



Physician Knowledge of PCOS: Identifying Gaps and Educational Opportunities (New Providence, The Bahamas)

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OBJECTIVES

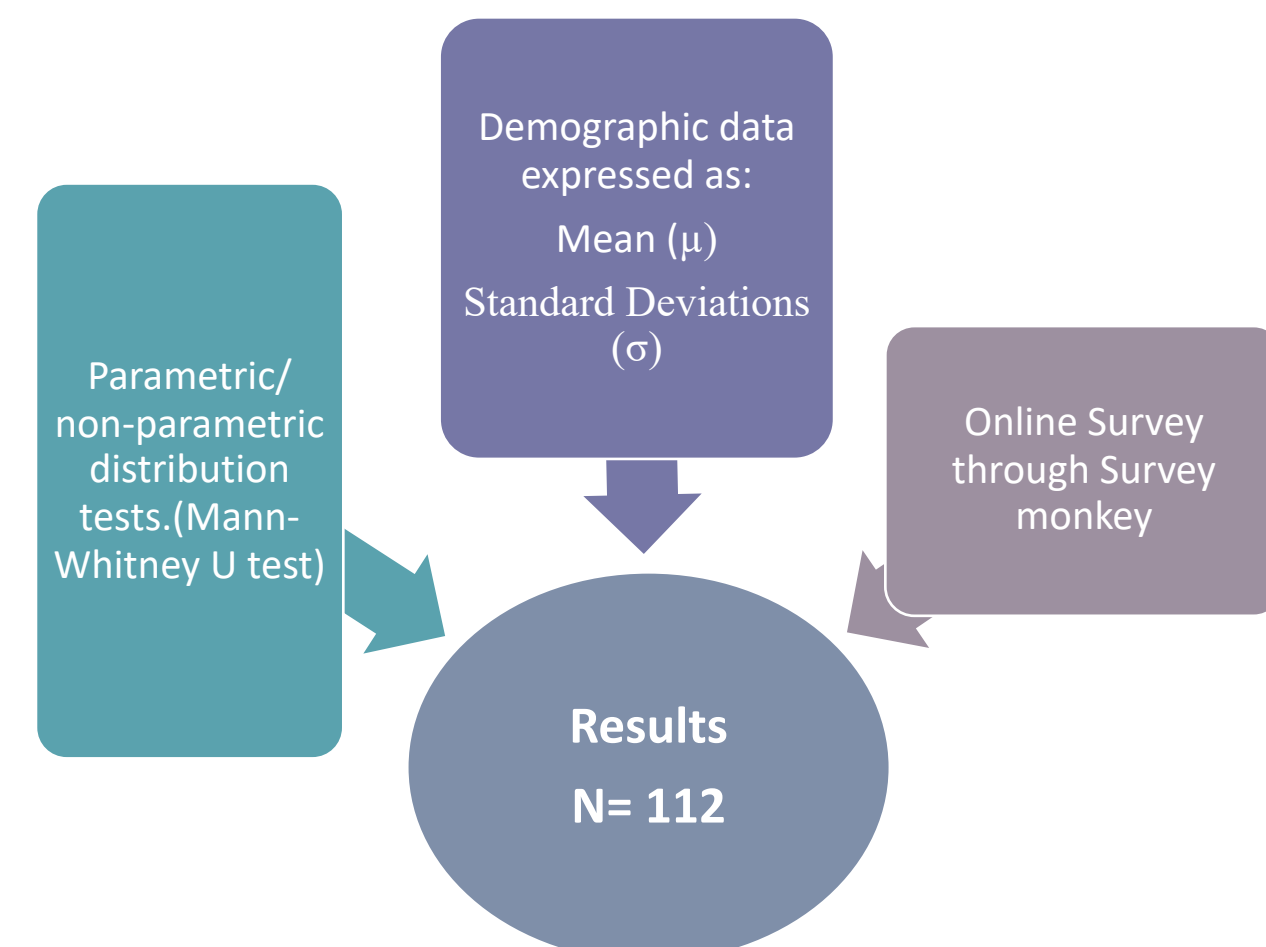
- To identify gaps in physician knowledge regarding the diagnostic criteria of Polycystic Ovarian Syndrome (PCOS).
- To describe the sociodemographic profile of physicians participating in the survey.
- To investigate diagnostic criteria choice selection of PCOS across different providers.
- To identify similarities (and difference) in requested investigations and prescribed medications by physicians.

BACKGROUND

- Recent studies have shown a significant gap in physicians' knowledge in the diagnosis and management of Polycystic Ovarian Syndrome (PCOS).
- Historically PCOS was characterized as an association between obesity and hirsutism in women.
- Over the years, the PCOS diagnostic criteria have been ever changing, affecting millions of diagnoses. The Rotterdam criteria is now the accepted tool of diagnosing PCOS. It characterizes the syndrome based on various combinations of otherwise unexplained anovulation, polycystic ovaries and hyperandrogenism.
- The exact Pathogenesis of PCOS is unknown. However, it is believed that it occurs as a result of various genetic and environmental factors.
- The prevalence of the syndrome varies according to the diagnostic tool used. (18% using the Rotterdam Criteria and 9% using the National Institute of Health Consensus diagnostic tool).
- Patients with PCOS have an increased risk of developing type 2 diabetes, heart disease, metabolic syndrome, obstructive sleep apnoea, depression, non-fatty liver disease, infertility and a theoretical increased risk of endometrial cancer because of the unopposed oestrogen levels.
- Despite the advancements in determining the long- term negative effects of PCOS, studies have shown that there is a delay in making the diagnosis. The diagnostic experience is seen to be lengthy, involving many different physicians and it is also associated with many unmet patient needs.
- The purpose of this study is to identify knowledge gaps and the need for education to increase the comprehensive care of patients and improve overall patient satisfaction.

METHODS

An online survey was conducted using resident physicians and senior house officers in the department of obstetrics and gynaecology, family medicine resident physicians, and physicians in the department of public health in 2021-2022.



- The questionnaire was used from a research conducted on the topic: “Knowledge of PCOS in physicians-in- training: identifying gaps and educational opportunities” with modification to demographics.
- The survey included: demographics, number of PCOS patients seen, practice patterns, PCOS diagnostic criteria, clinical features of PCOS and questions about treatment and management.
- The data obtained was analyzed using IBM Statistical Package for Social Sciences.
- Demographic information was expressed as mean and standard deviation.
- Data was analysed using the student's t-test or Mann-Whitney U test, based on a parametric/ non-parametric distribution.
- Significant chi-squared associations and correlations was further assessed using logistic regression. For all analysis, significance was assumed at a level of $p < 0.05$.

OUTCOMES

- The most important outcome of this study was the identification of the components of the Rotterdam criteria for diagnosing PCOS. It was hypothesized that most participants would identify the Rotterdam criteria as the preferred criteria for diagnosing PCOS but may not be able to identify the components.
- Therefore, we asked, ‘Which of the following do you use to diagnose PCOS?’ For point of reference, we listed both correct and incorrect numbers.
- Among the correct criteria are oligomenorrhea/amenorrhea (irregular menstruation cycle), hirsutism or acne, biochemical hyperandrogenism (serum testosterone), and ovarian morphology (antral follicle count or ovarian volume).
- When participants correctly identified at least one component from the above listed criteria, their responses were classified as 'ROT-3'.
- 'ROT-5' was achieved when the participants identified all five components (irregular menstrual cycle, hirsutism, antral follicle count, and ovarian volume).

RESULTS

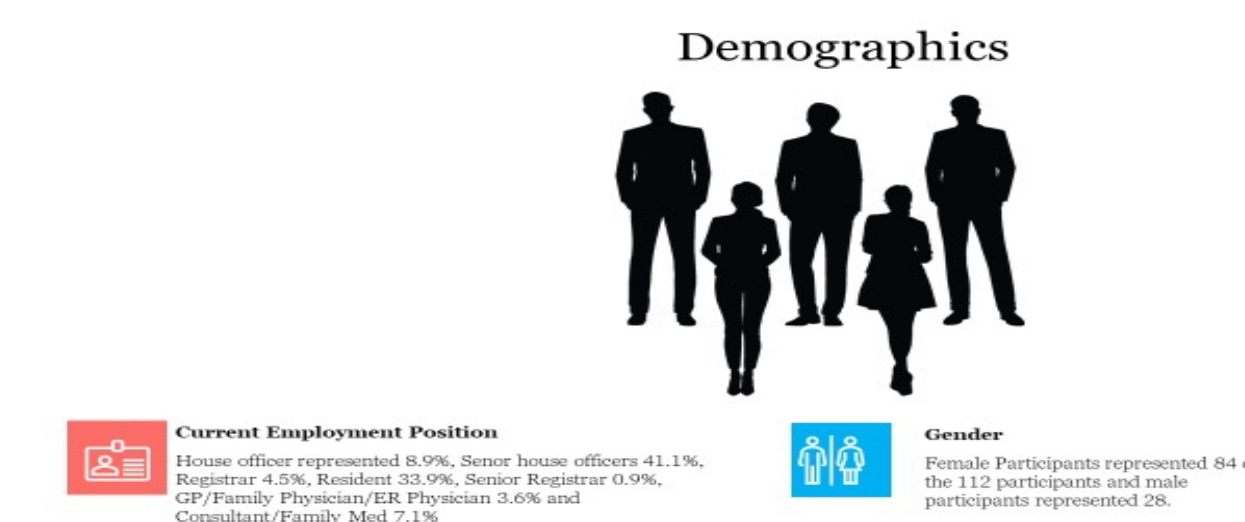


Figure 1 In this study of 112 persons their mean age is 36.1 (± 6.0) years old, the youngest was 25 years old, while the oldest was 52 years old and, overall, 84 (75%) were females; while 28 (25%) were males. Regarding their current employment position 46 (41.1%), the mode, were Senior House Officer, 38 (33.9%) were Resident Physicians and the distribution of the remaining posts are shown.

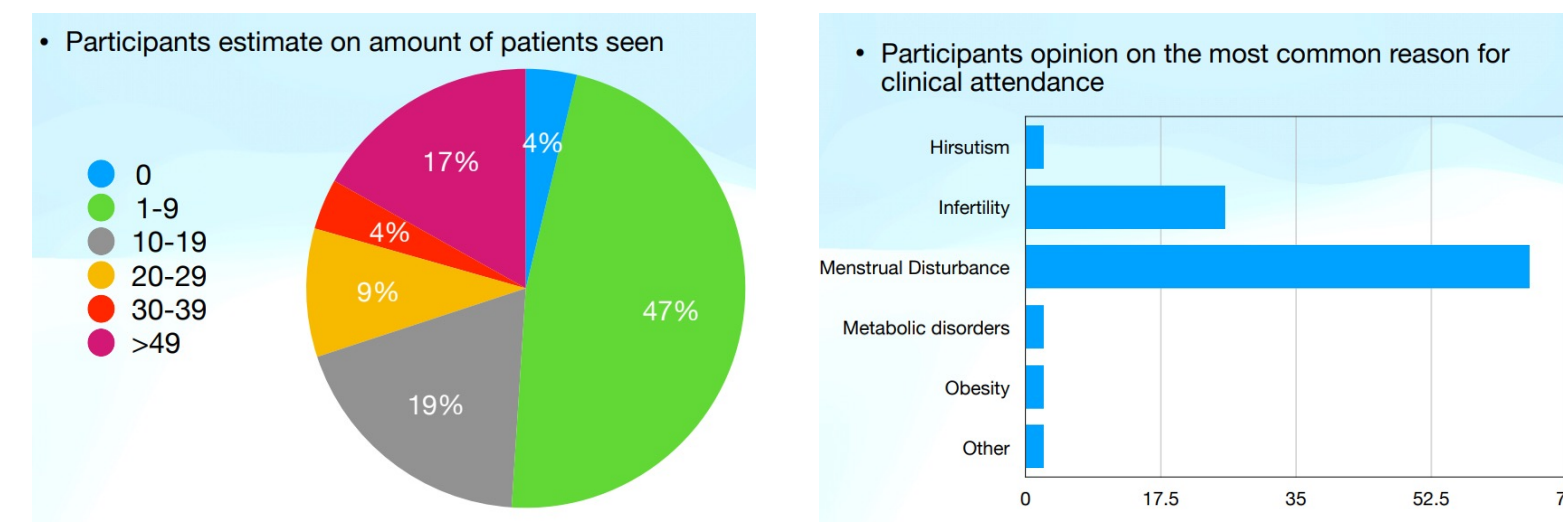


Figure 2 Number of patients seen.

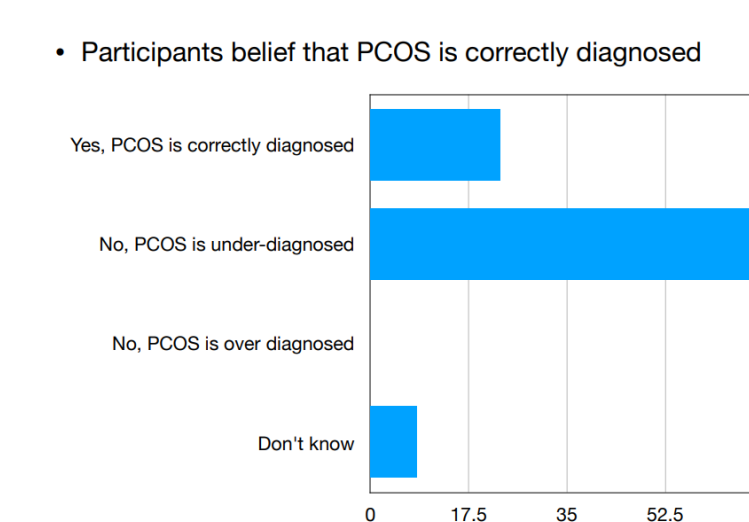


Figure 3 Opinion for the reason for clinical attendance.

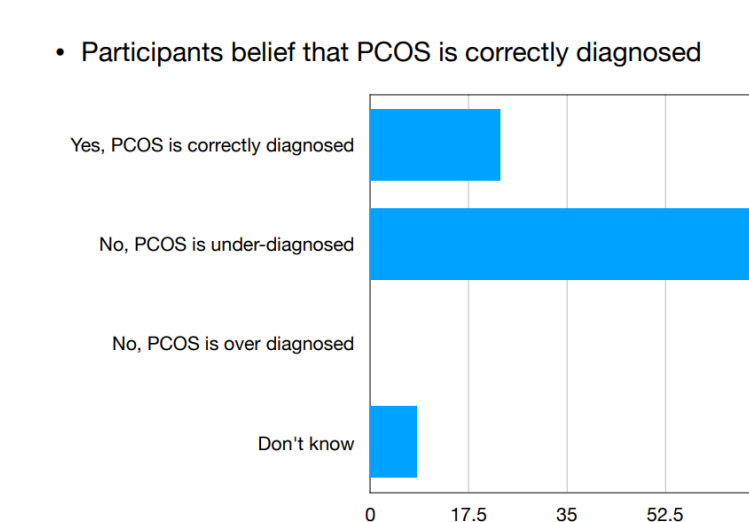


Figure 4 Correct diagnosis.

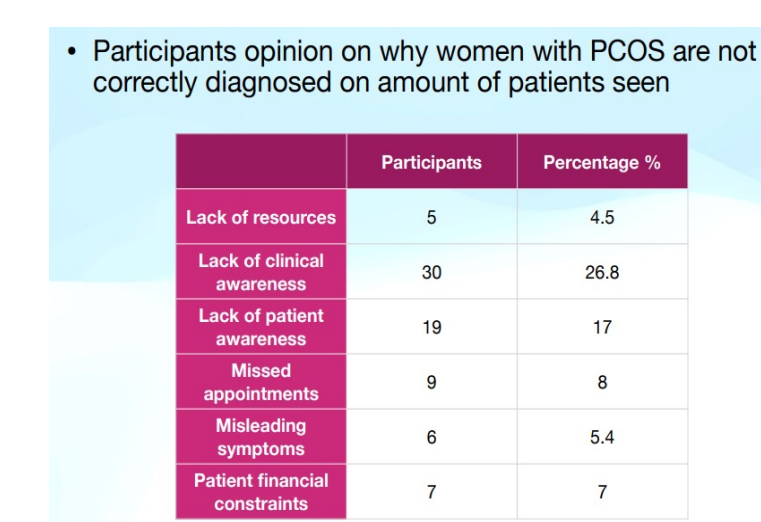


Figure 5 Reasons for incorrect diagnosis.

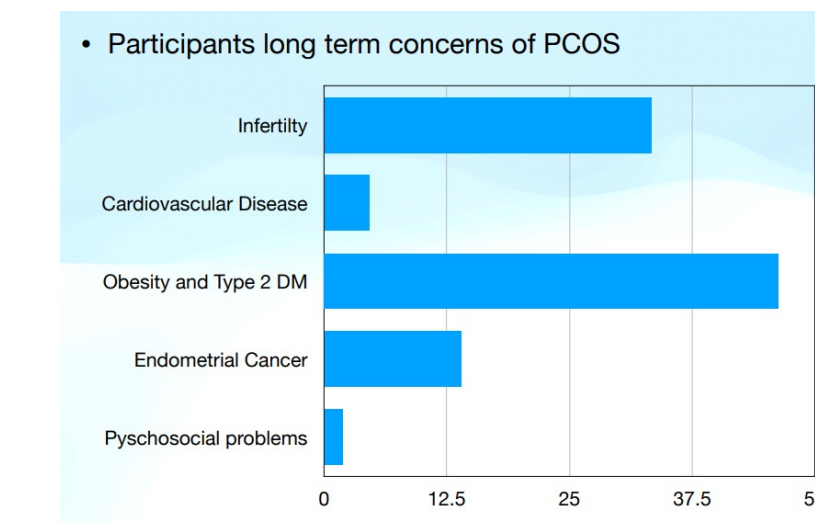


Figure 4 Long terms concerns of PCOS .

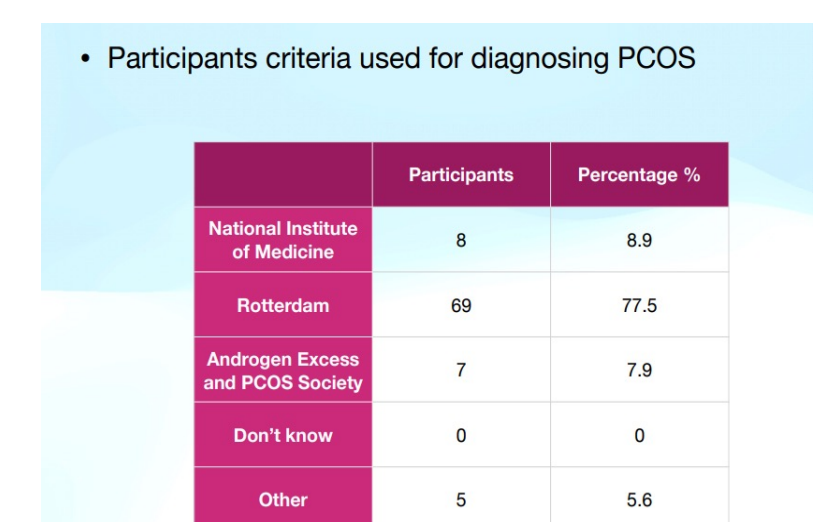


Figure 6 Criteria used for diagnosing PCOS.

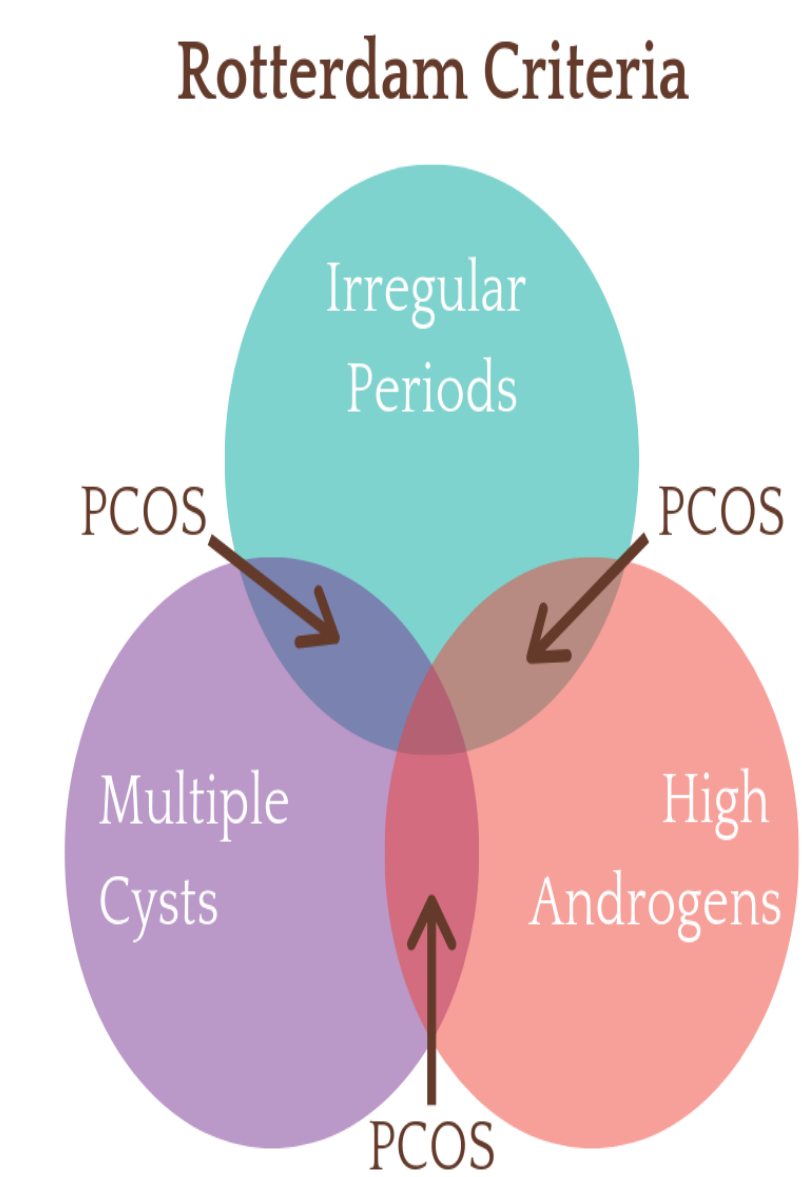


Figure 7 Systematic diagram of the Rotterdam Criteria.

Correct identification of the components of the Rotterdam Criteria

- Only 21 (18.8%) of participants were able to correctly identify all five components ‘ROT-5’.
- 66 (58.9%) Identified at least one component of each of the three criteria correctly ‘ROT-3’

Department and identification of components of Rotterdam Criteria:

- No statistically significant relationship observed by participating physicians between their correct identification of at least one of each of the three components of the Rotterdam criteria ‘Rot-3’ and the department to which the participants belong (Cramer’s $V = 0.177$, $p = 0.320$).
- No statistically significant relationship observed by participating physicians between their correct identification of all five components of the Rotterdam criteria ‘Rot-5’ and the department to which the participants belong (Cramer’s $V = 0.153$, $p = 0.456$).

LH/FSH Ratio:

- LH/FSH ratio is not a component of the Rotterdam diagnostic criteria.
- However, there was a statistically significant relationship between the number of PCOS patients seen and their use of LH/FSH as a diagnostic criterion (Cramer’s $V = -0.248$, $p = 0.013$).
- Overall, of 99 participants in the cross tabulation, 77 (77.8%) used LH/FSH to diagnose PCOS and 22 (22.2%) did not.

DISCUSSION

- This study was done in New Providence after international surveys indicated that women spent at least two years before receiving the diagnosis of PCOS. 50% of these women had to see more than two providers before a diagnosis was made. Moreover, practicing OBGYN generalist and reproductive endocrinologist physicians were seen to have knowledge gaps in the diagnostic criteria.

- Although 77.5% of the survey participants physicians recognized the international acceptance of the Rotterdam criteria for diagnosing PCOS, only 58.9% could correctly identify one component of the three diagnostic criteria and only 18.8% could correctly identify all five components of the diagnostic criteria. It was observed that seeing more PCOS patients increased the likelihood of identifying all five components of the diagnostic criteria.

- In the United States, 85.4% of OBGYN residents used the Rotterdam criteria to correctly diagnose PCOS. 55% could correctly identify one component of the three diagnostic component and only 10% could correctly identify all five components.

- Our results prove that there were no differences observed between the various departments and their correct identification of the Rotterdam criteria. Consequently, OBGYN physicians in New providence were more likely to identify ovarian volume as a component of the Rotterdam criteria when compared to other physicians from another department. This could be attributed to OBGYN physicians being more knowledgeable about the current PCOS guidelines.

- From the study, it was observed that some physicians still depend on reported results from elevated LH/FSH ratio as an essential criterion since 77.8% of participants indicated that they used it as a part of their diagnostic criteria. However, this should be abandoned because it has limited diagnostic use.

LIMITATIONS

Our sample size was small which was a limitation to this study. Moreover, the true denominator used to calculate the response rate was not known because the survey was distributed electronically to the program administrators for dissemination to various departments, and there was no way to confirm the number of physicians that received and opened the survey.

CONCLUSION

This is the first study of this type done on PCOS in our setting. The calculated sample size was met so the findings can be generalized to our population so that the recommendations are valid and applicable. The guidelines are ever changing regarding diagnostic criteria and subsequently the results we received are expected. The diagnosis of PCOS should not be delayed waiting on lab results and or ultrasound findings. There is an obvious need to increase physician knowledge about PCOS in order to assist with a prompt diagnosis and treatment of the disease, increase patient satisfaction and improve health outcomes.