



A Study of the Clinical Profile of Infertility Among Couples Attending a Tertiary Care Centre

Dr Kajal K P

Dept of Gynaecology and Obstetrics, Gouri Devi institute of medical science

Corresponding Author

Dr Kajal K P

Dept of Gynaecology and Obstetrics,
Gouri Devi institute of medical
science

Source of support: Nil.

Conflict of interest: None

Received: 06-09-2022

Accepted: 14-10-2022

Available online: 26-10-2022



This work is licensed under the Creative
Commons Attribution 4.0 License.

Published by TRJMS

Abstract

Background: Infertility is an important reproductive health concern that can affect the physical, emotional and social well-being of couples. Its causes may involve male factors, female factors, a combination of both or unexplained infertility. A systematic evaluation of both partners is essential for identifying possible causes and planning appropriate management.

Aim: To study the clinical profile of infertility among couples attending a tertiary care centre.

Materials and Methods: A hospital-based observational study was conducted in the Department of Obstetrics and Gynaecology at [Name of Hospital] from January 2021 to January 2022. The study included 110 couples attending the infertility clinic. Information regarding age, duration of infertility, primary or secondary infertility, menstrual and obstetric history, relevant clinical findings, investigations and identified infertility factors was collected using a structured proforma. Data were analysed using descriptive and appropriate inferential statistical methods.

Results: A total of 110 couples were included in the study. The distribution of couples according to primary and secondary infertility, duration of infertility, age, clinical findings and identified causes will be reported after analysis of the original patient records. The available information does not permit calculation of the frequencies of individual infertility factors.

Conclusion: Clinical assessment of infertility should involve both partners and include a detailed reproductive history, examination and appropriate investigations. Analysis of the clinical profile of couples attending a tertiary care centre may help identify common presentations and improve the planning of diagnostic and treatment services.

Keywords: Infertility; primary infertility; secondary infertility; male factor; female factor; clinical profile; tertiary care centre.

INTRODUCTION

Infertility is an important reproductive health issue affecting individuals and couples across different populations. It can create emotional distress, affect relationships and place considerable financial and social demands on those seeking treatment. Despite advances in reproductive medicine, access to appropriate infertility evaluation and treatment remains unequal in many settings.

The World Health Organization defines infertility as a disease of the male or female reproductive system characterised by failure to achieve pregnancy after 12 months or more of regular, unprotected sexual intercourse. Infertility may be classified as primary or secondary. Primary infertility refers to difficulty achieving a pregnancy when no previous pregnancy has occurred, whereas secondary infertility refers to difficulty achieving a pregnancy after a previous pregnancy. [1]

The causes of infertility are diverse. Female factors may include ovulatory dysfunction, tubal disease, endometriosis and uterine abnormalities. Male factors may involve abnormalities in sperm production, concentration, motility or morphology, as well as reproductive tract obstruction and other conditions affecting reproductive function. In some couples, both partners have identifiable factors, while in others routine investigations do not establish a clear cause. [1,2]

A comprehensive evaluation is important because infertility should not automatically be attributed to either partner. A detailed reproductive history, clinical examination and appropriate investigations help guide further assessment. Depending on the clinical presentation, investigations may include semen analysis, assessment of ovulation, hormonal testing, pelvic ultrasonography and evaluation of tubal patency.

The clinical profile of infertility may vary according to the population served, referral patterns, age distribution, duration of infertility and availability of diagnostic facilities. Hospital-based studies can therefore provide useful information about the characteristics of couples seeking fertility care, although their findings may not represent the general population.

The present study was undertaken to describe the clinical profile of infertility among 110 couples attending a tertiary care centre over a one-year period. The study focuses on the type and duration of infertility, relevant clinical findings and the distribution of identified infertility factors.

AIM AND OBJECTIVES

Aim

To study the clinical profile of infertility among couples attending a tertiary care centre.

Objectives

1. To describe the sociodemographic and clinical characteristics of couples presenting with infertility.
2. To determine the distribution of primary and secondary infertility.
3. To assess the duration of infertility at presentation.
4. To describe the relevant menstrual, obstetric and reproductive history of the female partners.
5. To evaluate the distribution of identified male, female, combined and unexplained infertility factors.
6. To describe the investigations used in the evaluation of infertility.

MATERIALS AND METHODS

Study design

A hospital-based observational study.

Study setting

The study was conducted in the Department of Obstetrics and Gynaecology at [Name of Tertiary Care Centre], [City, State, India].

Study duration

January 2021 to January 2022.

Sample size

The study included 110 couples attending the infertility clinic during the study period, corresponding to 110 female partners and 110 male partners.

Study population

Couples presenting to the infertility clinic for evaluation were considered for inclusion according to the original study protocol. The precise eligibility criteria and recruitment method should be confirmed from the study records.

Inclusion criteria

The final inclusion criteria should reflect the original protocol. They may include:

1. Couples presenting for evaluation of infertility.
2. Couples meeting the study's operational definition of infertility.
3. Couples with sufficient clinical records to permit assessment of the specified study variables.

Exclusion criteria

Exclusion criteria should be based on the original protocol and may include incomplete essential clinical records or couples who did not meet the study's eligibility definition.

Data collection

Clinical information was collected from the study proforma and available medical records. The variables of interest included:

- Age of both partners.
- Duration of infertility.
- Primary or secondary infertility.
- Menstrual history and cycle regularity.
- Previous pregnancies and pregnancy outcomes.

- Relevant medical, surgical and reproductive history.
- Clinical examination findings.
- Semen analysis findings.
- Ovulation assessment and hormonal investigations, where performed.
- Pelvic ultrasonography findings.
- Tubal patency assessment, where indicated.
- Final clinical classification of infertility.

Only investigations that were actually performed and documented should be included in the final report.

Clinical evaluation

The clinical evaluation should be described according to the procedures used in the study centre. The assessment generally involves both partners and is guided by their medical and reproductive histories.

The female partner's evaluation may include menstrual and obstetric history, assessment of ovulatory function, pelvic examination and appropriate imaging or laboratory investigations. The male partner's evaluation may include reproductive and medical history, clinical examination when indicated, and semen analysis performed according to the laboratory protocol.

The final classification of infertility should be based on the documented clinical assessment rather than on assumptions from individual symptoms or isolated investigation results.

Operational definitions

Infertility: Failure to achieve pregnancy after 12 months or more of regular, unprotected sexual intercourse, consistent with the study's chosen definition.

Primary infertility: Infertility in a couple in which the female partner has not previously achieved a pregnancy.

Secondary infertility: Infertility in a couple in which the female partner has previously achieved a pregnancy.

Male-factor infertility: Infertility in which an identified male reproductive factor contributes to the couple's difficulty conceiving.

Female-factor infertility: Infertility in which an identified female reproductive factor contributes to the couple's difficulty conceiving.

Combined-factor infertility: Infertility in which clinically relevant factors are identified in both partners.

Unexplained infertility: Infertility for which the standard evaluation does not identify a cause. The investigations required to establish this classification should be specified in accordance with the study protocol.

Statistical analysis

Data should be entered into Microsoft Excel or appropriate statistical software and checked for accuracy and completeness.

Categorical variables should be presented as frequencies and percentages. Continuous variables should be summarised as mean and standard deviation when their distributions are approximately normal, or as median and interquartile range when appropriate.

Associations between categorical variables may be assessed using the chi-square test or Fisher's exact test, depending on the distribution of observations. Appropriate methods may be used to compare continuous variables between groups. A two-sided p-value below 0.05 may be considered statistically significant, with effect estimates and 95% confidence intervals reported where appropriate.

The final statistical tests should be selected after reviewing the actual dataset. No p-values or associations should be reported without performing the corresponding analysis.

Ethical considerations

The study should report approval from the Institutional Ethics Committee, including the approval number, and describe informed consent or any approved waiver in accordance with the original study documentation. Confidentiality of the participants' clinical information should be maintained.

RESULTS

A total of 110 couples attending the Department of Obstetrics and Gynaecology at a tertiary care centre were included in the study conducted between January 2021 and January 2022. The study aimed to describe the clinical profile of couples presenting with infertility.

Distribution according to type of infertility

Of the 110 couples, 40 (36.4%) presented with primary infertility, while 70 (63.6%) had secondary infertility. Secondary infertility accounted for the larger proportion of the study population.

Table 1. Distribution of couples according to type of infertility (N = 110)

Type of infertility	Number of couples (n)	Percentage (%)
Primary infertility	40	36.4
Secondary infertility	70	63.6
Total	110	100.0

Distribution according to identified infertility factors

The available summary recorded a male factor in 50 couples (45.5%) and a female factor in 60 couples (54.5%). These figures represent the reported counts divided by the total study sample.

Table 2. Distribution of reported infertility factors

Infertility factor	Number of couples (n)	Percentage of total sample (%)
Male factor reported	50	45.5
Female factor reported	60	54.5

Note: Combined-factor and unexplained infertility counts were not provided. The two reported factor categories should not be assumed to be mutually exclusive without confirmation from the original records.

Duration of infertility

The supplied summary listed 110 for duration of infertility. However, no duration values or categories were provided. Therefore, the distribution according to duration of infertility could not be calculated. The original records should be reviewed to determine the number of years of infertility and the categories used in the study.

Age distribution

Age-specific data were not available in the supplied summary. Consequently, the mean age, age range and distribution across age groups could not be calculated.

Statistical analysis

The analysis was limited to descriptive statistics because only aggregate counts were available. Frequencies and percentages were calculated for the type of infertility and the reported male and female factors.

Primary infertility accounted for 36.4% of the study population, while secondary infertility accounted for 63.6%. The reported male factor represented 45.5% of the total sample, and the reported female factor represented 54.5%.

No inferential statistical tests were performed because the available data did not include individual-level observations or cross-tabulations suitable for testing associations. Similarly, no conclusions could be drawn regarding the statistical significance of differences between infertility categories or the independent contribution of particular clinical factors.

The available summary was insufficient to calculate the distribution of infertility duration, age-specific patterns, combined-factor infertility or unexplained infertility. These variables should be analysed if the corresponding information is available in the original records.

DISCUSSION

The present study examined the clinical profile of 110 couples attending a tertiary care centre for infertility evaluation over a one-year period. The principal finding was that secondary infertility accounted for a larger proportion of the study population than primary infertility.

Secondary infertility was reported in 70 couples (63.6%), compared with 40 couples (36.4%) with primary infertility. This distribution describes the couples included in the study and suggests that secondary infertility was more frequently represented in this particular hospital sample. However, the finding should not be generalised to the wider population without considering the hospital's referral pattern and the characteristics of couples seeking care.

The reported distribution of infertility factors included a male factor in 50 couples and a female factor in 60 couples. These figures provide an initial description of the clinical findings recorded in the study. However, the interpretation depends on how the original records classified infertility. Some couples may have had contributing factors identified in both partners, while others may have had no identifiable cause following evaluation. Since combined-factor and unexplained infertility counts were not supplied, their distribution cannot be determined.

A comprehensive infertility evaluation requires consideration of both partners. The type and duration of infertility, reproductive history and findings from appropriate investigations are important for understanding the clinical presentation of each couple. Information on age, menstrual history, ovulatory function, tubal status and semen analysis would help provide a more complete description of the study population.

The absence of detailed age and duration data limits further interpretation. These variables are clinically relevant to infertility assessment, but their associations with the type or identified factors of infertility cannot be evaluated from the available summary. Additional statistical testing would require appropriately classified data for the relevant variables.

Despite these limitations, the study provides a preliminary description of the type of infertility and the reported distribution of male and female factors among couples attending the centre. Completion of the clinical profile using the

original records would strengthen the findings and allow a more detailed comparison of the characteristics of couples presenting with primary and secondary infertility.

Limitations

The findings should be interpreted in light of several limitations. The study was conducted at a single tertiary care centre, and its participants may not represent all couples experiencing infertility. Detailed age and duration distributions were unavailable, and counts for combined-factor and unexplained infertility were not supplied. In addition, the available aggregate data did not permit assessment of associations between clinical characteristics and infertility categories.

CONCLUSION

Among the 110 couples included in this study, secondary infertility was more frequently reported than primary infertility, accounting for 63.6% and 36.4% of the sample, respectively. A male factor was reported in 45.5% of couples and a female factor in 54.5%, based on the supplied counts.

These findings provide a preliminary overview of the clinical profile of couples attending the tertiary care centre. A more complete interpretation requires clarification of the infertility-factor classification and review of the original data on age, duration of infertility, combined factors and unexplained infertility. The final conclusions should remain limited to the findings supported by the verified study records.

REFERENCES

1. World Health Organization. Infertility. Geneva: World Health Organization. Available from: <https://www.who.int/news-room/fact-sheets/detail/infertility>
2. Phadke S, et al. The Urological Society of India guidelines for the management of male infertility (Executive Summary). Indian J Urol. 2023. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC9942225/>
3. Singh K, Kumari R, Ranjan A, Bharti G. Analysis of causes and clinical pattern of infertility in couples coming to a tertiary care centre in Bihar, India. Int J Reprod Contracept Obstet Gynecol. 2017. doi:10.18203/2320-1770.ijrcog20172118.
4. World Health Organization. Infertility prevalence estimates, 1990–2021. Geneva: World Health Organization; 2023. Available from: <https://www.who.int/publications/i/item/9789240068315>
5. World Health Organization. Guideline for the prevention, diagnosis and treatment of infertility. Geneva: World Health Organization; 2025. Available from: <https://www.who.int/publications/i/item/9789240115774>