



## PRESCRIPTION PATTERN FOR INFERTILE WOMEN WITH POLY-CYSTIC OVARY SYNDROME (PCOS) IN A TERTIARY CARE HOSPITAL

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### ABSTRACT

**Introduction:** The main aim of the study is to focus on the prescription pattern for infertile women with PCOS in the tertiary care hospital. The target of the prescription pattern for infertile women with PCOS is to stop the occurrence of PCOS conditions. The time of initiating PCOS drugs therapy should be determined in keeping with the extent of severity. The study on prescribing pattern improves the standard of prescription writing, so a study of drug prescribing pattern has relevancy within the present scenario. The main purpose of drug utilization research is to evaluate the rationality of drug use. The objective of the study was to study the prescribing patterns of medication used for PCOS conditions and to spot, which drug is commonly prescribed at that hospital. **Materials and methods:** This is a prospective observational study conducted for six months. The study was conducted at GLENEAGLES AWARE GLOBAL HOSPITAL LB. NAGAR. Patients from the outpatient department of the hospital for six months are enrolled. PCOS female patients visiting the gynecologist are evaluated, diagnosed and prescribed with suitable therapy. Using a suitable designed data collection form, the details were collected from patient demographics, prescription chart, lab data, progress chart, medical records, doctor's notes, nursing notes. **Results:** According to the study carried out the no of females enrolled were 50. The age distribution of patients are 20-23(26%), 24-27(44%), 28-31(20%), and 32-35(10%). 62% Of females were homemakers and the rest 38% were working women. Irregular menstrual pattern was seen in 90% of the females and 10% of females had a regular menstrual pattern. Type-1 infertility 32(68%) was dominant over Type-2 16(32%). BMI index of the 50 members was 18(36%) of females had normal BMI, 6(12%) were underweight, 16(32%) were overweight and 10(20%) were obese. On whole of using both single and combination treatments LOD was given to 6%, metformin was given to 19%, Gonadotropins was given to 33.5%, clomifene citrate or clomid was given to 67.5% and oral contraceptives were given to 93.5%. Thus Oral contraceptives are the most commonly used drugs according to our study after oral contraceptives the second common drug was clomifene citrate and furtherly used were gondaotropins and metfromin and LOD was the least common used procedure for treatment of infertile women with PCOS. **Conclusions:** The study consists of 50 infertile women with PCOS for atleast 2 years of infertility. It is based on a variety of factors like food habits, being overweight or obese, less exercise and poor wellbeing. The prescription pattern is rational and it adheres to the standard treatment rule thus, the treatment was cost-effective and helpful for fast recovery patients with PCOS. The recommending design was objective and it adheres to the standard treatment rules. Other than test size doesn't mirror the real population size and remedy design in the entire state or country. Most of the studies conducted on PCOS have similar results as it is the most common endocrinopathy disorder affecting reproductively aged women. Infertile women who were obese/overweight along with unhealthy lifestyle habits, lack of awareness to maintain a normal BMI are more prone to the syndrome. The prescription pattern of PCOS women mostly involved combination therapy in which most women were given OC then CC CC and CC with metformin along with OC, and also were given OC then CC with gonadotropins. Lifestyle modifications including diet, exercise and weight management are strongly recommended for patients to avoid worsening the syndrome.

**KEYWORDS:** Polycystic ovary syndrome (PCOS), Infertile women, Prescription pattern.

### INTRODUCTION

Polycystic ovary condition (PCOS) is a typical endocrinopathy problem influencing reproductively aged ladies it turns out to be as often as a possible show

during early regenerative age. It is a heterogeneous issue, with different regenerative, restorative and metabolic intricacies which are portrayed by dysfunctioning of ovaries and clinical or biochemical hyperandrogenism

and the presence of polycystic ovarian morphology. It is the most well-known endocrine reason for adverse pregnancy outcomes and expanding the danger of unfavourable pregnancy result, metabolic disorder, type 2 diabetes mellitus, and a few carcinomas.

## TYPES OF PCOS

### 1. Insulin-resistance PCOS

- This is the most widely recognized kind of PCOS. This kind of PCOS is brought about by smoking, sugar, contamination and trans fat. In this, undeniable degrees of insulin forestall ovulation and trigger the ovaries to make testosterone.
- On the off chance that you have been told by your PCP that you are a diabetic on the fringe and your glucose resilience test was not ordinary. Assuming you have expanded degrees of insulin and you are overweight, you may be one having insulin obstruction PCOD.
- TIP-QUIT SUGAR! simply disregard the sugar, it is ought to be your initial step. A little measure of sugar is sound however by taking it in enormous amounts you are adding to the insulin obstruction.

### 2. Pill-initiated PCOS

- This sort is the second most normal PCOS. It gets created because of the conception prevention pills which stifle ovulation. For the greater few of the women, these impacts don't keep going long and continue ovulating after the impact of the pill is finished. Yet, a few ladies don't continue with ovulating for quite a long time even after the impacts of pills get over. During this ladies have to be compelled to counsel the specialist.
- On the off chance that you experience customary and typical periods before beginning with the pills, this may be an indication of Pill-initiated PCOS. Or on the other hand, if your degrees of LH are expanded in the blood test, this could be a sign as well.

### 3. Inflammatory PCOS

- In PCOS because of irritation, ovulation is forestalled, chemicals get imbalanced and androgens are delivered. Aggravation is caused because of stress, poisons of climate and provocative dietary like gluten.
- If you have side effects like cerebral pains, skin hypersensitivities and your blood tests show that you are lacking nutrient D, your blood check isn't ordinary, expanded degrees of thyroid then you may be one having provocative PCOS.
- TIP-DON'T TAKE STRESS! Quit burning through provocative food varieties like dairy items, sugar or wheat. Begin accepting enhancements of magnesium as it has calming impacts.

### 4. Hidden PCOS

- This is a more straightforward type of PCOS, when the reason is tended to then it takes around three to

four months to get settled. Reasons for Hidden PCOS: Thyroid illness, insufficiency of iodine (ovaries need iodine), vegan diet ( it makes you zinc insufficient and the ovaries need zinc) and fake sugars. On the off chance that you are as of now finished with various normal medicines for PCOS and nothing seems like working at that point counsel the specialist and assemble more data about it.

## Infertility

Infertility means you can't get pregnant.

It is of 2 types.

- Primary alludes to couples who have not gotten pregnant after at any rate 1-year having intercourse without utilizing anti-conception medication.
- Secondary alludes to couples who have had the option to get pregnant in any event once, however, now can't.

**Causes:** Numerous physical/emotional components can cause it. It could be because of issues in the lady, man, or both.

## Female Infertility

- It happens when.
- A fertilized egg/embryo cannot live once it joins to the lining of the belly (uterus).
- The egg doesn't join the coating of the uterus.
- The eggs can't move from the ovaries to the belly.
- The ovaries have issues delivering eggs.
- Female infertility might be by.
- Autoimmune issues, for example, antiphospholipid disorder (APS).
- Birth abandons that damage the reproductive tract.
- Cancer or tumour.
- Clotting issues.
- Diabetes.
- Drinking a lot of liquor.
- Exercising to an extreme.
- Eating issues or helpless nourishment.
- Growths (like fibroids or polyps) in the uterus and cervix.
- Medicines, for example, chemotherapy drugs.
- Hormonal changes.
- Being overweight or underweight.
- Older age.
- Ovarian growths and polycystic ovary syndrome(PCOS).
- Pelvic contamination bringing about scarring or expanding of fallopian tubes (hydrosalpinx) or pelvic inflammatory disease (PID).
- Scarring from sexually transmitted infection, medical procedure or endometriosis.
- Smoking.
- Surgery to forestall pregnancy (tubal ligation) or failing of tube ligation reversal ligation inversion (reanastomosis)
- Thyroid.

**MATERIALS AND METHOD**

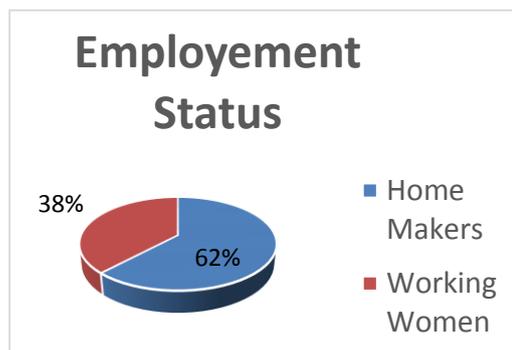
This is a prospective and observational study led a time of a half year in the out-patient division of Gynecology. Gleneagles Aware Global hospital. All important patient information is gathered in an appropriate planned patient information assortment structure. The information was gathered from the patients who met the consideration standards. To contemplate the endorsing designs, significant subtleties of each in-patient with PCOS were gathered inappropriately planned Proforma. The significant information on drug remedy of every persistent was gathered from the in-patient record. The segment information (age, sex), the determination by the treating gynaecologist was acquired from the out-patient case records of every patient. Also, risk factors recognized for creating PCOS were noted from the clinical records. The medication information - drugs, measurement structure, portion, course of organization, recurrence was noted. The lab testing parameters which were checked during the treatment, for example, - weight list (BMI), waist circumference (WC), level of muscle versus fat (PBF) and lipid accumulation product (LAP) record and also other hormonal tests.

Non-Laboratory Tests: a pelvic ultrasound (transvaginal and/or pelvic/abdominal). In PCOS, the ovaries might be 1.5 to multiple times bigger than typical and naturally have over 20 follicles for every ovary. All the out-patients diagnosed to have PCOS with infertility by a specialist doctor in the unit were part of the investigation.

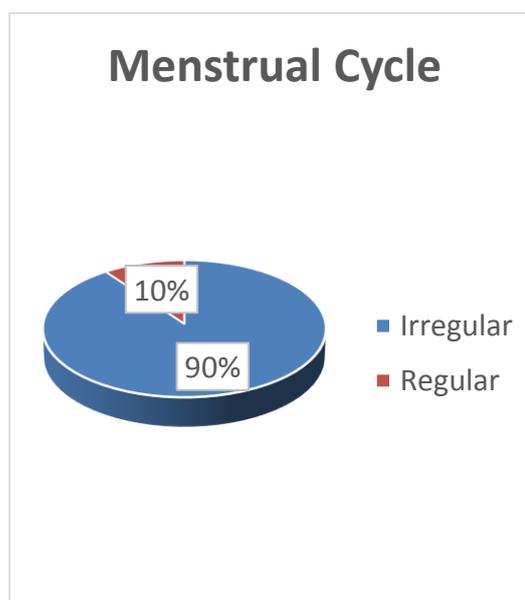
**RESULTS:** According to the study carried out the no of females enrolled in the study were 50. On whole of using both single and combination treatments LOD was given to 6%, metformin was given to 19%, Gonadotropins was given to 33.5%, clomifene citrate or clomid was given to 67.5% and oral contraceptives were given to 93.5%. Thus Oral contraceptives are the most commonly used drugs according to our study after oral contraceptives the second common drug was clomifene citrate and futherly used were gondaotropins and metfromin and LOD was the least common used procedure for treatment of infertile women with PCOS.

**Table 1: Age Distribution.**

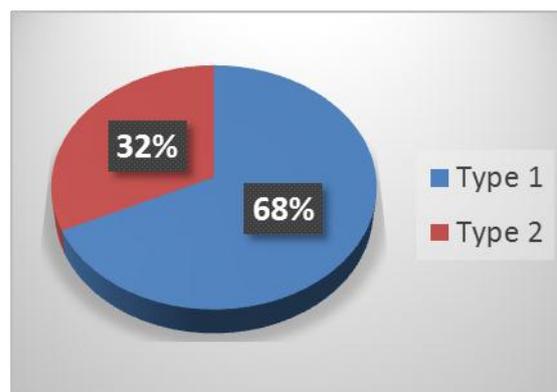
| Age   | No. of patients | Percentage (%) |
|-------|-----------------|----------------|
| 20-23 | 13              | 26%            |
| 24-27 | 22              | 44%            |
| 28-31 | 10              | 20%            |
| 32-35 | 05              | 10%            |



**Figure 2: Employment Status.**



**Figure 3: Pattern Of Menstrual Cycles In Infertile Females.**



**Figure 4: Types Of Infertility In Females With Pcos.**

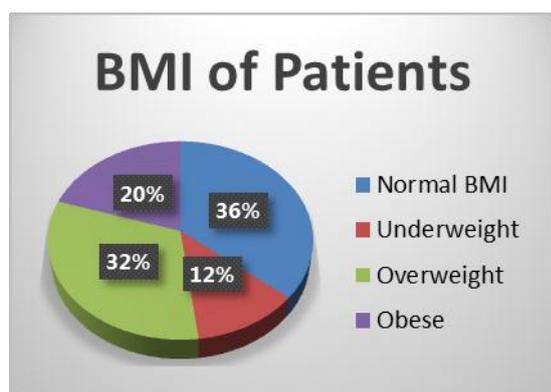


Figure 5: Body Mass Index.

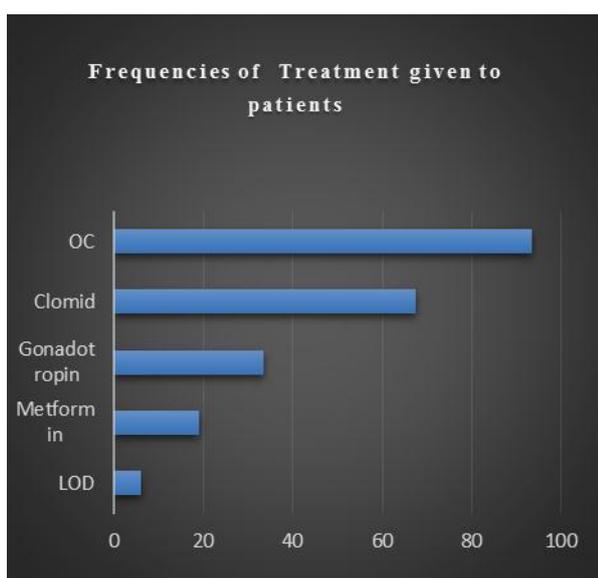


Figure 6: Frequencies Of Treatment Used.

Table 7: Prescription Pattern.

| Sn.        | Treatment                        | No.of pts | %         |
|------------|----------------------------------|-----------|-----------|
| <b>I</b>   | <b>Single standard treatment</b> | <b>13</b> | <b>26</b> |
|            | OC                               | 11        | 22        |
|            | CC                               | 1         | 2         |
|            | Gonadotropin                     | 1         | 2         |
| <b>II</b>  | <b>Combination treatment</b>     | <b>36</b> | <b>72</b> |
|            | OC/CC                            | 12        | 24        |
|            | OC/CC/Gonadotropin               | 9         | 18        |
|            | OC/cc/Gonadotropin/Metformin     | 2         | 4         |
|            | OC/CC/Metformin                  | 6         | 12        |
|            | OC/CC/Gonadotropin/LOD           | 2         | 4         |
|            | OC/Gonadotropin                  | 1         | 2         |
|            | OC/Metformin                     | 1         | 2         |
|            | OC/Gonadotropin                  | 1         | 2         |
|            | OC/CC/LOD                        | 1         | 2         |
|            | OC/CC/Gonadotropin/Metformin/LOD | 1         | 2         |
| <b>III</b> | <b>Diet and Exercise</b>         | <b>1</b>  | <b>2</b>  |

OC-Oral Contraceptive, CC-Clomifene Citrate, LOD-Laparoscopic Ovarian Drilling

## DISCUSSIONS

Primary infertility (68%) in infertile PCOS ladies was discovered to be higher than secondary infertility (32%) in this investigation. The clear basic explanations behind infertility can be multifactorial, for example, constant anovulation for quite a while delay in looking for clinical assistance and expensive treatment.

Females with overweight or obesity are more inclined to have abnormal menstrual cycles and anovulatory infertility than ladies with ordinary BMI. This investigation reports that 20% of PCOS patients had high BMI, wherein 32% were overweight. The purpose for this can be the absence of activity, improper dietary habits, particularly lousy nourishments, debilitated IR, and a more prominent level of insulin obstruction in ladies with PCOS.

OC's are hormonal drugs recommended as first-line treatment by as they are viable in regularizing periods just as in the treatment of hirsutism and skin break outs. OCs are likewise given as a pre-treatment pill for clomiphene-safe patients as it improves ovulation acceptance just as pregnancy rates. CC is the suggested first-line treatment for ovulation acceptance. The utilization of gonadotropin following CC to improve ovulation just as pregnancy rates as gonadotropin builds the quantity of pre-ovulatory follicles. Metformin assumes a significant part in improving ovulation acceptance in ladies with PCOS by diminishing the insulin levels or expanding insulin affectability and subsequently modifying the impact of insulin on ovarian androgen biosynthesis, theca multiplication, and endometrial development. Thusly, it builds ovulation rate and pregnancy rate in patients impervious to CC alone. It is additionally suggested as a first-line treatment in quite a while. Another treatment alternative for clomiphene-safe anovulatory PCOS is LOD or diathermy and is a particular treatment choice just for PCOS. 72% of patients were given mixed treatment, while just 26% patients were given single treatment. In a single treatment, OC was for most PCOS patients 22%. One reason for the decision of OC is that it decreases ovarian hyperstimulation (downregulation treatment cycle). CC and gonadotropins alone were additionally given yet less now and again. In blend treatment, CC pre-treated with OC 24% was generally given to PCOS patients followed by CC with metformin pre-directed with OC 12%. Patients were generally regulated CC with gonadotropins pre-treated with OC 18%. Different blends, for example, metformin pre-treated with OC, gonadotropin pre-treated with OC, and CC with gonadotropin pre-directed with OC alongside LOD (an insignificant intrusive medical procedure) were least used.

Changes in lifestyle and dietary life changes including exercise are suggested as the principal line treatment of PCOS, particularly in overweight, obese ladies as it improves ovulation just as pregnancy rates and diminishes testosterone levels In this investigation, 100%

of the females with higher BMI were suggested diet and exercise, while just few females with normal BMI were suggested way of life adjustments.

### Limitations of The Study

The limitations of the study include small size subject sample and does not apply to the entire female infertile women with polycystic ovary syndrome population. Along with lack of involvement of possible infertile women and infertility procedures is also another limitation of the study.

### CONCLUSIONS

The study consists of infertile women with PCOS. It is based on a variety of factors like food habits, being overweight or obese, less exercise and poor wellbeing cleanliness. The prescription pattern is rational and it adheres to the standard treatment rule thus, the treatment was cost-effective and helpful for fast recovery patients with PCOS. The recommending design was objective and it adheres to the standard treatment rules. Other than test size doesn't mirror the real population size and remedy design in the entire state or country. Most of the studies conducted on PCOS have similar results as it is the most common endocrine disorder affecting reproductively aged women. Infertile women who were obese/ overweight along with unhealthy lifestyle habits, lack of awareness to maintain a normal BMI are more prone to the syndrome. The prescription pattern of PCOS women mostly involved combination therapy in which most women were given CC pre-treated with OC and CC with metformin along with OC, while in others, most of them were given OC then CC with gonadotropins. Lifestyle modifications including diet and exercise are strongly recommended for patients to avoid worsening the syndrome.

### CONFLICT OF INTEREST

We declare that there is no conflict of interest.

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