

Analysis of Primary Female Infertility at Tertiary Care Hospital in Rural Bangalore South India

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Abstract

Introduction: Infertility is the failure to conceive (regardless of cause) after 1 year of unprotected intercourse. Its overall prevalence has been stable during the past 50 years; however, a shift in etiology and patient age has occurred. Though both male and female factors cause infertility women are held responsible and attend infertility clinic. *Aims and objectives:* To know the prevalence of primary infertility and study the clinical, biochemical and radiological features associated with primary infertility. *Materials and Methods:* This is a cross sectional observational study of 100 primary infertility patients at the gynecology outpatient department and infertility clinic at MVJ medical college and research hospital between august 2014 to july 2015. study participants underwent standard infertility evaluation including history, physical examination, ultrasonography, endocrinological assay involving TSH, FSH, LH and serum prolactin and semen analysis. The descriptive analysis of the data is done using Statistical software namely SPSS and Graphs and tables were generated using Microsoft word and excel. *Results:* the prevalence of infertility was 10.6%. majority of patients were between 20-30 yrs. Mean duration of infertility was 6.7 yrs. 20%

patients had symptoms like chronic pelvic pain, white discharge per vagina and dyspareunia. Abnormal semen analysis was found in 24% of male partners. 10% patients had hypothyroidism. 46% of patients had polycystic ovaries on ultrasound. Tubal block was found in 17% of patients. *Conclusions:* The study is dominated by younger age at presentation and varied duration of infertility. Polycystic ovarian syndrome was first cause of infertility followed by pelvic inflammatory disease and male factor infertility.

Keywords: Prevalence; Primary Infertility.

Introduction

Infertility is the failure to conceive (regardless of cause) after 1 year of unprotected intercourse. Infertility affects approximately 10-15% of reproductive-aged couples [1]. Though infertility does not claim an individual's life it inflicts devastating emotional trauma on the individuals for being unable to fulfill the biological role of parenthood. Primary infertility refers to the inability to ever have a child. Secondary infertility refers to couple who conceived earlier but later fail to conceive [2].

Its overall prevalence has been stable during the past 50 years; however, a shift in etiology and patient age has occurred. Though the evaluation and management of infertility has improved significantly there are very less studies published on prevalence of primary infertility in the population of southern india. This study was done to know the prevalence of primary infertility at medical college situated in Bangalore rural district.

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Major causes of infertility include tubal and peritoneal pathology (30-40%), ovulatory dysfunction (15%), and male factors (30-40%). Uterine pathology is generally uncommon, and the rest is largely unexplained.

The major cause of tubal factor infertility is pelvic inflammatory disease (PID) resulting from sexually transmitted diseases (STDs). Oligomenorrhea is a dysfunction of the hypothalamus-pituitary-ovarian axis and is the most common ovulatory disorder associated with infertility.

Though both male and female factors cause infertility, women are held responsible and attend infertility clinic. So this study was done to know the prevalence of primary infertility and the clinical, ultrasonographic and biochemical parameters associated with primary infertility, so that line of management could be formulated depending on the cause of infertility.

Materials and Methods

This is a cross sectional observational study conducted at MVJ medical college and research hospital located in Bangalore rural. The study was conducted between August 2014 to July 2015. During the study period 2546 patients attended the gynecological outpatient department out of which 240 patients had primary infertility. 100 patients were enrolled into the study.

After consent for participation in the study, all the participants underwent standard infertility evaluation including history, physical examination, ultrasonography, endocrinological assay involving Thyroid stimulating hormone (TSH), Follicle stimulating hormone (FSH), Leutenising hormone (LH) and serum prolactin and semen analysis of male partner. The descriptive analysis of the data is done using Statistical software namely SPSS and Graphs and tables were generated using Microsoft word and excel.

Results

The prevalence of infertility in our study was 10.6%. Since the sample size is 100 number is equivalent to percentage. The mean age of the patients was 26.5 ± 3.8 yrs (Table 1-5).

Table 1: Shows age in years in relation to duration of infertility

Age in yrs	Duration of infertility in yrs		
	<5	6-10	10 -20
<20	2	-	-
20- 30	40	39	6
30-40	3	5	5

Table 2: Shows different characteristics of the patients

Variable	Number (Percentage)
Menstrual cycles	
Regular	45 (45%)
Irregular	55(55%)
Symptoms	
Present	20(20%)
Absent	80(80%)
Body mass index	
<18	5
18- 25	80
25-30	15
Hirsutism	
Present	15
absent	85
Galactorrhoea	
Present	8
Absent	92
Semen analysis	
Normal	76
Abnormal	24

Table 3: Shows ultrasonographic findings in primary infertility patients

Finding	Number/Percentage n =100
Normal	51(51%)
Polycystic Ovary	42(42%)
Ovarian cyst	5(5%)
Hydrosalpinx	2(2%)

Table 4: Shows biochemical parameters

Laboratory test	Number (percentage)
Serum prolactin	
Normal	94(94%)
Elevated	6(6%)
Serum TSH	
Normal	96(96%)
Elevated (hypothyroid)	10(10%)
LH:FSH RATIO	
Normal	78(78%)
Abnormal	22(22%)

Table 5: Shows Hysterosalpingography findings

HSG finding	Number (Percentage)
Tubal block	17(17%)
Right tube	6(6%)
Left tube	5(5%)
Cornual block	4(4%)
Uterine anomaly	2(2%)

Discussion

Infertility is perceived as a problem across the whole world and affects all strata of the society. It has been estimated to affect 10-15% of the women in the reproductive age group (American society of reproductive medicine 2008) [3]. Inability to fulfill the biological role as parents is received as a stressful situation. So investigating the infertile couple to find out the cause of infertility is important so that cause can be treated.

Prevalence of infertility in our study was found to be 10.6% which is comparable to the study done by Paul C. Adamson [4] at Mysore in India.

In the present study majority of the patients were between 20 – 30 yrs which is comparable to study done by AA Akande [5] which is quite young age and if properly evaluated and managed, a positive and fruitful result can be expected.

Late presentation of infertility was common in this study with 53.0% of patients presenting after 5 years of infertility. The delay in seeking assistance may be due to poor knowledge of infertility, inaccessibility of hospital services, prior unsuccessful treatment, and visits to traditional healers.

Irregular menstrual cycles were found in 55% of the subjects in the present study which is comparable to study done by Hanan Elzeblawy Hassan [6] (54.4%). 20% of the patients had symptoms like chronic pelvic pain, white discharge per vagina and dyspareunia suggestive of pelvic inflammatory disease which could be the cause of infertility in such patients.

In the present study abnormal semen parameter was found in 24% which is comparable to study done by P FATIMA et al. [7] in Bangladesh (24%).

In the present study hypothyroidism was found in 10% of the patients which is comparable to study by kameshwaramma [2]. Who studied prevalence of thyroid dysfunction in infertility.

Polycystic ovaries (46%) was the common abnormal finding noted in this study. the incidence in the present study is higher compared to study done by Abubakar A panty [8] in Nigeria (8%) which may be regional variation. Tubal block was seen in 17% of the patients which is comparable to study done by Abubakar A panty [8].

Limitations of the Study

The study does not include secondary infertility.

Conclusions

The study is dominated by younger age at presentation which is positive sign because if properly evaluated and managed primary infertility at young age has successful pregnancy outcome.

Polycystic ovarian disease was seen as the first cause of infertility followed by male factor infertility and pelvic inflammatory disease both of which have good pregnancy outcomes if properly treated

Clinical Significance

This study adds to the data on prevalence of primary infertility in southern India and depicts the profile of primary infertility patients.

Key Message

This study adds to the data on prevalence of primary infertility in southern India and depicts the profile of primary infertility patients.

Source(s) of support: none

Conflicts of interest: none

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