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Polycystic ovary syndrome in post conflict Iraq

Rawaa D. M. Ajanabi, MB ChB, DGO, FIBOG

Dept. of Obstetrics and Gynecology, Baghdad Teaching Hospital,
Baghdad, Iraq

Correspondence: Dr. Rawaa Aljanabi

e-mail: rawaa.aljanabi16@gmail.com

Abstract:

Background: Polycystic ovary syndrome (PCOS) is the most endocrinopathy affecting women of reproductive age. Three groups established criteria for diagnosis. Recently, revision of guidelines was carried out in 2018. Publishing on PCOS in Iraq is scarce.

Objective: to report on PCOS among attendants to gynecological clinic in Baghdad Teaching Hospital.

Methods: A total of 100 women was included in this study. They were recruited from attendants to gynecological clinic for the period 1st March 2018 to 31st Jan. 2019. Their age ranged 17 to 40 years. Each woman was interviewed and examined by 2 gynecologists to diagnosed PCOS.

Result: Fifty women (50%) were with PCOS. Out of that aged \leq 20 year, 13 (76.5%) were with PCOS. The rate of PCOS was significantly decline with age ($p=0.0001$). Overweight and obesity showed PCOS in 34.2% and 100, respectively.

Conclusion: High rate of PCOS was observed. High proportion of PCOS was among adolescents.

Keywords: PCOS, obesity, adolescents, Iraq

Introduction:

Polycystic ovary syndrome (PCOS) is the most common endocrinopathy affecting women of reproductive age. Its name from multiple ovarian follicles look like cyst on sonography.¹ Three groups established diagnostic criteria for PCOS. National Institute of Health / National Institute of Child Health and Human Disease (NIH)² in 1990, European Society for Human reproductive and Embryology American Society for Reproductive Health (ESHRE/ASRM)³ at Rotterdam 2003 and Androgen Excess and PCOS Society (AE-PCOS)⁴ in 2009.

Publishing data on PCOS in Iraq is scarce, though gynecologists agree on increasing cases of PCOS. That was the impetus to carry out this study.

Materials and methods:

A total of 100 women was included in this study. They were recruited from attendants to gynecological clinic in Baghdad Teaching Hospital for the period 1st March 2018 to 31th Jan. 2019. Their age was ranged 17 to 40 year.

Each participant was interviewed and examined by gynecologist. Requested data was age and measuring weight and height. Gynecological history was requested too.

PCOS was diagnosed using Rotterdam criteria (oligo and/or anovulation, clinical and/or biochemical hyperandrogenism and polycystic ovaries on ultrasonic examination).

Chi squared was used to examine the association of PCOS with age and BMI. P < 0.05 was considered as significant.

Results:

Out of the total, 50 (50%) women were diagnosed with PCOS.

Thirteen (76.5%), 34 (54.6%) and 3 (15.0%) women of those age \leq 20, 21 – 30 and \geq 30 year, respectively, were diagnosed with PCOS. The peak of PCOS was at adolescents i.e. aged \leq 20 year (Table 1). A significant association between age and PCOS was found ($\chi^2 = 18.1$, d.f.=2, p = 0.0001).

No PCOS was found among women with normal weight. Out of those overweight women, 13 (34.2%) and all obese women (100.0%) were diagnosed with PCOS (Table 2).

Table 1 Age distribution of PCOS

Age	total	PCOS	
		No.	%
\leq 20	17	13	76.5
21 – 30	63	34	54.6
\geq 30	20	3	15.0

$$\chi^2 = 18.1, \text{d.f.}=2, \text{p} = 0.0001$$

Table 2 BMI distribution of PCOS

BMI	Total	PCOS	
		No.	%
Normal	25	0	0.0
Overweight	38	13	34.2
Obese	37	37	100.0

Discussion:

This study showed that the prevalence of PCOS among attendants to gynecological clinic in Baghdad Teaching Hospital was 50%. High rates of PCOS were reported in Iraq.^{4,5} PCOS prevalence has been between 2.2% to 26% in different countries depending on various population studies, criteria used to define it, and the method used to define any criteria.⁴ The estimated prevalence in Middle East was 16.0%.⁶ The figure in Middle East is almost triple that in China. The prevalence of PCOS in Gulf region and South Asia seems to high though no exact figure is available.⁶ Recently, Al-Kaseer⁴ explained the high figures of PCOS in Iraq by increasing in obesity and stress. Obesity was increased from 23.2% in 1997 to 39.1% in 2007⁸ and 61.1% in 2010.⁹ Weight gain is often precede the development of PCOS.¹⁰ The conditions of stress

(exposure to widespread violence, internal displacement and posttraumatic stress disorder), life style changes (westernization and modernization) and disrupted circadian rhythm with changes in diet, might be contributed to high prevalence PCOS.⁹ In Iran, high prevalence rate was reported e.g. 70%.⁹ High figures of PCOS were reported in India, in this century, among urban higher socioeconomic population.⁹ The high prevalent figures were attributed to the sedentary life style, access to more caloric dense food and laborsaving devices which termed as post liberalization of the country.¹¹

This study revealed that the rate of PCOS was increasing in overweight and obese women (34% and 100%, respectively). High figure reported in Gulf region (United Arab Emirates) (54%).⁷ The prevalence of PCOS among obese women has not been well studied.¹² Recently, it was found that PCOS was 5-fold more common among premenstrual overweight or obese women looking for losing weight compared to general population.¹³ PCOS and obesity is a complex, not well understood, and most likely to involve genetic and environmental factors.

This study revealed that the highest rate of PCOS (76.5%) was among adolescents (aged \leq 20 year). Recently, the 2018 International Guidelines for PCOS endorsed the Rotterdam criteria with additions. Adolescents should have more stringent guidelines and required hyperandrogenism and ovulatory dysfunction and be at least 2 years post menarche. Ultrasound is not recommended for adolescents.¹⁴ The adolescents with PCOS in this study were diagnosed according to the traditional Rotterdam criteria.

The finding that 100% of obese women were with PCOS might be explained by the fact that Iraq has witnessed a dramatic increase in the prevalence of obesity ^{8,9}. It is higher than that reported in USA (74%).¹⁵ The difference reflects a variation in clinical presentations associated with PCOS among distinct ethnicity. It rises a need for establishment of ethnicity specific guidelines for this condition.

Conclusion:

High figure of PCOS was observed and high proportion was among adolescents. Iraq is facing epidemic of PCOS.

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