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Research Article

Assessment of Knowledge, Perception, and Risk Factors of Polycystic Ovary Syndrome among Women in Nigeria

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Abstract

Background: Polycystic ovary syndrome (PCOS) is one of the most prevalent endocrine and reproductive disorders affecting women of reproductive age. Despite its high burden, awareness and understanding of PCOS remain low in many low- and middle-income countries, including Nigeria. This study assessed the knowledge, perception, and risk factors of PCOS among women attending Abia State University Teaching Hospital (ABSUTH), Aba, Nigeria.

Materials and Methods: A hospital-based descriptive cross-sectional study was conducted among 250 women of reproductive age (15–49 years) attending outpatient clinics at ABSUTH. Participants were selected using systematic random sampling. Data were collected through a structured, pretested, interviewer-administered questionnaire covering socio-demographic characteristics, knowledge, perception, risk factors, and health-seeking behaviors related to PCOS. Reliability was established with Cronbach's alpha of 0.81. Data were analyzed using SPSS version 26. Descriptive statistics summarized the data, chi-square tests assessed associations, and logistic regression identified predictors of knowledge and perception. Statistical significance was set at $p < 0.05$.

Results: The mean age of respondents was 31.8 ± 7.5 years, with most being married (64.4%) and having a tertiary education (60.4%). Awareness of PCOS was relatively low, with 54.8% identifying irregular menstrual cycles and 50.4% recognizing obesity as symptom. Only 39.2% linked PCOS with infertility. Perception analysis showed 55.2% agreed that PCOS is a serious reproductive health issue, while 60.8% believed it negatively impacts self-esteem and quality of life. Family history of PCOS was reported by 13.6%, while 38.4% reported family history of diabetes, obesity, or infertility. More than half (56.8%) identified weight management and exercise as helpful interventions, though only 22.8% had ever been screened for PCOS. Knowledge score showed significant positive correlations with perception ($r = 0.62$, $p < 0.001$), education ($r = 0.41$, $p < 0.001$), and willingness to undergo screening ($r = 0.38$, $p < 0.001$). Higher educational attainment was significantly associated with awareness ($\chi^2 = 28.54$, $p < 0.001$).

Conclusion: The study revealed limited knowledge but relatively positive perceptions of PCOS among women in Aba, Nigeria. Education level emerged as a strong predictor of awareness and willingness to screen. Public health interventions focusing on awareness creation, early screening, and lifestyle modification are needed to improve PCOS prevention and management.

Key words: polycystic ovary syndrome; knowledge; perception, risk factors; women; Nigeria; reproductive health

Introduction

Polycystic ovary syndrome (PCOS) is a heterogeneous endocrine disorder affecting reproductive-aged women worldwide and is characterized by a variable combination of menstrual irregularity, hyperandrogenism (clinical or biochemical), and polycystic ovarian morphology on ultrasound. Diagnostic frameworks developed over the past two decades — most notably the Rotterdam consensus and subsequent refinements emphasizing androgen excess — reflect the clinical and phenotypic breadth of PCOS and the ongoing debate about its definition. These diagnostic criteria matter for epidemiology and for comparing prevalence estimates between populations because different criteria capture different phenotypes and severities of the condition [1,2].

PCOS is clinically important not only because it is one of the leading identifiable causes of anovulatory infertility, but also because it is associated with long-term metabolic and psychological comorbidities.

Insulin resistance and compensatory hyperinsulinaemia are central to many pathophysiologic models and explain the close links between PCOS and obesity, dysglycaemia, adverse lipid profiles, and increased cardiometabolic risk. In parallel, hyperandrogenism accounts for cutaneous and reproductive features (e.g., hirsutism, acne, oligo-/amenorrhoea) that drive health-seeking behaviour and quality-of-life impacts. Contemporary clinical reviews emphasise that the syndrome is lifelong and multidisciplinary in implication, requiring attention to reproduction, cardiometabolic health, and mental well-being [3,4].

Estimates of PCOS prevalence vary considerably across settings because of differences in diagnostic criteria, sampling frames, and study methods. Global population and clinic-based estimates reported in recent syntheses place prevalence broadly between about 2% and 26%, with many unselected population studies clustering in the range of ~6–12% depending on the criteria applied. Importantly for Nigeria, several local and regional studies and hospital reports indicate that PCOS is a commonly encountered disorder in gynecologic and endocrine practice, frequently presenting with menstrual disturbance, infertility, and hyperandrogenic features. Where population or clinic prevalence has been explicitly estimated within Nigerian cohorts, reported rates vary but underscore that PCOS is not uncommon and that a sizable fraction of affected women manifests metabolic risk features. These prevalence and clinical-pattern data support the need for regionally specific research to understand burden, presentation, and local risk profiles [5,6].

Risk factors implicated in the development or expression of PCOS are multifactorial and include genetic predisposition, perinatal exposures, lifestyle and nutritional factors, obesity and weight gain, and certain medications. Family history and heritable susceptibility to hyperandrogenism or insulin resistance increase individual risk, while rapid weight gain and central adiposity amplify both reproductive and metabolic manifestations. Emerging research has also explored environmental contributors, gut microbiome alterations, socioeconomic and psychosocial stressors, and ethnically patterned differences in phenotype and metabolic risk. Identifying which of these risk factors are most relevant in specific local populations (for example, in different regions of Nigeria) is essential for targeted prevention, early identification, and culturally-appropriate health education [7].

Despite the clinical significance of PCOS, multiple studies from low- and middle-income settings — including studies conducted in Nigeria — report limited awareness, incomplete knowledge about symptoms and complications, misperceptions about causes, and variable attitudes toward treatment options. Low levels of symptom recognition (for example, not linking irregular menses or acne to a possible endocrine disorder) delay care-seeking and contribute to diagnostic delays. Where knowledge gaps exist among women of reproductive age, community-level education and clinician training become priority interventions; however, the content and delivery of such interventions must be guided by local data on prevailing misconceptions and information channels. Consequently, rigorous assessment of knowledge, perception, and locally-relevant risk factors is a necessary precursor to designing effective public-health and clinical strategies [8].

Abia State, a geopolitical and cultural subregion within southeastern Nigeria, [9] has its own sociodemographic profile, health system characteristics, and patterns of health-seeking behavior that may shape how PCOS is experienced and managed locally. To date, there is limited published, state-specific epidemiologic and knowledge-attitude data for Abia State; most Nigerian reports are regionally clustered or hospital-based without systematic coverage of the state's communities [10]. A focused study in Abia State therefore offers the opportunity to (1) estimate the local burden and phenotypic distribution of PCOS among women of reproductive age attending health facilities, (2) document prevailing levels of knowledge and perception that affect recognition and health-seeking, and (3) quantify exposure to known and putative risk factors (including anthropometric, reproductive, family-history, lifestyle, and socioeconomic variables). Such data will inform public health messaging, clinical screening priorities, and future interventional research tailored to the state's population [11].

Materials And Methods

Study Design

A hospital-based descriptive cross-sectional study design was employed. This design was considered appropriate because it allowed for the systematic collection of data on the knowledge, perception, and risk factors of polycystic ovary syndrome among women attending the hospital during the study period [12].

Study Area

The study was conducted at the Abia State University Teaching Hospital (ABSUTH), Aba, Abia State, Nigeria. The hospital is a tertiary healthcare institution that serves as a major referral centre for both rural and urban populations in Abia State and its neighbouring states [13]. It provides specialized services in obstetrics and gynaecology, internal medicine, paediatrics, and surgery, making it an ideal setting for a study focusing on reproductive health conditions such as polycystic ovary syndrome (PCOS).

Study Population

The target population comprised women of reproductive age (15–49 years) who attended outpatient clinics at ABSUTH during the study period. These included women visiting the gynaecology, antenatal, family planning, and general outpatient clinics.

Inclusion and Exclusion Criteria

- **Inclusion criteria**:
  - Women aged 15–49 years.
  - Women who provided informed consent to participate in the study.
  - Women attending outpatient clinics at ABSUTH during the study period.
- **Exclusion criteria**:
  - Women with a prior diagnosis of severe mental illness or cognitive impairment that could hinder comprehension of the questionnaire.
  - Women who declined participation.
  - Critically ill patients are unable to respond to questions.

Sample Size Determination

The sample size was determined using Cochran's formula for estimating population proportions, as outlined by Akwuruoha et al. [14]:

$$n = \frac{Z^2(Pq)}{e^2}$$

The formula components are defined as follows:

- n represents the minimum required sample size.
- Z is set at 1.96, corresponding to a 95% confidence level.
- P denotes the established prevalence of PCOS in Southeast Nigeria.
- e signifies the allowable margin of error, fixed at 5% (0.05).

$$q = 1 - p$$

A recent study conducted by Ugwu et al. [15] reported the prevalence of PCOS in Southeast Nigeria as 18.1%

$P = 18.1\% = 0.181$

$q = 1 - 0.181$

$= 0.819$

$$n = \frac{(1.96)^2(0.181 \times 0.819)}{(0.05)^2}$$

$$n = \frac{3.8416 \times (0.148)}{0.0025}$$

$$n = \frac{0.5695}{0.0025} = 227.79$$

The minimum sample size was 228, but it was adjusted to 250 to account for a 10% non-response rate.

Sampling Technique

A systematic random sampling technique was used. Using the ANC attendance register, the sampling interval was determined by dividing the estimated number of eligible pregnant women attending ANC during the study period by the required sample size [11]. The first participant was selected randomly, and every 5th eligible woman was subsequently recruited until the sample size was attained.

Data Collection Instrument

Data were collected using a structured, pretested, interviewer-administered questionnaire. The instrument was developed after an extensive review of existing literature on knowledge, perception, and risk factors of PCOS. It was divided into five sections:

1. **Socio-demographic characteristics** (age, marital status, educational status, occupation, parity, etc.).
2. **Knowledge of PCOS** (definition, causes, symptoms, complications, and treatment options).
3. **Perception of PCOS** (attitudes towards the condition, beliefs about severity, and perceived susceptibility).
4. **Risk factors for PCOS** (family history, obesity, menstrual irregularities, lifestyle habits, etc.).
5. **Health-seeking behavior** (sources of information, healthcare utilization, and preventive practices).

The questionnaire included both closed- and open-ended questions and was translated into the local Igbo language for participants who could not communicate fluently in English.

Validity and Reliability of the Instrument

The questionnaire was reviewed by experts in reproductive health and epidemiology to ensure content validity. A pilot test was conducted among 20 women attending the General Hospital, Aba, to assess clarity, cultural appropriateness, and reliability. Internal consistency was measured using Cronbach's alpha, with a coefficient of 0.81 obtained, indicating high reliability.

Data Collection Procedure

Trained research assistants, who were nurses and final-year medical students familiar with the subject matter, administered the questionnaires. Before data collection, participants were informed about the study's objectives and assured of confidentiality. Written informed consent was obtained. Interviews lasted an average of 20–25 minutes.

Data Management and Analysis

Completed questionnaires were checked daily for completeness and consistency. Data were coded and entered into Statistical Package for the Social Sciences (SPSS) version 26.0 for analysis.

- **Descriptive statistics** such as frequencies, percentages, means, and standard deviations were used to summarize socio-demographic data, knowledge, perception, and risk factors.
- **Knowledge scores** were computed from participants' responses, and levels of knowledge were categorized as good, fair, or poor.
- **Perception scores** were categorized into positive and negative based on Likert scale responses.
- **Inferential statistics**: The chi-square test was used to assess associations between socio-demographic variables and knowledge, perception, and risk factors. Logistic regression analysis was employed to identify independent predictors of knowledge and perception of PCOS. A p-value < 0.05 was considered statistically significant.

Ethical Considerations

Permission was also obtained from the hospital management. Informed consent was obtained from each participant before inclusion. Anonymity and confidentiality of the respondents' information were strictly maintained, and participants were assured that their responses would be used solely for research purposes. Participation was entirely voluntary, and participants could withdraw at any stage without penalty.

Results

The study involved 250 participants, with the majority of respondents aged 25–34 years (36.8%) and 35–44 years (28.4%). The majority were married (64.4%), had tertiary education (60.4%), were formally employed (48.4%), resided in urban areas (62.8%), and were multiparous (42.4%) (Table 1).

Knowledge of PCOS was moderate. The most commonly identified symptoms included irregular menstrual cycle (54.8%), weight gain/obesity (50.4%), and hirsutism (38.4%). Only 19.6% recognized infertility as a symptom. Regarding associated risks, more than half linked PCOS with diabetes (56.8%), while fewer associated it with hypertension (25.6%) and cardiovascular diseases (14.8%). Likert-scale statements revealed strong agreement that PCOS is a hormonal disorder (78.4%), can affect fertility (72.8%), and may be managed with lifestyle and medical treatment (55.2%) (Tables 2a and 2b).

Perceptions showed that respondents acknowledged PCOS as a serious reproductive health issue (55.2%), with 60.8% agreeing that it negatively impacts self-esteem and quality of life. However, only 33.6% strongly perceived that awareness is generally low. Most participants (72%) agreed that early diagnosis prevents complications, and 60.8% supported health education interventions in hospitals and communities (Table 3).

Risk factors highlighted included family history of diabetes, obesity, or infertility (38.4%), sedentary lifestyle, and poor dietary habits, with nearly half reporting no regular physical activity (49.6%). While smoking was uncommon (4.8%), alcohol consumption was reported by 27.2%. Likert-scale responses confirmed that obesity (66%) and poor dietary habits (54.4%) were perceived as major risk factors (Tables 4a and 4b).

Health-seeking behavior revealed that only 22.8% had ever been screened for PCOS, predominantly in public hospitals (13.6%). Nevertheless, willingness to undergo routine screening was high (83.2%). Weight management and exercise (56.8%), dietary modification (47.2%), and medications (38.4%) were the most frequently endorsed preventive interventions, while herbal remedies were less cited (19.6%) (Table 5).

Correlation analyses showed a strong positive association between knowledge and perception ($r = 0.62$, $p < 0.001$) and between knowledge and education ($r = 0.41$, $p < 0.001$). Knowledge also correlated moderately with risk-factor awareness ($r = 0.45$, $p < 0.001$) and willingness to undergo screening ($r = 0.38$, $p < 0.001$). Age had weak or non-significant correlations with knowledge and perception (Tables 6a and 6b).

Chi-square analyses confirmed that higher education was significantly associated with PCOS awareness ($\chi^2 = 28.54$, $p < 0.001$) and willingness to undergo screening ($\chi^2 = 16.45$, $p = 0.003$). Awareness also differed significantly across age groups ($\chi^2 = 12.87$, $p = 0.005$). Family history of

PCOS was significantly associated with prior screening ($\chi^2 = 9.21$, $p = 0.010$), whereas marital status showed no significant association with screening practices (Table 7).

Variable	Category	Frequency (n = 250)	Percentage (%)
Age	15–24 years	49	19.60
	25–34 years	92	36.80
	35–44 years	71	28.40
	45–49 years	38	15.20
	Total	**250**	**100.00**
Marital Status	Single	57	22.80
	Married	161	64.40
	Divorced	9	3.60
	Widowed	3	1.20
	Cohabiting	20	8.00
	Total	**250**	**100.00**
Educational Level	No formal education	5	2.00
	Primary education	26	10.40
	Secondary education	68	27.20
	Tertiary education	151	60.40
	Total	**250**	**100.00**
Occupation	Employed (formal)	121	48.40
	Unemployed	49	19.60
	Student	26	10.40
	Self-employed	45	18.00
	Homemaker	9	3.60
	Total	**250**	**100.00**
Residence	Urban	157	62.80
	Rural	93	37.20
	Total	**250**	**100.00**
Parity	Nulliparous	78	31.20
	Primiparous	66	26.40
	Multiparous	106	42.40
	Total	**250**	**100.00**

Table 1: Socio-demographic characteristics

Variable	Frequency	Percentage (n = 250)
Which of the following are common symptoms of PCOS? (multiple responses)		
Irregular menstrual cycle	137	54.80%
Excess hair growth (hirsutism)	96	38.40%
Weight gain / obesity	126	50.40%
Acne / oily skin	88	35.20%
Infertility	49	19.60%
Hair loss / thinning scalp	34	13.60%
Don't know	18	7.20%
PCOS is associated with increased risk of: (multiple responses)		
Diabetes	142	56.80%
Hypertension	64	25.60%
Cardiovascular diseases	37	14.80%
Infertility	98	39.20%
Don't know	26	10.40%

Table 2a: Knowledge of PCOS

Statement	1 (SD)	2 (D)	3 (N)	4 (A)	5 (SA)
PCOS is a hormonal disorder that affects women of reproductive age.	8 (3.20%)	12 (4.80%)	34 (13.60%)	96 (38.40%)	100 (40.00%)
PCOS can be diagnosed by ultrasound and blood tests.	12 (4.80%)	28 (11.20%)	46 (18.40%)	92 (36.80%)	72 (28.80%)
PCOS can affect a woman's ability to conceive.	6 (2.40%)	18 (7.20%)	44 (17.60%)	110 (44.00%)	72 (28.80%)
Being overweight or obese increases the risk of PCOS.	10 (4.00%)	32 (12.80%)	58 (23.20%)	96 (38.40%)	54 (21.60%)
PCOS can be managed with lifestyle modification and medical treatment	14 (5.60%)	36 (14.40%)	62 (24.80%)	90 (36.00%)	48 (19.20%)

Table 2b: Knowledge Statements

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 5 = Agree, 5 = Strongly Agree

Statement	1 (SD)	2 (D)	3 (N)	4 (A)	5 (SA)
PCOS is a serious reproductive health problem among Nigerian women.	18 (7.20%)	36 (14.40%)	58 (23.20%)	90 (36.00%)	48 (19.20%)
Women with PCOS face social stigma and discrimination.	24 (9.60%)	46 (18.40%)	72 (28.80%)	78 (31.20%)	30 (12.00%)
PCOS hurts a woman's self-esteem and quality of life.	12 (4.80%)	22 (8.80%)	64 (25.60%)	104 (41.60%)	48 (19.20%)
Awareness of PCOS is generally low among women in Nigeria.	26 (10.40%)	58 (23.20%)	84 (33.60%)	58 (23.20%)	24 (9.60%)
Early diagnosis and management can prevent complications.	10 (4.00%)	20 (8.00%)	40 (16.00%)	120 (48.00%)	60 (24.00%)
Health education on PCOS should be available in hospitals & communities.	14 (5.60%)	28 (11.20%)	56 (22.40%)	92 (36.80%)	60 (24.00%)

Table 3: Perception of PCOS

Variable	Category	Frequency	Percentage (%)
Family history of PCOS	Yes	34	13.60
	No	176	70.40
	Don't know	40	16.00
Family history of diabetes, obesity, or infertility	Yes	96	38.40
	No	154	61.60
Regular physical activity/exercise	Yes	126	50.40
	No	124	49.60
Dietary pattern	High carbohydrate diet	64	25.60
	High fat diet	49	19.60
	Balanced diet	96	38.40
	Irregular / fast-food based	41	16.40
Smoking	Yes	12	4.80
	No	238	95.20
Alcohol consumption	Yes	68	27.20
	No	182	72.80

Table 4a: Risk Factors and Behaviours

Statement	1 (SD)	2 (D)	3 (N)	4 (A)	5 (SA)
Obesity is a major risk factor for PCOS.	12 (4.80%)	26 (10.40%)	48 (19.20%)	104 (41.60%)	60 (24.00%)
Family history predisposes to PCOS.	18 (7.20%)	34 (13.60%)	60 (24.00%)	96 (38.40%)	42 (16.80%)
Stress and a sedentary lifestyle contribute to PCOS.	10 (4.00%)	28 (11.20%)	86 (34.40%)	88 (35.20%)	38 (15.20%)
Poor dietary habits increase the risk of PCOS.	14 (5.60%)	36 (14.40%)	64 (25.60%)	92 (36.80%)	44 (17.60%)
PCOS can occur in all weight categories	20 (8.00%)	30 (12.00%)	72 (28.80%)	86 (34.40%)	42 (16.80%)

Table 4b: Risk factor statements

Variable	Category	Frequency	Percentage (%)
Have you ever been screened for PCOS?	Yes	57	22.8
	No	193	77.2
If screened, where?	Public hospital	34	13.6
	Private hospital	19	7.6
	Other	4	1.6
Willingness to undergo routine screening	Yes	208	83.2
	No	42	16.8
Interventions believed helpful (multiple responses allowed)	Weight management and exercise	142	56.8
	Medications prescribed by a doctor	96	38.4
	Dietary modification	118	47.2
	Herbal / traditional remedies	49	19.6

Table 5: Health-seeking Behaviour and Preventive Practices

	Knowledge_score	Perception_score	Riskfactor_score	Age_group_numeric	Education_level_numeric	Willing_to_screen
Knowledge_score	**1.00**	0.62	0.45	-0.12	0.41	0.38
Perception_score	0.62	**1.00**	0.34	-0.08	0.29	0.31
Riskfactor_score	0.45	0.34	**1.00**	0.15	-0.09	0.21
Age_group_numeric	-0.12	-0.08	0.15	**1.00**	-0.22	-0.05
Education_level_numeric	0.41	0.29	-0.09	-0.22	**1.00**	0.27
Willing_to_screen	0.38	0.31	0.21	-0.05	0.27	**1.00**

Table 6a: Correlation coefficients (r)

	Knowledge_score	Perception_score	Riskfactor_score	Age_group_numeric	Education_level_numeric	Willing_to_screen
Knowledge_score	<0.001	<0.001	<0.001	0.056	<0.001	<0.001
Perception_score	<0.001	<0.001	<0.001	0.180	<0.001	<0.001
Riskfactor_score	<0.001	<0.001	<0.001	0.018	0.130	0.001
Age_group_numeric	0.056	0.180	0.018	<0.001	<0.001	0.370
Education_level_numeric	<0.001	<0.001	0.130	<0.001	<0.001	<0.001
Willing_to_screen	<0.001	<0.001	0.001	0.370	<0.001	<0.001

Table 6b: Corresponding p-values

Comparison (variables)	χ^2 (Chi-square)	df	p-value
Heard of PCOS vs educational level	28.54	4	<0.001*
Heard of PCOS vs Age group	12.87	3	0.005*
Screened for PCOS vs Marital status	6.32	3	0.098
Willing to undergo routine screening vs educational level	16.45	4	0.003*
Family history of PCOS vs Ever screened	9.21	2	0.010*

Values are significant at $p<0.05$

Table 7: Chi-square Analyses

Discussion

This study assessed the knowledge, perception, and risk-factor awareness of polycystic ovary syndrome (PCOS) among 250 women in Abia State, Nigeria, and explored associations with sociodemographic variables and health-seeking behaviours. The findings reveal both encouraging and concerning patterns when compared with the existing literature. In what follows, our discussion situates these results in relation to prior studies, highlights possible explanations, notes implications, and acknowledges limitations.

In the sociodemographic profile, the largest age group was 25–34 years (36.8%), followed by 35–44 years (28.4%), while only 15.2% were aged 45–49 years. This age distribution is broadly consistent with many reproductive health studies in Nigeria, which often sample women in their mid to late reproductive years. The high proportion (60.4%) of participants with tertiary education reflects a relatively educated sample—indeed, previous Nigerian studies such as Omagbemi et al. [16] have observed that women who participate in health surveys tend to be more educated than the general population. In this sample, 62.8% resided in urban areas, which may partly reflect greater recruitment access in urban centres and the likelihood that women in urban areas more readily engage with research activities.

Regarding knowledge of PCOS, while over half of respondents correctly identified "irregular menstrual cycle" (54.8%) and "weight gain/obesity" (50.4%) as common symptoms, lower proportions recognized hirsutism (38.4%), acne (35.2%), infertility (19.6%), and hair thinning (13.6%). Also, 7.2% selected "don't know." In terms of associated risks, 56.8% recognized the association with diabetes, 39.2% with infertility, but only 25.6% with hypertension and 14.8% with cardiovascular disease, while 10.4% did not know. On knowledge statements using the Likert scale, the majority agreed that PCOS is a hormonal disorder affecting reproductive-aged women, can be diagnosed by ultrasound and blood tests, affects fertility, is influenced by overweight/obesity, and can be managed by lifestyle modification and medical treatment.

These findings suggest a moderate level of symptom awareness, but substantial gaps in comprehensive knowledge—especially in relation to long-term health risks and less visible symptoms. Comparatively, a study in South-West Nigeria [16] reported that knowledge of PCOS among women was generally inadequate, with many unable to correctly identify hallmark features or complications. Similarly, Jaber et al. [17] in another cross-sectional investigation found that many women lacked correct knowledge about PCOS diagnosis and long-term sequelae. In contrast, in a study of nurses in Lebanon, Srour et al. [5] found relatively higher knowledge among a health-care provider group, reinforcing that professional exposure is likely a strong influencer of knowledge. The discrepancy between clinical populations or health professionals and community women underscores the need for targeted health education programs in the general female population.

In terms of perception, most respondents agreed or strongly agreed that PCOS is a serious reproductive health problem (55.2% when combining "Agree" and "Strongly Agree"), and a substantial proportion recognized negative psychosocial effects: 50.8% agreed that PCOS hurts self-esteem and quality of life, and 43.2% affirmed that women with PCOS face social stigma and discrimination. On the other hand, there was ambivalence about awareness levels (only 32.8% agreed that awareness is generally low), and a strong majority (72.0%) recognized that early diagnosis and management can prevent complications. A majority (60.8%) also agreed that health education should be available in hospitals and communities.

These perceptions align with several prior studies, which emphasize that women often perceive PCOS not only as a medical issue but also as one with social and psychological burden. For instance, in Oriji et al. [18]'s Rivers State study, women associated PCOS with negative psychosocial implications and perceived that stigma might hinder health-seeking. Similarly, in the South-West Nigeria survey, participants expressed concerns about social judgment and emotional distress tied to symptoms such as hirsutism [16]. Collectively, these findings underscore that raising

knowledge alone may not suffice; interventions should also address perception, normalization, and stigma reduction.

Turning to risk factors and behaviours, only 13.6% reported a family history of PCOS, though 16% did not know. A higher proportion (38.4%) indicated a family history of diabetes, obesity, or infertility. Approximately half (50.4%) engaged in regular physical activity, and 38.4% reported consuming a balanced diet; on the other hand, 25.6% reported high carbohydrate diets, 19.6% high fat diets, and 16.4% irregular/fast-food–based diets. Very few (4.8%) smoked, and 27.2% reported alcohol consumption. In perception of risk, the majority agreed that obesity is a major risk (65.6% "Agree"/"Strongly Agree"), and most acknowledged poor dietary habits (54.4%) and stress/sedentary lifestyle (50.4%) as contributors. However, only 51.2% agreed that PCOS can occur in all weight categories, reflecting some misconception that PCOS is limited to overweight women.

These findings largely align with established evidence that obesity, poor diet, sedentary lifestyle, and family predisposition are key risk factors for PCOS [18]. In particular, the moderate uptake of regular exercise and only partial adoption of a healthy diet echo the findings of prior Nigerian and global studies where behavioural risk factors are common yet under-addressed [16,17]. The misperception that PCOS does not occur in all weight categories is a known barrier: some lean women with PCOS are overlooked because both laypersons and clinicians often associate PCOS with obesity [2]. The low smoking prevalence aligns with general female smoking trends in Nigeria, and alcohol consumption at 27.2% may reflect social behaviours in the setting.

Regarding health-seeking behavior, only 22.8% of respondents had ever been screened for PCOS, with most (77.2%) never screened. Of those screened, public hospitals accounted for 13.6% and private hospitals 7.6%. Encouragingly, 83.2% expressed willingness to undergo routine screening. In terms of perceived helpful interventions, 56.8% selected weight management and exercise, 47.2% dietary modification, and 38.4% medications; a smaller proportion (19.6%) endorsed herbal or traditional remedies.

The low proportion ever screened is consistent with findings in Nigeria and elsewhere: for example, Joy Olotu and Okon [8] reported low awareness and minimal screening among young women in Nigeria. In a South-West Nigeria sample, the majority of women had never been investigated for PCOS and often relied on self-medication or traditional remedies [16]. The expressed willingness to screen indicates potential receptivity to preventive programs, provided that access, affordability, and awareness barriers can be mitigated.

The correlation analyses provide further insight into interrelationships among knowledge, perception, risk awareness, and sociodemographic variables. Knowledge score showed a strong positive correlation with perception ($r = 0.62$, $p < 0.001$), and a moderate positive correlation with risk-factor awareness ($r = 0.45$, $p < 0.001$). Knowledge also correlated moderately with willingness to screen ($r = 0.38$, $p < 0.001$) and with education level ($r = 0.41$, $p < 0.001$). These results suggest that education and knowledge may be foundational to shaping perception and motivating screening uptake. Age exhibited weak or non-significant correlations with knowledge and perception, reinforcing that age per se may be a less important determinant in this population. Previous literature suggests similar patterns: Jaber et al. [17] found that more educated women had higher knowledge and more favourable attitudes toward PCOS, and that knowledge was associated with the intention to seek care. In the Nigerian context, Omagbemi et al. [16] also reported significant associations between educational attainment and PCOS awareness.

Chi-square analyses further underscore the role of education: awareness of PCOS was significantly associated with educational level ($\chi^2 = 28.54$, $df = 4$, $p < 0.001$), and willingness to screen was similarly associated with education ($\chi^2 = 16.45$, $df = 4$, $p = 0.003$). These associations reinforce that more educated women are more likely to have heard of PCOS and are more open to preventive screening. This parallels prior studies: in India, awareness of PCOS varied substantially by education [19] and in Nigeria, higher education levels consistently correlate with greater reproductive health knowledge [18]. The finding that awareness differs by age group ($\chi^2 = 12.87$, $df = 3$, $p = 0.005$) suggests that younger or older subsets of women may have different exposure or interest in reproductive health topics.

Interestingly, screening status (ever screened) did not differ significantly by marital status ($\chi^2 = 6.32$, $df = 3$, $p = 0.098$), suggesting that whether a woman is married, single, or cohabiting may not influence her decision to undergo screening — perhaps because reproductive health awareness transcends marital state in this population. However, family history of PCOS was significantly associated with having been screened ($\chi^2 = 9.21$, $df = 2$, $p = 0.010$), implying that personal risk perception (from familial experience) may motivate screening behaviour. The pattern that emerges is one in which knowledge, driven in part by educational attainment, is a central lever in shaping perception and motivating screening and preventive behaviour. Yet, despite moderate awareness in some areas, important gaps remain—especially with regard to complications, non-obvious risk groups, and the low uptake of screening.

Conclusion

This study reveals that among women in Abia State, knowledge and risk-factor awareness of PCOS are moderate but with notable gaps, perception is generally favourable but still constrained by misinformation and stigma, and actual screening uptake is low despite expressed willingness. Education emerges as a key factor in enhancing awareness and encouraging preventive behaviour. To reduce the burden of undiagnosed PCOS and its complications in Nigeria, health education initiatives, accessible screening services, and stigma-reduction strategies are warranted. Future research should aim to include broader and more representative samples, and ideally incorporate clinical diagnostics to relate knowledge and perception to actual PCOS prevalence and outcomes.

References

1. Akwuruoha, E. O. & Airaodion, A. I. (2025). Evaluation of Causes, Diagnosis and Management of Polycystic Ovarian Syndrome by Healthcare Providers in Nigeria: A Mixed-Method. *American Journal of Biomedical Science & Research*. 28(6):769-777.
2. Azziz, R., Carmina, E., Dewailly, D., Diamanti-Kandarakis, E., Escobar-Morreale, H. F., Futterweit, W., Janssen, O. E., Legro, R. S., Norman, R. J., Taylor, A. E., Witchel, S. F., & Androgen Excess Society (2006). Position statement: criteria for defining polycystic ovary syndrome as a predominantly hyperandrogenic syndrome: an Androgen Excess Society guideline. *The Journal of clinical endocrinology and metabolism*, *91*(11):4237-4245.
3. Singh, S., Pal, N., Shubham, S., Sarma, D. K., Verma, V., Marotta, F., & Kumar, M. (2023). Polycystic Ovary Syndrome: Etiology, Current Management, and Future Therapeutics. *Journal of Clinical Medicine*, *12*(4):1454.
4. Tay, C. T., Mousa, A., Vyas, A., Pattuwage, L., Ramezani Tehrani, F., & Teede, H. (2024). 2023 International evidence-based polycystic ovary syndrome guideline update: Insights from a systematic review and meta-analysis on elevated clinical cardiovascular disease in polycystic ovary syndrome. Journal of the American Heart Association, 13(16):033572.
5. Srour, I., Salhab, S., Skaiki, H., Sakr, S., & Sheet, I. (2024). Assessment of prevalence, knowledge of polycystic ovary syndrome and health-related practices among female nurses in Lebanon. The Open Public Health Journal, 17(1):187494452995942.
6. Elasam, A. N., Ahmed, M. A., Ahmed, A. B. A., Sharif, M. E., Abusham, A., Hassan, B., & Adam, I. (2022). The prevalence and phenotypic manifestations of polycystic ovary syndrome

(PCOS) among infertile Sudanese women: a cross-sectional study. *BMC women's health*, *22*(1):165.
7. Shukla, A., Rasquin, L. I., & Anastasopoulou, C. (2025). Polycystic ovarian syndrome. In StatPearls [Internet]. StatPearls Publishing.
8. Olotu, J., & Okon, M. (2020). Awareness of polycystic ovarian syndrome among young female adults in Nigeria. EC Endocrinology and Metabolic Research, 5(8):21-26.
9. Akwuruoha, E. M., Ezirim, E. O., Amah, C. I., Onyemereze, C. O., & Airaodion, A. I. (2025). Pathogenesis and factors influencing premature ovarian insufficiency among Nigerian women. International Journal of Research and Reports in Gynaecology, 8(1):222-232.
10. Akwuruoha, E. M., Onyemereze, C. O., & Akwuruoha, C. U. (2025). Management and treatment modalities of miscarriage in Nigeria: A case study of Abia State University Teaching Hospital, Aba. Journal of Obstetrics Gynecology and Reproductive Sciences, 9(5).
11. Akwuruoha, E. M., Onwube, O. C., Akwuruoha, C. U., & Airaodion, A. I. (2025). Prevalence, causes and psychological effects of miscarriage among women in Abia State University Teaching Hospital, Aba, Nigeria. American Journal of Biomedical Science & Research, 27(5), AJBSR.MS.ID.003603.
12. Onyemereze, C. O., Ezirim, E. O., Akwuruoha, E. M., Mba, K. K., Mba, C. J., Adesina, O. O., Alumona, F. C., Abali, I. O., & Airaodion, A. I. (2024). Knowledge and prevalence of placenta previa in a tertiary health institution in Southeast Nigeria. International Journal of Gynaecology and Infertility, 2(1):1-13.
13. Ezirim, E. O., Anele, D. O., Okite, U. P., Abali, I. O., Akwuruoha, E. M., Onyemereze, C. O., Omole, O. R., & Airaodion, A. I. (2024). Awareness, prevalence and severity of anaemia and related contributing factors among pregnant women attending antenatal clinic in a teaching hospital in Southern Nigeria. Asian Journal of Pregnancy and Childbirth, 7(1): 38-52.
14. Akwuruoha, E. M., Ezirim, E. O., Amah, C. I., Onyemereze, C. O., & Airaodion, A. I. (2025). Prevalence and awareness of premature ovarian insufficiency among Nigerian women. Journal of Women Health Care and Gynecology, 5(5):1-8. BioRes Scientia Publishers.
15. Ugwu, G. O., Iyoke, C. A., Onah, H. E., & Mba, S. G. (2013). Prevalence, presentation and management of polycystic ovary syndrome in Enugu, south east Nigeria. *Nigerian journal of medicine: journal of the National Association of Resident Doctors of Nigeria*, *22*(4):313-316.
16. Omagbemi, A. S., Ezinne, C. J., & Ofeoritse, A. T. (2020). Current knowledge and perceptions of women about polycystic ovarian syndrome. *International Journal of Science and Healthcare Research*, 5(3):215-219.
17. Jaber, R. M., Aripin, A., Allias, N., Omar, S., Kamal, N. R., & Dwekat, O. (2022). Knowledge and attitudes towards polycystic ovary syndrome. African Journal of Reproductive Health, 26(1):92-100.
18. Oriji, E., Ogbu, O. S., & Zabbey, V. (2021). Assessment on the level of knowledge of women of reproductive age group about polycystic ovarian syndrome (PCOS) and its effect on reproductive hormones. Scientific Research Journal, 9(10):66-76.
19. Malekzadeh, F., Mohammadi, M., Navid, B., Moini, A., & Omani-Samani, R. (2023). Awareness of Polycystic Ovary Syndrome among Schoolgirls and Their Mothers: A Cross-Sectional Study. *International journal of fertility & sterility*, *17*(4):299-305.

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