

# Current Knowledge and Perceptions of Women about Polycystic Ovarian Syndrome in Nigeria

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## ABSTRACT

**Introduction:** Polycystic Ovarian syndrome remains a public health concern of women in reproductive age. Its prevalence is global, but its etiology and management are still largely unknown even among women who are the affected. Thus, this study sought to assess current knowledge and perceptions of women in the Nigerian setting.

**Methods:** This study was a cross-sectional study conducted amongst a sample of 387 women in a tertiary institution located in south-west Nigeria. A structured questionnaire was used to collect data and data were analysed statistically into frequencies and percentages.

**Results:** Women in the age range 21-25 years were mostly represented. Knowledge about polycystic ovarian syndrome was inadequate; however perception about polycystic ovarian syndrome was satisfactory.

**Conclusion:** Heightened awareness about Polycystic Ovarian Syndrome is needed. Perceptions towards Polycystic Ovarian Syndrome also need attention to realign certain unclear perceptions. The school setting can be better utilized to improve knowledge beginning with entry level students.

**Keywords:** Endocrinology, Health, Nigeria, Women

## INTRODUCTION

Polycystic ovary syndrome (PCOS) is a major public health problem among women. It is the most common endocrine disorder in women of reproductive age [1] affecting between 5% to 10%, yet it is a condition the public is largely unaware of

and seems not fully understood amongst health care providers. [2]

The terminology “polycystic ovarian syndrome” refers to the presence of small benign and painless cysts in the ovaries, which are clinically manifested by a faction of symptoms and changes in hormonal levels. [3] Major clinical manifestations of PCOS include oligomenorrhea or amenorrhea, hirsutism, insulin resistance, impaired glucose and frequently infertility. [3-4] Although the exact cause of PCOS is unknown, it is contemplated that an imbalance in the sex hormones is the major underlying cause and has been called “ovarian androgen excess.” [5]

Due to its complex presentation, it has several diagnostic criteria [6] and prevalence varies based on which is used and population characteristics. Studies have reported prevalence rates of between 2% and 26%. [8-11] In Nigeria recent studies have also reported higher rates [13-16] than previously reported. [17] These rates call for attention to address the rising trend of PCOS in the country.

Early diagnoses of PCOS are necessary as early detection aids the prevention and treatment of associated conditions and ultimately reduce cardiovascular morbidity and mortality. [18] However, presentation is often delayed as there is most often a lack of knowledge of the condition. It begins in adolescence but is often unnoticed and hidden amongst other prevailing conditions. [19] Generally, patients and healthcare professionals are uncertain of

the signs, and can benefit from enhancements in knowledge where they exist. Good knowledge and perception of a condition can go a long way in seeking health care early leading to early detection and management and improved health and wellbeing. Therefore, this study sought to assess the knowledge and perception of a selected female population towards PCOS in South West Nigeria.

## MATERIALS AND METHODS

This study was a cross sectional descriptive study conducted among female students in a tertiary institution in Nigeria with age ranges 15 -50 years.

Ethical clearance from the Health Research ethics Committee where the work was conducted was obtained prior to the conduct of the study. The population consisted of 5722 female students including those who are staff at the undergraduate and post graduate levels.

### Selection of Sample

The sample size was derived using the Yamane sampling formula. [20] This yielded a sample of 374 initially. A 10% non-response rate was compensated for by increasing sample to obtain a final sample of 411 female students.

Multi-stage sampling technique was used to arrive at the number of respondents who were administered the instrument. First the total number of female students was obtained from the institution's registry. The students were categorized into clusters with each cluster representing the type of student; undergraduate students (non-staff), Post graduate students (non-staff), Staff students (non-teaching) and faculty-based female students (teaching). The numbers in each category were then identified. To determine the number of participants the sample size (n) was divided by the total population (N) and multiplied by the number in each cluster(x). The study excluded pre-degree students and students on part time programmes. Participants were then sought from each category during lecture and work

hours until the desired sample size was reached following informed consent. Data collection lasted for 2 weeks and 387 questionnaires were returned fully completed.

The instrument used was a 25-item structured questionnaire with content derived from literature and based on the focus of the study. The instrument was validated by removing ambiguities following peer review and found to be reliable at a Cronbach's alpha coefficient of 0.755 following a pre-test in a population outside the study area.

### Statistical analysis

Data collected was analyzed using SPSS. 22 to derive percentages and frequencies used to describe the data.

## RESULTS

In this study 89.1% of respondents were between age 15-25 years of age, followed by 4.4% of respondents between the age 37-45 years of age. Most of the respondents (86.8%) were single, and were first year students (30.2%).

Table 1: Distribution of Respondents by Socio-Demographic Characteristics

Variables	Frequency (N = 387)	Percentages (%)
Age		
15 - 25 years	348	89.9
26 - 36 years	16	4.1
37 - 45 years	17	4.4
45 years above	6	1.6
Marital Status		
Married	49	12.7
Single	336	86.8
Divorced	2	.5
Religion		
Christianity	345	89.1
Islam	39	10.1
Others	3	.8
Level		
NA	46	11.9
100 level	117	30.2
200 level	75	19.4
300 level	42	10.9
400 level	70	18.1
500 level	32	8.3
600 level	5	1.3
Category of groups		
Undergraduate	335	86.6
Postgraduate	27	7.0
Faculty members	10	2.6
Staffs	15	3.9

**Table 2: Knowledge of Polycystic Ovarian Syndrome**

Variables	Frequency (N = 387)	Percentages (%)
<b>Have you heard of polycystic PCOS (Polycystic ovarian syndrome)</b>		
No	220	56.8
Yes	167	43.2
<b>If yes, where did you hear about it?</b>		
NA	215	55.6
Friend	25	6.5
Health worker	47	12.1
Internet	63	16.3
Relatives	16	4.1
Newspaper	14	3.6
TV	7	1.8
<b>What is PCOS (Polycystic ovarian syndrome)</b>		
No Idea	84	21.7
The presence of cancerous cells in the ovaries	104	26.9
The presence of fluid filled sacs in the ovaries leading to an imbalance in the female sex hormones	154	39.8
The presence of solid fluid filled sacs in the ovaries leading to an imbalance in female sex hormones	45	11.6
<b>PCOS (Polycystic ovarian syndrome) is a curable disease</b>		
No	260	67.2
Yes	127	32.8
<b>PCOS is a major cause of infertility</b>		
No	200	51.7
Yes	187	48.3
<b>PCOS is a chronic / Life- long disease</b>		
No	270	69.8
Yes	117	30.2
<b>Hormonal imbalance is a key feature of PCOS</b>		
No	203	52.5
Yes	184	47.5
<b>What major organ is affected by PCOS</b>		
No idea	60	15.5
The fallopian tubes	31	8.0
The ovaries	243	62.8
The womb	35	9.0
The cervix	18	4.7
<b>Are you aware if PCOS is treatable</b>		
No	294	76.0
Yes	93	24.0

### Knowledge about PCOS

When asked if they had heard about PCOS, most respondents 56.8% indicated that they have not heard of PCOS, 55.6% didn't have any source of information. Those who heard had heard it from the internet (16.3%) (Figure 1) Regarding what they know in detail, 67.2% indicated that polycystic ovarian syndrome is not a curable disease and 51.7% indicated that polycystic ovarian syndrome is not a major cause of infertility, 69.8% indicated that polycystic ovarian syndrome is not a chronic/life-long disease, 52.5% indicated that hormonal imbalance is not a key feature of polycystic ovarian syndrome and 76.0% were not aware polycystic ovarian syndrome is treatable (Table 2).

### Perception towards PCOS

To describe perceptions towards PCOS, agree responses was aggregated from strongly agree and agree while disagree responses were an aggregate of strongly disagree and disagree and undecided.

Most respondents (54.5%) perceived that their genetic makeup increased their risk of having PCOS Other respondents (54.0%) agreed that certain environmental factors increased their risk of having PCOS while 46.0% disagreed. Most of the respondents (57.9%) disagreed that if they lose/reduced weight it would help in restoring ovulation Majority of the respondents (50.7%) agreed that miscarriage can be as a result of PCOS. Most of the respondents (48.5%) disagreed that PCOS can increase their risk of womb cancer and

57.8% perceived PCOS makes them more prone to depression and psychological disorders than other women.

**Table 3: Perception of Polycystic Ovarian Syndrome**

Variables	Agree	Disagree
My Genetic makeup increases my risk of having PCOS	211(54.5%)	176(45.5%)
Certain Environmental factors increases my risk of having PCOS	209(54.0%)	178(46.0%)
If I loose/reduce weight it would help in restoring ovulation (monthly release of mature egg from the ovaries)	167(42.1%)	224(57.9%)
I think miscarriage can be as a result of PCOS	196(50.7%)	191(49.3%)
I think me having PCOS can lead to Menstrual irregularities	266(68.7%)	121(31.3%)
I think me having PCOS can lead to Mood/psychological disorders	208(53.7%)	179(46.3%)
I think me having PCOS can lead to excess/abnormal hair growth of a masculine pattern	154(39.7%)	233(60.3%)
I feel Polycystic Ovarian Syndrome is a health problem which majorly affect young female	151(39.0%)	236(61.0%)
I feel Polycystic Ovarian Syndrome is a health problem which majorly affect females of reproductive age	248(64.1%)	139(35.9%)
I feel Polycystic Ovarian Syndrome is a health problem which majorly affect elderly women who have passed the period of monthly menstrual cycle	125(32.2%)	262(67.8%)
Polycystic Ovarian Syndrome and its feature can be controlled with me making healthy lifestyle choices alone	207(53.5%)	180(46.5%)
I feel PCOS is a cancerous type of disease	163(42.0%)	224(58.0%)
PCOS can increase my risk of womb cancer	199(51.5%)	188(48.5%)
I think PCOS (Polycystic Ovarian Syndrome) makes me more prone to depression and psychological disorders than other women	224(57.8%)	163(42.2%)

## DISCUSSION

This study which sought to determine knowledge and perception of PCOS provides more insights into the phenomenon of PCOS in the Nigerian setting. Studies [13-16] have focused more on determining prevalence of PCOS among women populations in Nigeria. Only recently did one study assess PCOS knowledge in the south-south region of Nigeria in a similar population. [21] Hence this study adds to the knowledge known in another region and provides additional data that can be used for comparison across settings.

This study's respondents were mainly in their first year and between the age group of 15 to 25 years. It can be assumed that the composition in the university is responsible for this being that the undergraduate students made up the larger percentage of participants. Olotu and Okon [21] and Sunanda and Nayak [22] also reported higher participation in the age range 15 to 25 depicting similar composition.

Knowledge about PCOS was generally poor with only 220 of the 387 respondents indicating having knowledge about it. This finding did not align with the recent study by Olotu and Okon [21] who reported a higher percentage where 65% had heard about PCOS. The wider coverage of study setting might have contributed to this

higher percentage. However, in a study in India, a lower percentage of participants who knew about PCOS was reported by Patel and Rai [23] Other studies have also reported below average knowledge. [24-25]

Further, when asked where participants had heard about PCOS, participants indicated that primarily the internet was the source, while in a similar study [26] healthcare professionals were the primary source. The difference in sources of information can be partly explained by the differences in population characteristics in the present study and the aforementioned. This study's participants had not been diagnosed and are within the age group constantly surfing the web and might have come across PCOS information related to other issues of reproduction sought after. In Manisha et al [26] respondents had been diagnosed and so it was most likely contact with healthcare providers was responsible for the information received.

Regarding perception, respondents in this study had varying perceptions about PCOS which are in line with several studies. In this study participants perceived being in poorer state of health than other healthy patients if diagnosed with PCOS. A study had earlier reported associations of PCOS with reduced quality of life measures such as experiencing isolation, physical problems. This study advocated for a more holistic approach to managing PCOS. [27-28]



Among an adolescent group those with PCOS also reported experiencing a range of negative outcomes compared with their peers without PCOS. [29] Other perceptions align with the general literature. It is well established that PCOS is related or deteriorated by exposures during the period of time before birth, environmental impacts (particularly industrial endocrine disruptors [30] such as bisphenol A and certain drugs) and also the increasing rates of obesity as a result of poor dietary patterns and poor healthy living or lifestyle. [31]

Although this study was conducted in one area, the diversity of respondents represents females from the different regions of the country who have had varied life experiences, which, albeit, gives strength to the study from which generalizations can be made.

## CONCLUSION

This study's findings and others demonstrate a fundamental challenge with PCOS. PCOS remains a condition of unknown etiology to women and health practitioners even in Nigeria. Prevention and adequate management require for knowledge. There are women who may be living unknowingly with PCOS and experiencing diminished quality of life, hence a need to take prompt action to address the knowledge gap and wrong perceptions by creating educational opportunities in different settings.

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