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CLINICAL EVALUATION OF PRIMARY INFERTILITY IN RURAL POPULATION OF INDIA

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ABSTRACT

Background: Primary infertility is a serious health issue which has a profound socioeconomic and health implication on both the couple and society. The present study aims to provide analysis of the aetiologies of female infertility in rural women presenting to tertiary medical college. **Introduction:** Infertility is a serious health issue affecting 8-10% of couple worldwide, probably 25% (15-20 million) are in India alone. According to world health organisation (WHO), one in every four couples in developing countries are affected by infertility. The main challenges in estimating the etiological factors of infertility are due to paucity of population based studies, the varying sensitivity and specificity of the tests utilised. **Aims and Objectives:** To clinically evaluate couples with primary infertility and to ascertain the cause for primary infertility. **Materials and Methods:** This is a prospective study conducted at KIMS, Narketpally involving 65 patients with primary infertility and were evaluated for the potential causes for primary infertility. **Results:** The majority of the women belonged to 25-29 years of age group. The aetiology of infertility in 65 couples revealed female factor in 49.2%, a male factor in 33.84% and and an unexplained cause in 16.9% of couples.

KEYWORDS : Primary Infertility, Anovulation, Tubal Factors, Semen, Hyperprolactinemia.

INTRODUCTION

Infertility is a serious health issue affecting 8-10% of couple worldwide, probably 25% (15-20 million) are in India alone[1]. According to world health organisation (WHO), one in every four couples in developing countries are affected by infertility[2]. India being a diverse country not only with regard to culture but also traditions, accessibility to health care services and education,climatic conditions making the infertility rate to vary widely across various regions and castes within the same state[3]. The definition used to define infertility varies among different studies making it difficult for comparision among them[4]. The inability to have a child can lead to psychological burden on women and men as there are interpersonal, social and religious expectations of having a child in the society and within the family[5]. In developing countries like India, women being diagnosed with infertility can lead to being abondoned by their husband, can become a victim to family violence and can experience a sense a failure[6]. It is crucial to identify the various etiological factors leading to infertility inorder to understand and treat it. Most of the times the burden of the infertility is beared by the female despite male problem infertility contributing to 50% of the cases[7]. The infertility in many of the couples can be managed merely by educating about fertile period and sexual education. The drugs used for ovulation can have potential side effects on the women's mental and physical health[8]. The main challenges in estimating the etiological factors of infertility are due to paucity of population based studies, the varying sensitivity and specificity of the tests utilised[9]. Identification of the factors leading to infertility can decrease the burden on the treating physician along with the couple. The main of this study was to identify the potential etiological factors predisposing to infertility in rural population India[10].

Aims and Objectives

To clinically evaluate couples with primary infertility and to ascertain the cause for primary infertility.

Inclusion Criteria:

1. Couple willing to participate in the study
2. All couples with primary infertility

Exclusion Criteria:

1. Couples not willing to participate in study
2. Couple who were pregnant earlier irrespective of the outcome of pregnancy.

MATERIALS AND METHODS

The present study was carried out in The Department of Obstetrics and Gynaecology at Kamineni Institute of Medical Sciences, Narketpally from April 2023 to May 2025. The study is Prospective study which included 65 couples with primary infertility and were evaluated on both outpaient and inpatient basis. All couples had undergo basic infertility screening including antral follicular count, baseline hormonal profile including day 2 FSH, LH,AMH, serum progesterone, thyroid profile and ultrasonography , semen analysis. Indicated couple had undergone bilateral hysterosalpingograply and MRI.

RESULTS

On studying the 65 couples with primary infertility, the results were as follows:

Table 1: Distribution of Couples According to Female Age(n=65)

Age (in years)	Number of couples
20-24	18(27.6%)
25-29	33(50.7%)
30-35	12(18.4%)
35-40	1(1.5%)
>40	1(1.5%)

Of the study group,27.6% were 20-24 years, 50.7% were 25-29 years,18.4% were 30-35 years, 1.5% were 35-40 years and 1.5% were more than 40 years.

Table 2: Distribution of Couples According to Period of Infertility

Period of infertility in years	Number of couples
1-5	46(70.7%)
5-10	12(18.4%)
>10	7(10.7%)

Of the study 70.7% had 1-5 years of infertile years and 18.4% had 5-10 years of infertility.

Table 3: Distribution of Couples According to Pattern of Menstruation

Character	Number of couples
Ovulatory cycles	46(70.7%)
Anovulatory cycles	17(26.1%)
Did not attain menarche	2(3.0%)

Of the study majority had ovulatory cycles(70.7%) and 26.1% had anovulatory cycles and 3% did not attain their menarche

who later found to have absent uterus.

Table 4: Distribution of Couples According to Hormonal Profile

Hormone	Elevated	Decreased	Within normal range
FSH	1(1.5%)	0(0%)	64(98.4%)
LH	1(1.5%)	0(0%)	64(98.4%)
AMH	0(0%)	1(1.5%)	64(98.4%)
Prolactin	2(3.0%)	0(0%)	63(96.9%)
Thyroid profile	0(0%)	2(3.0%)	63(96.9%)

Of the study majority (98.4%) had FSH,LH,AMH within normal range,1.5% had raised FSH,LH and lower AMH suggestive of poor ovarian reserve or ovarian failure, 3.0% had hyperprolactinemia and 3.0% had hypothyroidism.

Table 5: Distribution of Couples According to Semen Analysis

Semen analysis	Number of couples
normal	43(66.1%)
Abnormal	22(33.84%)

Of the study 33.84% had abnormal seminal study and 66.1 % had normal seminal study values.

Table 6: Distribution of Couples According to Hystero-salpingography(HSG)

Result of HSG	Number of couples
Bilateral tubes patent	55(84.6%)
Blocked tubes	8(12.3%)

Of the study only 12.3% of the couples had blocked one or both the tubes and 84.6% had patent fallopian tubes and 3.0% had couldnot undergo the test due to uterine anomalies.

DISCUSSION

In the present study, out of 65 couples, 32 couples (49.23%) had female factor, 22(33.84%) had male factor and 11(16.92%) had unexplained infertility. Zagar Ah et al.[1] Reported that among 250 couples 57.6% had female factor, 22.4% had male factor, 14.8% had undetermined cause and 5.2% had combined factor for infertility. In this study, majority of the couples belonged to the age group of 25-30 years accounting for 50.7%. Katole A et al.[2] Reported that among 570 couples, majority belonged to age group 25-29 years of age group (39.3%). In this study major contribution for female infertility was due to ovulation disorders (26.15%). Zang et al.[3] Reported that among 286 couples, 36.71% had ovulatory disorders as the cause for female infertility. In the present study 70.7% couples had infertility years of 1-5 years. Shamila S et al.[4] Reported that among 150 couples 51.84% had 5 years of conjugal life years. In this study 15.3% had tubal factors responsible for infertility. Gendaram Bayasgalan et al.[7] Reported that 32.8% of the infertile females had tubal factor.

CONCLUSION

Primary infertility is rising common problem in India. The various factors responsible for primary infertility are anovulation (26.15%), semen abnormalities (33.84%), tubal disease (15.3%), hyperprolactinemia (3.07%), uterine anatomical factors (3.07%), ovarian failure (1.53%), unexplained cause (16.92%).From this study, it can be concluded that the female and male factors have almost equal contribution to infertility. Initial evaluation of the semen analysis should be undertaken prior to the female factor evaluation. Knowledge about the various etiological factors responsible for infertility is extremely important for health care providers.

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