CHAPTER - III

INFERTILITY – AN OVERVIEW

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3.1 INTRODUCTION

Infertility is a significant issue for women and couples and affects more than 80 million people worldwide. In general, one in 10 couples experience primary or secondary infertility, but the infertility rate varies amongst countries from 5% to 30%. Infertile couples were found high in developing countries (Vayena et. al., 2001). In recent years, more attention has been paid to treat infertility and to maintain the reproduction level in developing countries (Becker 2000; Greil 1991; Inhorn 1994, 1996; Inhorn and Balen 2002). Many studies emphasized the importance of taking into account local cultural, social, economic and political considerations of childlessness (Inhorn 2002).

Social scientists exploring infertility have proposed a move towards creating political and cultural conditions. Availability of basic infertility services for women to fulfil their reproductive preferences have argued to plan consistent set of policies to manage the misuse of hi-tech assisted reproductive technologies (ARTs) (Becker 2000; Inhorn 1996; Greil 1991; Sandelowsk 1993). The increasing medicalization of infertility should be addressed the safety, treatment choices and legal and medical ethics with regard to reproductive technologies (Lingam 1995). Having a clear understanding of the field’s identity, stages of development and image may help examine and re-examine the core values, assumptions and perceptions of the scholarly domain to ensure that it progresses towards specific goals. The purpose of this study is to conduct the scientometric analysis on infertility literature.
3.2 DEFINITIONS OF INFERTILITY

Infertility 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.” (WHO-ICMART glossary).

3.3 DETERMINANTS OF INFERTILITY

Infertility is characterized by the failure to conceive or carry pregnancy to term after 12 months of unprotected intercourse. The determinants of infertility are many in terms of socio, cultural, behavioural and bio-medical. Sexually transmitted infections or unsafe management of abortion and delivery was found as the dominant cause of infertility among women in Asia. Occupational hazards like exposure to mercury, textile dyes and lead for women and organochlorins for male infertility. Tubal infertility in women in industrialized societies is often the outcome of the unidentified or undiagnosed sexually transmitted infections. (Healy et. al., 1994). Severe malnutrition, anaemia, lack of information, side-effects of contraceptive use and lifestyle changes are also observed to affect infertility. Levels of infertility may also increase as the age of marriage rises. Age at first marriage in India has risen steadily in the last three decades. Socio-economic changes, improvements in education, urbanization and expansion of work opportunities are the main factors for this rise. (Das and Dey, 1998).

3.4 EPIDEMIOLOGY OF INFERTILITY

At the time of first census taken in United States in 1790, the crude birth rate was 55 per 1000 population and 14.1 per 1000 population in 2001 representing nearly a 75% decline over the past 200 plus years. The general fertility rate (births per 1000 women aged 15-44) in 2001 was 65.3; 8% lower than in 1990, 25% lower than in 1970 and nearly 40% lower than in 1950. Greater focus on education and careers among
women has triggered other trends in modern society. Societal changes like mean age of marriage, mean age of first live birth, mean age of subsequent live birth and divorces has been increased over the years and this trend delayed childbearing among women. Increasing age at first birth and declining in fertility rates have combined to result in fewer births per woman.

Studies of fertility in the Hutterite (North America) population indicated that the decline in fertility in advancing age. Whereas the overall infertility rate will increases as the age of women advances. Variations in infertility rates among natural populations likely reflect variations in socio-economic conditions at different times and in different places. National survey of family growth reported that 14% of fertility rate in United States in married women aged 15 - 44. The infertility rate has remained relatively stable over the past 30 years although the proportion of couples without children has risen reflecting a trend to do childbearing.

Data from the Office of National Statistics (ONS, 2004) reported that childbearing in later years is an increasing trend. The chance of conceiving declines with age (Rowe, 2006) and conceiving in later years lead to obstetric complications (Hansen et al., 1986). The total fertility rate was 2.43 children per women in 1970 and has currently declined to 1.80 children per women. Women who wait till their thirties to have a family are also increased. The average UK woman has her first child at 29.5 years compared to 26.3 years three decades ago (ONS, 2004). As the age advances for a woman to have children, many find primary or secondary infertility. Awareness must be created for women of childbearing age – not only that fertility rate declines at advancing age but also, diet plays an important role upon fertility status.

3.5 CAUSES OF INFERTILITY
Infertility is measured in terms of the duration of exposure to the chance of conceiving. Infertility can be attributed primarily to male factors in 25% and female factors in 58% and is unexplained in about 17% of couples. Identifiable factors affecting female infertility includes hormonal or endocrine disturbances, tubal factors, acquired non-tubal factors, sexual dysfunction and congenital abnormalities. Endocrine disturbances and tubal factors were the most well-known factors for infertility. But one third of the infertile couples attending clinics have unidentifiable factors in female infertility. Sexual dysfunction, congenital abnormalities and acquired non-tubal factors were less accounted for infertility. Untreated reproductive tract infections such as pelvic inflammatory disease, sexually transmitted diseases, and botched or repeated abortions are correlated to female infertility. The commonest cause of male infertility is oligozoospermia (semen contains very few spermatozoa), resulting from infectious diseases, congenital anomalies, endocrine disturbances, immunological factors and varicocele, or idiopathic infertility.

WHO study reported that almost of all men globally and 58% of Asian men have no demonstrable cause and another 25% (23% in Asia) have an abnormal semen analysis without etiological factors. Varicocele and infectious factors were the most identifiable factors for male infertility. It is important at the outset to acknowledge that age of the female partner is the single most important determinant of fertility. The cumulative conception rate is 60% at 6 months and 85% at a year for a woman up to and including the age of 25. At the same time, when the female partner is 35 years of age or older, the conception rates are 60% at a year and 85 % at 2 years.

According to the UK government statistical services, there were a steadily rising proportion of women in the UK who have never had a child. 13% of woman who were
born in 1948 were childless in the age of 25 and it had almost doubled for women born 10 years later. There can be seen an increase of seeking medical attention for infertility which considered as a problem and due to secular change in family planning. Among married women, the mean age of mothers at first birth the UK was 28 years in 1993 as opposed to 25 years in 1983. In France, the proportion of women giving birth after the age of 30 has doubled since 1972; in USA between the years 1980 – 1986, the rate of primigravidae between 35 - 39 years of age increased by 81% and it doubled for women over the age of 39. Another important change seems to be occurred in several European countries and in USA was a decline in male fertility. Environmental pollution arising from estrogenic industrial waste was thought the most likely cause of male infertility. All these changes seemed as a feature of demography of many first world countries.

3.6 SOCIO, CULTURAL AND PSYCHOLOGICAL ISSUES

The experience of infertility can be very stressful, unexpected, life changing thing that influences the relationship of a couples (Hinton et al., 2010), leaving them with a sense of loss and grief (Lechner et al., 2007). Even the diagnosis and treatment of infertility is often described as greatest stress compare to other stressors such as divorce, bereavement and chronic illness (Benyamini et al., 2009). Medically viewed and estimated that around 80 million people worldwide are affected by fertility problems (WHO, 2002). Even success of infertility treatment can come at great emotional cost. Infertile women experience psychological distress similar to patients with grave medical conditions, such as cancer or those going through cardiac rehabilitation (Domar et. al., 1993).
Infertility in developing countries extends beyond the loss of human potential and unrealized self. The experience of infertility causes economic adversity, dishonor and blame, social isolation and alienation, guiltiness, fear, loss of social status, helplessness and violence. Many families in developing countries depend on children for economic support and survival, especially in their old age. In some communities, infertile people are perceived to be unlucky or the source of evil, or they become the object of public humiliation and shame. Sometimes, infertile committed suicide over the torturous life and mental agony caused by infertility and often denied proper death rites. Childless women are generally blamed for their infertility in spite of male factor contributes to infertility around the world. Motherhood is often considered for women to enhance their status within the family and community in developing countries.

3.7 MANAGEMENT OF INFERTILITY

In USA (2002), infertile who looked into reproductive assistance was 15% among 62 million women of reproductive age (15 - 44 yrs), 1.2 million (2%) has infertility related medical appointment; 7.4% of women in the survey were infertile. In 2005, there were 14 states that mandated partial / complete assistive reproductive technologies (ART) coverage is included in insurance packages. Until recently, insurance coverage for ART / infertility services has not available to couples in many countries. Counseling of the infertile couples is a fundamental pace in infertility management. Even the infertility clinics are primarily concerned to investigation and treatment may not have enough time to look into emotional factors associated with the infertility which such omission is generally unintentional. Still it cannot be denied that ignoring emotional issues may create a vicious cycle, delay the response to specific
therapy and aggravate the distress of the infertile couples. Emotional factors may play a significant role in the etiology of infertility.

As infertility is more common, obviously infertile population has been increased in infertility clinics all over the world; but all clinics may not be equipped enough with the latest technology, professional experts crucial to offer the best possible treatment. India is widely regarded as one of the scientifically and technologically most advanced country of the world. Therefore there is a massive promotion for new medical techniques such as Assistive Reproductive Technologies (ART) to treat infertility in India. In recent years, increasing publicity about infertility and reproductive technologies which has helped some way to reduce both the stigma and the reluctance of couples to seek advice. In India, most infertile couples are hesitated to accept adoption as an alternative procedure, even though they cannot afford the medical expenses to treat infertility.

3.8 INFERTILITY RESEARCH IN INDIAN SCENARIO

Indian civilization is one of the most ancient and the emphasis of having children in the family has been paramount. Having a child has been of the most imperative not only to the couple but also to their family. Socially a stigma is attached to a couple if the couple does not have a child. Economically, children have been a couple’s best social security system for old-age and even today it continued to be so in the country. But some 15% of couples in India as elsewhere are infertile. With the population of India at one billion, the number of infertile couples could be well over 20 million much more than the entire population of Australia and New Zealand.

International Institute of Population Sciences reported that infertility was growing at an alarming rate, especially in metros. It has been estimated that globally, 60
- 80 million couples suffering from infertility, about 15 - 20 million are in India alone. Likewise, experts also pointed out an alarming growth of infertility among young Indian woman over the last decade. The rising statistics is due to social changes takes place over the past decade and a half. And even today, most women are unaware of the exponential decline of fertility after the age of 35. (Isalkar, U, 2012).

There is no direct measures to identify the levels or patterns of infertility in India, and in South Asia too, and comes largely from measures of childlessness drawn from censuses and surveys, using varying reference periods, and even that little available information is not necessarily reliable. The 1981 census of India estimated infertility to be in the range of 4-6 percent. Similarly, WFS and other sources estimates similar rates of infertility in other areas in South Asia. Even a village level Study in Maharashtra observed an infertility rate of 6%. Estimates for other regions of the world also fall, by and large, into the 3%-6 %. In contrast, estimates for Africa are higher (around 10%). The recent NFHS, estimated childlessness as 2.4 percent of currently married women over 40 in India.

3.9 NEED FOR INFERTILITY STUDIES

The problem of infertility is a rising issue in India and it needs to be uncovered. Little is known about the extent of childlessness and treatment seeking behavior of childless women. In social science researches in South Asia, the study related to determinants and correlates of high fertility have been focused rather than on the levels, causes and consequences of infertility. The information available about levels of infertility comes as a by-product of information on fertility rather than from research specifically designed to assess the context of infertility.
Infertility has been relatively ignored as both a health problem and a subject for social science research in South Asia. Moreover, in pronatalist cultures of India and South Asia, the consequences of infertility for women can be distressing. Regional and cultural variations which directly contribute to infertility underscore the need for culture specific studies of the socio cultural and behavioural connectivity and determinants of infertility. Effective prevention and management of infertility is a crucial component of holistic approach to women’s reproductive health and their physical and mental well-being. Moreover infertile couples of lower socio economic group likely to be suffer the most. However infertility has been mostly ignored by research and making policy in India. Government policies in India have largely ignored the issues of infertility. The Indian National Population Policy mentioned it in the perspective of providing information, counselling and regular supply of medicine but only for tribal communities, relocated and migrant populations. (MOHFW, 2000).

Asian women are less likely to express interest in infertility research. Less interest among Asians was seen both in those born within and outside the US. Asians are very conservative and showing unwillingness to be a research participant. Traditions, customs, religious and cultural values, beliefs in the contributions of luck of Asian women may preclude their research participation. Availability, accessibility and affordability of infertility care among Asian patients may further decline the number of potentially eligible Asian women in their research participation. Lack of research participation limits our ability to investigate the factors responsible for the disparities seen in outcomes of clinical pregnancies of Asian women during ART.

The rapid growth of infertility clinics can be seen all over the country in the last decade as we have no law that would require compulsory registration of such clinics.
While India has no doubt, many infertility clinics the facilities and quality of this would match with similar clinics anywhere else in the world. Research is the most vital source in all areas of decision / policy making at micro and macro levels in knowledge based society, is definitely undeniable. Identifying the research priorities in this field and encouraging scientists to follow such priorities could provide the necessary data for formulating micro and macro policies and making proper decisions for all theoretical and practical issues in infertility. Thus, the present study will help to identify various bibliometric and scientometric aspects of the research output on infertility. Thereby, this kind of study will make the public, medical, policy makers, policy planners, stakeholders, consumers and patients to understand the policy awareness, to reduce the burden of infertility in nation.
REFERENCES


