EDITORIAL

Infertility: Ongoing Global challenge of new millennium

Kantibhai Naranbhai Sonaliya

Professor & Head, Community Medicine Department, Gujarat Cancer Society Medical College, Hospital & Research Centre, Ahmedabad, Gujarat, India

Abstract | Introduction | Methodology | Results | Conclusion | References | Citation | Tables / Figures

Corresponding Author

Address for Correspondence: Dr Kantibhai Naranbhai Sonaliya, Professor & Head, Community Medicine Department, Gujarat Cancer Society Medical College, Hospital & Research Centre, Ahmedabad, Gujarat, India
E Mail ID: sonu_psm@yahoo.com

Citation

K N Sonaliya. Infertility: Ongoing Global challenge of new millennium. Indian J Comm Health. 2016; 28, 2: 113-115.

Source of Funding: Nil **Conflict of Interest:** None declared

Article Cycle

Received: 15/04/2016; **Revision:** 20/04/2016; **Accepted:** 20/05/2016; **Published:** 30/06/2016

Background

Infertility tends to be the global challenge even in the second decade of the new millennium. Especially in developing countries like India, it is still one the most lethal social evil responsible for a big proportion of cases of psychological disturbances including suicide. Again, recently, few conditions other than communicable or Non-communicable diseases are given place among the categories of significant public health problems like Road Traffic Accidents, Burns, Poisoning, drowning and few more. But, for developing countries like India, the list is incomplete without inclusion of Infertility (there may be several others also). In public health, tuberculosis, leprosy and some other diseases are considered social diseases which produce social stigma for the patients and/or his family members. (1) In same manner, Infertility is an important cause of social stigmatization since centuries for a couple suffering from, especially for woman involved. During a transitory phase of industrialization and socio-economic development, the situation is changed a minute smidgen at urban areas of India but at rural parts, sub-urban or even at urban slums (mainly among pockets of recent migrants) the situation is as same as a few hundred years ago. A female of no religion, caste, social status or higher level of education are barred from some stringent mores related to infertility. Infertile females are still not allowed to take part in so many religious or social ceremonies; on the contrary, they have to face more harassment including domestic violence than their counterparts, who have given birth to the child. Due to social, psychological, economic disturbances, they are forced to take multiple sorts of treatments including religious quacks. So many infertile women are exploited physically and economically also in such weird ways of treatment to gain a pregnancy.

Trend of infertility:

Worldwide prevalence of infertility varies between 8 -12 % among reproductive aged couples. (2) In some parts of the globe including South Asia, sub-Saharan Africa, the Middle East and North Africa, Central and Eastern Europe and Central Asia, the rates of infertility reach upto 30 %. Infertility is estimated to affect as many as 186 million people worldwide. (2) In countries like India and other developing countries where the problem of population explosion remains at the top, issues of infertility also simultaneously grabbing the countries' population. Rates of infertility varied widely among the different states of India viz. 3.7 per cent in Uttar Pradesh, Himachal Pradesh and Maharashtra, to 5 per cent in Andhra Pradesh, and 15 per cent in Kashmir. (3) It is difficult to estimate infertility data precisely as diverse criteria are used for defining the problem. Variations are observed in different studies in durations considered for defining the infertility (1 year, 2 year

or 5 year) and in unit of analysis (woman, couples, people or individual). (2)

Definition:

The clinical definition of infertility given by World Health Organization (WHO) is ‘‘a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse’’, while the WHO’s epidemiologic definition is ‘‘women of reproductive age at risk of becoming pregnant who report unsuccessfully trying for a pregnancy for more than two years.” 4 When a woman is unable to bear a child, either due to the inability to become pregnant or the inability to carry a pregnancy to a live birth following either a previous pregnancy or a previous ability to carry a pregnancy to a live birth, she would be classified as having secondary infertility. (4)

Factors responsible for infertility:

Male factors contribute to one third of infertility cases, while one third contributed by infertile females, remaining one third are combination of male and female. (5) Poly-cystic ovarian syndrome (PCOS), tuberculosis and sexually transmitted infections (STIs) are common causes of infertility in general. Post-partum and post abortion sepsis are additional factors leading to secondary infertility. In developing countries, commonest preventable causes are STIs. (5) Pelvic inflammatory disease (PID) occurring as a consequence of STI in 70 per cent of all cases which in turn lead to tubal damage is also an important cause of infertility. Various factors other than medical causes, responsible for infertility are also identified. They include age of female, higher educational level, delayed marriages, higher family income and working women. (6)

Females, who went for higher education and later on, for advancement in their carrier, tend to delay the marriages as well as their first pregnancies. In such instances with advanced age of female, there is higher incidence of infertility. Possible factors behind infertility among older females are diminished ovarian reserve, higher body mass index (BMI) (BMI is known to be increased with age), decreased coital frequency and other lifestyle factors, such as smoking and stress. 7 Success rate of infertility treatment also tends to be lower among older women.

Psycho-social impact:

Although males are also responsible for infertility in one third of cases, social pressure mostly rests on the women. Quality of life of infertile women is often lower than their partners. Moreover, emotional problems arising during and after infertility treatment are more commonly found among women than their partners. (1) As per the study carried out by Huppelschoten *et al* (1) infertile women were significantly feeling anxious, depressed and helpless as compared to their partners. In resource poor countries infertility remains important reproductive health issue.

Treatment aspects:

Not all infertile women seek medical assistance. As per findings of one study, 44 % infertile women ever sought infertility services in their life time. (8) For diagnosing unexplained infertility, meticulous as well as time-efficient examination of the infertile couple is required. Diagnostic approach to infertility includes semen analysis, ovulation testing, assessment of ovarian reserve, diagnostic laparoscopy and/or hysteroscopy and imaging for assessment of tubal patency and other uterine factors. Various treatment modalities available for management of infertility are lifestyle modification, surgical laparoscopy, ovulation induction along with intra uterine insemination, and last but not the least, In vitro fertilization (IVF) with or without Intra cytoplasmic sperm injection (ICSI). Nowadays, in vitro fertilization technique is turning to be the boon for the infertile couples. The technique was invented by Robert Geoffrey Edwards. Nobel Prize was awarded to him in 2010 for invention of In vitro fertilization (IVF) therapy. In 1978 first child was born as result of IVF treatment. (2) Globally, approximately five million children have been born as a result of IVF.

Cost of treatment:

Main pitfall behind IVF is its cost. Not all can afford IVF treatment. Also the cost of treatment varies widely across the country. Although the cost is lower as compared with other developed countries in India, it is still out of reach for the majority of infertile couples. IVF cost in India begins from $2000 (approximately Rs. 90000). In United States the cost of treatment reaches upto $20,000 (approximately Rs 9,00,000). Surrogacy arrangement including IVF in India cost approximately $11,000 (Rs.5,00,000)

whereas in US surrogacy alone cost $15,000 (approximately Rs 6,75,000). (9) In United Kingdom, IVF cycle cost £7,000 (approximately Rs.7,00,000) and surrogacy cost £10,000 (approximately Rs. 7,00,000).9 The number of IVF cycles needed will vary by patient. Wide variation is also observed in the cost of drugs used for treatment of infertility. 9 Several factors play a role in the success of IVF treatments, including, age of the patient, degree of infertility and quality of the embryo and semen. Some women will conceive after single IVF cycle, while other women may need to undergo multiple IVF cycles. Cost of each additional IVF cycle has been estimated at about $7,000. Unfortunately, some women are unable to conceive even after undergoing multiple IVF cycles. Also the side effects of infertility treatments like ectopic pregnancies and Ovarian Hyper Stimulation Syndrome carry the risk to the women. Chances of multiple births are commonly found among women undergoing infertility treatment which itself is serious menace to the health of women. (9)

Conclusion

Integrated and holistic approach is required for managing the issue of infertility. Treatment options have to be based on characteristics like age of an individual, efficacy of treatment as well as consideration of cost. Prevention of Infertility requires large scale modification of life style among couples. Females who tend to delay the first pregnancy out of their carrier oriented nature should be counseled regarding pitfalls of delayed pregnancies. Government has already increased the duration of maternity leave benefit up to 6 months duration, but still some private firms permit the leaves for only 3 months. So there is a need to reform the rules regarding maternity benefits among private sectors, also. Psychological support could be of help in reducing the stress and it can also be effective in improving pregnancy outcome in the couples undergoing infertility treatment. There is strong need for proper legislation regarding IVF treatment and surrogacy related concerns in our country. The exploitation of psycho-socially and economically disturbed women by any personnel should be seriously dealt with

References

1. Huppelschoten AG, van Dongen AJ, Verhaak CM, Smeenk JM, Kremer JA, Nelen WL. Differences in quality of life and emotional status between infertile women and their partners. Hum Reprod. 2013 Aug;28(8):2168-76. doi: 10.1093/humrep/det239. Epub 2013 Jun 7. PubMed PMID: 23748487.[PubMed]
2. Inhorn M. and Patrizion P. Infertility around the globe: new thinking on gender, reproductive technologies and global movements in the 21st century. Human Reproduction Update 2015; 21(4): 411–426
3. 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 Oct;134:440-6. PubMed PMID: 22089604; PubMed Central PMCID: PMC3237240.[PubMed]
4. World health organization report: Sexual and reproductive health. http://www.who.int/reproductivehealth/topics/infertility/definitions/en/ (Last access on 30th June 2016)
5. Serour GI. Reproductive and sexual health rights: 15 years after the International Conference on Population and Development. Int J Gynaecol Obstet. 2009 Aug;106(2):99-101. doi: 10.1016/j.ijgo.2009.03.041. Epub 2009 May 9. PubMed PMID: 19428006.[PubMed]
6. Ganguly S, Unisa S. Trends of Infertility and Childlessness in India: Findings from NFHS Data. Facts Views Vis Obgyn. 2010;2(2):131-8. PubMed PMID: 25300753; PubMed Central PMCID: PMC4188020.[PubMed]
7. Homan GF, Davies M, Norman R. The impact of lifestyle factors on reproductive performance in the general population and those undergoing infertility treatment: a review. Hum Reprod Update. 2007 May-Jun;13(3):209-23. Epub 2007 Jan 5. Review. PubMed PMID: 17208948.[PubMed].
8. Fidler AT, Bernstein J. Infertility: from a personal to a public health problem. Public Health Rep. 1999 Nov-Dec;114(6):494-511. Review. PubMed PMID: 10670617; PubMed Central PMCID: PMC1308532.[PubMed]
9. Sarojini N, Marwah V, Shenoi A. Globalisation of birth markets: a case study of assisted reproductive technologies in India. Global Health. 2011 Aug 12;7:27. doi: 10.1186/1744-8603-7-27. PubMed PMID: 21838866; PubMed Central PMCID: PMC3169454.[PubMed].