

# Sexual Dysfunction in Polycystic Ovarian Syndrome Patients

Fatemeh Davari Tanha<sup>1</sup> , Mojgan Asadi<sup>2,3\*</sup> , Zahra Shahraki<sup>4</sup>, Zeinab Assaf<sup>1</sup>, Zahra Kaveh<sup>1</sup>, Mahsa Ghajarzadeh<sup>5</sup>

1. Department of Obstetrics and Gynecology, Yas Hospital Complex., Tehran University of Medical Sciences, Tehran, Iran
2. Diabetes Research Center, Endocrinology and Metabolism Clinical Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran
3. Endocrinology and Metabolism Research Center, Endocrinology and Metabolism Clinical Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran
4. Department of Obstetrics and Gynecology Department, Zabol University of Medical Sciences, Zabol, Iran
5. Universal Council of Epidemiology (UCE), Universal Scientific Education and Research Network (USERN), Tehran University of Medical Sciences, Tehran, Iran



## Article Info

 [10.30699/jogcr.9.2.161](https://doi.org/10.30699/jogcr.9.2.161)

**Received:** 2023/04/08;

**Accepted:** 2023/06/21;

**Published Online:** 13 Mar 2024;

Use your device to scan and read the article online



## Corresponding Information:

**Mojgan Asadi,**  
Diabetes Research Center, Endocrinology and Metabolism Clinical Sciences Institute, Tehran University of Medical Sciences, Tehran, Iran

**Email:** [asadim@tums.ac.ir](mailto:asadim@tums.ac.ir)

## ABSTRACT

**Background & Objective:** Sexual activity is a major determinant of health-related quality of life. The aim of this study was to investigate sexual activity in women with polycystic ovary syndrome.

**Materials & Methods:** A case control survey was conducted at a tertiary care university hospital (Yas Hospital Complex.). A total of 193 women were enrolled in this study. The Female Sexual Function Index (FSFI) questionnaire was used to assess the sexual dysfunction. In this study, 100 cases with PCOS and 93 healthy controls were studied.

**Results:** The mean FSFI total score and all domains except orgasm were significantly lower in PCOS patients as compared to healthy controls. With an FSFI score of less than 26.55, sexual dysfunction was found in 62% of PCOS cases versus 18.2% of the control group. Multiple regression analysis showed that FSH and free testosterone were independent predictors of FSFI score. The result showed that more than sixty percent of PCOS women suffer from sexual dysfunction.

**Conclusion:** PCOS women need to be asked about and managed for sexual dysfunction more frequently than non-PCOS women.

**Keywords:** Sexual Dysfunction, Polycystic Ovary Syndrome, Female Sexual Function Index



Copyright © 2024, This is an original open-access article distributed under the terms of the Creative Commons Attribution-noncommercial 4.0 International License which permits copy and redistribution of the material just in noncommercial usages with proper citation.

## Introduction

Polycystic ovary syndrome (PCOS) is the most common endocrine disorder in women, affecting 5-24% of women of reproductive age (1). Irregular menstruation, hirsutism, obesity, infertility, anovulation, and acne are common symptoms of PCOS in women (2, 3). Clinical manifestations cause social and emotional stress (4) while menstrual irregularity and PCOS-related infertility cause psychological stress (5). Although obesity is not one of the diagnostic criteria for PCOS, most women with PCOS are obese (6). Factors such as acne, hirsutism, alopecia, health risk, infertility, and android obesity have affected the health-related quality of life and sexual function (7, 8).

There is controversy about sexual function in women suffering from PCOS. Hahn et al. suggested that the manifestations of PCOS lead to decreased sexual function (9). At the same time, Stovall et al. reported similar levels of sexual function in PCOS and control subjects, except for the orgasmic area (10). Sexual activity is a significant factor in health-related quality of life (11). Attention to this issue is critical, and there are differences by culture, race, and health status (2).

There are few studies on the sexual function of Iranian women with PCOS and its associated factors; SO, we designed this study to investigate the sexual

function and its associated factors in Iranian women with PCOS.

## Methods

This case control study was conducted between September 2014 and September 2015 at Yas Hospital Complex (Hospital affiliated to Tehran University of Medical Sciences). Women with PCOS and healthy subjects were enrolled in this study. The inclusion criteria for the patient group were a definite diagnosis of PCOS according to the Rotterdam criteria (12). The exclusion criteria for the control group were irregular menstrual cycles. Exclusion criteria for both groups were: arterial hypertension, diabetes type I or II, autoimmune diseases, cancer, administration of antidepressants, anxiolytics medication, and pregnancy. All participants were asked to complete an informed consent form, although the local ethics committee had approved the study. Body Mass Index (BMI), back circumference, presence of hirsutism (according to Ferriman-Gallwey index) (13), duration of marriage, age, and age of partner were recorded. An 8-hour fasting venous blood sample was collected from each participant overnight, on the second or third day of the menstrual cycle. Follicle-stimulating hormone (FSH), luteinizing hormone (LH), serum total and free testosterone, progesterone, and DHEAS were determined in all participants by ELISA (DRG Instruments GmbH, Marburg, Germany). Participants were asked to answer the valid and reliable Persian

version of the FSFI questionnaire. The FSFI is a 19-item self-report instrument measuring female sexual function that provides a total score for six domains of sexual function. These domains include desire (2 items, questions 1 and 2), arousal (4 items, questions 3, 4, 5, and 6), lubrication (4 items, questions 7, 8, 9, and 10), orgasm (3 items, questions 11, 12, and 13), satisfaction (3 items, questions 14, 15, and 16), and pain (3 items, questions 17, 18, and 19). The total FSFI score is calculated by the sum of the nineteen items (14).

All data were analyzed using SPSS version 20 software (SPSS Inc., Chicago, IL, USA). Student's t-test and chi-square test with exact fissure test were used to compare continuous and categorical variables. Multiple linear regression analysis with FSFI score as dependent variable, age, BMI, FSH, LH, testosterone, free testosterone, DHEAS, duration of infertility, and hirsutism as independent variables were performed to evaluate their significance on sexual function. A P value of less than 0.05 was considered significant.

## Results

One hundred cases with PCOS and 93 healthy controls were studied. The presence of hirsutism, levels of FSH, LH and free testosterone were substantially different between the two groups (Table 1). The mean FSFI total score and all domains except orgasm were significantly lower in the PCOS group (Table 2).

**Table 1. Demographic and laboratory findings of two groups**

	PCO group N=100	Control N=93	P value *
Age	29.7±5.4	30.4± 4.1	0.2
Duration of infertility	8.4±3.8		
Hirsutism	54(54%)	11(11.8%)	<0.001
Partner age	35.9±6.2	34.6±5.1	0.1
Marital duration	8.8±3.8	8±3.2	0.1
FSH	6.3±1.7	5.6±1.8	0.005
LH	9.7±7.1	8.2±2.1	<0.001
Testosterone	0.6±0.2	0.6±0.1	0.07
Free testosterone	1.5±0.6	1.2±0.3	<0.001
DHEAS	128.1±16.5	128.8±15.8	0.7

\*P<0.05 was considered significant

**Table 2.** FSFI score and its domains in two groups

	PCO group N=100	Control N=93	P value *
Desire	3.4±1.3	4.3±1.6	<0.001
Arousal	3.9±1.5	5.3±1.6	<0.001
Lubrication	4.4±1.2	5.1±1.5	0.003
Orgasm	4.5±1.3	4.9±1.3	0.06
Satisfaction	4.4±1.3	5.4±1.6	<0.001
Pain	4.6±1.6	5.7±1.8	<0.001
Total score	25.4±4	30.9±4.5	<0.001

\*P<0.05 was considered significant

With an FSFI score of less than 26.55 as sexual dysfunction, 62 (62%) of PCOS cases had sexual dysfunction, while 17 (18.2%) of healthy controls had sexual dysfunction (P < 0.001). There was no significant correlation between BMI and FSFI score and its subscales in the PCOS group (Table 3). Only

the pain domain and the total FSFI score were significantly different between PCOS cases with and without hirsutism (Table 4). Multiple regression analysis showed that FSH and free testosterone were independent predictors of FSFI score (Table 5).

**Table 3.** Correlation between BMI and FSFI score and its subscales

	Correlation coefficient	P value *
Desire	-0.04	0.7
Arousal	0.09	0.4
Lubrication	0.1	0.2
Orgasm	0.09	0.4
Satisfaction	-0.1	0.1
Pain	0.1	0.1
Total score	0.08	0.4

\*P<0.05 was considered significant

**Table 4.** Comparison of FSFI and its subscales in PCO cases with and without hirsutism

	Without hirsutism	With hirsutism	P value *
Desire	4.4±1.5	4.1±1.7	0.4
Arousal	5.3±1.4	5.3±1.8	0.9
Lubrication	5.1±1.6	5±1.4	0.8
Orgasm	5.1±1.1	4.6±1.7	0.07
Satisfaction	5.5±1.6	5.3±1.6	0.4
Pain	6.2±1.6	5.1±1.8	0.04
Total score	31.9±3.5	29.7±5.2	0.02

\*P<0.05 was considered significant

**Table 5.** Regression analysis considering FSFI as dependent and age, BMI, FSH, LH, testosterone, free testosterone, DHEAS, infertility duration and hirsutism as independent variables

	B coefficient	P value
Age	-0.11	0.1
BMI	0.04	0.5
FSH	-0.9	<0.001
LH	-0.35	0.1
Testosterone	0.8	0.7
Free testosterone	-1.9	0.1
DHEAS*	0.05	0.03
Infertility duration	-0.6	0.2
Hirsutism	0.6	0.5

\*Dihydroepiandrosterone sulfate (DHEAS)

## Discussion

The result of this study shows that more than 60% of women with PCOS suffer from sexual dysfunction. A sexual dysfunction was reported in 57% of women with PCOS (15). In another study conducted in the city of Kashan (IRAN), sexual dysfunction was found in 16% of the cases studied (2).

Stovall et al. compared sexual function in women with PCOS and healthy controls and studied sexual dysfunction in 27% of cases and 24% of rules (not significant), which is in contrast to our results. We found a significant difference between sexual dysfunction in PCOS patients and controls (62% vs. 18.2%).

The results also showed that the mean FSFI total score and its domains, except orgasm, were significantly different between the PCOS group and controls. In the study by Stovall, Scriver (10) the mean domain scores, except for orgasm, were not significantly different from ours (10).

Ercan et al. studied 32 PCOS women and 32 age-matched healthy subjects. In their study, the mean FSFI score and domains did not differ significantly between PCOS and control subjects (16). In another study, Mansson et al. reported that women with PCOS had lower satisfaction with their sexual life compared to their control subjects (17). In the study by Drosdzol and Skrzypulec (18) 28.6% of Polish PCOS women were diagnosed with sexual dysfunction, compared with 10% of healthy subjects (18).

The regression results also showed that FSH was a significant negative predictor and DHEAS was a significant positive predictor of sexual dysfunction in PCOS women. At the same time, testosterone and free testosterone were not independent predictors. We should keep in mind that hyperandrogenemia is one of the hallmarks of this syndrome, whereas in this study only DHEAS was an independent predictor. Stovall et

al. studied that lower testosterone level was associated with lower sexual function in PCOS cases, while higher testosterone level was associated with greater desire/frequency (10). Previous studies have shown that physical characteristics of PCOS affect the psychological well-being of affected individuals as well as sexual function (15, 19, 20). BMI, acne, and hirsutism have been associated with sexual dysfunction (15). Mansson et al. found that BMI had a small effect on sexual function, while total serum levels of testosterone correlated positively with sexual function (16). Increased BMI and hirsutism on sexual function could be due to the perception of sexual attractiveness. However, we found that none of these factors were predictors of sexual dysfunction in our cases, which is consistent with the findings of Benetti-Pinto et al. They found only a significant negative correlation between BMI and orgasm with no other associations (4). Stovall et al. reported that in their study, only the orgasm component differed significantly between average weight and obese women (10). It appears that obesity correlates weakly with sexual function, and the correlation with sexuality is attributed to the association of obesity with hirsutism, infertility, and other metabolic effects. We found no significant correlation between BMI and FSFI scores and their subscales. We also found that hirsutism did not predict sexual function in PCOS women, while Hashemi et al. reported lower sexual scores in PCOS women (21). In this study, only the pain range and total FSFI score differed significantly between PCOS cases with and without hirsutism. Hirsutism is considered a factor that negatively correlates with sexual function in PCOS cases (1, 8, 22).

## Conclusion

Sexual dysfunction is more prevalent among PCOS patients. As a result of our studies and since sexual

function has an impact on quality of life, it is important to assess the sexual function of patient diagnosed with PCOS in order to improve their quality of life. For polycystic ovary syndrome patients, multidisciplinary care should be done, which includes referring to gynecologists, endocrinologists, and psychiatrists if they have other health problems.

## Acknowledgments

The authors would like to express their gratitude to all participants enrolled in this project.

## Conflict of Interest

The authors declare no conflict of interest.

## Funding

No funding was obtained.

## References

- De Niet J, De Koning C, Pastoor H, Duivenvoorden H, Valkenburg O, Ramakers M, et al. Psychological well-being and sexarche in women with polycystic ovary syndrome. *Hum Reprod.* 2010;25(6):1497-503. [DOI:10.1093/humrep/deq068] [PMID]
- Bazarganipour F, Ziaei S, Montazeri A, Foroozanfar F, Kazemnejad A, Faghihzadeh S. Sexual functioning among married Iranian women with polycystic ovary syndrome. *Int J Fertil Steril.* 2014;8(3):273-80.
- Elkhyat A, Elsokary A, Elshwaikh S. Dose weight gain in lean patients with polycystic ovary syndrome improves ovulation and pregnancy rates? *J Obstet Gynecol Cancer Res.* 2022;9(1):70-5.
- Benetti-Pinto CL, Ferreira SR, Antunes Jr A, Yela DA. The influence of body weight on sexual function and quality of life in women with polycystic ovary syndrome. *Archi Obstet Gynaecol.* 2015;291(2):451-5. [DOI:10.1007/s00404-014-3423-1] [PMID]
- Kocelak P, Chudek J, Naworska B, Bak-Sosnowska M, Kotlarz B, Mazurek M, et al. Psychological Disturbances and Quality of Life in Obese and Infertile Women and Men. *Int J Endocrinol.* 2012;2012:236217. [DOI:10.1155/2012/236217] [PMID] [PMCID]
- Essah PA, Wickham EP, Nestler JE. The metabolic syndrome in polycystic ovary syndrome. *Clin Obstet Gynecol.* 2007;50(1):205-25. [DOI:10.1097/GRF.0b013e31802f3547] [PMID]
- Elsenbruch S, Hahn S, Kowalsky D, Öffner AH, Schedlowski M, Mann K, Janssen OE. Quality of life, psychosocial well-being, and sexual satisfaction in women with polycystic ovary syndrome. *J Clin Endocrinol Metab.* 2003;88(12):5801-7. [DOI:10.1210/jc.2003-030562] [PMID]
- Kitzinger C, Willmott J. 'The thief of womanhood': women's experience of polycystic ovarian syndrome. *Soc Sci Med.* 2002;54(3):349-61. [DOI:10.1016/S0277-9536(01)00034-X] [PMID]
- Hahn S, Janssen OE, Tan S, Pleger K, Mann K, Schedlowski M, et al. Clinical and psychological correlates of quality-of-life in polycystic ovary syndrome. *Eur J Endocrinol.* 2005;153(6):853-60. [DOI:10.1530/eje.1.02024] [PMID]
- Stovall DW, Scriver JL, Clayton AH, Williams CD, Pastore LM. Sexual function in women with polycystic ovary syndrome. *J Sex Med.* 2012;9(1):224-30. [DOI:10.1111/j.1743-6109.2011.02539.x] [PMID] [PMCID]
- Davari Tanha F, Mohseni M, Ghajarzadeh M. Sexual function in women with primary and secondary infertility in comparison with controls. *Int J Impot Res.* 2014;26(4):132-4. [DOI:10.1038/ijir.2013.51] [PMID]
- ESHRE TR, Group A-SPCW. Revised 2003 consensus on diagnostic criteria and long-term health risks related to polycystic ovary syndrome. *Fertil Steril.* 2004;81(1):19-25. [DOI:10.1016/j.fertnstert.2003.10.004] [PMID]
- Ferriman D, Gallwey J. Clinical assessment of body hair growth in women. *J Clin Endocrinol Metab.* 1961;21(11):1440-7. [DOI:10.1210/jcem-21-11-1440] [PMID]
- Fakhri A, Pakpour AH, Burri A, Morshedi H, Zeidi IM. The Female Sexual Function Index: translation and validation of an Iranian version. *J Sex Med.* 2012;9(2):514-23. [DOI:10.1111/j.1743-6109.2011.02553.x] [PMID]
- Eftekhari T, Sohrabvand F, Zabandan N, Shariat M, Haghollahi F, Ghahghaei-Nezamabadi A. Sexual dysfunction in patients with polycystic ovary syndrome and its affected domains. *Iran J Reprod Med.* 2014;12(8):539-346.
- Ercan CM, Coksuer H, Aydogan U, Alanbay I, Keskin U, Karasahin KE, Baser I. Sexual dysfunction assessment and hormonal correlations in patients with polycystic ovary syndrome. *Int J Impot Res.* 2013;25(4):127-32. [DOI:10.1038/ijir.2013.2] [PMID]
- Mansson M, Norstrom K, Holte J, Landin-Wilhelmsen K, Dahlgren E, Landen M. Sexuality and psychological wellbeing in women with polycystic ovary syndrome compared with healthy controls. *Eur J Obstet Gynecol Reprod Biol.* 2011;155(2):161-5. [DOI:10.1016/j.ejogrb.2010.12.012] [PMID]
- Drosdzol A, Skrzypulec V. Quality of life and sexual functioning of Polish infertile couples. *Eur J Contracept*

- Reprod Health Care. 2008;13(3):271-81.  
[DOI:10.1080/13625180802049187] [PMID]
19. Janssen OE, Hahn S, Tan S, Benson S, Elsenbruch S. Mood and sexual function in polycystic ovary syndrome. *Semin Reprod Med.* 2008;26(1):45-52.  
[DOI:10.1055/s-2007-992924] [PMID]
20. Coffey S, Bano G, Mason HD. Health-related quality of life in women with polycystic ovary syndrome: a comparison with the general population using the Polycystic Ovary Syndrome Questionnaire (PCOSQ) and the Short Form-36 (SF-36). *Gynecol Endocrinol.* 2006;22(2):80-6.  
[DOI:10.1080/09513590600604541] [PMID]
21. Hashemi S, Ramezani Tehrani F, Farahmand M, Bahri Khomami M. Association of PCOS and Its Clinical Signs with Sexual Function among Iranian Women Affected by PCOS. *J Sex Med.* 2014;11(10):2508-14.  
[DOI:10.1111/jsm.12627] [PMID]
22. Bancroft J. Sexual effects of androgens in women: some theoretical considerations. *Fertil Steril.* 2002;77:55-9.  
[DOI:10.1016/S0015-0282(02)02961-8] [PMID]

#### How to Cite This Article:

Davari Tanha, F., Asadi, M., Shahraki, Z., Assaf, Z., Kaveh, Z., Ghajarzadeh, M. Sexual Dysfunction in Polycystic Ovarian Syndrome Patients. *J Obstet Gynecol Cancer Res.* 2024;9(2):161-6.

**Download citation:**

[RIS](#) | [EndNote](#) | [Mendeley](#) | [BibTeX](#) |