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Characteristics of Polycystic Ovary Syndrome among a Sample of Syrian Society

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Abstract

Polycystic Ovarian Syndrome (PCOS), also known as hyperandrogenic anovulation, is a common endocrine system disorder among women in their reproductive age. Women with PCOS suffer from infertility, acne, hirsutism, central obesity and insulin resistance. We designed an electronic questionnaire of 25 questions directed to Syrian girls to evaluate the characteristics of PCOS in Syria. Among 1032 participants in our study, a percentage of 53.3% (550 subjects) were diagnosed with PCOS, and 33.8% of PCOS women were diagnosed at age of 16-18 years old. The symptoms that prompted patients to seek treatment were firstly hirsutism (57.9%), secondly irregular menstruation (50.8%), and the most diagnostic method was pelvic ultrasound 92.3%. Hormone-regulating drugs were most used in the treatment by 71.5% of all PCOS diagnosed participants, followed by metformin 47.1%. This study summarizes the characteristics of polycystic ovary patients in Syria in terms of age, symptoms, diagnosis, treatment and related diseases in an attempt to understand this syndrome and its prevalence in Syria.

Keywords: Polycystic ovarian syndrome; questionnaire; Syrian society

Introduction

Polycystic Ovarian Syndrome (PCOS), also known as hyper androgenic anovulation, is a common endocrine system disorder among women in their reproductive age [1]. It is characterized by a group of symptoms such as small cyst on ovaries, hyperandrogenism, and irregular menstruation [2]. PCOS affects almost 18% of women in their reproductive age [3]. In addition, women with PCOS suffer from infertility, acne, hirsutism, central obesity, Luteinizing hormone hyper secretion, insulin resistance followed by hyperinsulinemia, which leads to cardiovascular disorders [4]. The main criterion for diagnosing PCOS by endocrinologists is hirsutism due to hyperandrogenism, which is demonstrated by an increase of testosterone level in the blood, and on the other hand, gynecologists rely on polycystic ovary morphology with ultrasound associated with menstrual disorders and chronic anovulation [5]. According to the Rotterdam criteria, a clinical diagnosis of PCOS requires presenting two of the following symptoms: Oligo-ovulation or anovulation, hyperandrogenism, and polycystic ovaries visible on ultrasound [6]. PCOS pathogenesis mechanism is unclear, which makes it difficult to determine clear treatment strategies. According to the U.S. Food and Drug Administration (FDA), there is no approved treatment for PCOs yet, there for, PCOs treatment depends on its life-long management because the optimal treatment plan needs more studies and research [7]. Researchers found that PCOs is correlated to genetic factors among sisters. A study demonstrated that PCOS was about twice as large as in dizygotic twin and other sisters [8].

Material and Methods

We designed and published an electronic questionnaire directed to Syrian girls to evaluate the prevalence and characteristics of PCOS in Syria, and we received 1032 responses within a month. This survey was conducted at the faculty of Pharmacy, Al-Sham Private University as an observational study [9]. The questionnaire included 25 question divided into two parts. The first one comprise personal information (age, city and marital

status), and the other part included questions about the PCO syndrome (symptoms, diagnostic methods and treatment).

Results

Among 1032 Syrian participants in our study, more than the half (550 subjects) were diagnosed with PCOS. The percentage of PCOS cases was 53.3%, while 46.7% of participants did not suffer from PCOS. We distributed the participants according to age, region, symptoms, diagnostic methods and treatment.

Distribution by age

A percentage of 33.8% of participants were diagnosed at the age of 16-18 years old (169 subjects), which is the highest percentage among all participants, and 32.4% of them by the age of 19-21. And 20% of them are between 22-25 years old, as shown in (Figure 1).

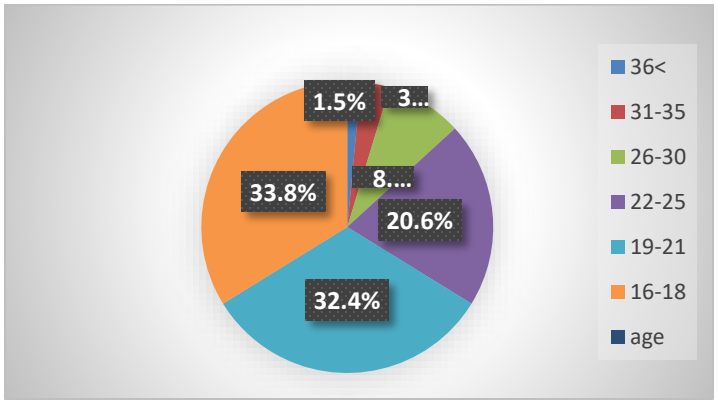

Figure 1: *Shows the distribution of research sample according to age.*

Distribution by region

The higher percentage of our studied sample was 40.6% from the coastal cities (Latakia and Tartous), secondly, from Damascus, the capital city, with a percentage of 26.3%, and a percentage of 8.1% from Homs city. The remaining percent was from other cities 25%, as shown in (Figure 2).

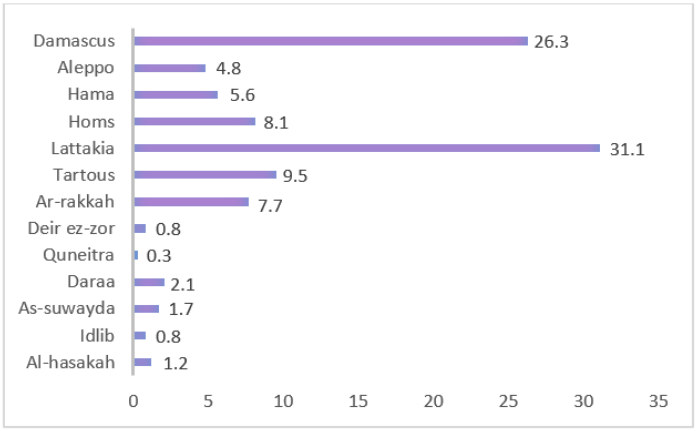

Figure 2: *Shows the distribution of research sample according to region.*

Distribution by region

The higher percentage of our studied sample was 40.6% from the coastal cities (Latakia and Tartous), secondly, from Damascus, the capital city, with a percentage of 26.3%, and a percentage of 8.1% from Homs city. The remaining percent was from other cities 25%, as shown in (Figure 3).

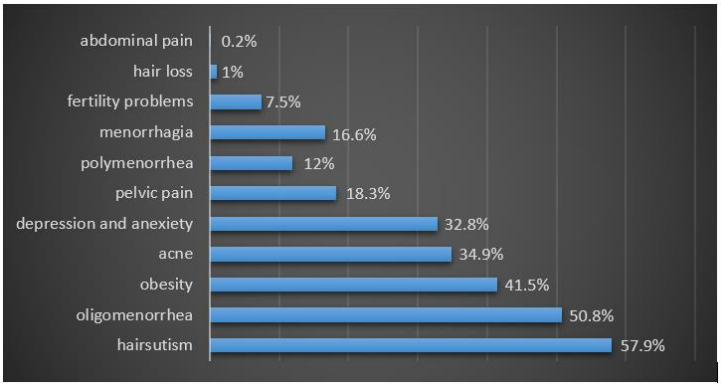

Figure 3*: Shows the distribution of research sample according to symptoms.*

Distribution by diagnostic methods

The most used method for PCOS diagnosis among physicians was pelvic ultrasound (echography) to detect the presence of cysts with a majority of 92.3% of participants' answers, clinical history was in the second place with a percentage of (36.3%) and finally clinical features (32.2%), as shown in (Figure 4).

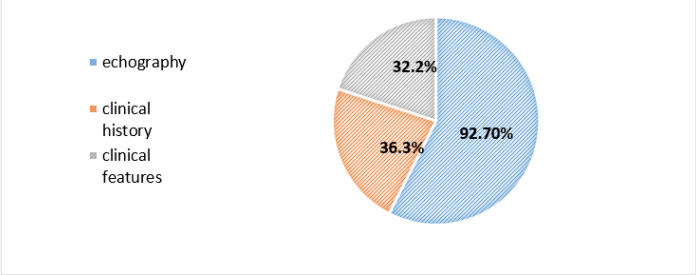

Figure 4: *Shows the distribution of research sample according to diagnosis.*

Distribution by treatment

Hormone-regulating drugs were most used in the treatment by 71.5% of all PCOS diagnosed participants, followed by metformin which was the treatment choice for 47.1% of participants, finally, 22.6% of patients were treated by changing their life-style as shown in (Figure 5).

Distribution by associated diseases

A percentage of 69.3% of all patients had other disease as shown in Figure 5, including: 55.7% Depression or anxiety, and a percentage of 38.6% suffered from obesity, as shown in (Figure 6).

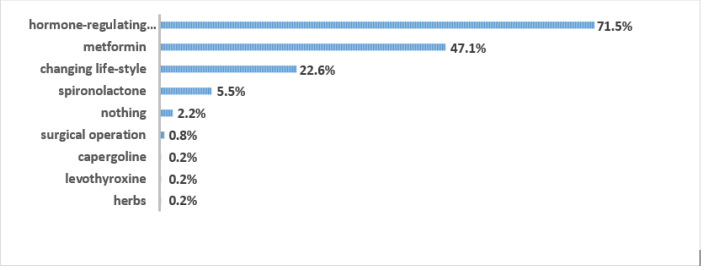

Figure 5: *Shows the distribution of research sample according to treatment.*

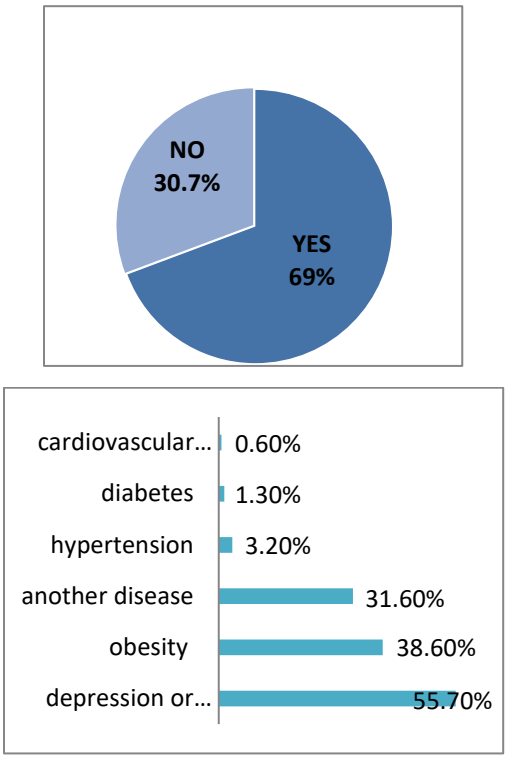

Figure 6: *Depression or anxiety, and a percentage of 38.6% suffered from obesity.*

Discussion

Our results showed that the According to our study PCOS is more prevalent in the younger age group between 16-18 years old, as it may be related to heredity, environment and internal embryonic factors, and the most common symptom of PCOS in our study was hirsutism (57.9%), which is in compatible with a previous study that reported hirsutism as the strongest impact on the patients' health-related quality of life [10]. The most diagnostic method for PCOS in our study was pelvic ultrasound (echography) 92.3% of participants' answers, which matches the criteria for the diagnosis of PCOS according to the Rotterdam consensus (2003) and Androgen Excess & PCOS Society (2006) [11]. According to our study hormone-regulating drugs were most used in the treatment by 71.5% of all PCOS diagnosed participants of the Syrian society, oral contraceptive (OC) pills should be used as a first-line treatment for long-term management of patients with no reproductive requirements [12]. Lifestyle modification (LSM) is considered the first-line treatment for patients with fertility requirements which took the third common treatment method in our study after hormone-regulating drugs and metformin. For refractory ovulation disorders, patients can choose from among the latest treatments, including ovarian hippocampal signal path block theory, the theory of leptin, inositol treatment, bilateral ovarian drilling to stimulate ovulation and assisted reproductive technology. Because current treatments cannot cure PCOS, lifelong administration is still the mainstream method of management; however, the optimal treatment plan needs further research and exploration. The strength point of our study is the relatively large sample of the Syrian society (550 women of PCOS).

Conclusion

PCOS is a serious problem among females in the Syrian society which should be more studied. Our study summarizes the characteristics of polycystic ovary syndrome patients in Syria in terms of age, symptoms, diagnosis, treatment and related diseases in an attempt to understand this syndrome and its prevalence.

Conflicts of Interest

None.

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