ISSN PRINT 2319 1775 Online 2320 7876

Research paper © 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 11,S Iss 3, Dec 2022

A Socio-Demographic Profile Infertility In Couples Seeking Treatment For Infertility

Dr. Manisha Gupta [1], Dr. Neelima Agarwal [2], Dr. Alpana Agrawal[3*], Dr. Mansha Grover[4]

1. Dr. Manisha Gupta, Professor, Department of Obstetrics and Gynaecology, Santosh Deemed to be University, Ghaziabad.
2. Dr. Neelima Agarwal, Professor, Department of Obstetrics and Gynaecology, Santosh Deemed to be University, Ghaziabad.
3. Dr. Alpana Agrawal, Professor, Department of Obstetrics and Gynaecology, Santosh Deemed to be University, Ghaziabad.
4. Dr. Mansha Grover, PG Student, Final Year

***Dr. Alpana Agrawal - Corresponding Author**

ABSTRACT

Background: Infertility is a global health issue affecting 8 to 12% of couples worldwide. The objective was to study the prevalence and socio-demographic profile of infertility in the study population.

Aim and Objective: To study the socio-demographic profile in couples seeking treatment for infertility

Methodology: It was a hospital based prospective observational study that included all couples attending the out-patient clinic of Obstetrics and Gynaecology department at Santosh medical college and hospital, Ghaziabad. The study was conducted over a period 18 months from January 2019-June 2020. Out of a total of 193 couples who were recruited and investigated, 11 were lost to follow up and 10 patients didn't get fully investigated so the remaining 172 couples who satisfied the inclusion criteria were enrolled in the study.

Result: Pathologies such endometriosis, genital tuberculosis, and pelvic inflammatory disease are among the tubal causes. In our study, 36.36% of the cases had PCOS. Fibroids, endometrial polyps, and uterine abnormalities are uterine factors.

Conclusion: The proportion of primary infertility in our study was higher than the proportion of secondary infertility. Pelvic inflammatory diseases, tubal factors, abortion, and ovulatory dysfunction were the most prevalent causes of female infertility.

Keywords: Infertility, Prevalence, Socio-demographic factors , ovulatory dysfunction, Pelvic inflammatory.

ISSN PRINT 2319 1775 Online 2320 7876

Research paper © 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 11,S Iss 3, Dec 2022

INTRODUCTION

Reproduction is the gift of God to all living creations. God created this world for all his living creations to reproduce fill and flourish it. Infertility is a disease of reproductive health that exerts a profound impact on an estimated 80 million people worldwide [6]. The World Health Organization ranks infertility as the 5th highest generator of disability among the global population of all people under 60 years of age [7] . The clinical definition of infertility is an inability to conceive after 12 months or more of regular unprotected coitus [6]. From the demographer's point of view, infertility is defined as the absence of live birth in a woman of reproductive age (15–49 years) with regular unprotected sexual intercourse for more than two years [8]. Infertility is classified as primary or secondary. Primary infertility is denoted for those women who have not conceived previously. In secondary infertility, there is at least one conception but fails to repeat.

Infertility implies apparent failure of couples to conceive while sterility indicates absolute inability to conceive, for one or more reasons. Normally it is observed that 50% couples conceive within 3 months of regular unprotected intercourse, 75% in 6months and 80-85% conceive within a year.[1] Children are often desired soon after a couple become sexually active usually through marriage and the failure to produce a child especially a son in some societies is readily recognized by the couple themselves as well as by all those around them.[2] Thus, infertility is a global health issue. Infertility varies across regions of the world and is estimated to affect 8 to 12% of couples worldwide.[3] Underlying these numbers exists a core group of couples, estimated to be 3 to 5%, who are infertile due to unknown or unpreventable conditions. The prevalence of infertility above this level suggests preventable or treatable causes. Infertility tends to be highest in countries with high fertility rates, an occurrence termed 'barrenness amid plenty'.[4] The incidence of infertility in any community varies between 5 and 15%.1 Globally, most infertile couples suffer from primary infertility. 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 from 3.7% in Uttar Pradesh, Himachal Pradesh and Maharashtra to 5% in Andhra Pradesh, and 15% in Kashmir. Moreover, the prevalence of primary infertility has also been shown to vary across tribes and castes within the same region in India.4 According to NFHS-3 data of Punjab state women who had primary and secondary infertility constitute 7 and 1.8% respectively of ever married women between 15-49 years. A sizeable 79.5% of ever married women reported to have experienced problems in conceiving for the first time, 11.7% had problems conceiving after still/live birth and 8.2% after undergoing induced abortion. More than 10% of ever married women in Ghaziabad have infertility problem including primary and secondary infertility.[5]

Although infertility is a global issue, the magnitude of infertility is reported worldwide differently. The infertility rate ranges from 5– 30% as reported for different countries [10]. Infertility is a major burden for couples in developing nations, accounting for majority of gynaecological outpatient consultation [9]. The prevalence and pattern of infertility vary

ISSN PRINT 2319 1775 Online 2320 7876

Research paper © 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 11,S Iss 3, Dec 2022

between countries and regions, reflecting the prevalence of preventable conditions, which can lead to infertility.

Available data from African countries, where the prevalence of infertility is thought to be the highest showed a 52% incidence of secondary infertility compared to 23% in Asia [9].Regardless of the widespread consequences of infertility, the provision of infertility medical care is limited in developing countries. To design appropriate treatment modalities, the pooled estimation of infertility proportion and etiologic factors plays a central role. Infertility causes change according to local demographics. There is thus the need to find the causes of infertility in context to local population to aid and direct management strategies accordingly. Hence we conducted the study to find and analyze various etiological factors attributing to infertility in this area.

There are extensive researches on the health-related quality of life of infertile couples, despite the fact that there is a sizable body of literature on infertility. The current study seeks to determine the sociodemographic characteristics of the sample and the prevalence of infertility.

MATERIALS AND METHODS

It was a hospital based prospective observational study that included all couples attending the out-patient clinic of Obstetrics and Gynaecology department at Santosh medical college and hospital, Ghaziabad. The study was conducted over a period 18 months from January 2019-June 2020.

Out of a total of 193 couples who were recruited and investigated, 11 were lost to follow up and 10 patients didn't get fully investigated so the remaining 172 couples who satisfied the inclusion criteria were enrolled in the study. A written informed consent was obtained from all the couples after explaining the purpose of the study and assuring them of the confidentiality before recruitment in the study. Approval from the Ethical Committee of the University was taken.

Both the partners were interrogated together. Demographic characteristics of eligible couples like age, religion, socioeconomic status, occupation, literacy level, residence, type of family were recorded on case information sheet. Relevant information regarding marital life of the couple like duration of married life, duration of infertility, history of cohabitation, coital frequency, history of any coital problem and their knowledge of fertile period was recorded.

The data was collected and entered in the Microsoft excel sheet.Tables were made and percentages (frequencies) of various parameters were calculated and subjected to statistical test using chi-square test, T test wherever applicable. Statistical significance was taken as p value ≤ 0.05.

ISSN PRINT 2319 1775 Online 2320 7876

Research paper © 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 11,S Iss 3, Dec 2022

RESULTS

The study was conducted in Santosh Medical college & Hospital, Ghaziabad on 193 couples. Out of 193 couples who were recruited, 11were lost to follow up and investigations for 10 couples were not complete, hence they were not included in the study. The remaining 172 couples were grouped into cases of primary infertility and secondary infertility.

Table 1: Socio-demographic data distribution of IUCD.

		Total eligible couple in number (%) n=172	
Socio-demographic data distribution		**Female (172)**	**Male (172)**
Age	≤ 20 years	11 (06.39%)	4 (2.32%)
	21-30 years	84 (48.83%)	83 (48.25%)
	31-40 years	69 (40.11%)	64 (37.20%)
	≥ 40 years	08 (04.65%)	21(12.20%)
	MEAN ± SD	27.88 ± 5.18	34.11 ± 4.91
Religion	Hindu	104 (60.46%)	
	Muslim	58 (33.72%)	
	Sikh	7 (04.06%)	
	Christian	3 (01.74%)	
SES	Lower SES	54 (31.39%)	
	Middle SES	55 (31.97%)	
	Upper SES	63 (36.62%)	
Education	Illiterate	67 (38.95%)	45 (26.16%)
	School	43 (25.00%)	43 (25%)
	College	62 (36.04%)	84 (48.84%)
Occupation	Unemployed	74 (43.02%)	21 (12.20%)
	Employed	98 (56.98%)	151 (87.8%)
Type of Family	Nuclear	87 (50.58%)	
	Joint	85 (49.41%)	
Residence	Urban	99 (57.55%)	
	Rural	73 (42.44%)	

In Table 1, The majority in the primary infertility group were Hindus (70.09%). In the secondary infertility group the proportion of Hindu and Muslim patients were almost comparable. The association was statistically significant for Hindus and Muslims in primary and secondary infertility group with p Value of 0.001 and 0.002 respectively. The proportion of patients were almost equally distributed (in terms 1/3) in lower, middle and upper socioeconomic class in both the groups. There was no statistically significant difference in distribution of socioeconomic status in couples with primary and secondary infertility.

ISSN PRINT 2319 1775 Online 2320 7876

Research paper © 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 11,S Iss 3, Dec 2022

42.05% of females with primary infertility had higher education and 55.38% of secondary infertility patients were uneducated. The results were statistically significant for illiterate and higher education class between primary infertility and secondary infertility with p Value of 0.0006 and 0.02 . Majority of patients in primary infertility group (40.18%) and in secondary infertility group (47.69%) were housewives and the difference in the unskilled worker category between the two groups was statistically significant with p value of 0.03. The proportions were nearly equal for both nuclear family and joint family in both the groups and the distribution by type of family between the two groups was not comparable. 71.02% of couples with primary infertility were living in urban areas whereas 64.61% of couples with secondary infertility were residing in rural areas and the p-Value was highly significant with respect to residence in both the groups (p Value= < 0.0001).

Table 2: Types of infertility

Types of infertility	**Number (%)**
Female Infertility	64 (37.21%)
Male Infertility	56 (32.56%)
Combined Infertility	24 (13.95%)
Unexplained Infertility	28 (16.28%)

In Table 2, The prevalence of infertility reported in our study was 5.1%. Amongst all the cases of infertility the prevalence of primary infertility and secondary infertility was 62.21% and 37.79% respectively. Of the total studied cases of infertility, female factors accounted for37.21%, male factors for 32.56%, combined infertility for 13.95% and unexplained infertility for 16.28%. Combined infertility is where a combination of both male and female factors are causative whereas unexplained infertility is defined when no cause for infertility can be identified.

Table 3: Cause of female and male infertility.

		Number (%)
Cause of Female Infertility (n=172)	Tubal Factors	93 (54.54%)
	PCOS	63 (36.36%)
	Uterine Factors	16 (9.1%)
Cause of Male Infertility (n=172)	Abnormal Semen Findings	81 (47.43%)
	Infections	75 (43.58%)
	Others (Coital Problems, H/O Surgery Or Trauma)	16 (8.97%)

ISSN PRINT 2319 1775 Online 2320 7876

Research paper © 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 11,S Iss 3, Dec 2022

In Table 3, Among the various factors of female infertility tubal factors were the leading cause accounting for 54.54% of cases. Tubal factors includes various pathologies like pelvic inflammatory disease, genital tuberculosis, endometriosis etc. PCOS was reported in 36.36% of cases in our study. Uterine factors includes fibroid, endometrial polyp and uterine anomalies. Male factors includes seminal fluid abnormalities as the cause seen in 47.43% of men, infections which includes STDs, tuberculosis and mumps (43.58%), and others like coital problems, any injury caused to genitals (8.97%).

DISCUSSION

Humans instinctively desire to have offspring. Inability to reproduce is a social stigma and can cause painful emotional experiences throughout the life including marital disharmony leading to broken marriages. The aetiology of infertility varies from one region to another and from one population to another and as education is positively correlated with knowledge. Awareness of the risk factors is a prerequisite to positive health behaviour change therefore the study was conducted to ascertain the sociodemographic trends and etiological factors of infertility prevalent locally and manage accordingly.

The prevalence of infertility in our study was 5.1%. The rising numbers of infertile couple presenting to the infertility clinic is well explainable by improved health seeking behaviour and increased awareness that infertility is a treatable gynaecological condition. The pattern of infertility commonly observed in our study is primary infertility. Other studies by Priyanka Sanjay Deshpande et al [15], Kalpana Singh et al [14], Seyedeh Zahra Masoumi et al [13], Ifeanyi E Menuba et al [12] and Taimoora Al Subhi et al [11] . Out of the 172 infertile couples who participated in the study, 62.21% (n= 107) had primary infertility and the remaining 37.79% (n=65) had secondary infertility. The higher prevalence of primary infertility in our study is attributable to higher literacy rates amongst the population under study and majority of cases with primary infertility being concentrated in urban areas.

Very few studies have described about educational status and occupation of women. In the present study the majority of women with primary infertility have had higher education (42.05%) and those with secondary infertility were illiterate (55.38%). Contrary to the fact that in the current study where most of the women with primary infertility had higher education, the majority of infertile women were housewives. But as per the study by Ifeanyi E Menuba et al (28) and Sujata Ganguly et al [9] majority of the women were career women. According to the current study majority of infertile men have had higher education. Many of the infertile men with primary infertility were labourer (30.84%), persons doing office work (30.84%) and factory workers (15.88%). Among unemployed men, businessmen, persons engaged in jobs requiring standing for long and army personnel the rate of secondary infertility was higher i.e.,18.46%, 13.84%, 4.61%and 3.07% respectively. The present study showed that the type of family (nuclear or joint) does not depict any pattern. The rate of primary infertility (71.02%) is more in urban population whereas in rural areas the prevalence of secondary infertility is 64.61%. Sujata Ganguly et al [9]also reported high infertility rate in

ISSN PRINT 2319 1775 Online 2320 7876

Research paper **© 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 11,S Iss 3, Dec 2022**

urban areas. High infertility rate in urban population is likely to be attributed to lifestyle, later age at first marriage.

Overall mean duration of infertility in our study was 5.2 ± 3.08 years with a minimum duration of 1.2 years and a maximum of 14.7 years. The mean duration of primary infertility and secondary infertility at presentation was 4±2.12 years and 6.4±3.64 years (p-Value <0.001).The delay in seeking treatment could be due to multiple reasons like poverty, depression, social stigma, previous visits to quacks, and unawareness of fertility treatment.

CONCLUSION

Reproductive health is a global health issue which has a high prevalence. The inability to have children affects couples worldwide and causes emotional and psychosocial distress in both men and women. Many factors like physiological, genetic, environmental and social contribute to infertility. Global, regional and national estimates of prevalence of and trends in infertility are needed to target prevention and treatment efforts. According to WHO, infertility resulting from sexually transmitted diseases or reproductive tract infections are predominant cause in developing nations.

In our study the proportion of primary infertility was more as compared to the secondary infertility. The commonest causes of female infertility were pelvic inflammatory diseases, tubal factors, abortion, and ovulatory dysfunction. Most of them are all preventable causes. This indicates that the management of infections affecting the reproductive organs and abortion requires attention. Oligospermia were the commonest causes of male-related infertility.

REFERENCES

1. Padubidri VG, Daftary SN. The pathology of conception. Howkins & Bourne Shaw's textbook of gynaecology.15thed. New Delhi: Elsevier, A division of Reed Elsevier India Private Limited; 2011. P.197-220.
2. Balen FB, Inhorn MC. Interpreting infertility: A view from the social sciences. Infertility around the Globe, new thinking of childlessness, gender and reproductive technologies. Berkeley Los Angeles London: University of California press; p.1-32. Available from: http://hrcolumbia.org/gender/papers /vanbaleninhorninterpretinginfertility.pdf.
3. Kumar D. Prevalence of female infertility and its socio-economic factors in tribal communities of central India.Rural and Remote Health. 2007 [cited 2013 Dec 27]; Available at: http://www.rrh.org.au/publishedarticles/ articleprint456.pdf. Accessed 9 Jan 2016.
4. Adamson PC, Krupp K, Freeman AH, Klausner JD, Reingold AL, Madhivanan P. Prevalence & correlates of primary infertility among young women in Mysore, India. Indian J Med Res. 2011;134:440-6.

ISSN PRINT 2319 1775 Online 2320 7876

Research paper © 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 11,S Iss 3, Dec 2022

5. International Institute for Population Sciences (IIPS). District Level Household and Facility Survey (DLHS-3) 2007-08, Punjab. Ministry of Health and Family Welfare; 2010. Available at: http://rchiips.org/pdf/india_report_dlhs-3.pdf. Accessed 9 Jan 2016. Accessed 9 Jan 2016.
6. Mascarenhas MN, Flaxman SR, Boerma T, Vanderpoel S, Stevens GA. National, Regional, and Global Trends in Infertility Prevalence Since 1990: A Systematic Analysis of 277 Health Surveys. PLoS Med 2012 9(12): e1001356. https://doi.org/10.1371/journal.pmed.1001356.
7. Priyanka Sanjay Deshpande, Alka Shanti Prakash Gupta. Causes and prevalence of factors causing infertility in a public health facility. Journal of Human Reproductive Sciences 2019;12(4):287-293.
8. World Health Organization. Reproductive health indicators for global monitoring: guidelines for their generation, interpretation and analysis for global monitoring 2006; Geneva: World Health Organization: 63.
9. Prof. K. Manimekalai, Dr. S. Poulpunitha, Dr. P. Veeramani. Infertility: An alarming situation in India. International Journal of Scientific & Technology Research February 2020; 9(2):2606-2609.
10. Osaikhuwuomwan James A, Osemwenkha Abieyuwa P. Etiological pattern ofinfertility; an appraisal of contemporary trend in the region of Niger-Delta. InternationalJournal of Medical and Health Research Sep 2015; 1(2):75-77.
11. Taimoora Al Subhi, Ruqaiya Nasser Al Jashnmi, Maha Al Khaduri, and Vaidyanathan Gowri. Prevalence of Tubal Obstruction in the Hysterosalpingogram of Women with Primary and Secondary Infertility. J ReprodInfertil 2013; 14(4):214-221.
12. Ifeanyi E Menuba, Emmanuel O Ugwu, Samuel N Obi, Lucky O Lawani, Chidinma I Onwuka.Clinical management and therapeutic outcome of infertile couples in southeast Nigeria. Dove Press journal 2014; 10:763-768.
13. Seyedeh Zahra Masoumi, Parisa Parsa, Nooshin Darvish, Sahar Mokhtari, Mahnaz Yavangi, Ghodratollah Roshanaei. An epidemiologic survey on the causes of infertility in patients referred to infertility center in Fatemieh Hospital in Hamadan, Iran. J Reprod Med 2015; 13(8):513-516.
14. Kalpana Singh, Rekha Kumari, Alok Ranjan, Geetam Bharti. Analysis of causes and clinical pattern of infertility in couples coming to a tertiary care centre in Bihar, India 2017. DOI: http://dx.doi.org/10.18203/2320-1770.ijrcog20172118.
15. Sarkar S, Gupta P. Socio-demographic correlates of women's infertility and treatment seeking behaviour in India. J Reprod Infertility 2016;17:123-32.
16. Ifeanyi E Menuba, Emmanuel O Ugwu, Samuel N Obi, Lucky O Lawani, Chidinma I Onwuka·Clinical management and therapeutic outcome of infertile couples in southeast Nigeria. Dove Press journal 2014; 10:763-768.