Original Research Article

Clinico-demographic profile of patients with infertility at tertiary health care center

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Abstract

Background: Infertility is a relatively common condition, greatly affecting couples and can have a serious impact on both the psychological well-being and the social status of women. Several of the most influential factors on fertility and infertility treatment, such as age and genetic factors, are non-modifiable. The purpose of the study is to identify and quantify some demographic factors and causes, correlates and prevalence of infertility among couples. **Material and Methods:** In this study a total of 215 women, aged lesser than 35years, with a history of primary infertility were studied. Cases having infertility were identified using WHO definition. Cases with history of inability to conceive were interviewed to know various clinico-epidemiological correlates including demographic characteristics, duration of illness and anetiology. **Results:** The mean age of 30.384 ± 3.15 years. The mean BMI of the studied women was 21.6±1.6. Majority of cases with infertility had normal menstrual cycles. In present study, the mean duration of infertility was 8.5 ± 3.3 years. The male factors were responsible in 98 (46%) of the cases followed by tubal factors in 75 (35%) of the cases. The diagnosis remained unexplained in 42 (19%) of cases. **Discussion:** Infertility is not a disease of the female alone, so the couple needs to be interviewed and investigated to find out the cause. Efforts are needed to raise awareness of the causes among families.

Key Words: Infertility, body mass index, duration, male factors.

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INTRODUCTION

Infertilitycan bedefinedas the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse (WHO-ICMART)[1]. It can have a serious impact on both the psychological well-being and the social status of women. A study published by WHO in 2012 quoted, one in every four couples in developing countries had been found to be affected by infertility[2]. Estimates of infertility vary widely among Indian states from 3.7% in Uttar Pradesh, Himachal Pradesh and Maharashtra to 5% in Andhra Pradesh[3,4]. Infertility is divided into primary and secondary infertility. WHO defines primary infertility as the inability to conceive within one year of exposure to pregnancy (i.e. sexually active, non-contracepting and non-lactating) among women 15 to 49yearsold. Secondary infertility refers to the inability to conceive following a previous pregnancy[5]. The biological and social factors including stress due to economic status, religious attitudes, age at marriage, urbanization leading to modernization, higher literacy, contraceptive usage and nuclear families play a significant role in lowering fertility[6]. The female factors contribute almost half in the etiologies of infertility followed by male factors (30-40%) and the rest are attributed to a mixture of both or by problems unknown[7]. The purpose of the study is to identify and quantify some demographic factors and causes, correlates and prevalence of infertility among couples.

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MATERIAL AND METHODS

In this study a total of 215 women, aged lesser than 35years, with a history of primary infertility were studied. All the women were enrolled in an IVF program at the Institute of Reproductive Medicine, Salt Lake, Kolkata, India between April 2012 and December 2013. The study received approval by the Research Ethics Committee of the Institute and a written consent was obtained from participating women. The patients included in the study were women aged younger than 35 years, and had normal menstrual cycles, a body-mass index of <25 kg/m2, no relevant systemic disease, severe endometriosis or uterine and ovarian abnormalities, and basal FSH on day 3 is ≤ 10 IU/L. Cases having infertility were identified using WHO definition. Cases with history of inability to conceive were interviewed to know various clinico-epidemiological correlates including demographic characteristics, duration of illness and anetiology.

RESULTS

In present study, a total of 215 women with primary infertility were studied. Majority of the patients belong to 25-35 years of age group with the mean age of 30.384 ± 3.15 years. The mean BMI of the studied women was 21.6±1.6. Majority of cases with infertility had normal menstrual cycles. The primary infertility was usually observed within first 10 years of married life. In present study, the mean duration of infertility was 8.5 ± 3.3 years. With respect to diagnosis of infertility, the male factors such as oligospermia/ azospermia/ asthenospermia were responsible in 98 (46%) of the cases followed by tubal factors in 75 (35%) of the cases. The diagnosis remained unexplained in 42 (19%) of cases.

Table 1: Demographic characteristics of study population

Characters	No. of cases
Age	30.384 ± 3.15
BMI	21.6±1.6
Duration of Infertility	8.5 ± 3.3
Diagnosis	
Tubal Factor	75 (35%)
Male Factor	98 (46%)
Unexplained	42 (19%)

DISCUSSION

The WHO estimates the overall prevalence of primary infertility in India to be between 3.9 and 16.8%. Estimates of infertility vary widely among Indian states. Several of the most influential factors on fertility and infertility treatment, such as age and genetic factors, are non-modifiable. The mean age of women in present study was 30.384 ± 3.15, Adamson PC also reported the similar age group in their study[8]. A survey conducted across 9 cities including 2,562 patients by helping families endorsed by the Indian Society for Assisted Reproduction (ISAR) reported that about 46% of Indians in the age group of 31 to 40 years seeking medical help for conceiving a child were found to be infertile[9]. Studies from various Indian researchers report similar age for infertility[10,11]. In present study, the mean BMI of the studied women was 21.6±1.6.Both under-nutrition and over-nutrition can negatively impact fertility and pregnancy outcomes [12-14]. Rich-Edwards *et al* demonstrated a U-shaped association between BMI and ovulatory infertility, with an increase in the relative risk of ovulatory infertility for BMI below 20.0 or above 24.0 kg/m^2[15]. By studying the Nurses' Health Study II, they suggested that 12% (95% CI = 7–20%) of ovulatory infertility in the U.S. may be attributable to underweight (BMI <20.0) and 25% (95% CI = 20–31%) to overweight (BMI ≥25).Body mass index and weight are closely related to reproductive function, with amenorrhea, anovulation, sub-fertility, and infertility occurring at higher body weights, with and without controlling for height[16,17]. In a study investigating lifestyle factors, time to conception increased in both overweight (BMI >35) and underweight (BMI <19) individuals. As the duration of infertility increases, the couples become less interested to seek the medical services. Besides, the psychological factors like depression and hopelessness play a major role in these cases[18].The primary infertility was usually observed within first 10 years of married life. In present study, the mean duration of infertility was 8.5 ± 3.3 years. The male factors such as oligospermia/ azospermia/ asthenospermia were responsible in 98 (46%) of the cases followed by tubal factors in 75 (35%) of the cases. The diagnosis remained unexplained in 42 (19%) of cases.Mittal *et al*[10] reported male factors responsible in 49 (17.95%), female factors in 86 (31.5%) and both partners were accountable in 66 (22.34%), while 77 (28.21%) couples cause of infertility was unexplained. This study has provided significant information concerning the prevalence of infertility in our area and has informed about different demographical and etiological factors associated with infertility. Infertility is not a disease of the female alone, so the couple needs to be interviewed and investigated to find out the cause. Efforts are needed to raise awareness of the causes among families.

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