Sexual Satisfaction and Self-Concept of Women With Mayer-Rokitansky-Küster-Hauser (MRKH) After Vaginoplasty Surgery: A Case Control Study

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Abstract- Women with Mayer-Rokitansky-Küster-Hauser (MRKH) syndrome do not have proper performance and sexual satisfaction because of physical problems. MRKH syndrome leads to psychological and identity problems and has a negative effect on self-concept. This study aimed to compare the sexual satisfaction and self-concept of women with MRKH syndrome before and after vaginoplasty with normal women**.** The current study was a case study with a pre-test, post-test design and a control group. Fifteen people were selected using the purposeful sampling method, and 15 normal newly married women were also selected as a control sample group. In both groups, sexual satisfaction and self-concept questionnaires were administered; after the relevant vaginoplasty surgery, only in the test group, and after six months, both groups completed the sexual satisfaction and self-concept questionnaires as a post-test. Hudson's sexual satisfaction questionnaire and Rogers' self-concept questionnaire were used to collect the data. Data were analyzed using multivariate covariance analysis. The results indicated that the average levels of sexual satisfaction and self-concept in women with MRKH syndrome significantly increased after vaginoplasty in comparison to their preoperative scores; but compared to the women of the control group, it is lower. To increase sexual satisfaction and improve the self-concept of women with MRKH syndrome, vaginoplasty surgery can be used as an effective treatment and an efficient program**.**

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Introduction

MRKH syndrome is characterized by agenesis of the uterus and vagina, and its prevalence is estimated to be approximately 1 in every 4000-5000 female births. This syndrome is caused by congenital abnormalities of unknown cause in the lower structures of the ducts during organogenesis. In most cases, vaginoplasty is used. This technique, which enables the creation of a neovagina with good anatomical and functional results, is a simple and effective method (1). By performing vaginoplasty surgery, women can have sex after two months. It is clear that sexual issues and marital satisfaction have a complex relationship with each other (2). Recently, scholars have tried to consider different aspects by emphasizing newer constructs of satisfaction, such as sexual distress or sexual well-being. Bancroft (3) considered sexual satisfaction in a specific aspect, sexual distress, to be very important. According to him, the term "sexual satisfaction disorder" is characteristic of this disorder. Satisfactory relationships between spouses are measured by mutual interest, the level of care for each other and acceptance and understanding with each other, and most importantly by sexual satisfaction (4). Marital satisfaction is a positive

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and enjoyable attitude that husband and wife have in various aspects of marital relations such as communication, family issues, personality conflict resolution, relationships They have sex and children. But marital satisfaction is not easily attainable (5). Mental pressure caused by unsuccessful sex can increase differences and dissatisfaction between couples. In most cases, couples who do not have successful sex experience interpersonal communication problems (6). Experiencing sexual satisfaction increases relationship intimacy and reduces relationship tension (7).

To have the required sexual skills, it is possible to help a person gain proper knowledge about sexual issues and develop their sexual awareness (8). In order to have a satisfying and intimate relationship between couples, they must have the necessary skills to have the necessary sexual relations in married life.

Based on the limited available evidence, the diagnosis of MRKH is a difficult and traumatic process for these women, causing them to question their identity as women and experience confusion about their gender, body, and social roles. and sex and their psychological and identity disturbances. This threat creates negative self-beliefs, and that many women consider themselves incomplete, inferior, or unlovable. Surgical or dilating treatments are often embarrassing and may perpetuate or reinforce these beliefs (9). Self-concept expresses an organized and stable perception pattern.

Self-concept is the idea a person has when thinking about his own characteristics. However, self-concept is not only limited to what a person sees about himself but also includes what a person feels others see about him. A person's actions and behavior correspond to how he sees himself at that time (10). Self-concept is a person's overall evaluation of themselves. This evaluation results from an individual's subjective evaluations of their own characteristics, which may be positive or negative. Positive self-concept shows that a person accepts himself as a person with strengths and weaknesses.

A negative self-concept reflects the feeling of worthlessness and unworthiness, as well as one's inability (11). This problem, in turn, causes excessive self-care and negative interpretation of others' behavior, avoidance behavior, trying to cover and hide one's body, and seeking reassurance and compensatory actions (12). According to their specific physical conditions, women with MRKH will have a different self-concept than other groups, and this in turn can affect their behavior, emotions, and inner states (13). Although the successful creation of a neovagina alleviates some of these problems, there is a consensus that MRKH has a lasting effect and perpetuates these women's negative views of themselves. In particular their infertility may help these women to continue to feel defective about themselves.

To date, various studies have indicated emotional, behavioral, cognitive, identity, social, and physical regulation problems, especially vulnerability to emotional instability in people with sexual problems (14,15). Others lead to self-dissatisfaction and challenge a person with two main questions: 1- Is my worth in the world affected by my physical appearance? 2- Is my appearance unacceptable? (16) Continuation of dissatisfaction also leads to depression (17).

According to these cases, the identification of differences in psychological characteristics such as emotions, self-concept, and especially variables related to sexual behaviors (in a way, a set of psychological characteristics taken from various researches) among women with MRKH has undergone vaginoplasty surgery, with women suffering from MRKH who have not undergone vaginoplasty surgery and comparing these two groups with normal newly married women, with the aim of identifying the necessary fields. To reduce their symptoms, it is one of the most important issues that makes such research necessary. Therefore, the main aim of the present study was to compare the sexual satisfaction and self-concept of women with MRKH syndrome before and after vaginoplasty surgery in newly married normal women.

Materials and Methods

This is a case control study conducted from June 2023 to April 2024. It was approved by the ethical committee of Tabriz university. (IR.TABRIZU.REC.1403.132).

The sample size was calculated as 15 women in each group according to Dr Eftekhar *et al.,* (18), the confidence limits of 95% and the error coefficient of 0.5%. Based on the sample size formula and attrition risk of 10%.

Participants

The participants included all married women with MRKH syndrome in 1402-1403 who visited Imam Khomeini Hospital and Yas Hospital in Tehran and had a case of vaginoplasty surgery, and normal newly married women, became. Out of this statistical population, 15 patients underwent surgery (in the pre-examination stage before vaginoplasty and in the post-examination stage, 6 months after vaginoplasty) and met the criteria to enter the research, with the purposeful sampling method. were selected and considered as the test sample group. In addition, 15 normal newly married women were selected

as a control sample group from among the citizens of Tehran, using the purposeful sampling method.

Research tools

Sexual Satisfaction Scale (SSI), which was compiled in 1981 by Hudson *et al*., (19) contains 25 questions on a 5-point Likert scale (never=1, rarely=2, sometimes=3, most of the time=4, always=5). and evaluates sexual satisfaction in two dimensions, physical satisfaction and emotional satisfaction. The internal consistency of this test is 0.91 calculated by the designers. The reliability of the scale was calculated with a one-week interval. The validity of the scale is 0.93 and the results showed that the scale has the ability to detect couples with and without sexual problems (20). This questionnaire was translated and standardized for the first time by Porakbar (21). 0.95 and the calculated Cronbach's alpha coefficient is equal to 0.90 (22). The reliability of this tool was obtained by calculating Cronbach's alpha of 0.91 and 0.93 respectively (23).

Rogers Self-Concept Questionnaire (SCQ) This questionnaire was prepared by Carl Rogers in 1951 in order to measure people's self-concept, which includes two separate forms "A" and "B". Form A measures the basic self-concept, that is, the way a person sees himself and the idea he currently has of himself, and Form "B" measures the ideal or ideal self-concept. In other words, the person wishes to be. To calculate the self-concept score, subtract the score of each question of form "A" from form "B" and multiply the difference to the power of two, each question is given a score from 1 to 7 according to the answer, and at the end of the profile of each area of self-concept The number of questions is divided and the final score is obtained. Its reliability was determined by Emami Meibdi *et al*., (24) using Cronbach's alpha coefficient of 0.8 for "A" form and 0.79 for "B" form, and its reliability was measured in Taghizadeh *et al*.,'s study (25) which for " The reliability of form A was 0.69 and for form B, 0.73 was obtained**.**

Results

The mean age of the women who underwent vaginoplasty was 34.4±1.5, and the mean age of the control group was 36.3±1.5.

The mean BMI of the women who underwent vaginoplasty was 26.2±2.5, and the mean BMI of the control group was 25.7±2.3.

There was no significant difference in the number of people in the educational classes, Age and BMI between the experimental and control groups. (Table 1).

Table 1 shows the comparison of participants' demographic indicators.

Table 1. Comparison of the demographic indicators of the participants of the two groups

Variable	Vaginoplasty	Control	*P*
Education	<diploma 3 people Diploma 3 people 9 people >diploma	<diploma 2 people Diploma 4 people >diploma 9 people	0.311
Age	36.3±5.1	34.4±5.1	0.082
BMI	2.3±25.7	26.2±2.5	0.173

Mean pre-test and post-test scores in the experimental groups indicate that following vaginoplasty surgery in the post-test phase, the mean sexual satisfaction scores increased (from 59.47±30.7 to 84.84±45.33) and the aforementioned rates in the control group were 101.08±35.9. The mean self-concept scores decreased (from 8.55±2.36 to 6.±2.51) (self-concept improvement).

The aforementioned rates in the control group were 4.94±3.93. (Table 2).

Table 2 shows the mean and standard deviation of the pre-test and post-test scores of sexual satisfaction and self-concept.

Table 2. The mean and standard deviation of the research variables by stages and groups

Variable	Group	Step	Mean	SD	Minimum	Maximum	*P*
Sexual satisfaction	vaginoplasty	Pre-test	59.47	30.7	45	128	
		Post-test	84.53	33.45	50	152	0.01
	control	Pre-test	101.08	35.9	29	131	
Self-concept	vaginoplasty	Pre-test	8.55	2.36	4	11.9	
		Post-test	6.8	2.51	0.78	12.9	0.034
	control	Pre-test	4.94	3.93	2.24	17.38	

Multivariate covariance analysis was used to test the hypotheses. Before conducting the test, the test hypotheses, which included normality, linear relationship, homogeneity of regression, homogeneity of variance-covariance matrices, and equality of variances, were examined. Considering the sig value and not rejecting the null hypothesis, the distribution of sexual satisfaction and self-concept scores in the pre- and post-test was normal ($P \geq 0.01$). In addition, the residuals of these variables had a normal distribution, the condition of the normal distribution of the residuals, and the assumption of the homogeneity of the variance-covariance matrix (Box test) and the homogeneity of the variances (Lon test) are established.

Also, the significance levels of all multivariate covariance tests showed that, in the studied groups, there was a significant difference in terms of at least one of the dependent variables (Eta square=37.5%) .

As seen in Table 3, the F ratio of covariance analysis in sexual satisfaction is (F=9.717) (P=0.004) and self-concept was 4.899 (F=0.036).

Table 3. The results of multivariate covariance analysis of the effect of vaginoplasty surgery on sexual satisfaction and self-concept

Variable	SS	Df	MS	F	*P*	Effect size
Sexual satisfaction	5990.468	1	5990.468	9.717	0.004	0.43
Self-concept	60.60	1	60.60	4.899	0.036	0.154

These findings show that there is a significant difference in sexual satisfaction and self-concept between the experimental group and the control group; 15.4% of the changes in the scores of the groups in the self-concept variable, and 0.43% of the changes in the scores of the groups in the variable of sexual satisfaction (group difference in the post-test) are caused by the independent variable (vaginoplasty surgery).

As shown in Table 4, the sexual satisfaction score in the post-test (after vaginoplasty) increased by 25.06 units (on a scale of 0-150) compared to the pre-test.

Table 4. Comparison of averages before and after vaginoplasty

Groups (post-test-pre-test)	Mean difference	Sd difference	t	*P*
Sexual satisfaction	25.06	8.49	9.17	0.01
Self-concept	-1.75	-0.25	2.14	0.04

Table 5. Comparison of averages after vaginoplasty with the control group

Groups (vaginoplasty - control)	Mean difference	Sd difference	t	*P*
Sexual satisfaction	-16.55	9.12	6.204	0.01
Self-concept	1.86	0.82	2.22	0.034

The test was significant at P=0.01 level, so it can be concluded that in the experimental group, the average sexual satisfaction scores after vaginoplasty increased compared to the pre-test, and this difference was statistically significant.

Also, the self-concept score in the post-test (after vaginoplasty) has decreased (improved) by 1.75 units compared to the pre-test.

Additionally, the t-test value was 2.14 and the significance level is 0.04. As the significance level was less than 0.05, it can be concluded that the difference in the experimental group was statistically significant.

As shown in Table 5, the difference in the mean scores of sexual satisfactions between the two groups was significant at 16.55 units in the post-test (P=0.01; t=6.204). The test comparing the mean scores of sexual satisfactions between the groups in the post-test showed that the mean difference -16.55 was statistically significant. Therefore, it can be concluded that the low mean scores of sexual satisfactions after vaginoplasty treatment compared whit the control group were significant. There was a difference of 16.55 units between the mean scores of sexual satisfactions of the vaginoplasty treatment group and the control group.

The mean sexual satisfaction score of the test group after vaginoplasty was significantly lower than that of the control group.

In addition, the difference in the mean scores of self-concept with 1.86 units in the post-test compared to the control group was significant (P=0.034; t=2.22). A test

comparing the mean self-concept scores of the groups in the post-test showed that the mean difference (1.86) was statistically significant. Therefore, it can be concluded that the self-concept scores after vaginoplasty treatment were significantly higher (weaker self-concept) compared to the control group.

Discussion

The purpose of this study was to compare the sexual satisfaction and self-concept of newly married women whit MRKH before and after vaginoplasty surgery. The results of this study showed that the level of sexual satisfaction in women after vaginoplasty surgery is not the same as before surgery and this level increased by approximately 25.06 units (on a scale of 0-150) after the operation and compared to normal women, 55 It is 16 units less. The recent finding is consistent with the results obtained from the researches of Bancroft (3), Erdoğan *et al*., (26), the study of Dejan *et al*., (27) and Goodman *et al*., (28). Dejan *et al*.'s study (27) showed that sexual satisfaction in infertile women is significantly lower compared to fertile women, which indicates the relationship between infertility and sexual satisfaction. The results of Erdoğan *et al*., (26) also indicate an increase in sexual satisfaction in women after vaginoplasty. Goodman of Goodman *et al*., also showed that sexual satisfaction improved significantly after vaginoplasty at all time points. The results of this study are in line with the results of current research on the improvement of sexual satisfaction in women after vaginoplasty.

In explaining this finding, it can be said that marital satisfaction is a positive and enjoyable attitude that a husband and wife have in various aspects of marital relations, such as communication, family issues, and sexual relations. But marital satisfaction is not easily attainable (5). Mental pressure caused by unsuccessful sex can increase differences and dissatisfaction between couples. In most cases, couples who do not have successful sex, experience interpersonal communication problems (6). Experiencing sexual satisfaction increases relationship intimacy and reduces relationship tension (7). Ignorance of the methods of having sex can endanger interpersonal interactions and destroy married life (26). In order to have a satisfying and intimate relationship between couples, they must have the necessary skills to have the necessary sexual relations in married life. Women's sexual satisfaction is related to physical, emotional, and marital relationship variables (29). Satisfactory relationship between spouses is measured by mutual interest, the level of care for each other and acceptance and understanding with each other, and most importantly by sexual satisfaction (4).

Additionally, the level of self-concept in women improved by 1.75 units after surgery compared to before, but compared to women in the control group, it was lower by 1.86 units. This recent finding is consistent with the results obtained from by Dejan *et al*., (27); Lotfollhi *et al*., (29), and Kash *et al*., In a study by Lotfollahi *et al*., (30), self-concept in women without sexual dysfunction was higher than that in women with sexual dysfunction. Dejan *et al*., (27) also showed that the level of positive sexual self-concept in two groups of fertile and infertile women was not the same and was lower in infertile women. In addition, Ash *et al*., (16) also showed that the body image of infertile women is weaker than that of fertile women. The results of this study are in line with the results of the current research on the improvement of self-concept in women after vaginoplasty.

To explain this finding, several studies have investigated the relationship between self-concept and various psychological factors. It can be said that the relationship between self-concept and various psychological factors.

Although its specific relationship with "MRKH " is not yet clear, some aspects of sexual self-concept are predictive of sexual satisfaction, which indicates a relationship between self-concept and sexual satisfaction.

Based on the limited available evidence, the diagnosis of MRKH is a difficult and traumatic process for these women, causing them to question their identity as a woman and experience confusion about their gender, body, and social roles. and sex and their psychological and identity disturbances. This threat creates negative self-beliefs, and many women consider themselves incomplete, inferior, or unpleasant. Surgical or dilating treatments are often embarrassing and may perpetuate or reinforce these beliefs (14). These people's self-concept, which is often formed from the perspective of others, causes their self-concept to decrease and they face many problems from now on.

The lack of similar studies in the field of comparison of sexual satisfaction and self-concept in women with MRKH before and after vaginoplasty surgery in the country and abroad is one of the most important limitations of this study, which makes it possible to compare its results with the results of other similar studies. does not make it possible. Therefore, considering that the negative sexual self-concept in women whit MRKH showed a difference before and after vaginoplasty surgery, it is necessary to try to improve the situation of

infertile women by holding educational workshops and providing training by expert and experienced consultants in these fields. improve It is also suggested to provide counseling services by teaching the correct methods of establishing sexual intercourse to women suffering from MRKH after vaginoplasty surgery, providing educational workshops in the field of knowledge and awareness of sexual issues, especially sexual self-concept and mental health components. This group of women specializes in sexual issues and improve their self-concept and sexual satisfaction.

Researchers have suggested conducting further research at other centers. In addition, factors affecting sexual self-concept and barriers to positive sexual self-concept should be investigated.

The average levels of sexual satisfaction and self-concept in women with MRKH syndrome significantly increased post-vaginoplasty in comparison to their preoperative scores; however, compared to the women in the control group, it was lower. Vaginoplasty surgery can be used as a very effective treatment to increase sexual satisfaction and improve the self-concept of women suffering from MRKH syndrome.

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