Association of hirsutism and anthropometric profiles with sexual dysfunction and anxiety levels in infertile Indonesian women with polycystic ovarian syndrome

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Abstract

Background Hyperandrogenism is frequently found in polycystic ovary syndrome (PCOS) and contributes to physical manifestations like hirsutism and obesity, along with infertility. This condition can result in anxiety, depression, and body image disorders, potentially leading to sexual dysfunction. The objective of this investigation was to assess the correlation among hirsutism, anthropometric characteristics, sexual dysfunction, and anxiety levels among infertile Indonesian women diagnosed with PCOS.

Methods From December 2021 to December 2022, a cross-sectional study was undertaken involving 71 infertile women diagnosed with PCOS at Yasmin Clinic, Dr. Cipto Mangunkusumo General Hospital in Jakarta, Indonesia. Hirsutism was assessed using the modified Ferriman-Gallwey (mFG) score; the anthropometric profile was assessed using BMI and waist-to-hip ratio. The assessment of sexual dysfunction was conducted using the Female Sexual Function Index (FSFI) questionnaire, while the evaluation of anxiety levels utilized the HAM-A questionnaires.

Results In this study, it was discovered that 53.3% of subjects experienced sexual dysfunction. However, there was no statistically significant relationship between hirsutism, anthropometric profile, and sexual dysfunction score in infertile women with PCOS ($p > 0.05$). Analysis of the overall FSFI domain score revealed that lubrication and satisfaction were lower in obese patients ($p = 0.02$ and $p = 0.03$), but this did not contribute to an overall sexual dysfunction score. Also, we found that subjects who experienced sexual dysfunction had a higher anxiety score ($p < 0.005$), with correlation analysis showing that Ferriman-Gallwey (FG) scores have a significant positive correlation with anxiety.

Conclusion There is no correlation between hirsutism, anthropometric profile, and sexual dysfunction in infertile Indonesian women diagnosed with PCOS. However, hirsutism could play a role in causing anxiety in Indonesian PCOS women. Additional investigation is required, as female sexual function is an intricate subject.

Keywords Polycystic ovarian syndrome, PCOS, Hyperandrogenism, Anthropometric profile, Sexual dysfunction, Infertility

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Background

Polycystic ovarian syndrome (PCOS) is an endocrine disorder affecting women of reproductive age, with its prevalence ranging from 4 to 21%, depending on the population and diagnostic criteria applied [1]. The prevalence of PCOS varies according to different diagnostic criteria: 5–10% based on the 1990 National Institute of Health (NIH) criteria, 10–15% based on the Androgen Excess and PCOS Society (AE-PCOS) criteria in 2006, and 6–21% based on The American Society for Reproductive Medicine (ASRM) criteria in 2013 and the European Society for Human Reproduction and Embryology (ESHRE) [2, 3]. A study conducted by Pangastuti et al. in 2011 found that the most common frequently found case of PCOS is during reproductive age between 26 and 30 years old (45.7%) [4]. PCOS can cause various other health problems, such as obesity, metabolic disorders, cosmetic disorders, infertility, and cancer, as well as psychological disorders, such as sexual dysfunction, anxiety, and depression [5]. The most common causes of infertility in women are tubal disorders (40%), ovulation disorders (40%), other factors such as uterine disorders, hyperprolactinemia, pelvic organ adhesions (10%), and unexplained infertility (10%) [6].

One of the most distinguished features of PCOS is hormonal imbalance, which leads to hyperandrogenism. The clinical feature of hyperandrogenism is abundant body hair growth, which is usually assessed using the Ferriman-Galwey (FG) score. Excessive hair growth should specifically refer to an abundance of body hair, as hyperandrogenism is also responsible for hair loss in women and the onset of male pattern baldness. Biochemical evaluation of hyperandrogenism in PCOS includes elevated levels of free testosterone, an increased free androgen index (FAI), and reduced sex hormone binding protein/sex hormone binding globulin (SHBG). These hormonal imbalances are characteristic of PCOS. Additionally, alterations in physical characteristics such as hirsutism, alopecia, acne, and obesity associated with PCOS can contribute to a departure from the conventional feminine perception [7–10].

Sexual dysfunction is characterized by an individual's inability to react to sexual stimulation or experience discomfort during sexual activity [11]. As per the 10th Revision of The International Statistical Classification of Disease and Related Health Problems (ICD-10), it denotes an individual's incapacity to engage in a desired sexual relationship. In women with PCOS, those changes in physical features can affect their body image and self-confidence, leading to anxiety and depression [12–14]. The loss of feminine perception in women with hyperandrogenism due to hirsutism, acne, alopecia, and obesity also contributes to sexual dysfunction.

It ends with the vicious cycle of anxiety and depression problems. According to Eftekhar et al. [15], 57.7% of Iranian women diagnosed with PCOS encountered sexual dysfunction [15].

Apart from this, many women, especially those who live in Asian cultures, find it difficult to express their sexual problems, and many doctors are reluctant to dig deeper into this aspect from their patients. The reluctance to initiate a discussion about sexual health is a dual interaction between patients and doctors, possibly influenced by patients' own barriers, such as embarrassment, lack of knowledge, and indirect presentation of the disease, as these problems could lead to anxiety and even depression in PCOS patients [16]. This can result in decreased quality of life, psychological disorders, and longer and less effective treatment. This study aimed to investigate the relationship between hirsutism, anthropometric profile (including body mass index and waist-hip circumference ratio), and sexual dysfunction scores among infertile women with PCOS. Additionally, we explored anxiety scores as potential contributors to female sexual dysfunction.

Method

From December 2021 to December 2022, a cross-sectional study was undertaken at Yasmin Clinic, Dr. Cipto Mangunkusumo General Hospital, to assess the factors linked to the occurrence of sexual dysfunction in infertile women diagnosed with PCOS based on the PCOS Rotterdam 2003 criteria. The included subjects were of reproductive age (18–45 years), married, and had had sexual intercourse within the past 4 weeks. Subjects with hyperprolactinemia, a history of diabetes mellitus, undergoing hormonal therapy, using contraception, having a history of pelvic infection, or having endometriosis were excluded.

Subjects willing to participate enrolled consecutively and underwent a thorough interview regarding their medical history, menstrual history, family medical history, surgical history, drug history, and contraceptive history. Additionally, the subjects underwent several physical examinations, including weight, height, waist circumference, body mass index, waist-hip circumference, and hip circumference ratio. The evaluation of hirsutism involved the application of the Ferriman-Gallwey score, with a modified scoring system tailored for the Indonesian population, where a score of 5 or higher indicated the presence of hirsutism. To confirm the existence of polycystic ovarian morphology (PCOM) and exclude other gynecological disorders, a thorough gynecological examination and transvaginal ultrasound were carried out by an experienced gynecologist. Based on 2003 Rotterdam criteria, PCOM is characterized by either 12

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or more follicles measuring 2–9 mm in diameter or an ovarian volume exceeding 10 cm^3 for either ovary. Laboratory tests were conducted to detect indications of clinical hyperandrogenism by evaluating the levels of SHBG and total testosterone (for assessing the free androgen index), as well as LH and FSH (for determining the LH/FSH ratio) using the AIA-360 Automated Immunoassay Analyzer from Tosoh Bioscience, Japan.

Participants were stratified into two groups based on their physical attributes. The initial group was segmented into women with and without hirsutism, determined by their modified Ferriman-Gallwey (mFG) score. Meanwhile, the second group was segregated into obese and non-obese women, identified through their body mass index (BMI) and waist-hip circumference ratio. All participants filled out the authenticated Indonesian adaptation of the Female Sexual Function Index (FSFI) questionnaire, a self-administered survey comprising 19 items specifically crafted to evaluate diverse facets of female sexual function. These categories include desire, arousal, lubrication, orgasm, satisfaction, and pain. The cumulative score, indicative of overall sexual function, is computed by adding the scores for each item. The functionality of each domain is established by multiplying the sum of its items by a specific factor. Lower scores on individual domains or the overall FSFI indicate poorer sexual function. In addition, the Hamilton Anxiety Rating Scale (HAM-A) questionnaire was used to assess anxiety levels. This questionnaire consists of 14 questions that analyze the severity of anxiety using a five-point Likert scale, which covers a range of anxiety-related domains, such as mood, tension, fears, insomnia, and other physiological and psychological manifestations of anxiety. The total score provides an overall measure of the individual's anxiety level, with higher scores indicating more severe anxiety. The data collected was thoroughly checked for completeness and then analyzed using SPSS software version 26.0.

Categorical data is displayed as percentages, while numerical data is depicted through measures like mean, median, standard deviation, minimum, or maximum values, contingent on the outcomes of normality tests. Furthermore, the data is normalized and subjected to analysis using an independent sample t-test. Spearman's and Pearson's tests assess the correlation between two numerical variables. A p-value less than 0.05 is considered indicative of a statistically significant difference.

Figure 1 illustrates the study's research flow, encompassing 311 patients undergoing PCOS treatment at Yasmin Infertility Clinic, RSCM Kencana, from December 2021 to December 2022. Among these participants, 240 subjects were excluded, and only 71 met the inclusion criteria, subsequently enrolling in the research.

Results

Seventy-one women underwent history taking, physical examination, ultrasound, and laboratory examination. As shown in Table 1, the participant's mean age was 27.5 ± 2.5 years old. Most participants had a high level of education, with 59.2% having a bachelor's degree and 49.3% working as private employees. Most participants have been married for 3 years, with a mean duration of 36.01 ± 28.78 months.

The participants were primarily non-obese, with a mean BMI of 23.7 ± 5.1 kg/m^2 and a waist-hip ratio of 0.82 ± 0.05. 67.6% of the participants had hirsutism, with a median FG score of 6 (2–9).

Out of the 71 participants involved in this study, those experiencing sexual dysfunction comprised a larger group, accounting for 38 individuals, or 53.3% of the total subjects (Table 2).

Hirsutism, obesity and sexual function in PCOS women with infertility

The analysis revealed no statistically significant association between hirsutism and obesity, as determined by BMI and waist-hip circumference ratio, with p-values of 0.47, 0.62, and 0.85, respectively. In the group with both hirsutism and obesity, the average total sexual dysfunction score was lower (25.64 ± 3.2 and 24.86 ± 3.6, respectively) when compared to the group without hirsutism and a lean BMI (26.23 ± 3.2 and 26.47 ± 3.1, respectively); however, this variation did not reach statistical significance. Hyperandrogenism with a FAI > 5% had a higher mean FSFI score (27.17 ± 3.2) compared to FAI < 5% (25.53 ± 3.0) ($p = 0.47$). In both groups, no statistically significant disparity was observed in the mean total FSFI score concerning the LH/FSH ratio ($p = 0.12$) (Table 2).

Hirsutism, obesity and domains of sexual function in PCOS women with infertility

It was determined that the orgasm and pleasure domains had a lower mean in the hirsutism without statistical significance. The mean in all domains was consistently lower in obese BMI; lubrication and pleasure scores were lower (4.72 ± 0.64 and 4.29 ± 0.87) ($p = 0.02$ and $p = 0.03$, respectively). The obese participants, identified based on their waist-hip circumference ratio, exhibited lower mean desire and lubrication scores; however, this difference did not reach statistical significance (Table 3).

Anxiety and sexual dysfunction in PCOS women with infertility

Among the 71 participants, individuals experiencing sexual dysfunction exhibited a higher anxiety score in
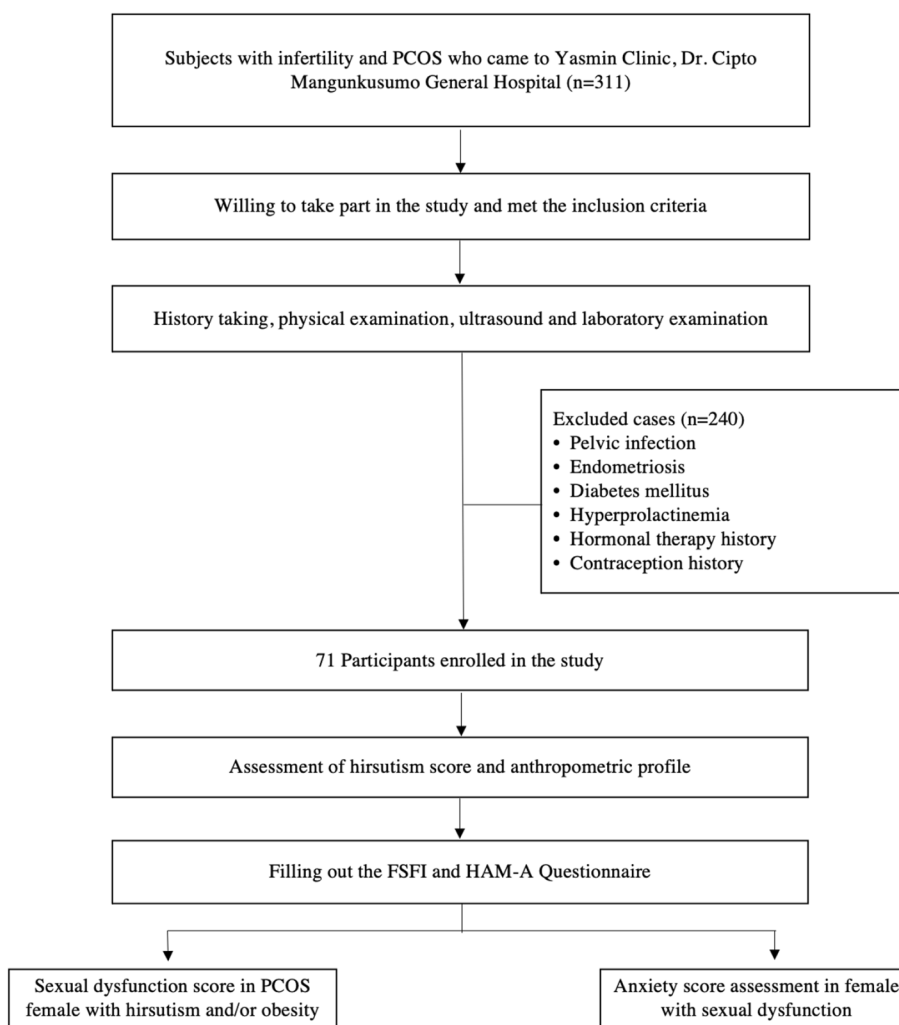
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Fig. 1 Study diagram

contrast to those without sexual dysfunction, with a median score of 14.5 (3–38) compared to 9.0 (2–19), with a statistically significant result (Table 4).

Table 5 displays the correlation analysis of various variables with anxiety scores within the sexual dysfunction group. A negative correlation was noted between age and anxiety score ($r = -0.429$; $p = 0.007$), while a positive correlation was observed between FG score and anxiety score ($r = 0.537$; $p = 0.001$).

Discussion

Polycystic ovary syndrome (PCOS) is an endocrine disorder frequently identified in women of reproductive age, and it encompasses diverse clinical implications. Three essential characteristics in establishing a diagnosis of PCOS are the presence of anovulatory cycles, hyperandrogenism (clinical and biochemical), and the appearance of polycystic ovaries (Rotterdam criteria). PCOS has

various clinical implications, including the risk of cardiovascular disease, insulin resistance, dyslipidemia, obesity, acne, male pattern baldness, hirsutism, and infertility. The changes in female morphologic features have been reported to affect other aspects, including mood disorders, anxiety, body image disorders, eating disorders, sleep disorders, bipolar disorder, sexual dysfunction, and depression [17].

In this study, the mean age of the participants was 27 years, with 42 subjects (59.2%) having a bachelor's degree and 35 subjects (49.3%) employed in the private sector. According to Quinn et al., a significant proportion of PCOS patients fall within the reproductive age range, and Pangastuti et al. noted the highest incidence of PCOS in Indonesia among those aged 26–30 years (45.7%) [4, 18]. We chose our sample from Yasmin Infertility Clinic to enroll a homogeneous urban sample, given its private clinic status. In a systematic review conducted

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Table 1 Characteristics of the participants

Characteristic	Values (*n* = 71)
Age (years)	27.3 ± 2.5
Education	
Junior high school	1 (1.4%)
Senior high school	14 (19.7%)
Diploma	13 (18.3%)
Bachelor	42 (59.2%)
Master	1 (1.4%)
Employment status	
Student	1 (1.4%)
Unemployed	8 (11.3%)
Private employee	35 (49.3%)
Government employee	3 (4.2%)
Entrepreneur	24 (33.8%)
Marriage duration (months)	
1–5 years	61 (85.9%)
> 5 years	10 (14.1%)
Mean ± SD	36.01 ± 28.78
Body weight (kg)	54.5 (40–95)
Height (cm)	157.5 ± 6.2
Body mass index (kg/m^2)	
Non-obese (< 25)	52 (73.2%)
Obese (≥ 25)	19 (26.8%)
Mean ± SD	23.7 ± 5.1
Waist-hip circumference ratio	
Normal	51 (71.8%)
Obese	20 (28.2%)
Mean ± SD	0.82 ± 0.05
Ferriman-Gallwey score	
< 5	23 (32.4%)
≥ 5	48 (67.6%)
Median	6 (2–9)
LH/FSH ratio	
> 1	59 (83.1%)
≤ 1	12 (16.9%)
Median	1.5 (0.4–7.2)
Free androgen index	
Hyperandrogenism (FAI > 5%)	22 (31%)
No hyperandrogenism (FAI ≤ 5%)	49 (69%)
Median	4.9 (0.5–24.6)

Table 2 The comparison of hirsutism, hyperandrogenism and anthropometric profile with mean total FSFI score

	Mean total FSFI score Mean ± SD	*P* value
Hirsutism		
Yes	25.64 ± 3.2	0.47
No	26.23 ± 3.2	
Body mass index (kg/m^2)		
Obesity	24.86 ± 3.6	0.62
No	26.47 ± 3.1	
Waist-hip circumference ratio		
Obesity	26.15 ± 3.0	0.85
No	26.0 ± 3.3	

is complex, involving many factors spanning biology, psychology, medicine, cultural and religious influences, and socioeconomic status. A survey conducted randomly in South and East Asian nations revealed that over 30% of women between the ages of 40 and 80 reported experiencing sexual dysfunction [22]. Efekhtar et al. reported that 57.7% of PCOS women had sexual dysfunction [15]. In a study conducted by Dashti et al., it was reported that sexual dysfunction affected 62.5% of Malaysian women with PCOS, with the domains of arousal and lubrication being notably impacted at rates of 93.8% and 87.5%, respectively [21]. In our study, we found 53.5% of subjects had a sexual dysfunction. The results in this study do not differ significantly between the two groups; however, they align closely with findings from some previous studies.

The findings of this study were that the mean BMI was 23.7 kg/m^2 (considered overweight), while the mean waist-hip circumference ratio was 0.82 (within the normal range), based on the WHO Asia–Pacific Region criteria [23]. A study by Wiweko et al. at Dr. Cipto Mangunkusumo General Hospital 2008 reported that a body mass index (BMI) of ≧ 25 kg/m^2 was observed in 73% of women with PCOS [24]. Additional research has observed that individuals with PCOS and hyperandrogenism exhibit a greater prevalence of visceral fat in comparison to subcutaneous fat, as indicated by a waist-hip circumference ratio surpassing 0.85 [25, 26]. However, women diagnosed with PCOS may demonstrate a slender physique despite adhering to a diet characterized by elevated fat and sugar intake and low fiber content. This dietary pattern can result in alterations in microbiota balance, leading to conditions of insulin resistance and hyperandrogenism [27].

Hyperandrogenism in PCOS contributes to alterations in physical appearance, manifesting as hirsutism, alopecia, acne, and obesity. While hyperandrogenism is associated with an increase in sexual desire, hirsutism in

by McCool-Myers et al. [19], which involved 135 studies from 41 countries, notable demographic factors influencing female sexual function were identified. These factors encompassed unemployment, low socioeconomic status, lack of education, and economic difficulties [19].

Research examining the occurrence of sexual dysfunctions in women with PCOS has reported prevalence rates varying from 27.2 to 62.5% [15, 20, 21]. Sexual function

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Table 3 Hirsutism and anthropometric profile with each domain of sexual dysfunction

	Desire		Arousal		Lubrication		Orgasm		Pleasure		Dyspareunia	
	Mean ± SD	*p*	Mean ± SD	*p*	Mean ± SD	*p*	Mean ± SD	*p*	Mean ± SD	*p*	Mean ± SD	*p*
Hirsutism												
Yes	3.88 ± 0.64	0.38	4.26 ± 0.80	0.33	5.0 ± 0.70	0.81	3.58 ± 0.51	0.68	4.67 ± 0.98	0.93	4.77 ± 1.04	0.34
No	3.73 ± 0.84		4.05 ± 0.89		5.0 ± 0.71		3.63 ± 0.46		4.69 ± 0.84		4.52 ± 1.04	
IMT												
Obesity	3.75 ± 0.62	0.57	3.94 ± 0.76	0.13	4.72 ± 0.64	0.02	3.45 ± 0.53	0.13	4.29 ± 0.87	0.03	4.69 ± 0.97	0.99
No	3.86 ± 0.74		4.28 ± 0.84		5.15 ± 0.69		3.65 ± 0.47		4.82 ± 0.92		4.69 ± 1.07	
Waist-hip ratio												
Obesity	3.75 ± 0.72	0.52	4.21 ± 0.94	0.90	4.95 ± 0.57	0.51	3.70 ± 0.40	0.29	4.8 ± 0.73	0.37	4.7 ± 1.13	0.97
No	3.87 ± 0.71		4.18 ± 0.79		5.07 ± 0.75		3.56 ± 0.52		4.6 ± 1.01		4.6 ± 1.01	

Table 4 Anxiety score and sexual dysfunction in PCOS woman with infertility

	Sexual dysfunction				*P* value
	Yes (*n* = 38)		No (*n* = 33)		
	Median	Range	Median	Range	
Anxiety score	14.5	3–38	9.0	2–19	< 0.05

Table 5 Correlation and significance levels between age, marriage duration, BMI, waist-to-hip ratio, FG score and anxiety in group with sexual dysfunction

Parameter	Correlation coefficient	*p*
Age	− 0.429	0.007[a]
Marriage duration	− 0.118	0.479[a]
BMI	0.125	0.453[a]
Waist-to-hip ratio	0.22	0.897[a]
FG score	0.537	0.001[b]

[a] Pearson's correlation test

[b] Spearman's correlation test

women may trigger a lack of self-confidence and anxiety related to a perceived deficiency in feminine identity, potentially leading to sexual dysfunction [28, 29]. In our study, 67.65% exhibited hirsutism, but no significant relationship was found with the FSFI score. This contrasts with a previous study by Bazarganipour et al., involving 300 PCOS subjects in Iran, which reported a negative correlation between hirsutism and self-confidence scores ($\beta = -0.124$, $p = 0.032$) [30]. This discrepancy could be attributed to differences in the Ferriman-Galwey cut point (mFG ≥ 5 for the Indonesian population), which might not significantly contribute to sexual dysfunction in Indonesian women due to less prominent hair growth patterns that do not interfere significantly with the appearance of the study subjects.

Hirsutism has different cut points depending on genetics, race, and ethnicity. European and Central Asian women have different cut points from Southeast Asian women; even on the Asian continent, the Ferriman-Gallwey score cut point is different. An extensive population-based study encompassing 3,000 women in China established an mFG score of ≥ 5 as a correlation with PCOS. Similarly, in Thailand, the 97.5th percentile for the mFG score was determined to be ≥ 3 [31, 32]. Nonetheless, a cross-sectional study conducted in Boston in the USA, which included 170 Caucasian and 20 Asian PCOS women, demonstrated a similar prevalence of hirsutism, defined by mFG score of ≥ 9 [33].

It had been reported that obese women with PCOS had anxiety disorders, which can also affect their sexual function [28, 30, 34]. In this study, there was no statistically significant between the sexual dysfunction score and anthropometric profile on PCOS. Still, there is a lower mean score in the lubrication domain (4.72 ± 0.64 vs. 5.15 ± 0.69) and pleasure domain (3.45 ± 0, 53 vs. 3.65 ± 0.47), which is statistically significant ($p = 0.02$ vs. $p = 0.13$). These findings are not in line with other studies, which may be caused by the mean of our subject being categorized as overweight. It has been reported that obesity contributes to sexual dysfunction in women. In a cross-sectional study in Iran conducted by Mozafari et al., 120 women with sexual dysfunction had a BMI of more than 25 and had lower FSFI total scores (16.2 ± 2.8 vs. 20.45 ± 9.4; $p \leq 0.05$) [35]. In a comparable investigation conducted by Esposito et al., the obese group exhibited lower FSFI scores, involving 52 women [36]. Elsenbruch et al. tried to analyze the quality of life, social well-being, and sexual pleasure for 100 subjects, and it was found that the group of PCOS with obesity had a

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lower sense of pleasure in their sexual life and felt less sexually attractive than the control group (41.3 ± 33.4 vs. 73.8 ± 27.4; $p < 0.001$) [37].

Subjects with sexual dysfunction exhibited a higher mean anxiety score compared to those without sexual dysfunction. We examine additional factors (age, duration of marriage, BMI, waist-to-hip ratio, FG score) that could influence anxiety in this study. It has been observed that as age and duration of marriage increased, there was a higher prevalence of various forms of Female Sexual Dysfunction (FSD), such as pain and issues related to desire, arousal, lubrication, orgasm, and satisfaction. Additionally, aging influences the sexual response cycle and the physiology of marital intimacy, leading to hormonal changes. Consequently, there is a decline in sexual desire and frequency, ultimately resulting in decreased marital satisfaction [38].

Our analysis revealed a statistically significant negative correlation between age and anxiety in the group with sexual dysfunction, whereas the FG score showed a weak positive correlation with anxiety. The feature of hirsutism might cause anxiety in Indonesian women but does not have a significant correlation with the sexual dysfunction score, as mentioned above. This can occur because of cultural, religious, political, historical, and socioeconomic differences that underlie sexual attitudes. Laumann et al. conducted a cross-national study across 29 countries. They found that women residing in male-centered or patriarchal societies, including Indonesia, exhibited the lowest levels of sexual well-being. These studies reinforce the notion that companionate relationships typically emphasize the importance of sexual function and performance in intimate partnerships. In essence, within companionate relationships, sexual activity serves not only reproductive functions but also reflects the overall quality of the relationship. Moreover, in male-centric societies, there is often an oversight regarding the relational significance of sexual experiences and the significance of sexual pleasure for women [39].

Limitations
This study had certain limitations. Firstly, the sample size was suitable for preliminary investigation; however, it may not adequately represent the broader population of Indonesian women with PCOS who are experiencing sexual dysfunction. This is due to relying on prevalence data from the Iranian population which includes different racial demographics. Differences in racial makeup may have an impact on the results, especially when it comes to variations in hirsutism scores. Secondly, self-reported questionnaires can be biased, which can lead to inaccurate self-reports. This bias can compromise the validity of survey data, as individuals may either underreport or overreport their experiences of sexual dysfunction. Thirdly, we did not explore various confounding factors that can

contribute to sexual dysfunction and anxiety in women, such as social, cultural, and economic aspects, beliefs, religion, family values, and interpersonal relationships. In this study, we could not capture all aspects necessary to discuss the condition of sexual dysfunction in women comprehensively. This lack of detailed information could serve as valuable input for future research. We suggest conducting further multidimensional qualitative studies to gain deeper insight into the factors contributing to sexual dysfunction among the Indonesian population.

Conclusion
There is no association between hirsutism, BMI, waist-to-hip ratio, and the occurrence of sexual dysfunction in women with PCOS. However, hirsutism might have a role in contributing to anxiety in Indonesian PCOS women. Further study is needed to be carried out to discuss other factors that may have an influence, such as social, cultural, ethnic, belief, religious, and interpersonal relationships, which can cause anxiety and sexual dysfunction in PCOS since female sexual dysfunction is a complex problem. A qualitative study can be carried out to dig deeper into sexual dysfunction in women.

Declarations

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Consent for publication
All patients have been informed and have consented to publication.

Competing interests
The authors declare that they have no competing interests.

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