

Original article

# Prevalence and Dietary Management of Polycystic Ovary Syndrome among Libyan Women Attending Tripoli Infertility Center

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## ABSTRACT

Polycystic ovarian syndrome (PCOS) is the most common heterogenic endocrine illness in women of reproductive age, caused mostly by an excess of androgen and ovarian dysfunction. The present study was carried out to estimate the prevalence of PCOS among Libyan women who attended infertility center Tripoli, Libya, from 2020-2022, evaluate hormonal profile, Body Mass Index, weight and waist circumferential before and after treatment and diet management. A longitudinal cross-sectional study conducted in the Tripoli Fertility Center in Tripoli, Libya, the study population targeting output Libyan female patients who presented to the gynecology and obstetrics (OPD) department and therapeutic nutrition department. Data Retrospectively collected from 2020 until 2022 and diagnosed using Rotterdam's criteria. A total of 603 patients visited the gynecology and obstetrics department and the therapeutic nutrition department between January 2020 and December 2022. Out of which 174 women in the PCOS group and 429 in the non-PCOS group. The prevalence of PCOS was 29.56% in 2020, 37.5% in 2021, and 20.27% in 2022. The mean age of PCOS was  $34.90 \pm 5.5$  SD, and all of the PCOS group were married. Worth to mention that all of PCOS cases was insulin resistance type. In terms of weight in the PCOS group, 19.54% were obese BMI >29, 68.96% were morbid obese with BMI  $\geq 35$ , and approximately 68.39% of waist circumference measurements were more than 88cm. Hirsutism and oligomenorrhea were the major clinical features, morbid obese seems to be more prevalent in Libyan PCOS patients, low carbohydrate diet and physical activities may play an important role in PCOS management.

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## INTRODUCTION

Polycystic ovarian syndrome (PCOS) is the most common heterogenic endocrine illness in women of reproductive age, caused mostly by an excess of androgen and ovarian dysfunction [1]. The origin of this illness is unknown, although it

might be related to a combination of multiple disorders with lifestyle and environmental variables in the absence of pathology in the hypothalamic-pituitary-ovarian (HPO) axes [2].

Recent studies have suggested that genetics, epigenetic changes, environmental factors, oxidative stress, chronic low-grade inflammation, mitochondrial dysfunction, and metabolic disorders are involved in PCOS, which affect normal ovarian function [3,4]. The illness can be identified by hyper-androgenism, persistent anovulation, irregular menstrual cycles, anovulation, obesity, primarily central obesity in the abdomen area, hirsutism, acne, insulin resistance symptoms, and many tiny cystic follicles in the ovary, approximately 5% to 20% of women of reproductive age [1,5]. The most prevalent complaints of this illness are difficulty-conceiving, issues with pregnancy, multi-systemic dysfunction resulting from hyper-androgenism, hirsutism, and monthly irregularities [1].

Hypersecretion of luteinizing hormone (LH) may increase androgen synthesis by ovarian thecal cells, this is assumed to be related to increased gonadotropin-releasing hormone (GnRH) pulse frequency, which results in greater frequency and pulsatile secretion of LH, as well as higher levels of LH in the blood compared to follicle-stimulating hormone (FSH) [6,7]. The elevated LH/FSH ratio, along with significant ovarian resistance to FSH, leads in excess androgen synthesis from thecal cells in ovarian follicles, impairing follicular growth and decreasing progesterone regulation of the GnRH pulse generator [2].

Insulin resistance (IR) and compensatory hyper-insulinaemia (HI) are considered major drivers of PCOS pathophysiology and are involved in the development of hyper-androgenaemia and reproductive dysfunction by various mechanisms [8]. PCOS patients were more likely to develop type 2 diabetes, gestational diabetes, and other pregnancy-related problems such as venous thromboembolism, cerebrovascular events, fertility, and endometrial cancer [9,10]. The present study was carried out to determine the prevalence of PCOS, diet analysis, BMI, weight, and waist circumferential before and after treatment for women with PCOS in an infertility center in Tripoli, Libya, during 2020–2022.

## **METHODS**

### ***Study subjects and protocol***

A longitudinal cross-sectional study conducted in Tripoli Fertility Center in Tripoli-Libya. The study population consisted of Libyan female patients who presented to the gynecology and obstetrics department (OPD) and therapeutic nutrition department. Data were collected during the period from 2020 until 2022. A total of 603 Libyan female patient were divided into two groups: PCOS group which compromise 174 patients, and non-PCOS group included 429 patients.

### ***Data collection tool***

A self-designed data collection form was prepared for recording information about each POCS patients. This included a detailed medical history, examination results, hormonal levels, Body mass index (BMI), high and weight, waist measurements before and after treatment, diet analysis physical activities and management for PCOS.

### ***Case definitions***

PCOS patients were selected based on the Rotterdam's 2003 criteria. The diagnostic criteria used to identify the presence of PCOS were according to the criteria proposed at the Rotterdam revised consensus meeting; by the presence of two of the following three criteria: menstrual problems, clinical and/or biochemical hyperandrogenism, and polycystic ovaries [5]. Amenorrhea was defined as an absence of menstrual cycles for more than 6 months, oligomenorrhea was defined as a delay in menses of >35 days to 6 months 29. Patients were screened for clinical signs of hyperandrogenism (acne, oily skin and hirsutism) [11].

### ***Overweight and obesity***

The body mass index (BMI), calculated by dividing the weight in kilograms by height in meters squared. Being overweight was defined as a BMI > 25 kg/m<sup>2</sup> and being obese as >30 kg/m<sup>2</sup> [12].

### ***Waist measurements***

Waist circumference by measurement was taken around the abdomen at the level of the umbilicus to measure waist circumference correctly, waist circumference in cm (minimum circumference at the waist level) < 0.88cm was considered normal, while a > 88cm was regarded abnormal [12].

### ***Ultrasonography***

A pelvic ultrasound a procedure that utilizes sound waves to capture pictures of the uterus and ovaries on a computer monitors screen for ovarian cysts was done for each patient.

### **Hormonal analyses**

Hormone assay is done in the early follicular phase samples were taken on day 3 of menstruation for all women in the fasting state. FSH, LH, Estradiol (E2), Prolactin, Fasting blood sugar (FBS), Cumulative Sugar Test (HBA1C), were done. The normal cutoff for FSH and LH was taken as was taken significant. Thyroid stimulating hormone (TSH) was done irrespective of menstrual cycle.

### **Dietary intake and physical activities assessment**

An expert dietitian fulfilled all questionnaires through face-to-face interviews with participants that were referred by the physician to analyze the diet and frequency of consumption of each food and beverage item. In addition, physical activities were recorded for each PCOS patient.

### **Statistical analysis**

Data analysis was performed using IBM SPSS Statistics (version 25 IBM Corp., Armonk, NJ, USA). All data were reported as the means  $\pm$  SD, t-test were used when appropriate.  $P < 0.05$  was considered statistically.

## **RESULTS**

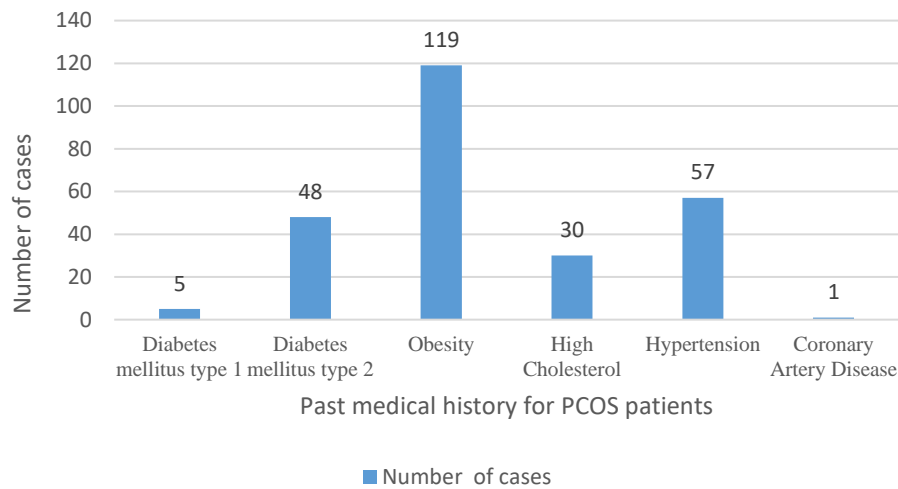
In the current study, there were about 29.6% PCOS cases in the year of 2020, (37.5%) in 2021, (20.27%) in 2022. The mean age of PCOS was  $34.90 \pm 5.5$  all of PCOS group was married.

In regards to age, the majority of PCOS cases (30-39) years old 59.77%, half of PCOS cases were working. In terms weight of PCOS group, we discovered that 19.54% were obese (BMI  $>29$ ), 68.96% were morbid obese with BMI  $\geq 35$ , approximately 68.39% of waist circumference measurements were more than 88cm as showed in table (1).

**Table 1. Demographic profile of PCOS patients.**

Variables	N (%)
<b>Age in years</b>	
20-29	32 (18.39)
30-39	104(59.77)
40-49	38(21.83)
<b>Working</b>	
Yes	87(50)
No	87(50)
<b>Body mass index</b>	<b>N (%)</b>
<18.5 (underweight)	1(0.57)
18.5-24.9 (normal)	5(2.87)
25-29.9(overweight)	14(8.04)
30-34.9(obese)	34(19.54)
$\geq 35$ (morbid obese)	120(68.96)
<b>Waist circumference (WC)</b>	
$\leq 88$ cm	55(31.60)
$>88$ cm	119(68.39)

Past medical history for PCOS patients, obesity (68.39%), followed by high cholesterol (45.40%), hypertension (32.75%), and type 2 diabetes (27.58%) as mentioned in figure 1.



**Figure 1. Past medical history for PCOS patients.**

The diagnosis of PCOS was performed by clinical examination, ultra-sound and blood test used in investigation, all of them was insulin resistance, clinical profile for PCOS, the most common gynecological complaint was oligomenorrhea 39%, and dermatological complain were hirsutism 59.77% hair loss 38.50% oily skin 25.86% as showed in table (2).

**Table 2. Clinical profile of PCOS patients.**

Clinical profile and Complaints	N(%)
Oligomenorrhea	68(39)
Amenorrhea (No period)	5(2.8)
Difficulty to get pregnant	65(37.35)
Hirsutism (Excessive hair growth)	104(59.77)
Hair loss	67(38.50)
Oily skin	45(25.86)

Worth to mention that all of PCOS cases was insulin resistance type, and only 8% of patients had a family history of PCOS in either their mother or siblings.

#### **Hormonal profile for PCOS patients**

In present study, TSH was measured and showed a normal level 0.2-4.2 uIU/ml, TSH was checked to rule out other diseases, like an underactive or overactive thyroid, which often cause irregular or lack of periods and anovulation. Both of LH and FSH levels fall within the normal range of 3.5-12.5 mIU/mL, also E2 was in normal range in PCOS patients 12.5-165 pg/mL. FBS was measured and showed high levels >120 for 37.17%, while HBA1C test showed >5.9 for 28.18% for PCOS before treatment.

#### **Weight waist circumference and BMI for PCOS patients**

Comparing the mean of weight, waist circumference, and BMI records before and after therapy, as well as diet advice and lifestyle changes, by using a paired sample t test, the difference between the two means had a highly significant p value (0.000001) as showed in table (3).

**Table 3. Paired sample t test for weight waist circumference and BMI before and after management.**

Weight waist circumference and BMI	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
<b>Wight before - Wight after</b>	5.65690	6.75393	.51201	4.64630	6.66749	11.048	173	0.000001
<b>waist circumference before - waist measurement after</b>	6.84770	8.10417	.61438	5.63506	8.06034	11.146	173	0.000001
<b>BMI before- BMI after</b>	1.82471	2.65524	.20129	1.42741	2.22202	9.065	173	0.000001

### **Dietary intake and physical activities analysis**

A diet analysis sheet was filled out to compare diet habits before and after nutritional advice. Dietician specialists revealed that PCOS patients, prior to diet advice, consumed a higher carbohydrate diet (HCD) such as fast food, fries, white bread, soda, and chocolates, in contrast, after diet advice, they replaced it with a low carbohydrate diet (LCD) such as brown bread cooked food (grilled or boiled), vegetables, fruits, and dark chocolates, as shown in Table 4. Water intake advice is provided to drink 2 liters of water per day.

**Table 4. Comparison in diet before and after dietary advice.**

Variables	Before dietary advice N(%)	After dietary advice N(%)
Fast food	74 (42.52)	0(0)
White bread	77(44.25)	0(0)
Soft drink (soda ect.)	136(78.16)	0(0)
Chocolates	32(18.39)	0(0)
Fish	0(0)	36(20.68)
Meat	7(4.02)	37(21.26)
Chicken	40(22.98)	0(0)
Brown bread	0(0)	82(47.12)
Cooked food (grilled or boiled)	0(0)	75(43.10)
Natural juices	0(0)	73(41.95)
Dark chocolate	0(0)	66(37.93)
Fruits and vestibules	1(0.57)	39(22.41)

About the Physical activities, current data reveal that no physical activity was performed, after dietician advice and guidance, daily exercise was performed in PCOS patients, as well as 30 minutes of walking. After adherence to medication, diet, water intake and Physical activities advice about (64) 36.7% of all cases become pregnant.

### **DISCUSSION**

In the present study, a total of 603 patients, 174 women in the PCOS group and 429 in the non-PCOS group, had a prevalence of PCOS of 44.55% from 2020 to 2022; 29.56% in 2020, 37.5% in 2021, and 20.27% in 2022. A similar finding comparing the prevalence of PCOS in Iraq within the study population was 33%, but in Egypt, the prevalence rate of PCOS was higher about 55.6% among all presented cases [13,14].

In the current study, the age distribution of PCOS patients was examined; the majority of patients 59.77% were in the 30-39 years age group, followed by 21.83% in the 40-49 years age group. Only 18.39% of patients were between the ages of 20 and 29. In contrast to the Najem et al study, in 2016 Benghazi-Libya study found that 67% of PCOS patients were between the ages of 20 and 29 [15].

Another cross-sectional study was done in 2013–2014 among 258 females in their fourth year of medical school at the Faculty of Medicine, University of Tripoli. The study varied from 22–29 years old, with a mean age of 23.8±1.3(16). The majority of students were unmarried, with just 4.65% married [16]. In India, the maximum number of patients were in the age group 21–25 years (43.8%); only 15.1% of patients were above 30 years [17].

The hallmarks of the clinical presentations of PCOS include menstrual irregularity, hyperandrogenism, and cystic ovaries. Nevertheless, the pattern of clinical presentation varies greatly among the affected women in the present study. Among the 174 PCOS participants the most prevalent menstrual complaint in PCOS was oligomenorrhoea 37.35%, with



only 3% amenorrhea were hirsutism 59.77%, in contrast to Najem et al among 318 patients who found a greater percentage of oligomenorrhoea in 85.8%, amenorrhea in 7.5%, and normal menses in 6.6% [15]. Similar to the results of the Indian study, the most common menstrual complaint in PCOS is oligomenorrhoea, occurring in 109 of 130 patients 83.8% [17].

Regarding Abdalla et.al study, among the 258 participants, 1.6% reported prolonged menstruation, 7.8% had signs of hyperandrogenism and hirsutism, 8.1% had both menstrual irregularity and signs of hyperandrogenism, and no cases of hypertension, diabetes, hypothyroidism, or migraine were recorded(16). In comparison to India, hirsutism, the commonest dermatological feature of PCOS patients, was similar to our findings [17]. An Egyptian study by Siam et al had similar findings that indicated that menstrual irregularities, including oligomenorrhoea and amenorrhea, were also the most prevalent clinical presentation in the study population (44.4%, 15.5%, respectively) (14). In Iraq, a study found that oligomenorrhoea and amenorrhea were significantly more common among PCOS women, at 74.5% and 11.3%, respectively [13]. According to Najem et al study, showed higher prevalence of dermatological complain such as hirsutism was observed in 90.8% PCOS cases comparing to the current study, in which 59.77% of PCOS cases complained of hirsutism [15].

In the current study, the mean BMI before treatment was  $37.24 \pm 6.14$  kg/m<sup>2</sup>. The maximum number of patients (68.96%) belonged to the morbid obesity group according to their BMI, followed by obesity 19.54%, and only 2.87% had a normal BMI. Compared to the Najem et al study, the mean BMI was  $34.3 \pm 6$  kg/m<sup>2</sup>. About 57% of patients were obese and nearly 24% were overweight [15]. This finding should be interpreted with caution, as it was reported that women with PCOS may have a greater appetite and are more overweight, despite a healthier diet [18].

According to the American Society for Reproductive Medicine's (ASRM) 2018 Guidelines, the first line therapy for PCOS is lifestyle enhancement, which includes reducing calories and increasing physical activity [11]. Lifestyle patterns were shown to have an important correlation with PCOS Siam et al and found that PCOS patients consumed considerably more fast food ( $p < 0.0001$ ) than non-PCOS patients (54% vs. 26.3%, respectively) [14]. A recent meta-analysis investigated the effect of lifestyle on reproductive, anthropometric (weight and body composition), metabolic, and quality of life factors in PCOS included 15 randomized controlled trials (RCTs) comparing lifestyle treatment (diet, exercise, behavioral or combined treatments) to minimal or no treatment in women with PCOS in a total of 498 participants [19]. The main finding was that lifestyle intervention may significantly improve the free androgen index (FAI), weight, and BMI in women with PCOS [19].

LCD refers to a dietary structure that may be recommended for the reduction of BMI, effectively controlling body weight in overweight or obese people, lowering insulin levels, improving insulin resistance, and managing PCOS symptoms by reducing or limiting the intake of carbohydrates to less than 45%, 25% protein, 25% fat of the total daily calorie intake [20]. Chocolate consumption in the study carried out by Graff et al was significantly higher in the PCOS group (45% vs. 17.5%,  $p < 0.001$ ) [21]. The possible association between chocolate intake and PCOS may be emphasized based on the high glycemic index contained within the chocolate, resulting in increased BMI and worsening of insulin resistance [21]. However, reports demonstrated conflicting evidence concerning chocolate impact on PCOS patients; dark chocolate is rich in cocoa, which is a rich source of dietary polyphenols, Polyphenols are known for their antioxidant properties and were associated with improved insulin resistance [22]. In addition, it was shown that acute dark chocolate consumption before prolonged exercise enhanced insulin sensitivity compared with chocolate consumption alone [23]. The physical activities may also play a role in PCOS pathology, Siam et al findings indicate that lower application of daily exercise in PCOS group vs non- PCOS group (15% vs 25%;  $p = 0.08$ ) [14].

## CONCLUSION

Hirsutism and oligomenorrhoea were the major clinical features, morbid obese seems to be more prevalent in Libyan PCOS patients, and low carbohydrate diet and physical activities may play an important role in PCOS management.

## Conflict of Interest

There are no financial, personal, or professional conflicts of interest to declare.

## REFERENCES

1. Azziz R, Carmina E, Chen Z, Dunaif A, Laven JSE, Legro RS, et al. Polycystic ovary syndrome. *Nature Reviews Disease Primers*. 2016;2:16057.
2. Witchel SF, Oberfield SE, Peña AS. Polycystic Ovary Syndrome: Pathophysiology, Presentation, and Treatment with Emphasis on Adolescent Girls. *Journal of the Endocrine Society*. 2019;3(8):1545–73.
3. Liu YN, Qin Y, Wu B, Peng H, Li M, Luo H, et al. DNA methylation in polycystic ovary syndrome: Emerging evidence and challenges. *Reproductive Toxicology*. 2022;111(April):11–9.

4. Crespo RP, Bachega TASS, Mendonça BB, Gomes LG. An update of genetic basis of PCOS pathogenesis. *Archives of Endocrinology and Metabolism*. 2018;62(3):352–61.
5. Fauser BCJM, Tarlatzis, Fauser, Chang, Aziz, Legro, et al. Revised 2003 consensus on diagnostic criteria and long-term health risks related to polycystic ovary syndrome. *Human Reproduction*. 2004;19(1):41–7.
6. Yildiz BO, Bolour S, Woods K, Moore A, Azziz R. Visually scoring hirsutism. *Human Reproduction Update*. 2009;16(1):51–64.
7. Azziz R. Reproductive endocrinology and infertility: Clinical expert series polycystic ovary syndrome. *Obstetrics and Gynecology*. 2018;132(2):321–36.
8. Zhao H, Zhang J, Cheng X, Nie X, He B. Insulin resistance in polycystic ovary syndrome across various tissues: an updated review of pathogenesis, evaluation, and treatment. *Journal of Ovarian Research*. 2023;16(1):1–17.
9. Yao K, Bian C, Zhao X. Association of polycystic ovary syndrome with metabolic syndrome and gestational diabetes: Aggravated complication of pregnancy (Review). *Experimental and Therapeutic Medicine*. 2017;14(2):1271–6.
10. Neilson JP, Alfirevic Z. Should obese women with polycystic ovary syndrome receive treatment for infertility? *BMJ*. 2006;332(February):434–5.
11. Teede HJ, Misso ML, Costello MF, Dokras A, Laven J, Moran L, et al. Recommendations from the international evidence-based guideline for the assessment and management of polycystic ovary syndrome. *Clinical Endocrinology*. 2018;89(3):251–68.
12. Khanna D, Peltzer C, Kahar P, Parmar M. Body Mass Index (BMI): A Screening Tool Analysis. *Cureus*. 2022;14(1994):1–6.
13. Hussein B, Alalaf S. Prevalence and characteristics of polycystic ovarian syndrome in a sample of infertile Kurdish women attending IVF infertility center in maternity teaching hospital of Erbil City. *Open Journal of Obstetrics and Gynecology*. 2013;03(07):577–85.
14. Siam SG, Soliman BS, Ali MR, Abdallah OAM. Prevalence of polycystic ovarian syndrome in young adult unmarried females attending zagazig university hospital outpatient clinic. *Egyptian Journal of Hospital Medicine*. 2020;81(6):2152–9.
15. Najem FI, Elmehdawi RR, Swalem AM. Clinical and Biochemical Characteristics of Polycystic Ovary Syndrome in Benghazi-Libya; A Retrospective study. *Libyan Journal of Medicine*. 2008;3(2):71–4.
16. Abdallal H, Osman2 N, Morgham2 A. Prevalence of Polycystic Ovary Syndrome in Fourth Year Medical Students of University of Tripoli. *Alq J Med App Sci*. 2021;4(1):151–4.
17. Jungar ML, Nair P, Gode S, Jaiswal A. PCOS: Clinical picture of pcos patients in a peri urban tertiary care hospital of central India. *Journal of Critical Reviews*. 2020;7(8):1076–80.
18. Barrea L, Arnone A, Annunziata G, Muscogiuri G, Laudisio D, Salzano C, et al. Adherence to the mediterranean diet, dietary patterns and body composition in women with polycystic ovary syndrome (PCOS). *Nutrients*. 2019;11(10):1–21.
19. Lim SS, Hutchison SK, Van Ryswyk E, Norman RJ, Teede HJ, Moran LJ. Lifestyle changes in women with polycystic ovary syndrome. *Cochrane Database of Systematic Reviews*. 2019;2019(3).
20. Fray JMC, Bjerre KP, Glintborg D, Ravn P. The effect of dietary carbohydrates in women with polycystic ovary syndrome: A systematic review. *Minerva Endocrinol*. 2016;41(1):57–69.
21. Graff S, Mário F, Alves B, Spritzer P. Dietary glycemic index is associated with less favorable anthropometric and metabolic profiles in polycystic ovary syndrome women with different phenotypes. *Fertility and Sterility*. 2013;100(4):1081–8.
22. Andújar I, Recio MC, Giner RM, Ríos JL. Cocoa polyphenols and their potential benefits for human health. *Oxidative Medicine and Cellular Longevity*. 2012;2012.
23. Davison G, Callister R, Williamson G, Cooper KA, Gleeson M. The effect of acute pre-exercise dark chocolate consumption on plasma antioxidant status, oxidative stress and immunoendocrine responses to prolonged exercise. *European Journal of Nutrition*. 2012;51(1):69–79.

## مدى انتشار متلازمة المبيض المتعدد الكيسات وإدارة الغذائية بين النساء اللبيبات المترددات على مركز العقم طرابلس، ليبيا

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### المستخلص

متلازمة المبيض المتعدد الكيسات (PCOS) هي أكثر أمراض الغدد الصماء غير المتجانسة شيوعاً لدى النساء في سن الإنجاب، وينجم معظمها عن زيادة الأندروجين وخلل في المبيض. أجريت هذه الدراسة لتقدير مدى انتشار متلازمة تكيس المبايض بين النساء اللبيبات اللاتي راجعن مركز العقم طرابلس، ليبيا، من 2020-2022، وتقييم الملف الهرموني، ومؤشر كتلة الجسم، والوزن والكفاي الغربي قبل وبعد العلاج وإدارة النظام الغذائي. دراسة مقطعية طولية أجريت في مركز طرابلس للعقم في ليبيا، استهدف مجتمع الدراسة مخرجات المريصات اللبيبات اللاتي قدمن إلى قسم أمراض النساء والتوليد وقسم التغذية العلاجية. تم جمع البيانات بأثر رجعي من عام 2020 حتى عام 2022 وتم تشخيصها باستخدام معايير روتردام. زار إجمالي 603 مريضة قسم أمراض النساء والتوليد وقسم التغذية العلاجية في الفترة ما بين يناير 2020 وديسمبر 2022. من بينهم 174 امرأة في مجموعة متلازمة تكيس المبايض و429 في مجموعة غير مصابة بمتلازمة تكيس المبايض. بلغ معدل انتشار متلازمة تكيس المبايض 29.56% في عام 2020، و37.5% في عام 2021، و20.27% في عام 2022. وكان متوسط عمر متلازمة تكيس المبايض  $34.90 \pm 5.5$  SD، وكانت جميع مجموعة متلازمة تكيس المبايض متزوجات. ومن الجدير بالذكر أن جميع حالات متلازمة تكيس المبايض كانت من النوع المقاوم للأنسولين. من حيث الوزن في مجموعة متلازمة تكيس المبايض، كان 19.54% يعانون من السمنة المفرطة بمؤشر كتلة الجسم  $< 29$ ، و68.96% يعانون من السمنة المفرطة مع مؤشر كتلة الجسم  $< 35$ ، وحوالي 68.39% من قياسات محيط الخصر كانت أكثر من 88 سم. كانت الشعرانية وندرة الطمث من السمات السريرية الرئيسية، ويبدو أن السمنة المرضية أكثر انتشاراً في مرضى متلازمة تكيس المبايض اللبيين، وقد يلعب النظام الغذائي منخفض الكربوهيدرات والأنشطة البدنية دوراً مهماً في إدارة متلازمة تكيس المبايض.

**الكلمات الدالة.** متلازمة المبيض المتعدد الكيسات، السمنة، مؤشر كتلة الجسم، النظام الغذائي.