and requests for FGCS [16].

The limited occurrence of medical discussions in the general population, primarily confined to those involved in the medical field [18], was reflected in the present study by a noticeable discrepancy in knowledge between women

who worked in the medical sector and those who did not, despite an even distribution of both groups in the sample. Women employed in the medical sector demonstrated higher levels of knowledge compared to their counterparts. In a study conducted in Saudi Arabia, most participants were obstetrics and gynecology consultants who did not routinely perform FGCS procedures. Nevertheless, their extensive knowledge enabled them to provide appropriate counseling to patients and refer them to specialists for such procedures [19]. This underscores the critical role of knowledge in patient education and decision-making regarding vaginoplasty and perineoplasty.

In contrast to earlier studies linking marital status with higher levels of knowledge [14,20], our study found no significant association between marital status and participants' knowledge or attitudes. However, it is noteworthy that married individuals still held positive attitudes toward their genital appearance and favored undergoing surgery for cosmetic reasons. This may be influenced by societal pressures and a lack of reliable information on the risks and benefits of the procedure, leading women to believe that surgery should be pursued for reasons other than medical indications, such as satisfying their sexual partner [14,20,21].

Participants from lower and moderate family income groups exhibited significantly fewer positive attitudes toward vaginoplasty procedures. This finding aligns with previous studies indicating a higher prevalence of FGCS among women from middle or upper social classes [14,22,23]. It suggests that differences in attitudes toward vaginoplasty across income groups may stem from various socioeconomic factors, with women from lower and moderate-income groups potentially prioritizing different norms or body image standards compared to those from higher income groups. While some evidence supports such a link [24], this has yet to be explored specifically in relation to vaginoplasty and perineoplasty. Alternatively, accessibility and affordability could play a role, with elective procedures potentially being less accessible to

individuals with lower incomes. Therefore, women's attitudes toward the procedure might be influenced by perceptions of its cost or availability. A recent systematic review has highlighted health disparities in plastic surgery [25]. Further research should investigate the relationship between attitudes and income levels in this context.

From the standpoint of health professionals' clinical and ethical perspectives, it is argued that these surgeries should not be performed solely based on patient requests. While patient autonomy is a fundamental principle of medical ethics, the procedure may be declined if it contradicts the principle of "non-maleficence" (do no harm). Additionally, patients exercising autonomy should possess adequate knowledge regarding the procedure, including scientific data on outcomes, potential complications, and comparisons of results with non-intervention approaches [26–29].

Strengths, Limitations, and Future Research

The present study employed convenience sampling, which may have introduced bias. Participants from online female-only Facebook groups may not equally represent all demographic groups, limiting the generalizability of the findings to the broader population of Jordanian females. However, this sampling method facilitated easier access to respondents and efficient data collection, resulting in a substantial sample size of 522 participants, thereby enhancing the statistical power and reliability of the results.

The cross-sectional design used in the study provided only a snapshot of participants' knowledge and attitudes and did not allow for establishing causal relationships or tracking changes in attitudes over time.

However, the present study has several strengths that contribute to its overall validity and significance. Notably, it addresses a crucial research gap by examining Jordanian females' knowledge and attitudes toward vaginoplasty and perineoplasty. As the first study of its kind in Jordan, it provides valuable insights into how these surgical procedures are perceived by women in the country.

Another important strength is the involvement of a panel of experts during the questionnaire design phase. The inclusion of a gynecologist, a surgeon, and a clinical pharmacist ensured the validity and relevance of the questions, contributing to the quality of the data collected.

To address the identified limitations and expand the understanding of Jordanian females' knowledge and attitudes toward vaginoplasty and perineoplasty, future research should consider randomized sampling techniques to obtain a more representative sample of Jordanian females. Furthermore, incorporating in-depth qualitative methods such as interviews or focus groups could complement quantitative findings and provide deeper insights into participants' perspectives on these surgical procedures.

Educational campaigns should be evaluated to assess their effectiveness in raising awareness among Jordanian women about vaginoplasty and perineoplasty. These campaigns should focus on providing accurate information about the procedures, risks, and benefits to facilitate informed decision-making.

Investigating the relationship between attitudes toward these surgical procedures and socioeconomic factors, including income levels and cultural norms, would provide valuable insights into how these factors influence perceptions of female genital cosmetic surgery.

Future research should also explore the dynamics of physician-patient communication concerning vaginoplasty and perineoplasty. This investigation can shed light on how well patients are informed about the risks, benefits, and alternative treatment options.

Moreover, assessing the psychosocial impact of vaginoplasty and perineoplasty on women who have undergone these procedures can provide valuable information about their experiences, body image, and quality of life post-surgery.

Lastly, conducting comparative studies between different cultural contexts and countries can offer a broader understanding of the social and cultural factors

influencing attitudes toward female genital cosmetic surgery.

CONCLUSIONS

In this study, women demonstrated positive attitudes towards vaginoplasty/perineoplasty, despite overall low levels of knowledge about the procedures. Factors influencing women's knowledge included age and occupation, while age and income level were associated with their attitudes towards these surgeries. To address this knowledge gap and promote informed decision-making, several strategies are recommended.

Firstly, developing comprehensive educational programs covering the medical, psychological, and social aspects of vaginoplasty/perineoplasty—such as indications, procedures, potential complications, and realistic outcomes—would be beneficial. Secondly, enhancing healthcare communication is crucial. This involves training healthcare professionals to initiate sensitive discussions about these procedures and ensuring that women receive accurate and relevant information to guide their decisions.

Creating informative materials (e.g., leaflets, videos) that disseminate accurate knowledge is essential for patient education. These materials should be accessible, culturally sensitive, and suitable for varying literacy levels.

Lastly, further research is needed to understand the long-term effects of vaginoplasty/perineoplasty and the psychological and social motivations behind these procedures. Implementing these strategies would improve understanding and attitudes towards vaginoplasty and perineoplasty, empowering women to navigate their choices more effectively and confidently.

Acknowledgements

None.

Conflict of Interest

The authors have no conflicts of interest to disclose.

Funding:

This study was funded by Al-Zaytoonah University of

Jordan. Grant number: 27 / 07 / 2022-2023

Disclosure of Ethical Statements:

Research Protocol Approval: The research protocol

was approved by Al-Zaytoonah of Jordan Ethical Committee, with reference number 27 / 07 / 2022-2023.

REFERENCES

1. Braun V. Female genital cosmetic surgery: a critical review of current knowledge and contemporary debates. *J Womens Health (Larchmt)*. 2010; 19(7):1393-1407. doi:10.1089/JWH.2009.1728
2. Vaginoplasty: Procedure Details, Risks, Benefits & Recovery. Accessed May 2, 2023. <https://my.clevelandclinic.org/health/treatments/21572-vaginoplasty>
3. Djordjevic M.L., Stanojevic D.S., Bizic M.R. Rectosigmoid vaginoplasty: clinical experience and outcomes in 86 cases. *J Sex Med*. 2011; 8(12):3487-3494. doi:10.1111/J.1743-6109.2011.02494.X
4. Adamo C., Corvi M. Cosmetic mucosal vaginal tightening (lateral colporrhaphy): Improving sexual sensitivity in women with a sensation of wide vagina. *Plast Reconstr Surg*. 2009; 123(6). doi:10.1097/PRS.0B013E3181A3F5DD
5. Furnas H.J., Canales F.L. Vaginoplasty and Perineoplasty. *Plast Reconstr Surg Glob Open*. 2017; 5(11). doi:10.1097/GOX.0000000000001558
6. Maha A.H.N., Ali A.S., Jasim A.S.M., Humam A.S.M., Rudaina O.Y., Emad A.D.A.S. COSMETICS USAGE HABITS AND EFFECT ON HEALTH SEEKING BEHAVIOR AMONG JORDANIAN WOMEN. *Indian Drugs*. 2022; 59(3):62-66. doi:10.53879/id.59.03.12752
7. Adamo C., Corvi M. Cosmetic mucosal vaginal tightening (lateral colporrhaphy): Improving sexual sensitivity in women with a sensation of wide vagina. *Plast Reconstr Surg*. 2009; 123(6). doi:10.1097/PRS.0B013E3181A3F5DD
8. Perineoplasty: Surgery, Purpose, Procedure, Risks & Recovery. Accessed May 4, 2023. <https://my.clevelandclinic.org/health/treatments/23183-perineoplasty>
9. ACOG Committee Opinion No. 378: Vaginal “rejuvenation” and cosmetic vaginal procedures. *Obstetrics and gynecology*. 2007; 110(3): 737-738. doi:10.1097/01.AOG.0000263927.82639.9B
10. Krejcie R., Morgan D. Determining sample size for research activities. *Educ Psychol Meas*. 1970; 30(3):607-610.
11. Jarab A.S., Al-Qerem W., Mukattash T.L., Al-Hajjeh D., Al-Azayzih A., Hammour K.A. Impact of Distance Learning on Pharmacy and Pharm. D Undergraduates’ during the COVID-19 Pandemic in Jordan. *Jordan j. pharm. sci*. Vol 15.; 2022. DOI: <https://doi.org/10.35516/jjps.v15i3.409>
12. Matalqah L.M., Albals D., Radaideh K.M., et al. Knowledge, Attitudes and Practice toward Antibiotic Use among Under and Post-Graduate Students at Yarmouk University in Jordan: A Descriptive Study, *Jordan j. pharm. sci*. Vol 15.; 2022. DOI: <https://doi.org/10.35516/jjps.v15i3.411>
13. Alsous M., Elayeh E., Jalil M.A., Alhawmdah E. Evaluation of Self-Medication Practice among Pharmacy Students in Jordan. *Jordan j. pharm. sci*. Vol 11.; 2018. <https://archives.ju.edu.jo/index.php/jjps/article/view/101106>
14. Bello O.O., Lawal O.O. Knowledge and attitude of women on genital cosmetic surgery at University College Hospital, Ibadan, Nigeria. *Niger Postgrad Med J*. 2018; 25(4):257-263. doi:10.4103/NPMJ.NPMJ_139_18

15. Nappi R.E., Liekens G., Brandenburg U. Attitudes, perceptions and knowledge about the vagina: the International Vagina Dialogue Survey. *Contraception*. 2006; 73(5):493-500. doi: 10.1016/J.CONTRACEPTION.2005.12.007
16. Simonis M., Manocha R., Ong J.J. Female genital cosmetic surgery: a cross-sectional survey exploring knowledge, attitude and practice of general practitioners. *BMJ Open*. 2016; 6(9):e013010. doi:10.1136/BMJOPEN-2016-013010
17. Liao L.M., Michala L., Creighton S.M. Labial surgery for well women: A review of the literature. *BJOG*. 2010; 117(1):20-25. doi:10.1111/J.1471-0528.2009.02426.X
18. Arah O.A. On the relationship between individual and population health. *Med Health Care Philos*. 2009; 12(3):235. doi:10.1007/S11019-008-9173-8
19. Sawan D., Al-Marghoub M., Ghaliyah H., Abduljabar J.R. et al. The Attitude of Physicians Towards Female Genital Cosmetic Surgery. *Cureus*. 2022; 14(8). doi:10.7759/CUREUS.27902
20. Goodman M., Fashler S., Miklos J.R., Moore R.D., Brotto L.A. The Sexual, Psychological, and Body Image Health of Women Undergoing Elective Vulvovaginal Plastic/Cosmetic Procedures: A Pilot Study. <http://dx.doi.org/10.1177/074880681102800404>. 2011; 28(4):219-226. doi:10.1177/074880681102800404
21. Veale D., Naismith I., Eshkevari E., et al. Psychosexual outcome after labiaplasty: a prospective case-comparison study. *Int Urogynecol J*. 2014; 25(6):831-839. doi:10.1007/S00192-013-2297-2
22. Rao N., Aparajita, Sharma N. Current trends in female genital cosmetic surgery. *Apollo Medicine*. 2012; 9(3): 219-223. doi:10.1016/J.APME.2012.06.010
23. Jarrah S.S., Kamel A.A. Attitudes and practices of school-aged girls towards menstruation. *Int J Nurs Pract*. 2012; 18(3): 308-315. doi:10.1111/J.1440-172X.2012.02032.X
24. Song S., Baek S. Body shape matters: Evidence from machine learning on body shape-income relationship. *PLoS One*. 2021; 16(7):e0254785. doi:10.1371/JOURNAL.PONE.0254785
25. Baxter N.B., Howard J.C., Chung K.C. A Systematic Review of Health Disparities Research in Plastic Surgery. *Plast Reconstr Surg*. 2021; 147(3):529-537. doi:10.1097/PRS.00000000000007682
26. Elective Female Genital Cosmetic Surgery | ACOG. Accessed July 12, 2023. <https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2020/01/elective-female-genital-cosmetic-surgery>
27. Goodman M.P. Female genital cosmetic and plastic surgery: a review. *J Sex Med*. 2011; 8(6): 1813-1825. doi:10.1111/J.1743-6109.2011.02254.X
28. Goldstein A.T., Jutrzonka S.L. Ethical considerations of female genital plastic/cosmetic surgery. *Female Genital Plastic and Cosmetic Surgery*. Published online January 1, 2016:39-44. doi:10.1002/9781118848500.CH6
29. Yeğin G.F., Kılıç G., Seçen E.İ., et al. Clinical and ethical perspectives of medical professionals towards female genital cosmetic procedures. *Turk J Obstet Gynecol*. 2021; 18(2):131-138. doi:10.4274/TJOD.GALENOS.2021.85282

المعرفة والاتجاه نحو عمليات تجميل المهبل وتجميل العجان لدى الإناث الأردنيات

وليد القرم^{1*}، أمين العاصي¹، جمانة العزب²، بديعة العزب¹، د. جوديث إبراهيم³، حنين كلوش¹، ريف العرواني⁴، عنان جراب⁵، 6.

¹قسم الصيدلة، كلية الصيدلة، جامعة الزيتونة الأردنية، الأردن.

²كلية الطب، الجامعة الأردنية، الأردن.

³قسم علم النفس، كلية العلوم الاجتماعية والعلوم الإنسانية والقانون، جامعة تيسايد، بريطانيا.

⁴قسم علوم المختبرات الطبية، الجامعة الأردنية، الأردن.

⁵كلية الصيدلة، جامعة العين، الامارات العربية المتحدة.

⁶قسم الصيدلة السريرية، كلية الصيدلة، جامعة العلوم والتكنولوجيا الأردنية، الأردن.

ملخص

مقدمة: أدى الارتفاع العالمي في الجراحة التجميلية للأعضاء التناسلية الأنثوية (FGCS)، مثل عمليات تجميل المهبل والعجان، إلى إثارة المخاوف بشأن سلامتها وفعاليتها. لذلك، هدفت الدراسة الحالية إلى معالجة هذه الفجوة من خلال تقييم معرفة وموقف الإناث الأردنيات تجاه عمليات تجميل المهبل وتجميل العجان.

تصميم الدراسة: تم إجراء دراسة مسح مقطعي عبر الإنترنت على 522 أنثى أردنية تبلغ أعمارهن 18 عامًا أو أكثر.

المنهجية: تم بناء نماذج الانحدار الكمي لتحديد المتغيرات المرتبطة بمعرفة الإناث وموقفهن تجاه تجميل المهبل والعجان. **النتائج:** لوحظ انخفاض مستوى المعرفة فيما يتعلق بتجميل المهبل/تجميل العجان، على الرغم من المواقف الإيجابية تجاه العمليات الجراحية. وكانت هناك علاقة ذات دلالة إحصائية بين مستوى المعرفة وكل من العمر والمهنة. وبالمثل، أظهر مستوى الاتجاه ارتباطاً كبيراً بالعمر والحالة الاجتماعية والاقتصادية.

المناقشة: تسلط النتائج الضوء على أهمية الحملات التثقيفية المستهدفة لتحسين الوعي بهذه الإجراءات والمخاطر المرتبطة بها. يجب تقييم التواصل بين الطبيب والمريض لضمان اتخاذ قرار مستنير.

الكلمات الدالة: صحة المرأة، تجميل المهبل، تجميل العجان، الجراحة التجميلية للأعضاء التناسلية الأنثوية، قصص العجان، الموقف، المعرفة.

* المؤلف المراسل: وليد القرم

Waleed.qirim@zuj.edu.jo

تاريخ استلام البحث 2023/11/6 وتاريخ قبوله للنشر 2024/1/30.