

AN ECONOMIC ANALYSIS OF SOCIO-ECONOMIC VARIABLES AND TREATMENT COST OF INFERTILITY

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Abstract

The purpose of this study is to evaluate the relativity between some of socio-economic factors and total cost spent on infertility treatment. The study was conducted in the Clinics of Coimbatore, among 100 infertile women matched by age, residential area, and occupation from September 2014 to January 2015. Data were collected by face to face interviews using a structured questionnaire. Female infertility is associated with various social correlates leading to more stress and anxiety among infertile women and to further complicating the problem of infertility. Thus, a correction of women's basic attitudes and the cost spent to infertility treatment should be an essential component of any program of infertility management.

Keywords: *socio-economic factors, infertility treatment, stress and anxiety, exposure to pregnancy, Secondary infertility, WHO*

Introduction

WHO defines infertility as 'failure to conceive despite two years of cohabitation and exposure to pregnancy'; many studies adopt their own definitions. Some studies use childlessness as a definition (women with no live birth) based on various reference periods, ranging from one to five years, making comparison difficult. Secondary infertility is defined as the failure to conceive following a previous pregnancy despite cohabitation and exposure to pregnancy (in the absence of contraception, breastfeeding or postpartum amenorrhea) (WHO, 1991), and leaves a longer term residual incidence of infertility of 10-15% (Jones Wr. 1999). However, the chance to conceive is reduced almost twofold after the age of 35 years. Epidemiological data suggest that approximately 80 million people worldwide are infertile (Nachtigall RD,2006). WHO indicated the highest incidence in some regions of Central Africa where the infertility rate may reach 50 %, compared to 20% in the Eastern Mediterranean region, and 11% in the developed world. Although infertility is a problem among both men and women, about one-third of infertility cases are caused exclusively by women's problems, whereas one third are due to men and the rest are attributed to a mixture of both or by problems unknown. Infertility today is no longer constricted to be a female problem. In fact the term infertility is a broad term often loosely used. It actually refers to a range of disorders found both in males and females which contributes to a childless couple. WHO (World Health Organization) defines infertility as failure to conceive despite two years of cohabitation and exposure to pregnancy.

Female Infertility

In a population where there are more negative social, cultural and emotional repercussions for childless women than for any other non-life-threatening condition, it can be assumed that almost all cases of childlessness found are due to physiological or biological factors. In India, women suffer other consequences from infertility too - children are the main source of prestige and security for women in their husbands' homes. For a substantial minority of women in this country greater marital disharmony, possibly greater physical violence, the decision of their husbands to take a second wife and the threat of divorce are also evident. There is little apparent social support for infertile women - they are isolated and feel ashamed. Thus, infertility has major implications for women's lives, in a setting where fertility is so highly prized. (Sayeed Unisa, 1999, pp.54-64). There have been social pressures and expectations for women to procreate, and women are often blamed for infertility (Guntupalli & Chenchelguden 2004; Inhorn 2003; Papreen et al 2000). Childless women may encounter a gamut of unfavorable treatments from their society. For instance women might be expelled from the husband's house either by the husband himself or by his family; their husbands could be encouraged to take other wives. In some cases childless women have reportedly been excluded from some important activities and celebrations (Orji, Kuti, & Fasubaa 2002). Children are of such importance that in traditional society the inability to bear children is considered a great tragedy, and the woman who fails to bear children suffers humiliation and sometimes ridicule or abuse (Nukunya 2003).

Infertility can have a serious impact on both the psychological well-being and the social status of women in the developing world. As a result of their infertile status, they suffer physical, and mental abuse, neglect abandonment, economic deprivation and social; ostracism as well as exclusion from certain social activities and traditional ceremonies. This becomes particularly traumatic with previous pregnancies that end in abortions, stillbirths and neonatal/infant deaths or in live births of daughter only. A survey conducted in Coimbatore city revealed that the majority of women felt stigmatized, and those higher levels of education. Some findings from the qualitative analysis concerned a major difference between primary and secondary infertility in terms of its implications for the affected women.

Data and Methods

An attempt has been made in this research to analyse socio-economic factors and total cost spent on infertility treatment among married infertile women. The study was conducted in the Clinics of Coimbatore, among 100 infertile women undergoing treatment in different fertility centers in Coimbatore city limits matched by age, residential area, and

occupation from September 2014 to January 2015. Data were collected by face to face interviews using a structured questionnaire.

Result and Discussion

As women age, fertility declines due to normal, age-related changes that occur in the ovaries. Unlike men, who continue to produce sperm throughout their lives, a woman is born with all the egg-containing follicles in her ovaries that she will ever have. At birth there are about one million follicles. By puberty that number will have dropped to about 300,000. Of the follicles remaining at puberty, only about 300 will be ovulated during the reproductive years. Women do not remain fertile until menopause. The average age for menopause is 51, but most women become unable to have a successful pregnancy sometime in their mid-40s. These percentages are true for natural conception as well as conception using fertility treatment, including in vitro fertilization (IVF). Although stories in the news media may lead women and their partners to believe that they will be able to use fertility treatments such as IVF to get pregnant, a woman's age affects the success rates of infertility treatments. The age-related loss of female fertility happens because both the quality and the quantity of eggs gradually decline and women who are infertile, as their age increases lose their hope in spending for infertility treatment which is described in the following table 1

Table 1: Age Category * Total cost incurred Cross Tabulations

Total cost Spent for Infertility Treatment (In Rs.)					
	Below 2,00,000	2,00,001- 4,00,000	4,00,001- 6,00,000	6,00,001- 8,00,000	Total
Age					
Below 20	2	0	0	0	2
21-30	39	11	0	0	50
31-40	28	9	3	0	40
Above 40	5	1	1	1	8
Total	74	21	4	1	100

Source: Primary Data

It is clear from the Table 1 that women aged from 21 to 30 years spent more on infertility i.e.50, next to them 31 to 40 years aged women (40 infertile) spent more for infertility treatment, where in the study there were only 5 infertile women who aged above 40 years and to our surprise there were two women who aged below 20 were under the infertility treatment. Most of them spent below 2,00,000 for their treatment and other few spent between Rs.2,00,000 to 4,00,000 for their treatment. Women were spending according to their savings and family income.

Infertility has much stronger negative consequences in developing countries compared with those in Western societies. In Coimbatore where, traditionally having

children is mandatory in terms of family happiness, this problem acquires crucial social actuality. However, we could find no consequences study in Coimbatore on the various social correlates and cost incurred for female infertility. Assessments of social consequences, including attitude to family income, family, cost of treatment, age etc. plays important roles in understanding the problems of female infertility and problem for female in getting rid of infertility on a wider scale. Thus the purpose of this study was to determine the social economic correlates and cost incurred for female infertility in Coimbatore.

Access to fertility care and treatment is also a major contribution factor to the success of assisted reproductive outcomes. A clear association exists between fertility service use, especially advanced reproductive technology, and higher socioeconomic status. Infertility exacts an enormous toll on both the affected individuals and on society. Women in their most active and productive years are distracted by the physical, financial and emotional hardships of this problem, for infertile women infertility is more than a disease, it is a devastating life crisis which can greatly impact the women's general health, marriage, family relationships, job performance and social interactions. Added to the emotional and physical toll exacted by infertility is the financial burden carried by some women seeking treatment for their disease.

Table 2: Socio Economic variables and Total Cost incurred for Treatment.

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
Total value of the asset	Between Groups	10.641	3	3.547	3.389	0.022
	Within Groups	92.099	88	1.047		
	Total	102.739	91			
Expenditure of the family	Between Groups	2.817	3	.939	3.964	0.010
	Within Groups	22.743	96	.237		
	Total	25.560	99			
Monthly Income of the family	Between Groups	13.559	3	4.520	8.001	0.000
	Within Groups	54.231	96	.565		
	Total	67.790	99			
Marriage Duration	Between Groups	2.788	3	.929	11.480	0.000
	Within Groups	7.772	96	.081		
	Total	10.560	99			
Age	Between Groups	4.365	3	1.455	3.451	0.020
	Within Groups	40.475	96	.422		
	Total	44.840	99			

The ANOVA table explains statistical significance model. This is significant at one percent level.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_n X_n + e$$

Y=Total cost spent on infertility treatment

X=The socio-economic characteristics.

E=a random error term

The ANOVA table estimates the determinants of the total expenditure on infertile treatment and socio economic variables. The results indicate that the total value of the asset owned by the respondent was significant (**0.022**); the significant level of nativity is five percent level. The level of expenditure (**0.01**) is also influencing the total expenditure at one percent level, the family monthly income is significant to total cost by **0.00** that implies that the patient with certain good income spent at their level for infertility treatment, Age was significant at (**0.020**) 5 per cent level influencing cost spent for treatment and finally marriage duration of the patients was also one of the significant factor that influences total cost by **0.000** that is more significant.

Conclusion

In patriarchal settings such as India where a woman's identity is determined by her ability to bear children, particularly sons, infertility can have far reaching consequences. Women tend to seek care from a variety of providers, including unqualified practitioners, further increasing their vulnerability. Prevention and treatment of infertility is possible in low resource settings, and reproductive health programmes can be an entry point for women with infertility problems, however, there is a need to enhance existing services and improve the quality of care for infertile women. It is clear from the above paragraphs that infertility has emerged as a serious health problem in India.

The mushrooming of "infertility clinics" is a good indication of people looking for solutions, though expensive. The public health care system in India largely ignored this problem so far. With increasing incidences of infertility and modern treatment facilities, more attention is needed to address this emerging health problem. Government also needs to act to effectively regulate the functioning of "infertility clinics", run by both qualified and unqualified practitioners. Available evidence, although scant, documents that infertility is associated with a range of economic disadvantages resulting at times in outright deprivation. It also indicates that patients who access care are at risk of catastrophic expenditure even for basic, traditional or ineffective medical interventions. Catastrophic payment for health has been referred to as the 'Medical Poverty Trap' (Whitehead et al., 2001). It would appear that for many women in developing countries infertility is a 'Medical and Social Poverty Trap'. While some of the social aspects of this economic hardship are outside the remit of health systems, the overall lack of quality infertility care and the absence of financial risk protection against infertility-related Out-of-Pocket -Payment (Oopp) cannot be over-looked. Indeed, it may be seen as a severe infringement of women's right to reproductive health.

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