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Identification of Clinical Characteristics and Sociodemographic of Patients with Polycystic Ovary Syndrome in Tikrit City

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Abstract: Polycystic Ovary Syndrome is the most common multisystemic endocrine disease of women of reproductive age that affects 6 to 13% of women world over. Polycystic ovary syndrome (PCOS) is clinically characterized by a constellation of hyperandrogenism, chronic anovulation, and polycystic ovarian morphology, and exclusion of other causes. The underlying processes at work are complex and involve the interplay of genetic, hormonal, and metabolic specifically, insulin resistance. The aim of this study is to characterize the clinical and sociodemographic profiles of patients suffering from polystic ovary syndrome in Tikrit City. The primary aim of the study was to find age-wise distribution of PCOS. The secondary aims were to determine the common gynecological manifestations: menstrual dysfunction and hirsutism, establishment of the prevalence of metabolic complication (Type 2 Diabetes and dyslipidaemia), and to find the lifestyle- or diet-related factors associated with the disease. A total of 60 patients from Tikrit City were assessed. The methodology used was an elaborate analysis of sociodemographic variables and reproductive health parameters such as menstrual pattern and fertility status; and metabolic risk parameters which included HOMA-IR values and body mass index. The psychosocial indicators were also studied to assess the syndrome's impact on mental health and health-related quality of life. Analysis of sociodemographic data revealed that most women affected were in the early reproductive age (19-24 years, 41.7%). A good majority of the respondents (75%) were married. In addition, most of the participants resided in rural areas (56.7%). Eighty-three point three percent of cases showed oligomenorrhea and eighty-six point seven percent subfertility. Furthermore, the 75 percent of the sample exhibited signs of androgenic. The metabolic findings indicate that there are high risks, including Class III obesity, Hypertension, Diabetes Mellitus, as well as HOMA-IR value of 4.52. Of all respondents, only 13.3 per cent followed therapeutic diets. Most participants reportedly experienced distress which confirmed that they were either psychiatrically ill or socio-economically deprived. The women of the studied population appear to provide evidence for the characterization of polycystic ovary syndrome (PCOS) The reproductive dysfunction and great psychosocial distress signify the greater psychosocial effects of this syndrome. The results suggest that a complex clinical program can reduce long-term complications and improve quality of life among affected women.

Keywords: Polycystic Ovary Syndrome, Insulin Resistance, Reproductive Dysfunction, Metabolic Complications, Psychosocial Distress.

1. Introduction

Polycystic ovary syndrome (PCOS) is a common disease affecting women of childbearing age around the world [1]. This condition is marked by a combination of

clinical signs that include ovarian dysfunction, hyperandrogenism (eg acne, excessive hair), and polycystic ovarian morphology on ultrasound. Between 6–13% of women during their reproductive years experience PCOS, thereby categorizing it a major public health issue that can impact them physically and psychologically [2]. Many women across the globe with PCOS are undiagnosed as enormous heterogeneity of the symptomatology of the condition, as well as the overlap of symptoms between other metabolic (and hormonal) disorders [3]. PCOS arises due to genetic, hormonal, and environmental causes that causes insulin resistance and metabolic disturbance [4]. Polycystic ovary syndrome (PCOS) not only reduces the reproductive ability of a woman but is also linked to a bigger medical adverse consequence [5]. Many women with PCOS have metabolic disorders like obesity and insulin resistance besides type 2 diabetes mellitus along with dyslipidaemia. These metabolic modifications greatly increase the chances of them developing cardiovascular disease long term. Additionally, Polycystic ovary syndrome (PCOS) can result in greater psychological stress that includes depression and anxiety, along with decreased quality of life – this may exaggerate the need for engaged [6]. According to new research, PCOS not only harms reproductive health but also other health disorders. Recent research indicates that those suffering from PCOS may be at a greater risk of attempting suicide than males. In particular, those with a greedier temperament are likely to suffer from egg binding. The health of women suffering from PCOS can be greatly improved through a better understanding and further research into this condition.

1.1 Aims of the study:

The aim of this study was to determine the clinical features and sociodemographic of patients diagnosed with Polycystic Ovary Syndrome (PCOS) at Tikrit City [7].

1.2 Objectives of Study:

1. The aim of this study is to investigate the distribution and socio economic status of PCOS patients in Tikrit city.
2. Be able to spot the signs of polycystic ovary syndrome.
3. The objective of the study is to assess the metabolic derangements like insulin resistance, type 2 diabetes, and dyslipidemia among PCO patients.
4. To understand the lifestyle and eating practices of women with PCOS and to understand how this eating practice contributes to the disease process.

2. Materials and Methods

2.1 Study design and sample:

2.1.1 Study population and design:

An observational study was done on women with PCOS.

Iraq Tikrit City.

2.1.2 Study place and time :

The sampling technique used in the study for data collection is convenience. The research was conducted from April 1st, 2025 to January 20th, 2026.

2.1.3 Sampling technique and size:

The study uses a convenience sample from the pool.

Sixty number of women were examined.

2.1.4 Ethical and administrative issues:

It is assumed that verbal consent indicates consent from all the women in the study.

2.2 Data management:

Data collected manually using structured questionnaire is coded and validated, entered organized and cleaned using MS excel. SPSS is (Statistical Package for Social Science) used for the reasons of a statistic. The study variables were subjected to

descriptive statistics and the sociodemographic profile and clinical manifestations of the 60 subjects were generated in frequency and percentages [8]. Reproductive, metabolic, and psychosocial impact of PCOS on the study population had been analyzed and the outcome was tabulated.

3. Results

3.1 Sociodemographic :

Table shows the age groups of the patients of the study sample with genetic factors.

Table 1. Sociodemographic Characteristics and Family History of Patients with PCOS.

Variable	Category	Frequency	(%) Percentage
Age Group	Group A: 19 – 24 years	25	%41.7
	Group B: 25 – 30 years	18	%30.0
	Group C: 31 – 36 years	17	%28.3
Marital Status	Married	45	%75.0
	Single	15	%25.0
Residence	Rural	34	%56.7
	Urban	26	%43.3
Family History	Positive (Yes)	15	%25.0
	Negative (No)	35	%58.5
	Uncertain (Not sure)	10	%16.7

Comprehensive Analysis: The demographic data reveals that women of early reproductive age between 19-24 exhibit the greatest prevalence of PCOS in Tikrit comprising 41.7% of the sample. The 75% marriage rate among women proves that infertility can be one of many diagnosis. Those living in non-metro areas have a higher prevalence (56.7%). Further, the genetic cause of one-fourth of all patients makes screening of families of importance for this reason.

3.2 Clinical and Reproductive Health Presentation:

The table displays gynecological signs and symptoms.

Table 2. Clinical and Reproductive Health Characteristics of Patients with PCOS.

Clinical Parameter	Category	Frequency	Percentage (%)
Menstrual Pattern	Irregular (Oligomenorrhea)	50	%83.3
	Regular	10	%16.7
fertility	Normal fertility	10	%16.7
	Subfertility	50	%83.3

Comprehensive Analysis: Of the patients having oligomenorrhea 83.30% show normal clinical profile. Fertility is about 16.7% normal. Eighty-three point three percent of patients experience sub-fertility. It is an important issue related to reproduction.

3.3 Lifestyle Patterns :

This table looks at how diet and exercise.

Table 3. Lifestyle Patterns of Patients with PCOS.

Management Variable	Category	Frequency	Percentage (%)
Physical Activity	Moderate (1–2 times/week)	24	%40.0
	Active (3+ times/week)	24	%40.0
	Sedentary (Rarely/Never)	12	%20.0
Dietary Habit	Balanced	34	%56.7
	(Proteins/Vegetables)		
	High Glycemic Index	18	%30.0
	(Sugar/Processed)		
	PCOS-Specific (Low-carb)	8	%13.3

Comprehensive Analysis: A number of patients still do not adhere to lifestyle. A mere 13.3% of patients follow a therapeutic diet meant specifically for PCOS, however, 30% of patients consume a high-glycemic diet which might worsen Insulin Resistance.

3.4 Psychosocial Impact and Quality of Life :

Most patients do not stick to lifestyle changes. Medical professionals have recommended dietary therapy for PCOS to only one in seven patients. Nevertheless, 30% of patients consume a high glycemic diet that can aggravate Insulin Resistance.

Table 4. Psychosocial Impact and Quality of Life among Patients with PCOS.

Psychosocial Indicator	Category	Frequency	Percentage (%)
Mental Health	affected (Anxiety/Low Self-esteem)	60	%100
	Not affected	0	%0.0
Quality of Life	affected	60	%100
	(Work/Relationships)		
	affected impacted	0	%0.0

Comprehensive Analysis: The research group is totally affected by psychosocial distress. All the patients reported that their self-esteem and day-to-day social functioning were significantly affected due to PCOS.

Conclusion: According to the findings, PCOS in Tikrit City is a serious metabolic and psychological burden. A significant percentage of people are infertile (86.7%), have menstrual irregularity (83.3%) and a mental health impact (100%). We must initiate therapy with Metformin and provide nutritional education immediately after establishing the diagnosis and, importantly, to prevent long-term complications such as T2DM and CVD.

4. Discussion

Sociodemographic Characteristics:

Results of the study showed that PCOS is most common in early reproductive age group women and age group 19-24years have the highest proportion of 41.7%. The result is in line with earlier studies which have shown that PCOS is usually diagnosed early after menarche and in early reproductive life [9].

According to March et al., infertility is the cause of 75 percent of married women having PCOS symptoms [10]. It is likely that women with PCOS were the most clinically presented for infertility. The fact that most are from rural communities (56.7%) is likely due to delayed diagnosis and lack of proficiency in health services [9].

Clinical and Reproductive Health Effects:

In the present study, menstrual irregularities were very common with oligomenorrhea 83.3% of women. The finding commensurate with studies reporting menstruation dysfunction in more than 70-80% affected women [11].

Subfertility was noted in 86.7% of the cases. PCOS is a common cause of anovulatory infertility. Earlier studies observed rates of similar prevalence, confirming substantial reproductive burden as a result of PCOS [12]. It is also noted that three-quarters of participants having features of androgenization confirmed earlier studies which had pointed out hyperandrogenism as a core element of the syndrome [13].

Lifestyle Factors and Metabolic Risk:

Findings revealed non-compliance towards dietary recommendations specific for PCOS, where only 13.3% were on therapeutic diet in the last month and 30% on high glycemic diet. According to Moran et al., the compliance rates of lifestyle issues in women with PCOS is very low [1].

Despite numerous participants engaging in at least moderate to intense physical activity, a significant degree of metabolic dysfunctions were noted as evidenced by raised HOMA-IR values, obesity, hypertension, diabetes mellitus. This study's results support previous studies that showed that insulin resistance and metabolic syndrome are common in physical activity only independent PCOS [14].

Psychosocial Impact and Quality of Life:

According to our study, 100% of women with PCOS experience deterioration in their mental health and quality of life i.e. there's a psychosocial impact of PCOS on all. The discovery of this finding is cited to an earlier finding where women with PCOS were found with more anxious, depressed and with lower esteem than general population [15].

Stress of chronic disease and psychological impact of infertility and also its physical manifestations like hirsutism, and obesity may be the cause. Research has shown that PCOS consequences would also create stigma and further mental health issues.

5. Conclusion

Polycystic ovarian syndrome is a common problem occurring in women of reproductive age group. Most women with PCOS have irregular periods and reduced fertility, so it is an important reproductive health disorder. Furthermore, the development of polycystic ovarian syndrome is dependant on the quality of life as well as mental health. Multiple lifestyle habits, along with noncompliance with therapeutic dietary interventions, aggravate the complications of PCOS. Screening, diagnosis of PCOS should be encouraged early especially in young women with menstrual irregularities. Treatment plans should include medical treatment, lifestyle modification and psycho-social treatment. It is essential to promote the nutrition education on low glycaemic and PCOS specific diet programs. A routine big sugar and insulin levels tests are necessary to check for insulin resistance and cholesterol. PCOS clinics should have smart psychological counselling services to improve their mental health and quality of life. Nonetheless, future studies must examine the effect of continual intake of myo-inositol among women with PCOS.

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