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# A CROSS-SECTIONAL STUDY TO DESCRIBE THE PRESCRIBING PATTERN IN TREATMENT OF INFERTILITY CARE IN TERTIARY CARE HOSPITAL IN MANDYA

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***Abstract:*** Infertility is the failure to achieve pregnancy after 12 months or more of regular unprotected sexual intercourse. infertility is broadly defined as disorder a disorder of male and female reproductive system based on a protracted length of time during which unprotected sexual activity does result in pregnancy or live birth. most infertile couples around the world suffer from primary infertility, which means that the woman has never conceived. Secondary infertility may occur at any time in a woman's life after the first pregnancy. Treatment consists of improvement in health, avoid certain medications and chemicals, specific treatments and surgical management. This was a cross-sectional prospective study on the prescribing pattern in treatment of infertility care in a tertiary care hospital in Mandya. The data required for the study were collected from 105 samples of infertility out-patients who treated in Department of Obstetrics and Gynecology, Mandya institute of Medical Sciences, Mandya. The obtained information was documented and subjected to suitable statistical method. The present study showed that among 105 cases of infertility the majority were found to be in the age group of between 26-29years (26%) and the that most infertility cases were primary, with female-related factors being the leading cause. Lifestyle habits like smoking and alcohol use were common among patients. Polycystic Ovary Syndrome (PCOS) was the most frequent health issue linked to infertility. Many women also showed low AMH levels, indicating reduced ovarian reserve at a relatively young age. A variety of medications were used in treatment, mainly hormone-related drugs and supplements. Among treatment options, intrauterine insemination (IUI) was used more often than IVF.

**KEYWORDS:** Infertility, Polycystic Ovary Syndrome, Hormones, IVF.

## I. INTRODUCTION

The WHO adopts the definition of 'the failure to achieve a pregnancy after 12 months or more of regular unprotected sexual intercourse. Infertility is broadly defined as a disorder of the male and female reproductive systems based on a protracted length of time during which unprotected sexual activity does not result in pregnancy or live birth. According to the World Health Organization (WHO), most infertile couples around the world suffer from primary infertility, which means that the woman has never conceived. Secondary infertility may occur at any time in a woman's life after the first pregnancy. Reasons for male infertility encompass infection, trauma, exposure to toxins, anatomical differences, chromosomal irregularities, systemic illnesses, and antibodies affecting sperm. Assessment of male infertility commence with laboratory assessment initiates with a semen analysis. Female infertility, the causes can be categorized into ovulation irregularities, abnormalities in the uterus, blockage of the fallopian tubes, and peritoneal factors. Additionally, cervical factors are believed to have a minimal impact.

Making lifestyle adjustments, such as shedding excess weight for overweight women or gaining weight for those who are underweight, can enhance ovulation. Ceasing smoking likewise increases the livelihood of conception. Treatment option is intrauterine insemination (IUI), where a physician inserts sperm directly into a woman's uterus just before ovulation using a catheter. This procedure is often combined with medications like clomiphene or hormone injections. It can be effective in cases where male infertility is a factor or when the cause of infertility is unknown. In vitro fertilization (IVF) represents the most invasive and costly infertility treatment, typically pursued when other options have failed. During IVF, eggs are carefully extracted from the ovaries and combined with sperm in a laboratory setting to facilitate fertilization. The resulting embryos are then transferred into the uterus.

**MATERIALS AND METHODS:**

This was a prospective Cross-sectional study conducted in the Obstetrics and gynecology outpatient department of MIMS and Teaching Hospital with the study period of period of 6 months;4 months of data collection, and 2 months of data analysis and write-

up. The sample size of 105 patients in a 4month period was documented and analyzed. The subjects included are Out-patients who treated in Department of Obstetrics and Gynecology, Mandya Institute of Medical Sciences, Mandya.

STUDY CRITERIA:

a) Inclusion criteria:

1. Individuals diagnosed with infertility by a healthcare provider in tertiary care hospital, MIMS, Mandya
2. Individuals of reproductive age who desire to conceive.
3. Individuals with documented evidence of unsuccessful attempts at conception for a specified duration.

b) Exclusion Criteria:

1. Individuals with infertility caused by irreversible factors (e.g., surgical sterilization).
2. Individuals currently undergoing fertility treatments.
3. Individuals with medical conditions that preclude conception or pregnancy.

METHOD OF DATA COLLECTION (STUDY TOOLS):

All the relevant data will be obtained from the patient who visited Department of Obstetrics and Gynecology with infertility, MIMS, Mandya and a special proforma was prepared with the below data.

The patient information such as socio-demographics, details of patient's diagnostic criteria and treatment taken by the patients were included.

Analysis: Data collected will be coded and checked for completeness and uniformity, then data will be entered in MS Excel worksheet and descriptive statistics will be used and the results will be presented as tables, graphs or expressed as percentages according to the type of information collected. For continuous variables, mean and standard deviations will be calculated.

**RESULT:**

Based on our study, a total of 105 infertile individuals were included. Among the 105 infertile individuals involved in the present study it was found that individuals between the age group 18-21years (13), 22-25years (29), 26-29 years (27), 30-33 years (23), 34-38 years (10), 39-42 years (1), 43-46 years (2) and minimum number of patients were found in the age group of 39-42years (1) and the standard deviation of the mean age of infertility is 28 ± 5.84.

**Figure 1**: Distribution of individuals based on age.

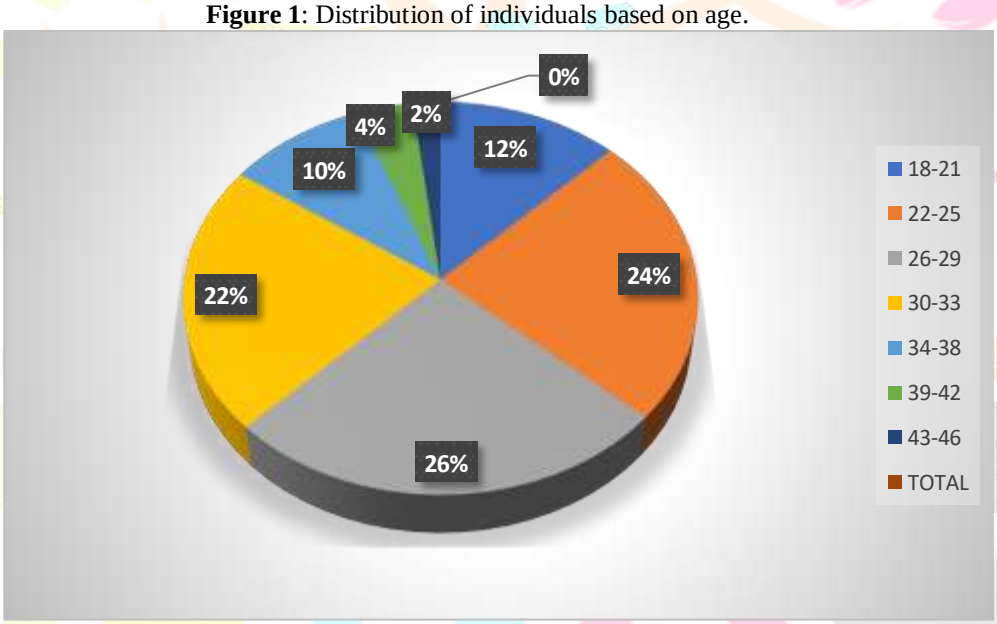


**Figure 1** shows the patient distribution according to their ages and the highest occurrence of infertility was observed in the age period of between 26-29 years (26%) and least were 42-46 years (2%).

**Table 1**: Patient distribution based on the type of infertility.

| TYPEOF INFERTILITY | NUMBER OF INDIVIDUALS | PERCENTAGE |
|---|---|---|
| Primary infertility | 73 | 70% |
| Secondary infertility | 32 | 30% |
| TOTAL | 105 | 100% |

**Table 1** shows the types of infertility and the most common was observed to be primary infertility of about 70%.

**Table 2**: Distribution of patients based on the male and female factors.

| FACTORS | NUMBER OF INDIVIDUALS | PERCENTAGE |
|---|---|---|
| Female Factors | 47 | 45% |
| Male Factors | 20 | 19% |
| Unexplained Factors | 22 | 21% |
| Both male and female factors | 16 | 15% |
| TOTAL | 105 | 100% |

**Table 2** shows the distribution of individuals contributing to infertility out of a total of 105 samples that was collected and the majority of female factors (45%) were reported. The other factors are as follows unexplained factors (22%), male factors (19%) and both male female factors (15%).

**Table 3**: Distribution of patients based on the comorbidities.

| CLASS OF DRUG | FREQUENCY | PERCENTAGE |
|---|---|---|
| Polycystic Ovary Syndrome | 31 | 30% |
| Hypothyroidism | 17 | 16% |
| Both PCOD and Hypothyroidism | 9 | 6% |

**Table 3** shows out of 105 samples some of the individuals are presented with several comorbidities such as PCOD (31), Hypothyroidism and both PCOD and Hypothyroidism (9).

**Figure 2**: Distribution based on the risk factors.

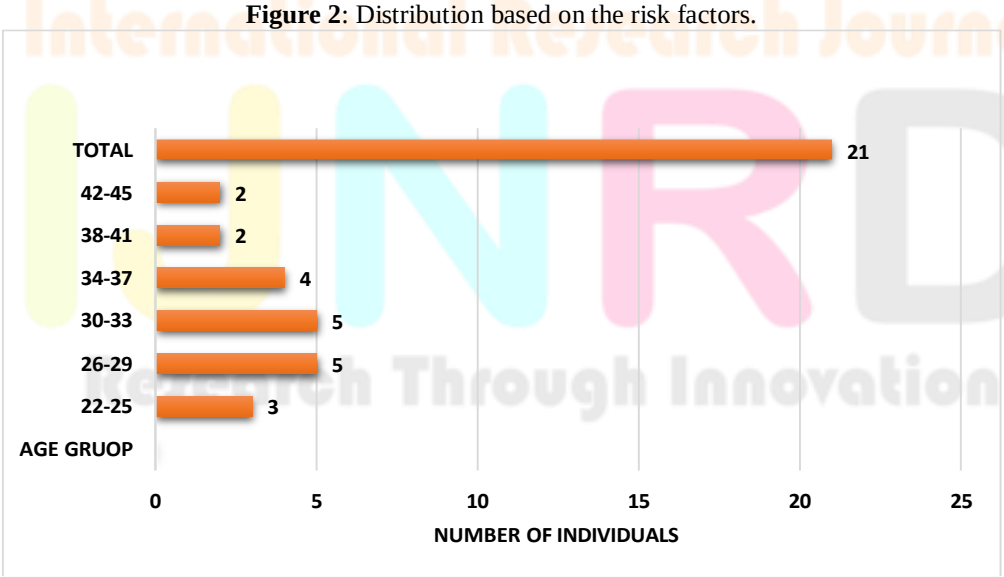


**Figure 2** shows among the 105 samples, 21 female individuals were observed with decreased AMH level in between several age groups and the distribution of low level of AMH are reported as follows 22-25 years (3), 26-29years (5),30-33years (5), 34-37years (4), 38-41years
(2), 42-45years (2).

**Figure 3**: Distribution based on the drugs based on the prescription.

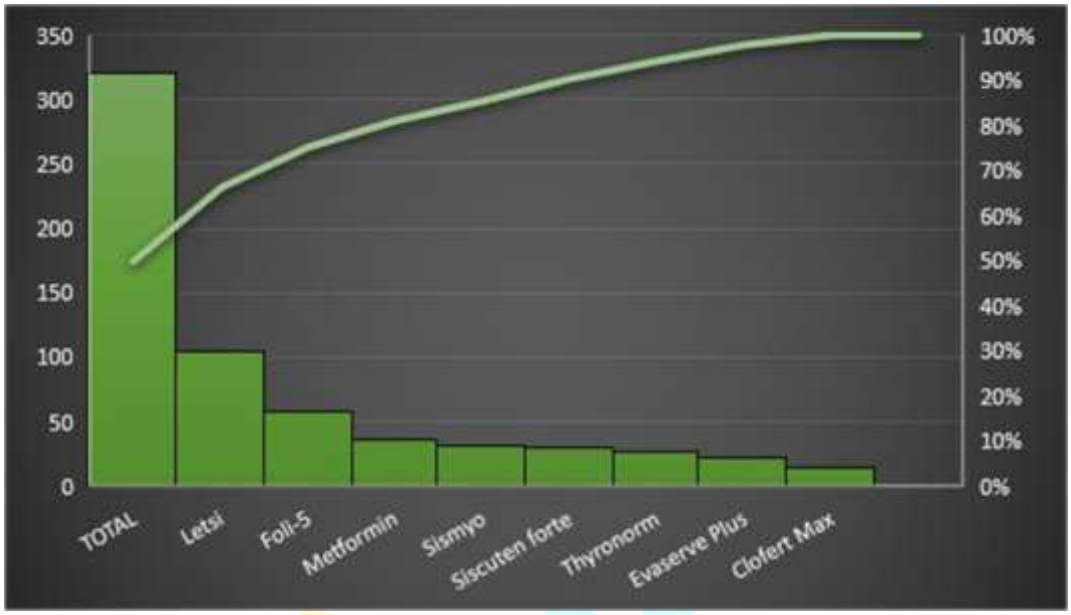


**Figure 3** shows among 105 samples analyzed the total number of 321 times drugs were prescribed and the most frequently used drugs were as follows Letrazole (33%), Folic acid (18%), Metformin (11%), Sismyo (10%), Siscuten forte (9%), Thyronorm (8%), Evaserve
Plus (7%), Clofert Max (4%).

**Table 4**: Analysis of number of IUI and IVF treatments.

| TREATMENT | NUMBER OF INDIVIDUALS | PERCENTAGE |
|---|---|---|
| INTRAUTERINE INSEMINATION | 18 | 17% |
| IN VITRO FERTILIZATION | 5 | 5% |

**Table 4** shows out of 105 samples, the individuals received IUI and IVF treatment are analyzed and reported based on their personalized treatment. The individuals who received IUI (17%) is higher compared to that of IVF (5%).

**DISCUSSION:**

This prospective study examined the prescribing patterns for infertility treatment at a tertiary care hospital in Mandya. A total of 105 patient records were analyzed, with a focus on demographics, diagnoses, comorbidities, habits, physical examinations, lab investigations, and treatment regimens. The majority of patients were between 26-29 years old, and 70% were diagnosed with primary infertility. Female factor infertility was most common (45%), followed by unexplained infertility (21%), male factor infertility (19%), and a combination of male
and female factors (15%). Key risk factors included smoking (27%) and alcohol consumption (18%), with 9% of patients reporting both.
Polycystic ovary syndrome (30%) and hyperthyroidism (16%) were the most prevalent comorbidities, with 6% having both conditions.

The study highlighted that Letrozole (33%) was the most frequently prescribed medication, followed by Folic Acid (18%) and Metformin (11%). Prescriptions typically included an average of 3.1 drugs, with most containing at least three medications. Drug classes most commonly prescribed were Aromatase Inhibitors (33%), Hormones (25%), Vitamins and Minerals (18%), and Biguanides (11%). Additional treatments included intrauterine insemination (17%) and in-vitro fertilization (5%). Overall, the study illustrates a comprehensive approach to infertility management, incorporating various pharmacological treatments and advanced reproductive techniques.

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**CONFLICT OF INTEREST:**

Nil

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