

## Survey of Infertility in Pcos Patients in Females of Vidarbha Region, M.S. India

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### ABSTRACT

Polycystic ovary syndrome (PCOS) is common endocrine disorder in women of reproductive age and occurs amongst all races and nationalities. This syndrome is characterized by chronic anovulation, clinical and/or biochemical hyperandrogenism, and polycystic ovary, commonly leading to infertility. In the present study, total 216 females were surveyed and analyzed as the percentage of PCOS and non PCOS females with fertility, infertility and obesity. Total 18.98% females had PCOS out of them 24.39% were infertile and 75.60% were fertile. In concern to obesity, total 19.44% women's had obese out of them 33.33% with PCOS and 66.66% without PCOS. Finally we may conclude that PCOS condition is one of the major clinical factors causing infertility and rarely by obesity.

**Key words:** PCOS, obesity, fertility, infertility females, Vidarbha region.

### INTRODUCTION

Polycystic ovary syndrome (PCOS) is an endocrine and metabolic heterogeneous disorder, with a likely genetic origin, influenced by environmental factors such as nutrition and physical activity (Carlos *et al.*, (2012). It is characterized by chronic anovulation and hyperandrogenism and can be clinically expressed with infertility, oligo or amenorrhea, hirsutism or androgen dependent alopecia and acne. Additionally, PCOS seems to be associated with obesity and metabolic abnormalities such as insulin resistance and dyslipidemia. PCOS is the most common hormonal disorders among women of reproductive age, and is leading cause of infertility (Boomsma *et al.*, 2008). Women with PCOS are at increased risk of anovulation and infertility; in the absence of anovulation, the risk of infertility is uncertain.

Up to 50 percent of women affected with PCOS are obese, a condition that has been found to increase the magnitude of underlying insulin resistance (Legro and Dunaif, 1997). Obesity tends to be less of a problem in women with PCOS in the adolescent population (Reaven, 1988). Obesity has also been linked to increased androgen production and

hirsutism (Balen *et al.*, 1995). It has been proposed that women with PCOS might be at an increased risk for eating disorders given the propensity for obesity in PCOS. Obesity and, specifically, central obesity, is a common feature of PCOS that worsens the phenotype (Gambineri *et al.*, 2002). The prevalence of depression in PCOS is high (Trent *et al.*, 2002; Hahn *et al.*, 2005). Depressive symptoms and mood disorders are common in most obese patients (Dixon *et al.*, 2003)

## MATERIALS AND METHODS

### Study population

A total 216 females were identified randomly visited to different Gynaecological, dermatological Hospitals, beauty parlours and inhabiting in civil areas of Amravati region. We included diagnosed females for PCOS in Gynaecological hospitals. The study group diagnosed with PCOS according to the Rotterdam ESHRE/ASRM consensus (Rotterdam, 2003). Female's were assessed by history and physical examination (name, age, address, occupation), a detailed examination was conducted and noted the height and weight of all females. Data were collected from clinical and anthropometric variables, body mass index (BMI) and a demographic questionnaire inquiring about age, education, occupation, and duration of illness.

BMI was calculated as weight (*kg*)/ height<sup>2</sup> (*m*). In present study, we also included different parameters like age, pelvis sonography. Informed consent was sought from them and data entered into pre-structured standard pro forma.

These women were further divided into two groups according to their body mass index (BMI); Group A- obese and overweight -BMI>23 and Group B- non-obese (normal weight and lean) -BMI<23 (Choo , 2002)

## RESULTS AND DISCUSSION

We used revised 2003 Rotterdam consensus as diagnostic criteria of PCOS, in which diagnosis of PCOS was based on clinical characteristics in combination with ultrasonography. In the present study, we reported percentage of PCOS and non PCOS womens along with infertility and obese clinical features. Out of total 216 females 18.98% were suffered from PCOS problem and out of the total PCOS females 24.39% females were infertile, 75.60 % females were fertile and 34.14% females were obese. Pfeifer and Kives (2009) have also mentioned infertility as one of the long term sequelae of PCOS.

In the present data, we also found that the total obese females were 19.44% .Out of total obese females 33.33% had PCOS and 66.66% females were without PCOS. Many researchers (Fruzzetti *et al.*, 2008; Diamanti- Kandarakis *et al.*, 2007; Berneis *et al.*, 2007; Cupisti *et al.*, 2008) believe that obesity is more prevalent in women suffering from PCOS. According to Angioni *et al.*, (2008), a high proportion of women with PCOS are obese. Polycystic ovarian syndrome is a multisystem disorder closely associated with obesity. Lim *et al.*, (2012) concluded that women with PCOS had a greater risk of overweight, obesity and central obesity. Jajoo and Angik (2013) also said that PCOS patients, irrespective of weight are at risk of infertility.

**Table 1 Showed the percentage of PCOS in association with and without infertility and Obesity.**

Total patients observed	216	
Total married womens	45(20.83%)	
Total unmarried womens	171(79.16%)	
PCOS Patients	Total PCOS	41(18.98%)
	PCOS with infertility	10(24.39%)
	PCOS with fertility	31(75.60%)
	PCOS with obesity	14(34.14%)
	PCOS without obesity	27(65.85%)
Obesity patients	Total obesity patients	42(19.44%)
	Obesity with PCOS	14(33.33%)
	Obesity without PCOS	28(66.66%)
Normal without PCOD	175(81%)	

## CONCLUSION

High percentage infertility has been observed in a survey group of PCOS females. PCOS is one of the clinical characteristics causing infertility. It may be caused by ovulatory dysfunction and prolonged periods of anovulation. Present study data also showed percentage PCOS with and without obesity, it may be due to metabolic disorder. It is also one of the clinical factors for causing obesity and their association with PCOS. Finally we may conclude that PCOS condition is one of the major clinical factors causing infertility and rarely by obesity.

**Conflicts of interest:** The authors stated that no conflicts of interest.

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