



## Correlation between PCOS and Infertility – An Observational Study

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### Abstract

**Aims and Objectives:** *The aim of this study includes impact of PCOS on infertility.*

**Materials and Methods:** *The study includes evaluation and investigation of 100 cases of infertile females over a period of 3 years from 2007 to 2009 in Gandhi Hospital, Secunderabad, Telangana. A detailed history for every complaint in all the cases was taken by the in charge gynecologist.*

**Results:** *PCOS accounted for about 30% of the total infertility cases.*

**Conclusion:** *This study attempts to focus the impact of PCOS on reproductive performance.*

**Keywords:** *PCOS, Infertility, Anovulation.*

### Introduction

Polycystic ovary syndrome (PCOS) is the most common endocrinopathy affecting reproductive-aged women, with a prevalence of 6%–21%, depending on the previous studies. Women with polycystic ovarian syndrome (PCOS) have abnormalities in the metabolism of androgens and estrogen and in the control of androgen production. PCOS can result from abnormal function of the hypothalamic-pituitary-ovarian (HPO) axis. A woman is diagnosed with polycystic ovaries if she has 12 or more follicles in at least 1 ovary. The major features of PCOS include menstrual dysfunction, anovulation, and signs of hyperandrogenism. Other signs and symptoms of PCOS may include hirsutism, infertility, obesity and metabolic syndrome

diabetes<sup>(1)</sup>. This study attempts to explain correlation between PCOS and Infertility.

### Material and Methods

The study includes evaluation and investigation of 100 cases of infertile females and women with bad obstetric history (BOH) over a period of 3 years from 2007 to 2009 in Gandhi Hospital. All cases were sourced from the hospital's Gynecology outpatient department. Prior informed consent was taken from the patient in their own vernacular.

A detailed history for every complaint in all the cases was taken by the in charge gynecologist. For those effected by primary infertility, details such as duration of married life, age of the couple, previous usage of contraception, along with

duration of the couple living together were noted. Previous history of exposure to STD, if any was also taken. Patients were asked to provide details of history of tuberculosis, operations such as appendicitis and other illness. Additionally, detailed menstrual history, including regularity, dysmenorrhea etc were taken. History of abortions in cases of recurrent abortions was also noted. Details included duration of pregnancy during which the abortions took place, and the total number of abortions. Patients were subjected to a detailed gynecological and general examination.

**1. Gynaecological Examination** – Per speculum examination was performed to determine whether cervix was normal or conical with a pin point os, small, elongated, or infected. Also, bimanual examination was done to find out whether uterus was normal sized or ill developed or malformed. Position & mobility of uterus was established. Fornices were examined to make out palpable adnexal pathology, if any.

**2. General Examination** – A comprehensive general examination was done which included the stature of the patient nutritional status, examination of the heart and lungs in detail, thyroid enlargement, and cervical lymphadenopathy.

**Investigations:** In the Females – Complete blood picture, Blood Grouping & Typing, Erythrocyte Sedimentation Rate, Random Blood Sugar, X-Ray Chest, Venereal disease research laboratory test, dilation and curettage, Ultra Sonography of Pelvis and Hystero Salpingo-graphy. In the Males – Venereal disease research laboratory test, Semen Analysis.

From the above parameters, the information is collected and tabulated for the present study. The data under different investigative procedures like Hystero-salpingography, Ultrasonography, hysteroscopy, and laparoscopic findings were taken. Results were tabulated as per investigative procedures and compared with available literature.

### Observations and Results

The observations represent a total of 100 cases of infertility, both primary and secondary, between

ages of 18 years and 35 years. Percentage breakdown of these cases based on various factors - PCOS accounted for about 30% of the total infertility cases. Other prominent findings included uterine anomalies 10% followed by Tubal & Peritoneal factors (PID) factors at 26%. Cases with male factors represented about 15%.

### Discussion

The infertility rate with polycystic ovaries is very high. These women usually will have difficulty getting pregnant - and usually require treatment to improve chances for pregnancy. Some women with polycystic ovary syndrome will ovulate (release a mature egg) occasionally - others do not ever ovulate. There were studies to know the prevalence of PCOS<sup>(2,3,4,5, and 6)</sup> in different groups of populations. Some studies were to evaluate the causes of PCOS<sup>(7, 8)</sup> and some on diagnosis<sup>(9, 10)</sup>. Mary et al<sup>(11)</sup> conducted a study on sixty-six patients: 20 with tubal factor infertility, 17 with polycystic ovary syndrome (PCOS), and 29 with endometriosis. In the present study there is a correlation between PCOS and infertility.

### Conclusion

This study attempts to focus the impact of PCOS on reproductive performance. In this effort, it is pertinent to note that despite being a known cause for many years now, it continues to attract academic interest and presents a formidable challenge for Obstetricians. Availability of better imaging techniques and associated therapeutic options has generated greater interest in this field.

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**Conflicts of Interests:** None

**Ethical Committee:** As this is only an observational study of the patients who attended the Gynaecology and Obstetrics outpatient de-

partment and underwent treatment later on, in the respective department, permission from ethical committee was not considered in the present study. But prior informed consent was taken from the patient in their own vernacular.

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## Abbreviations

PCOS – Poly Cystic Ovary Syndrome; HPO - Hypothalamic-Pituitary-Ovarian; BOH - Bad Obstetric History; STD – Sexually Transmitted Diseases ; PID- Pelvic Inflammatory Disease.