

**Preponderance and management of polycystic ovary syndrome and its alliance with statistics.**

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# Abstract



## **OBJECTIVES :**

To know the preponderance, lifestyle changes and prescribed medications in Polycystic Ovary Syndrome.

## **METHODOLOGY :**

A questionnaire form was filled by the patients for structural data collection. Female patients with a diagnosis of polycystic ovary syndrome in between the age of 15-45 years were included and a total of almost 200 patients took part.

## Results :



Statistics of the respondents had interrelations with frequency of miscarriage, medication prescribed, physical exercise and diet plan. Most of the patients had their body mass index in the range of overweight and obese. Treatment included drug therapy in 40% patients and lifestyle modification (regular exercise and dietary changes) were recommended in 60% of the patients. Metformin and contraceptives were most commonly prescribed drugs without causing any significant adverse drug reactions.

## Conclusion :

It is concluded that polycystic ovary syndrome prevails higher in 30-45 years age, treatment usually starts with drug therapy along with lifestyle changes like weight loss, dietary changes and exercise. Metformin and oral contraceptives were most commonly prescribed drugs

### **Keywords :**

Management, Medication, Polycystic ovary syndrome, preponderance

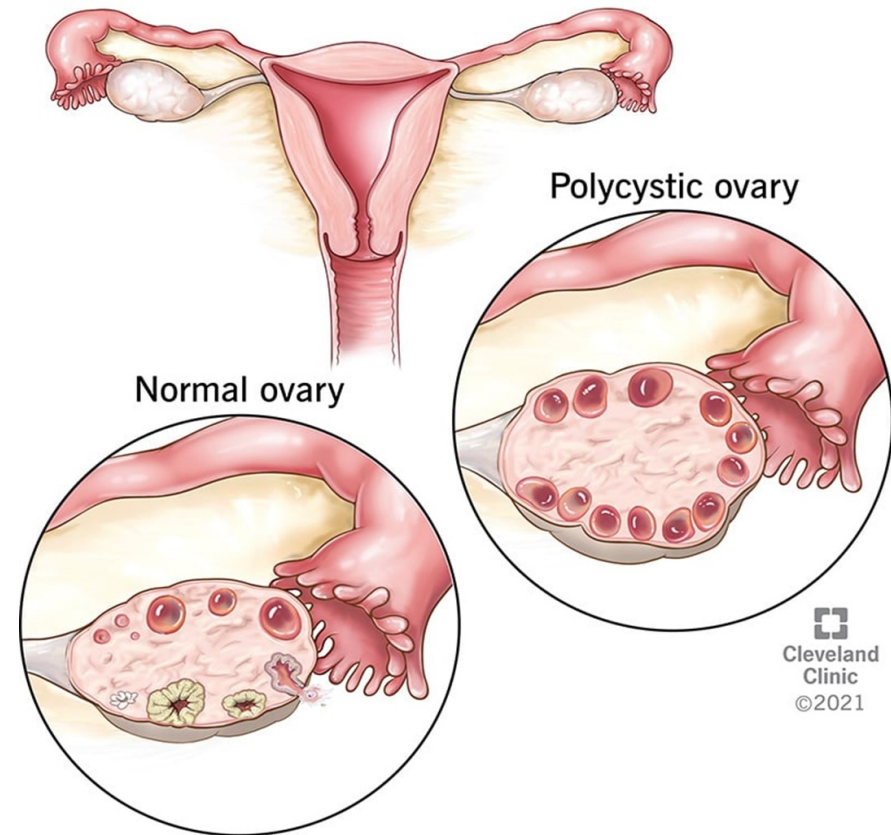
# INTRODUCTION



**//** Polycystic Ovary Syndrome (PCOS) is the most common endocrine disorder in reproductive aged women affecting 8-12% of women. PCOS is a hyperandrogenic disorder linked with chronic oligo anovulation, polycystic ovarian morphology, psychological impairment, mood disorders and metabolic disorders chiefly insulin resistance which is a major factor responsible for altered androgen production and metabolism. PCOS is caused by an imbalance in the hormone of the brain and ovaries.



PCOS usually occurs when luteinizing hormones or levels of insulin are too high which cause the ovaries to make extra amounts of testosterone. Due to high levels of androgens ovulation does not occur regularly and causes the follicles to become enlarged resulting in the formation of ovarian cysts. Symptoms of PCOS include irregular menstrual cycle, pelvic pain





## **RISK FACTORS:**

Risk factors associated with PCOS are irregular menstruation, family history of infertility, diabetes, metabolic disorder, unpleasant mood and lack of physical activity. PCOS patients are at a greater risk of developing glucose intolerance and type II diabetes mellitus.

## **CHOICE OF TREATMENT :**

The choice of treatment depends on the symptoms of PCOS. Metformin and oral contraceptives are the first line treatment after lifestyle changes. Hormonal contraceptives are used for menstrual abnormalities and hirsutism and acne . Metformin is beneficial for metabolic/glycemic abnormalities and for improving menstrual disturbance .There is a significant relationship between PCOS and inappropriate diet and low physical activity so training and female awareness is necessary especially about optimum diet and regular daily physical activity.

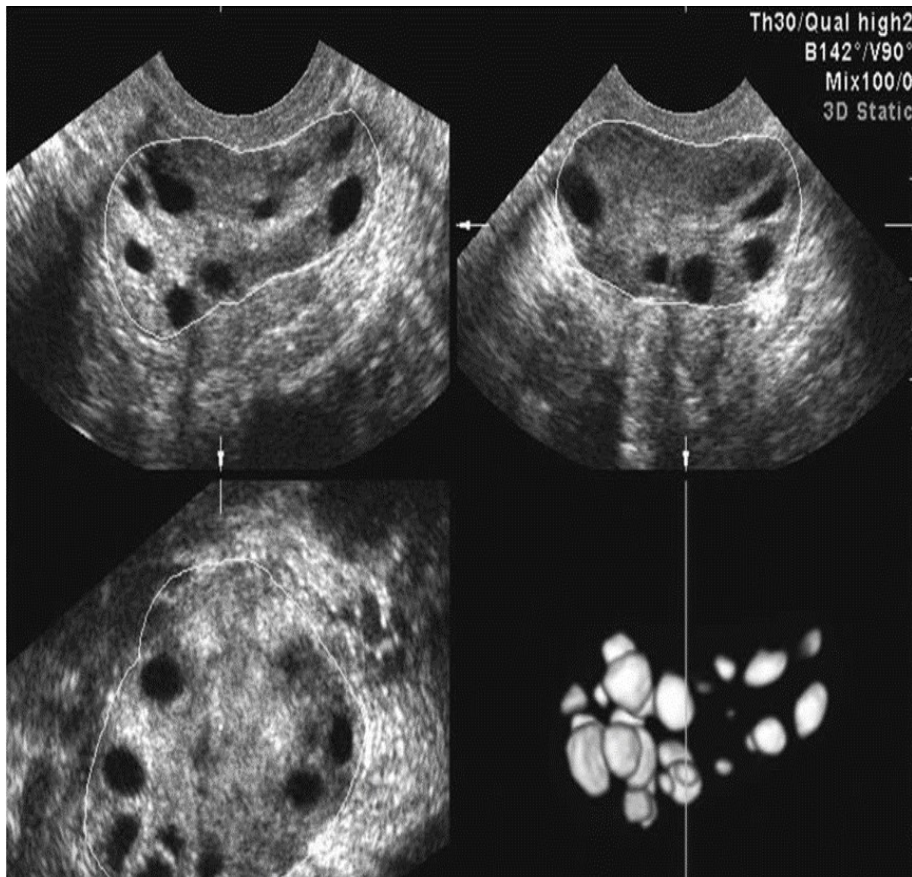


# Infertility and PCOS :



The infertility rate with polycystic ovaries is very high . These women usually will have difficulty in getting pregnant – and usually require treatment to increase the chances of getting pregnant

Some women with polycystic ovary syndrome will ovulate (release a mature egg) occasionally – others do not ever ovulate. In order to conceive, sperm must find and fertilize a mature egg – so we need to ovulate.

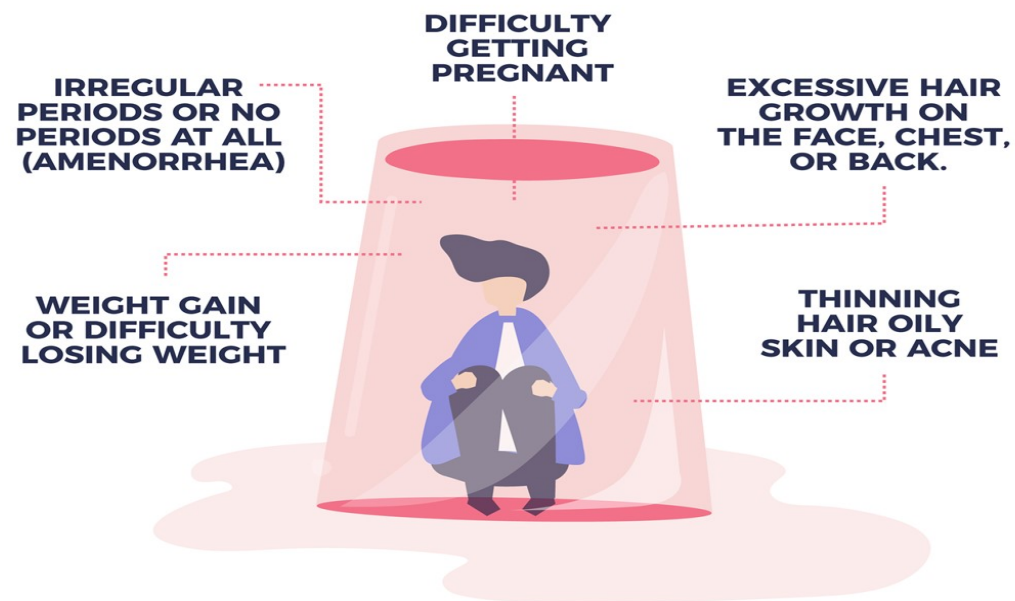


## Figure :

A multiplanar display of a polycystic ovary, showing the rendered inversion mode which highlights hypoechoic structures such as follicles

# PCOS symptoms

**What is PCOS in women?** Polycystic ovarian syndrome (PCOS) is a medical condition where small cysts develop on the ovaries.



## Lifestyle modifications :



Lifestyle modifications with a low carbohydrate diet as well as alternative dietary changes including small and frequent meals (5-6 meals a day), offer the evidence based first line strategy for the management of PCOS symptoms and insulin resistance. Smoking worsened the condition of PCOS patients as it increases the insulin resistance and their chances of cardiovascular comorbidity along with diabetes, modifying additional lifestyle factors, including alcohol consumption, psycho social stressors and smoking, are also crucial in long-term treatment of PCOS. Current study aims to assess preponderance and management of PCOS in Pakistan

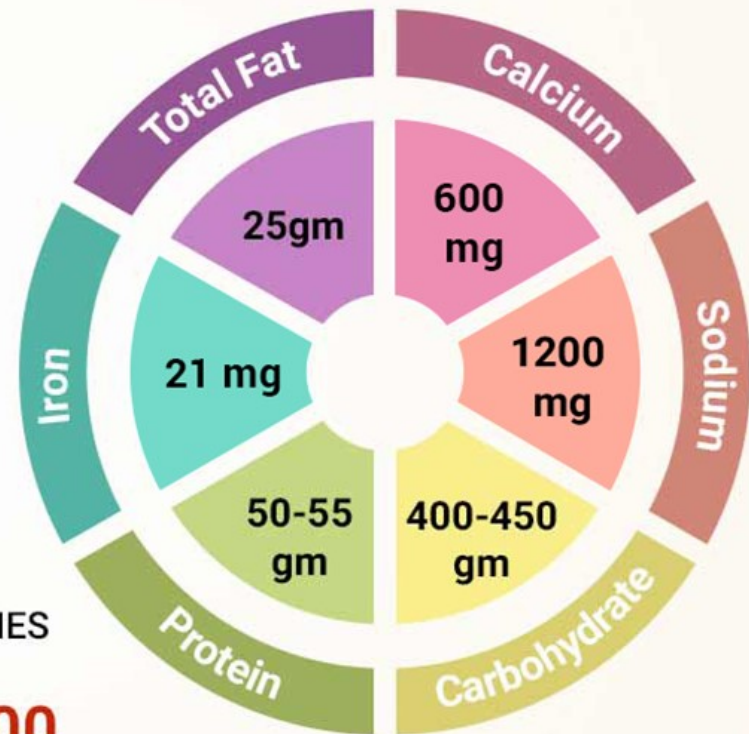
**Awareness:** The patients who were interviewed during the scientific work were not completely aware of the disease they were fighting with and hence they couldn't understand the preventive measure and were led to the disease.

# PCOS diet plan chart



TOTAL CALORIES  
(kcal/Day)

**1800-2000**



# Methodology

An observational cross-sectional study design was adapted, using convenient sampling techniques during the internship programs from June 2022 to July 2022. Female patients with a diagnosis of PCOS in the age range of 15-45 years were included, this age range showed the reproductive age of females. Patients with any other gynecological disorder were excluded. The study was conducted in DHQ Hospital Kamoke, DHQ Hospital Ferozwala, Jinnah Hospital Lahore, Services Hospital.



A structured data collection form was designed which consisted of three parts.

#### Part A

consisted of the patient's demographic profile, part B consisted of preponderance of PCOS, part C consisted of management of PCOS through medication and lifestyle modification. Data of 200 patients was filled by hand through face to face interaction with the patients. At the end accurately filled questionnaires were then evaluated for study. Data was analyzed statistically through SPSS by applying the chi-square test.  $p \leq 0.05$  was considered to be statistically significant. The study was approved by the Institute of Pharmacy, LCWU Lahore Pakistan. Prior permission was sought from the heads of respective hospitals, before starting the survey an informed consent letter regarding the aim and importance of the study was signed by the patients. Confidentiality of personal information was assured

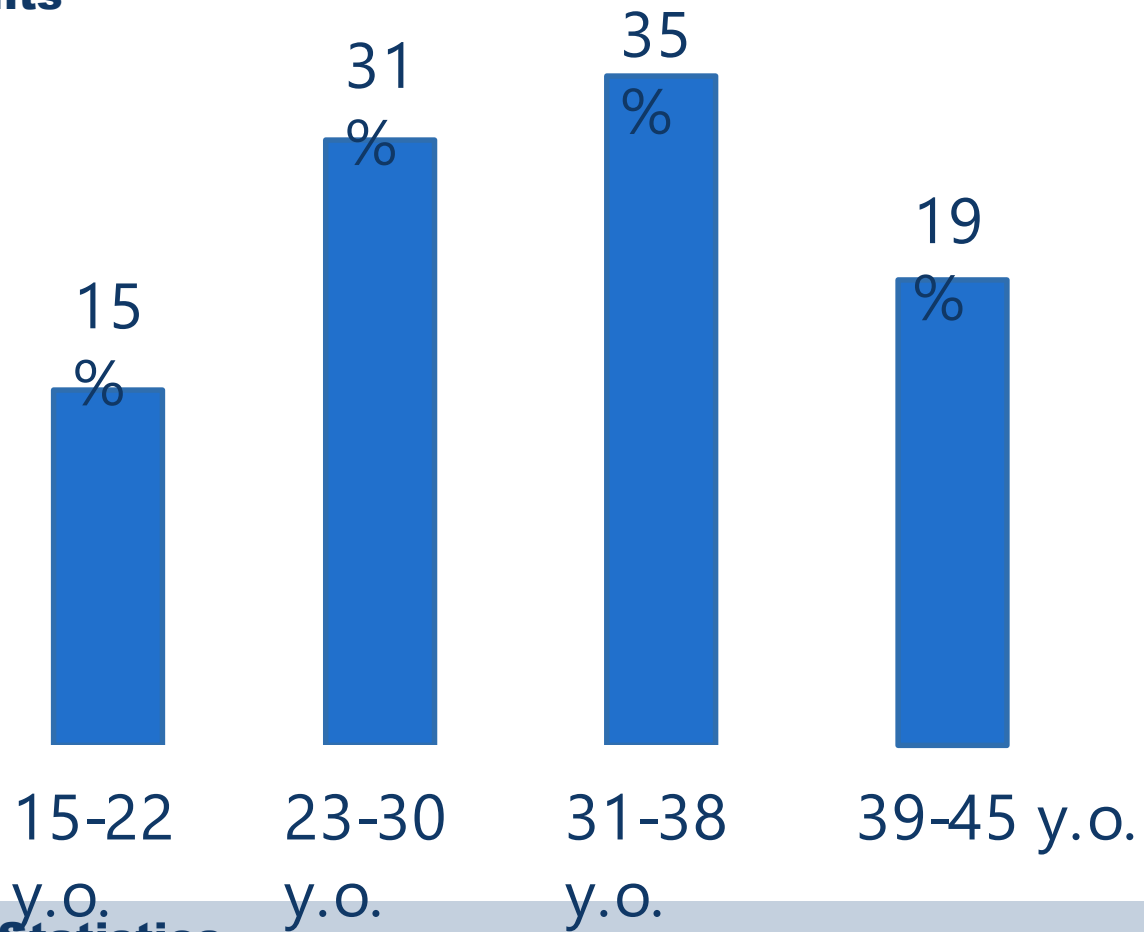


## Table I: Patient statistics

Statistics		Frequency	Percentage
Age	15-22	27	12
	23-30	60	29
	31-38	74	35
	39	32	19
Marital Status	Married	108	56
	Unmarried	94	45
BMI	Underweight	1	0.7
	Normal	25	14
	Overweight	108	50.5
	Obese	65	32
Past Medical History	Diabetes	74	34
	Other Diseases	130	162
Family History	With PCOS	85	42
	No PCOS	109	53



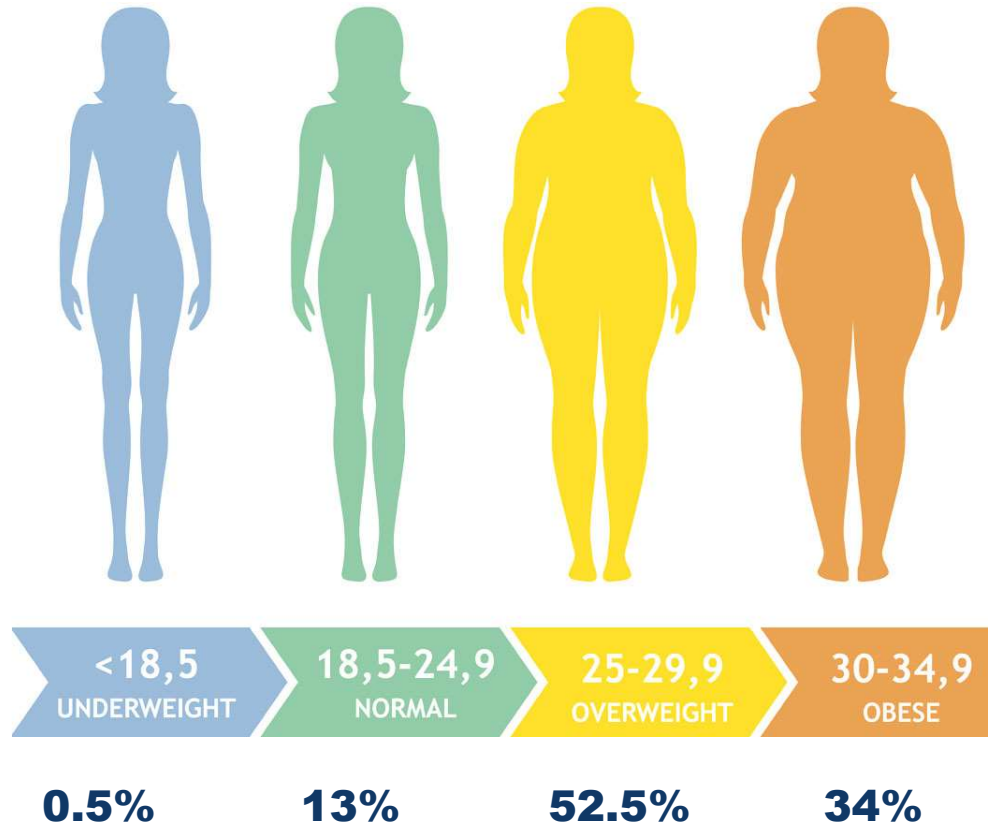
## Age of patients



## Marital status

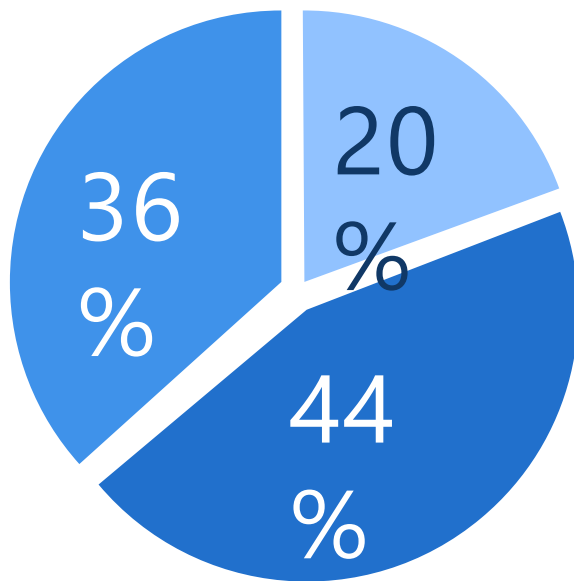


## Body mass index (BMI)



BMI of 13% patients was normal, 52.5% patients were overweight, only 0.5% were under weight and 34% were obese individuals.

## Diabetes



A total of 36% of the patients were with a family history of diabetes while 44% of the patients had not a family history of PCOS. Association of Statistics with preponderance of PCOS is depicted in table-II.

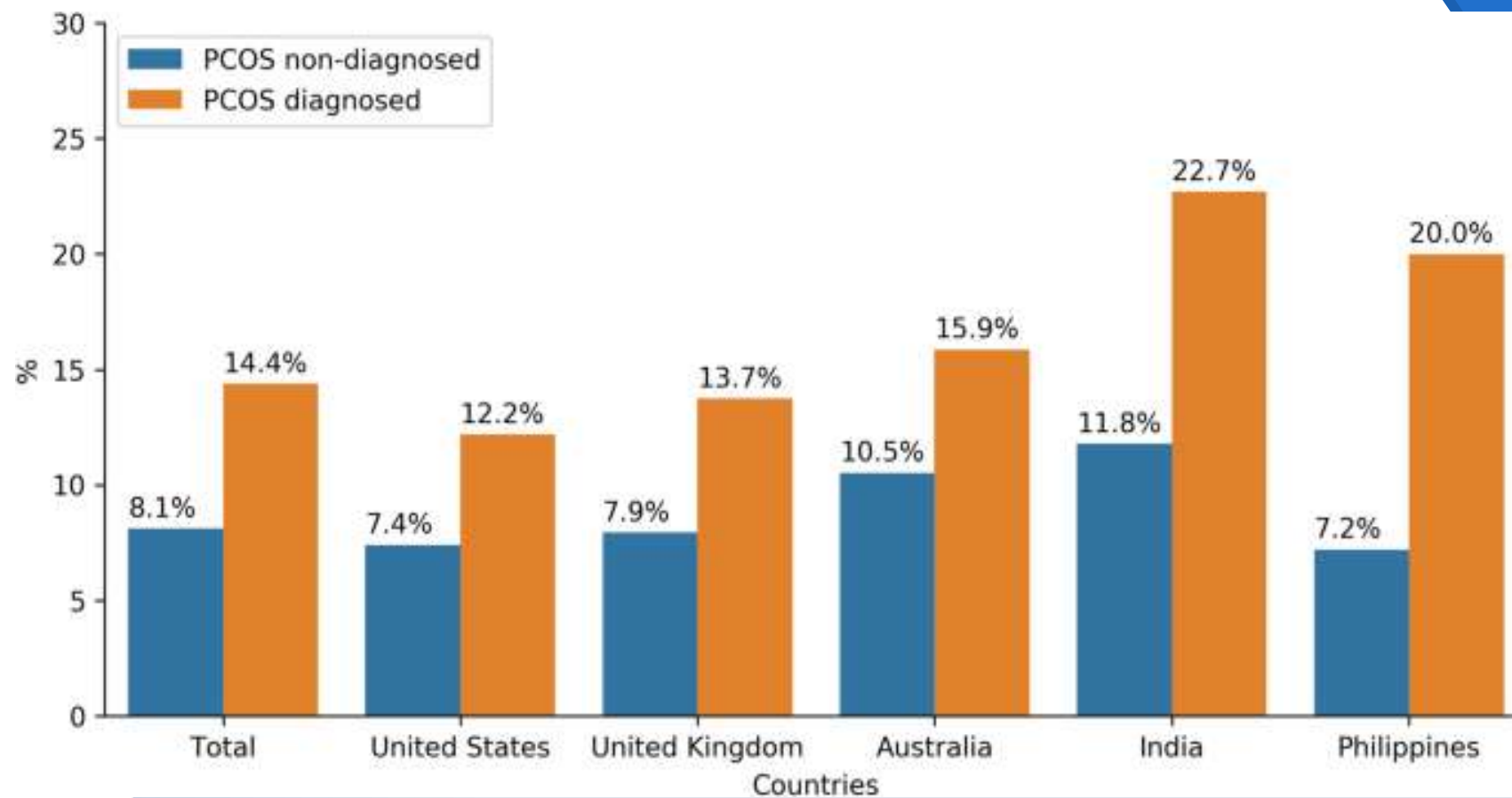
## Table II: Association of Statistics with preponderance polycystic ovary syndrome

Questions	Age	Marital Status	BMI	Past Medical History	Family History
Do you routinely face menstrual disturbance?	0.194	0.247	0.264	0.027	0.172
How was PCOS Diagnosed?	0.232	0.216	<0.001	0.411	0.224
Do you have Family history of disease?	0.785	0.942	0.115	0.489	0.922
Do you face continuous weight gain?	0.696	0.603	<0.001	0.685	0.794
Do you face difficulty in losing weight?	0.536	0.619	0.156	0.38	0.439
Have you suffered any miscarriage?	<0.001	<0.001	p<0.001	<0.001	<0.001
Have you experienced Cesarean delivery?	<0.001	<0.001	<0.001	<0.001	<0.001
Have you faced Pregnancy complications due to PCOS?	0.18	0.107	0.094	0.055	0.248

Questions	Age	Marital Status	BMI	Past Medical History	Family History
What type of treatment you are getting for PCOS?	<0.001	<0.001	<0.001	<0.001	<0.001
What medication is prescribed to you?	<0.001	<0.001	<0.001	<0.001	<0.001
Is your medication effective in treating your PCOS?	0.961	0.858	0.091	0.647	0.895
Have you faced any medication adverse reaction?	0.298	0.45	<0.001	0.28	0.569
Do you perform any physical exercise?	<0.001	<0.001	<0.001	<0.001	<0.001
Do you follow any diet plan?	<0.001	<0.001	<0.001	<0.001	<0.001
Does your gynaecologist encourage you for physical exercise?	0.696	0.603	<0.001	0.787	0.695
Do you smoke?	<0.001	<0.001	<0.001	<0.001	<0.001
Do you use leafy green vegetables?	<0.001	<0.001	<0.001	<0.001	<0.001

## Discussions

Present study was focused to assess preponderance and management of PCOS. Demographic profile indicates that the majority of PCOS patients were in the age ranging from 30-45 year and were married because females of this age group faced difficulty in naturally conceiving. Naderpoor et al found that PCOS prevails in 12-21% women of reproductive age<sup>11</sup>. Most patients had BMI falling in the range of overweight and obese, this is inline with previous study. Study found that 50% patients had a family history of PCOS and 40% had a family history of diabetes, this is inline with previous study. Menstrual cycle of most of the patients was disturbed and major signs and symptoms along with menstrual disturbance observed were continuous weight gain, hirsutism, acne, male pattern baldness, depression and mood swings. As described by Madnani et al in her study, the clinical signs of PCOS are hyperandrogenism, acne, irregular menses, infertility, obesity and alopecia. Pasquale found that the excess weight or obesity is associated with elevated androgen production rates in adolescent girls. Adolescent serum androgen levels may be preserved into adulthood and are associated with menstrual dysfunction, which suggests a potential risk of developing PCOS, Particularly in the presence of high body mass index. Hayek et al suggested that female with PCOS who conceive might suffer from pregnancy related complications such as gestational diabetes, pregnancy induced hypertension



## Epidemiology of PCOS Worldwide



# PCOS MOSTLY AFFECTED AREA



## Conclusion



**Polycystic ovary syndrome prevails higher in 30-45 years age, treatment usually starts with drug therapy along with lifestyle changes like weight loss, dietary changes and exercise. Metformin and oral contraceptives were most commonly prescribed drugs.**

## Conflict of interest

**This study has no conflict of interest to be declared by any author**



**7,85,646**

That's a lot of PATIENTS



**4,76,126**

And a lot of RECOVERED



**50%**

Total success of recovery!

# Thanks!

**Any questions?**

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