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Original Research Article

Perception of polycystic ovary syndrome in relation to fertility among women of reproductive age in Ekiti State, Nigeria: a cross-sectional study

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ABSTRACT

Background: Polycystic ovary syndrome (PCOS) is one of the most common endocrine disorders affecting women of reproductive age and is associated with infertility, metabolic disorders, and adverse psychosocial outcomes. Despite its health implications, awareness and perception of PCOS remain inadequate in many low- and middle-income countries, including Nigeria. This study assessed the knowledge, perception, sources of information, and socio-demographic factors associated with knowledge and perception of PCOS among women of reproductive age in Ekiti State, Nigeria.

Methods: This community-based cross-sectional analytical study was conducted among 388 women aged 18-49 years using a multistage sampling technique from selected communities in Ekiti State, Nigeria. Data were collected using a structured, interviewer-administered questionnaire comprising socio-demographic characteristics, knowledge, perception, and health-seeking behaviour related to PCOS. Knowledge was assessed using 15 items, while perception was evaluated using 10 Likert-scale statements. Descriptive statistics were used to summarize respondents' characteristics, knowledge, perception, and sources of information. Associations between socio-demographic characteristics, knowledge and perception levels were determined using Pearson's chi-square test at a significance level of $p < 0.05$.

Results: The respondents had a mean knowledge score of 9.50 ± 4.33 , with 44.1% demonstrating high knowledge, 26.5% moderate knowledge, and 29.4% low knowledge of PCOS. The overall mean perception score was 37.56 ± 6.04 , indicating a moderate perception, with 44.1%, 48.5%, and 7.5% of respondents exhibiting positive, moderate, and negative perceptions, respectively. Respondents demonstrated good knowledge of the symptoms, fertility implications, and lifestyle management of PCOS but had limited knowledge of its long-term complications, particularly its association with type 2 diabetes and cardiovascular disease. The Internet and social media (52.6%) constituted the major source of health information, followed by television/radio (16.8%) and healthcare workers (14.2%). Knowledge of PCOS was significantly associated with age, residence, marital status, educational level, occupation, monthly income, religion, parity, pregnancy history, and family history of PCOS ($p < 0.05$). Similarly, perception of PCOS was significantly associated with age, residence, marital status, occupation, monthly income, religion, parity, pregnancy history, and family history of PCOS ($p < 0.05$), whereas educational level showed no significant association with perception ($p > 0.05$).

Conclusions: Women of reproductive age demonstrated moderate overall knowledge and perception of PCOS, with substantial gaps in understanding its long-term health consequences. Digital media emerged as the predominant source of health information, highlighting its potential as an effective platform for PCOS awareness campaigns.

Keywords: Awareness, Health-seeking behaviour knowledge, Perception, Polycystic ovary syndrome, Reproductive-age women

INTRODUCTION

Polycystic ovary syndrome (PCOS) remains one of the most common endocrine disorders among women at their reproductive age which is increasingly recognised as a serious global public health issue because of its multifaceted reproductive, metabolic, psychological, and socioeconomic consequences. The syndrome involves diverse symptoms that are a consequence of several mechanism that includes but not limited to genetics, endocrine issues, insulin resistance, environment and lifestyle, which result in faulty ovarian follicles and ovulation.¹⁻³

In 2023, the international evidence-based guideline for the assessment of management of polycystic ovary syndrome, the diagnosis of PCOS in adults is established when at least two of the following features are present after excluding other endocrine disorders such as ovulatory dysfunction, clinical or biochemical hyperandrogenism, and polycystic ovarian morphology or elevated anti-Müllerian hormone levels.¹ The updated guideline takes into account recent advances in knowledge about the condition and stresses individualisation of diagnosis and treatment. In addition, to reproductive disorders, PCOS is now recognised as a chronic and multisystemic condition characterised by obesity, insulin resistance, metabolic syndrome, dyslipidaemia, type 2 diabetes mellitus, cardiovascular diseases, endometrial hyperplasia, and endometrial carcinoma.^{1,3,4}

The burden of PCOS has been on rise in the last three decades, which makes it one of the major endocrine morbidities among women all around the world. The current estimates are that about 10-13% of reproductive-age women meet the diagnostic criteria for PCOS which vary with ethnic origin, diagnostic criteria used, geographical area, and the study populations.^{1,5} Recent studies of the global burden of disease study provides evidence that there is an increase in the burden of the disease with a rise in the number of PCOS prevalent cases from around 37 million in 1990 to about 70 million in 2021 along with increases in PCOS incidence and Disability-Adjusted Life Years (DALYs).^{6,7} Future epidemiological projections are indicating a steady increase in the burden of the condition in the coming decades especially in low and middle-income countries due to rapid urbanization, changes in lifestyles, diet, and obesity.⁷ Despite this increasing prevalence, there is a about 70% of women with PCOS who remain undiagnosed or diagnosed when it may be late.^{8,9}

Among the several clinical manifestations of PCOS, infertility has proved to be one of the most critical problems associated with this condition since it impacts the reproductive capabilities of the patients and affects their mental state and family life. Specifically, PCOS is responsible for 70-80% of anovulatory infertility around the world due to chronically dysfunctional ovulation caused by hormonal disorders, arrested follicles,

hyperandrogenism, and insulin resistance.^{1,10,11} Recent studies revealed that low fertility among the females with PCOS can occur not only due to anovulation. The reasons such as poor oocyte capacity, reduced quality of embryos, impaired endometrial receptivity, chronic inflammation, and metabolic disorders contribute to the lowered fertility in the women with PCOS even when they ovulate regularly.^{10,12} In addition, women suffering from PCOS show lower natural fertility, delayed conception period, more dependence on ARTs, increased risk of miscarriages, gestational diabetes mellitus, hypertensive disorders during pregnancy, preterm delivery, and poor neonatal results as compared to the women without this syndrome.^{3,10-13}

The implications of infertility reach much further than the biological reproduction process and often lead to serious psychological and social consequences for women suffering from PCOS. Apart from problems with regularity of their periods and sub-fertility, noticeable symptoms like obesity, hirsutism, acne and male pattern baldness can negatively affect self-image, lower self-esteem, cause anxiety and depression, resulting in decreased quality of life.^{3,14,15} Women with PCOS undergoing fertility treatment were found to suffer more psychological distress compared to other infertile women, indicating that PCOS affects patients emotionally beyond infertility issues.¹⁴ Recent studies showed that issues related to fertility in the future, postponed childbearing, intimacy, body image and building of a family represent one of the main concerns for adolescents and young people diagnosed with PCOS.^{16,17} This ill-situation is further compounded with the unsatisfactory nature of the patients' experience of healthcare system. It further results to lack of proper counselling regarding fertility, late diagnosis, and psychosocial support.^{18,19}

Despite the advances in clinical understanding of PCOS, awareness, knowledge and perception of the syndrome remain inadequate among women globally. The knowledge of PCOS is important identifying symptoms early, ensures proper seeking of medical care, motivates the adoption of healthy lifestyle changes, and improves adherence to treatments, and reproductive decisions.^{20,21} However, studies conducted in different parts of the world show a lack of awareness about the condition among the public. Cross-sectional studies conducted in Jordan, Lebanon, Malaysia, Sudan, Pakistan, the United Arab Emirates, and India, revealed that there was a deficiency of awareness about the causes, symptoms, complications, fertility problems, and metabolic effects of PCOS even though the awareness regarding menstrual problems and infertility was greater compared with cardiovascular diseases, diabetes, endometrial cancer, and psychiatric issues associated with PCOS.^{20,26} Such results have also been observed in adolescents, university students, and the female population from the general community.²⁴⁻²⁷ Factors such as education level, previous diagnosis of PCOS, interaction with the healthcare professional, and reliable sources of health-related information have

consistently been found to be important determinants of adequate knowledge and positive attitudes toward PCOS.

Despite the growing body of evidence on PCOS globally, important gaps remain in women's awareness and perception of the syndrome, particularly in low- and middle-income countries. Women's perceptions are shaped not only by their level of knowledge but also by cultural beliefs, previous healthcare experiences, access to health information, and societal expectations regarding fertility and motherhood.^{9,19,20} Research conducted in Jordan, Lebanon, Sudan, Malaysia, Pakistan, the United Arab Emirates shows that, even though most women are aware of the fact that menstrual irregularities and infertility are common symptoms of PCOS, there is poor awareness of the associated metabolic complications, cardiovascular issues, psychological problems, and reproductive implications of the disease.²⁰⁻²⁶ Also, qualitative studies found that women tend to normalise symptoms such as irregular periods, obesity, acne, and hirsutism, resulting in late medical attention.^{9,19}

In Nigeria where childbearing is highly regarded and infertility is generally stigmatised, misunderstandings about PCOS might lead to reproductive, psychological, and social impacts.^{15,30} Despite previous studies showing poor knowledge and different opinions of PCOS in women in reproductive age, much of this research has been done in students, hospitalised patients, or specific urban populations.¹⁸⁻³³

Also, there is no study that focuses on the perception of PCOS among women of reproductive age in Ekiti State in relation to fertility which was the aim of the study. The specific objectives are to: i) determine the level of knowledge of PCOS among reproductive-age women in Ekiti State; ii) evaluate perceptions of PCOS, including its fertility implications and long-term health risks; iii) identify sources of information and health-seeking behaviours related to PCOS; iv) examine associations between socio-demographic characteristics and levels of knowledge and perception.

METHODS

Study design

This will be a community-based cross-sectional analytical study. The design enables assessment of the knowledge and perception of polycystic ovary syndrome among women of reproductive age and examine the relationship between their sociodemographic characteristics and fertility related perceptions at a single point in time.

Study population

The study population comprise women of reproductive age (15-49 years) residing in selected communities in Ekiti State, Nigeria.

Inclusion criteria

Women who met the following eligible criteria were allowed to participate: (i) are between 18 and 49 years of age, (ii) have resided in the selected community for at least one year prior to the study; and (iii) provide written informed consent in the study.

Exclusion criteria

Women who are severely ill, mentally incapacitated, unable to complete the interview, or decline to participate were excluded from the study.

Sample size determination

The minimum sample size was determined using Cochran's formula for estimating a single population proportion:

$$n_0 = \frac{Z^2 p(1-p)}{d^2}$$

Where; $Z = 1.96$ (95% confidence), $p = 0.432$ (proportion aware of PCOS from a recent Nigerian study),¹² and $d = 0.05$ (margin of error).

This yields $n_0 \approx 377$. Adjusting for 10% non-response rate: $n = \frac{n_0}{1-0.1} \approx 419$ (rounded to 420 for practicality).

Sampling technique

A multistage sampling technique was employed to ensure representativeness. In the first stage, the sixteen Local Government Areas in Ekiti State were stratified according to the three senatorial districts. Four LGAs was then selected through simple sampling using the ballot method, comprising two LGAs from Ekiti Central Senatorial District and one LGA each from Ekiti North and Ekiti South Senatorial District. Five political wards were selected in the second stage from each of the selected LGA using simple random sampling techniques which resulted in twenty wards in all. In the third stage, households within each selected ward were selected using systematic random sampling. The sampling interval were determined by dividing the total number of households in each ward by the required number of respondents. In the fourth stage, where more than one eligible woman resides in a selected household, one respondent was chosen through simple random sampling. Recruitment was done until the allocated sample size for each ward was achieved.

Study variables

Independent variables

The independent variables include sociodemographic characteristics such as age, marital status, educational

level, occupation, monthly income, party, place of residence (urban and rural), and religion.

Dependent variables

The primary outcome variables are knowledge and perception of polycystic ovary syndrome.

The knowledge of PCOS were assessed using fifteen questions covering symptoms, causes, risk factors, diagnosis, treatment options, complications, and fertility implications. Correct responses were scored one point, while incorrect or "don't know" responses will score zero. The maximum score is 15, respondents scoring at least 10 above is classified as having good knowledge.

Perception of PCOS were assessed using ten statements rated on a five-point Likert scale ranging from strongly disagree to strongly agree. Items were evaluating respondents' perceptions regarding disease severity, susceptibility, stigma, fertility implications, and benefits of early diagnosis and treatment. Aggregate scores were categorized as positive or negative perception.

Instrument

A well-structured questionnaire was employed to collect data for the study. The instrument was divided into three sections, Section A for the sociodemographic characteristics of the respondents, section B covers items on knowledge and perception, while section C focuses on sources of information and health seeking behaviour.

A pilot test was conducted to assess the reliability of the instrument which yields a Cronbach's alpha coefficient of 0.78, indicating acceptable internal consistency for the study. The instrument was administered with the help of 2 research assistants who can communicate both English and Yoruba fluently.

Data analysis

The completed questionnaire was checked for completeness and consistency before data entry. Data were entered into Microsoft Excel, cleaned, and exported to IBM Statistical Package for Social Sciences (SPSS) version 27 for analysis. Out of the 420 completed questionnaire, a total of 388 were considered valid for the study considering the completeness and usefulness for relevant analysis, which represents 92.4% of the administered questionnaire. Data analysis was carried out using both descriptive and inferential statistical techniques. Descriptive statistics was done using percentages, means and standard deviations used in summarising respondents' sociodemographic characteristics, knowledge, perception and fertility-related variables.

Inferential statistics used were chi-square to test associations between socio-demographic variables and

knowledge and perception categories. Variables found to be statistically significant at the bivariate level was entered into multivariable binary logistic regression models to identify independent predictors of good knowledge and positive perception at $p < 0.05$ level of significance.

Ethical considerations

Ethical approval for this study was obtained from the Health Research Ethics Committee of the Teaching Hospital of Ekiti State University before the conduct of this study. Informed consent in writing was obtained from all participants who were given detailed information about the study objectives, voluntary nature of participation, right to withdraw at any time, possible benefits and risks, and the confidential nature of the information shared by them. Participants with low literacy were given consent by collecting their fingerprint. All data collected digitised with unique codes and stored in password-protected electronic media which could only be accessed by the researchers. Traditional authorities were also visited to gain easy community entry where possible.

RESULTS

Table 1 shows the overall level of knowledge of polycystic ovary syndrome (PCOS) among women of reproductive age in Ekiti State. From the result, overall, 44.1% of the respondents demonstrated a high level of knowledge, 26.5% had moderate level of knowledge while 29.4% exhibited a low level of knowledge. Despite having nearly half of them possessing high level of knowledge regarding PCOS, the mean score ($\bar{x}=9.50$) showed a moderate overall level of knowledge of the women of polycystic ovary syndrome.

Table 1: Level of knowledge of PCOS among respondents (n=388).

Level of knowledge	f	%	$\bar{x}$	SD
High ($\bar{x}=12-15$)	171	44.1	9.50	4.33
Moderate ($\bar{x}=9-11$)	103	26.5		
Low ($\bar{x}=0-8$)	114	29.4		
Total	388	100.0		

In Table 2, it was revealed that the respondents demonstrated relatively good knowledge of the common symptoms and fertility implications of PCOS. The highest proportion of correct responses was recorded for the statement that irregular or absent menstrual periods are a common symptom of PCOS (86.6%), followed by difficulty getting pregnant is linked to PCOS (79.6%), PCOS is caused by a hormonal imbalance (79.4%), having heard of PCOS (79.1%), and lifestyle changes can help manage PCOS (78.4%). Approximately seven in ten respondents correctly identified that PCOS can be diagnosed using ultrasound (70.1%) and that PCOS is not limited to overweight women (70.1%). Conversely, respondents had limited knowledge regarding the long-

term health consequences of PCOS. Only 26.5% correctly recognized that PCOS increases the risk of type 2 diabetes, while 22.4% were aware of its association with heart disease. In addition, fewer than half (49.7%) correctly knew that PCOS has no cure but can be effectively

managed with treatment. From the foregoing, it was indicated that although awareness of the symptoms and reproductive effects of PCOS was relatively high, important gaps remain in respondents' understanding of its long-term complications and disease management.

Table 2: Correct responses to knowledge on PCOS (n=388).

Knowledge statement	Correct response, N (%)
Have you ever heard of PCOS?	307 (79.1)
PCOS is caused by a hormonal imbalance	308 (79.4)
Irregular or absent menstrual periods are a common symptom of PCOS	336 (86.6)
Excessive facial or body hair (hirsutism) can be a symptom of PCOS	265 (68.3)
Acne or oily skin is a possible symptom of PCOS	254 (65.5)
Difficulty getting pregnant (infertility) is linked to PCOS	309 (79.6)
Weight gain or obesity increases the risk of developing PCOS	248 (63.9)
PCOS can be diagnosed by ultrasound scan of the ovaries	272 (70.1)
Blood tests (e.g., hormones or blood sugar) are used in diagnosing PCOS	230 (59.3)
PCOS has no cure but can be managed with treatment	193 (49.7)
Lifestyle changes (diet and exercise) can help manage PCOS	304 (78.4)
PCOS can lead to type 2 diabetes later in life	103 (26.5)
PCOS increases the risk of heart disease	87 (22.4)
PCOS can increase the risk of endometrial (uterine) cancer if untreated	198 (51.0)
Only overweight women get PCOS	272 (70.1)

Survey, 2026

In Table 3, positive perceptions were observed for the statements that early knowledge of PCOS can help women plan their families better ($\bar{x}=4.20\pm1.10$), respondents would feel comfortable discussing PCOS symptoms with a doctor ($\bar{x}=4.15\pm1.13$), women with PCOS can still have children with proper medical help ($\bar{x}=4.12\pm1.03$), PCOS is a "curse" or spiritual problem in some communities ($\bar{x}=4.04\pm1.28$), infertility caused by PCOS can lead to marital problems or divorce ($\bar{x}=3.99\pm1.20$), and PCOS is a serious health condition that affects a woman's life ($\bar{x}=3.93\pm1.14$). Conversely, respondents exhibited moderate perceptions regarding the likelihood of women

with PCOS experiencing social stigma ($\bar{x}=3.35\pm1.27$), the belief that lifestyle changes alone are sufficient for treating PCOS ($\bar{x}=3.26\pm1.16$), the misconception that PCOS only affects fertility without other health risks ($\bar{x}=3.27\pm1.13$), and the adequacy of public awareness about PCOS in Ekiti State ($\bar{x}=3.24\pm1.23$). These findings suggest that despite recognising the seriousness of PCOS, its implications for fertility, and the importance of early diagnosis and medical consultation, misconceptions regarding disease management, long-term health consequences, and the level of community awareness remain and warrant targeted health education interventions.

Table 3: Correct responses to knowledge on PCOS (n=388).

Perception statement	Mean $\pm$ SD	Perception
PCOS is a serious health condition that affects a woman's life	3.93 $\pm$ 1.14	Positive
Women with PCOS are likely to face social stigma in our community	3.35 $\pm$ 1.27	Moderate
Infertility caused by PCOS can lead to marital problems or divorce	3.99 $\pm$ 1.20	Positive
Early knowledge of PCOS can help women plan their families better	4.20 $\pm$ 1.10	Positive
Lifestyle changes alone are enough to treat PCOS	3.26 $\pm$ 1.16	Moderate
PCOS only affects fertility and has no other health risks	3.27 $\pm$ 1.13	Moderate
I would feel comfortable discussing PCOS symptoms with a doctor	4.15 $\pm$ 1.13	Positive
PCOS is a "curse" or spiritual problem in some communities	4.04 $\pm$ 1.28	Positive
Women with PCOS can still have children with proper medical help	4.12 $\pm$ 1.03	Positive
There is enough public awareness about PCOS in Ekiti State	3.24 $\pm$ 1.23	Moderate
Overall mean perception score	37.56 $\pm$ 6.04	Moderate

Survey, 2026

Figure 1 revealed the main sources of information on health matters such as polycystic ovary syndrome (PCOS) revealed that more than 50.5% of the respondents reported

obtaining health information primarily through the Internet and social media, making it the predominant source of information. This was followed by television/radio (45%)

and healthcare workers or clinics (28.7%), comparatively fewer respondents relied on friends and family (15.5%). Churches or mosques accounted for 10.2% of such information, 8.8% obtained their health information from newspaper/magazines (8.8%) while 8.8% got their information from other sources such as community health outreach, women associations or educational materials.

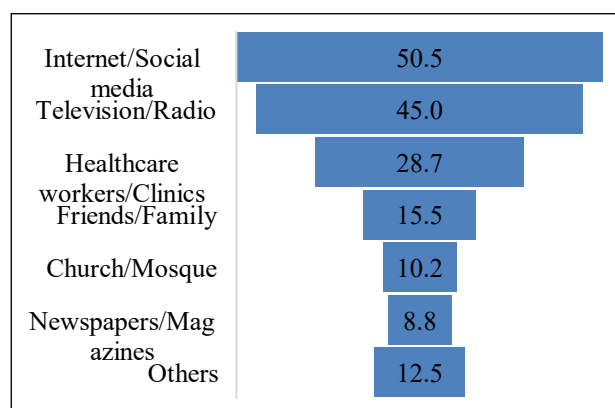


Figure 1: Main source of information on PCOS among respondents.

Results presented shows the association between respondents' socio-demographic characteristics and their level of knowledge of polycystic ovary syndrome (PCOS). The findings revealed that knowledge of PCOS varied significantly across all the socio-demographic characteristics examined. Age was significantly associated with knowledge level ($\chi^2=27.39$, $p<0.05$), with

respondents aged 25–34 years recording the highest proportion of high knowledge (51.9%), while those aged 18–24 years had the highest proportion of moderate knowledge (42.6%). Similarly, respondents residing in urban areas demonstrated a higher proportion of high knowledge (45.8%) than those in rural areas (23.3%) ($\chi^2=21.91$, $p<0.05$). Single respondents were more likely to have high knowledge (47.4%) than married respondents (39.9%) ($\chi^2=8.78$, $p<0.05$). Knowledge level also differed significantly by educational attainment ($\chi^2=10.18$, $p<0.05$), with respondents having tertiary education exhibiting a higher proportion of high knowledge (44.2%) compared with those having secondary education or below (41.2%).

In addition to this, it was revealed that monthly income, religion, parity, pregnancy history, and family history of PCOS were also significantly associated with respondents' knowledge of PCOS ($p<0.05$). The highest proportion of high knowledge was observed among housewives/unemployed respondents (100.0%) and professionals/other occupations (66.4%), whereas students had the lowest proportion of high knowledge (13.5%) ($\chi^2=104.87$, $p<0.05$). Respondents earning more than ₦150,000 per month demonstrated the highest level of knowledge (65.9%), while those earning $\leq$ ₦70,000 had the lowest proportion of high knowledge (4.2%) ($\chi^2=93.29$, $p<0.05$). High knowledge was also more common among Muslims (100.0%), respondents with one to two children (53.2%), those who had never been pregnant (44.9%), and respondents with a family history of PCOS or irregular periods/infertility (70.5%).

Table 4: Association between socio-demographic characteristics and level of knowledge of PCOS among respondents (n=388).

Variables	Category	Low, N (%)	Moderate, N (%)	High, N (%)	χ^2	df	Sig.
Age group in years	18-24	22 (32.4)	29 (42.6)	17 (25.0)	27.39	6	0.001
	25-34	48 (26.5)	39 (21.5)	94 (51.9)			
	35-44	36 (39.1)	17 (18.5)	39 (42.4)			
	≥ 45	8 (17.0)	18 (38.3)	21 (44.7)			
Residence	Urban	94 (26.3)	100 (27.9)	164 (45.8)	21.91	2	0.001
	Rural	20 (66.7)	3 (10.0)	7 (23.3)			
Marital status	Single	50 (23.3)	63 (29.3)	102 (47.4)	8.78	2	0.012
	Married	64 (37.0)	40 (23.1)	69 (39.9)			
Education level	Secondary or below	18 (35.3)	12 (23.5)	21 (41.2)	10.18	4	0.037
	Tertiary	96 (30.1)	82 (25.7)	141 (44.2)			
	Other education codes	0 (0.0)	9 (50.0)	9 (50.0)			
Occupation	Student	23 (44.2)	22 (42.3)	7 (13.5)	104.87	8	0.001
	Civil servant	44 (26.3)	65 (38.9)	58 (34.7)			
	Trader/Farmer/Business	25 (64.1)	0 (0.0)	14 (35.9)			
	Housewife/Unemployed	0 (0.0)	0 (0.0)	17 (100.0)			
	Professional/Other	22 (19.5)	16 (14.2)	75 (66.4)			
Monthly income	$\leq$ ₦70,000	34 (70.8)	12 (25.0)	2 (4.2)	93.29	6	0.001
	₦71,000–₦150,000	25 (27.5)	40 (44.0)	26 (28.6)			
	$>$ ₦150,000	27 (16.5)	29 (17.7)	108 (65.9)			
	Prefer not to say	28 (32.9)	22 (25.9)	35 (41.2)			

Continued.

Variables	Category	Low, N (%)	Moderate, N (%)	High, N (%)	χ^2	df	Sig.
Religion	Christian	114 (29.9)	103 (27.0)	164 (43.0)	9.05	2	0.011
	Muslim	0 (0.0)	0 (0.0)	7 (100.0)			
Parity	0	54 (27.3)	47 (23.7)	97 (49.0)	26.95	6	0.001
	1-2	21 (27.3)	15 (19.5)	41 (53.2)			
	3-4	31 (31.0)	41 (41.0)	28 (28.0)			
	≥5	8 (61.5)	0 (0.0)	5 (38.5)			
Ever pregnant	Yes	72 (35.5)	43 (21.2)	88 (43.3)	10.03	2	0.007
	No	42 (22.7)	60 (32.4)	83 (44.9)			
Family history	Yes	4 (9.1)	9 (20.5)	31 (70.5)	39.62	4	0.001
	No	74 (26.3)	85 (30.2)	122 (43.4)			
	Don't know	36 (57.1)	9 (14.3)	18 (28.6)			

Survey, 2026

Table 5: Association between socio-demographic characteristics and level of socio-demographic characteristics and perception of PCOS among respondents (n=388).

Variables	Category	Negative, N (%)	Moderate, N (%)	Positive, N (%)	χ^2	df	Sig.
Age group in years	18-24	19 (27.9)	17 (25.0)	32 (47.1)	66.95	6	0.001
	25-34	5 (2.8)	84 (46.4)	92 (50.8)			
	35-44	5 (5.4)	55 (59.8)	32 (34.8)			
	≥45	0 (0.0)	32 (68.1)	15 (31.9)			
Residence	Urban	29 (8.1)	161 (45.0)	168 (46.9)	22.58	2	0.001
	Rural	0 (0.0)	27 (90.0)	3 (10.0)			
Marital status	Single	22 (10.2)	74 (34.4)	119 (55.3)	38.42	2	0.001
	Married	7 (4.0)	114 (65.9)	52 (30.1)			
Education level	Secondary or below	2 (3.9)	22 (43.1)	27 (52.9)	7.48	4	0.112
	Tertiary	27 (8.5)	160 (50.2)	132 (41.4)			
	Other education codes	0 (0.0)	6 (33.3)	12 (66.7)			
Occupation	Student	15 (28.8)	24 (46.2)	13 (25.0)	83.94	8	0.001
	Civil servant	4 (2.4)	75 (44.9)	88 (52.7)			
	Trader/Farmer/Business	2 (5.1)	33 (84.6)	4 (10.3)			
	Housewife/Unemployed	5 (29.4)	6 (35.3)	6 (35.3)			
	Professional/Other	3 (2.7)	50 (44.2)	60 (53.1)			
	≤N70,000	6 (12.5)	36 (75.0)	6 (12.5)			
Monthly income	N71,000–N150,000	8 (8.8)	37 (40.7)	46 (50.5)	85.81	6	0.001
	>N150,000	0 (0.0)	59 (36.0)	105 (64.0)			
	Prefer not to say	15 (17.6)	56 (65.9)	14 (16.5)			
Religion	Christian	29 (7.6)	181 (47.5)	171 (44.9)	7.58	2	0.023
	Muslim	0 (0.0)	7 (100.0)	0 (0.0)			
Parity	0	7 (3.5)	81 (40.9)	110 (55.6)	55.56	6	0.001
	1-2	4 (5.2)	35 (45.5)	38 (49.4)			
	3-4	13 (13.0)	64 (64.0)	23 (23.0)			
	≥5	5 (38.5)	8 (61.5)	0 (0.0)			
Ever pregnant	Yes	9 (4.4)	130 (64.0)	64 (31.5)	41.81	2	0.001
	No	20 (10.8)	58 (31.4)	107 (57.8)			
Family history	Yes	0 (0.0)	21 (47.7)	23 (52.3)	28.52	4	0.001
	No	25 (8.9)	119 (42.3)	137 (48.8)			
	Don't know	4 (6.3)	48 (76.2)	11 (17.5)			

Table 5 shows the association between respondents' sociodemographic characteristics and their perception of polycystic ovary syndrome (PCOS). The findings revealed

that respondents' perception of PCOS differed significantly across most socio-demographic characteristics examined. Age was significantly associated with perception ($\chi^2=66.95$, $p<0.05$), with respondents aged

25-34 years having the highest proportion of positive perception (50.8%), followed by those aged 18-24 years (47.1%). In contrast, respondents aged 35-44 years and 45 years or older predominantly exhibited moderate perceptions (59.8% and 68.1%, respectively). Residence was also significantly associated with perception ($\chi^2=22.58$, $p<0.05$), as respondents residing in urban areas demonstrated a higher proportion of positive perception (46.9%) compared with those living in rural areas (10.0%), among whom the majority (90.0%) had a moderate perception. Similarly, marital status was significantly associated with perception ($\chi^2=38.42$, $p<0.05$), with single respondents more likely to exhibit a positive perception (55.3%) than married respondents (30.1%).

Significant associations were also observed between respondents' perception and occupation, monthly income, religion, parity, pregnancy history, and family history of PCOS ($p<0.05$). Positive perception was highest among professionals/other occupations (53.1%) and civil servants (52.7%), whereas respondents engaged in trading, farming, or business predominantly demonstrated a moderate perception (84.6%) with only 10.3% exhibiting a positive perception ($\chi^2=83.94$, $p<0.05$). Respondents earning more than ₦150,000 per month had the highest proportion of positive perception (64.0%), while those earning $\leq$ ₦70,000 mainly exhibited moderate perception (75.0%) ($\chi^2=85.81$, $p<0.05$). Positive perception was also more common among respondents with no children (55.6%), those with one to two children (49.4%), respondents who had never been pregnant (57.8%), and those with a family history of PCOS or irregular periods/infertility (52.3%). However, educational level was not significantly associated with respondents' perception of PCOS ($\chi^2=7.48$, $p>0.05$).

DISCUSSION

This study found that women of reproductive age in Ekiti State show a moderate overall level of knowledge of PCOS, indicating a level of understanding of the condition. This finding suggests that while awareness of PCOS is gradually improving, comprehensive knowledge remains insufficient, particularly regarding the broader clinical implications of the syndrome. The observed level of knowledge is comparable with reports from Nigeria and several low- and middle-income countries where awareness of PCOS has increased due to improved internet accessibility and public health campaigns, yet detailed understanding remains inadequate.²⁷⁻³⁰ For instance, Akwuruoha et al reported that although many Nigerian women had heard about PCOS, significant deficiencies existed in their understanding of its causes, complications, and management.³³ Similar findings were reported among women in Malaysia, Pakistan, Sudan, Jordan, Lebanon, and the United Arab Emirates, where respondents demonstrated moderate awareness but poor comprehensive knowledge of the disorder.^{20,26} The relatively better knowledge observed in the present study may be attributable to the relatively high literacy level in

Ekiti State and increased exposure to digital health information. Nevertheless, the persistence of moderate knowledge suggests that awareness initiatives have largely emphasized the existence of PCOS rather than providing comprehensive education regarding its pathophysiology, long-term health consequences, and available treatment options.

The findings further revealed that respondents generally possessed positive perceptions regarding the seriousness of PCOS, the importance of early diagnosis, and the possibility of achieving pregnancy with appropriate medical intervention. However, misconceptions remained regarding disease management, long-term metabolic complications, social stigma, and the adequacy of public awareness within the community. This pattern indicates that although women increasingly recognize the reproductive consequences of PCOS, their understanding of its chronic nature as a multisystem disorder remains limited. These findings corroborate previous studies conducted in Nigeria and internationally, which reported that women often associate PCOS primarily with infertility and menstrual abnormalities while possessing limited awareness of its association with diabetes mellitus, cardiovascular diseases, obesity, and endometrial cancer.²⁹⁻³¹ The relatively high agreement that infertility resulting from PCOS could contribute to marital instability reflects the prevailing socio-cultural context in Nigeria, where childbearing is strongly associated with marital success and women's social identity.^{15,30} It has also been observed there is a misconception expressed by some respondents that PCOS could be a spiritual problem further highlights the continued influence of traditional beliefs on reproductive health perceptions. Such misconceptions may contribute to delayed healthcare-seeking behaviour.^{18,19}

The study identified the internet and social media as the predominant sources of information on PCOS, followed by television or radio, while healthcare workers accounted for less than one-third of respondents' information sources. This reflects the growing influence of digital media on health information dissemination among women of reproductive age and is consistent with reports from other parts of Nigeria and in other countries where social media platforms have become major channels through which women obtain reproductive health information.^{22,24} Although digital platforms have enhanced access to health information, they also increase exposure to misinformation, inconsistent medical advice, and non-evidence-based treatment recommendations. The relatively low reliance on healthcare professionals observed in this study is concerning because previous research consistently demonstrates that information obtained directly from trained healthcare providers is associated with significantly better knowledge, more accurate perceptions, and earlier healthcare utilization than information obtained from informal sources.^{20,21}

It was also demonstrated that significant associations exist between knowledge of PCOS and respondents' age, place

of residence, marital status, educational attainment, occupation, income, parity, pregnancy history, religion, and family history of PCOS. Women who were younger adults, resided in urban areas, possessed tertiary education, earned higher incomes, and reported a family history of PCOS exhibited significantly better knowledge than their counterparts. These findings agree with previous studies from Nigeria, Pakistan, Malaysia, Jordan, Sudan, and Lebanon, which consistently identified education, socioeconomic status, previous exposure to PCOS, interaction with healthcare services, and access to reliable information as important determinants of knowledge.²⁰⁻²⁶ The higher knowledge observed among urban residents may reflect better access to healthcare facilities, internet services, educational institutions, and health promotion activities than is available in rural communities. Similarly, respondents with higher incomes are likely to have greater access to healthcare services, routine medical consultations, and digital information resources. The significant influence of family history further supports previous evidence that personal or familial experience with PCOS substantially increases awareness because affected families are more likely to receive counselling and actively seek information regarding the condition.^{19,20}

In the study, findings revealed the women's perceptions of PCOS varied significantly according to age, residence, marital status, occupation, income, religion, parity, pregnancy history, and family history, whereas educational level was not significantly associated with perception. The absence of a significant relationship between education and perception suggests that positive perceptions are influenced not only by formal education but also by personal experiences, cultural beliefs, family expectations, and interactions with healthcare systems. This observation supports the findings of Elghobashy et al who reported that women's expectations and perceptions of PCOS varied across age groups and ethnic backgrounds despite comparable educational attainment.¹⁹ Likewise, qualitative studies by Tomlinson et al demonstrated that healthcare experiences and delayed diagnosis significantly influence women's perceptions of the syndrome irrespective of educational status.¹⁸ The more positive perceptions observed among urban residents, higher-income earners, and respondents with previous pregnancy or family experience of PCOS may reflect increased exposure to reproductive health information and healthcare services, leading to greater appreciation of the importance of early diagnosis and treatment. On the other hand, women residing in rural communities or engaged in lower-income occupations may remain influenced by misconceptions and cultural interpretations of infertility because of limited access to accurate health information. These findings further support the health belief model, which proposes that individuals' health perceptions are shaped by perceived susceptibility, perceived severity, perceived benefits, and access to cues for action.

CONCLUSION

Polycystic ovary syndrome is increasingly recognised as a serious global public health issue among women because of its multifaceted consequences. This study assessed the level of knowledge of its symptoms and implication, perception, source of information and socioeconomic influence among women of reproductive age in Ekiti State. From the findings, the study concluded that women have moderate level of knowledge of polycystic ovary syndrome, characterised by relatively good awareness of its symptoms and fertility implications but limited understanding of its long-term metabolic, cardiovascular, and reproductive health consequences.

Although respondents generally perceived PCOS as a serious condition and recognized the importance of early diagnosis, fertility planning, and medical intervention, misconceptions regarding disease management, social stigma, and the adequacy of public awareness persisted. The study further established that the internet and social media were the predominant sources of PCOS-related information, while healthcare professionals contributed comparatively less to public awareness, highlighting missed opportunities for evidence-based health education. In addition, significant associations between socio-demographic characteristics and respondents' knowledge and perceptions indicate that disparities in education, socioeconomic status, place of residence, reproductive experiences, and access to health information continue to influence women's understanding of the condition.

These findings imply that improving reproductive health outcomes among women requires comprehensive, culturally appropriate, and community-based awareness programmes that extend beyond infertility to include the metabolic, psychological, and long-term health consequences of PCOS. Strengthening the role of healthcare providers in health promotion, integrating PCOS education into routine reproductive and primary healthcare services, leveraging digital media to disseminate accurate information, and prioritizing underserved rural populations could facilitate earlier diagnosis, encourage timely healthcare-seeking behaviour, reduce infertility-related stigma, improve reproductive planning, and ultimately lessen the long-term burden of PCOS among women in Ekiti State and similar settings in Nigeria.

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