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PREVALENCE AND CAUSES OF INFERTILITY AMONG WOMEN OF JAMMU AND KASHMIR

¹Uzma Amin, ²Nilofer Khan and ³Dr. Imtiyaz Ali Bhat

^{1,2}Institute of Home Science, University of Kashmir, Srinagar, India

³Department of Community Medicines, Integral Institute of Medical Sciences and Research, Dasauli Kursi Road Lucknow, India

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ABSTRACT

The problem of infertility has not given its due attention in India because it is not a life threatening condition. Infertility is a life crisis with invisible losses and its consequences are manifold. The study was done to find out the prevalence and causes of infertility in ethnic population of J and K. The study was carried out in the hospital settings. The finding of the study indicates that Jammu region shows highest prevalence of infertility rate followed by Kashmir region, whereas Ladakh region shows the lowest prevalence. The causes of infertility are various and in some instances, a combination of factors may exist. Identifying the causes of infertility is the main key which will then lead to the administration of the appropriate treatment. Majority (45.5%) of the infertile females were diagnosed by reproductive organ pathology, followed by endocrine disorders (31%), unexpected causes (22%), menstrual disorders (1.25%) and other causes (0.25%) in the regions of Jammu and Kashmir. The study also shows that Jammu region shows highest percentage (41.7%) of endocrine disorders whereas Kashmir shows highest percentage (52.0%) of reproductive organ pathology and Ladakh region shows (40.0%) of unexpected causes.

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INTRODUCTION

Infertility is defined as the inability to conceive following 12–24 months of exposure to pregnancy (Templeton *et al.*, 1990). In defining infertility, the medical literature makes a distinction between a clinical/epidemiological versus a demographic approach. According to the International Committee for Monitoring Assisted Reproductive Technology and the World Health Organization, 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’ (Zegers-Hochschild *et al.*, 2009). Demographers, however, define infertility as the absence of a live birth in a sexually active non-contraception woman (Larsen, 2005). Infertility is a disease of the reproductive system which affects both men and women with almost equal frequency (American Society of Reproductive Medicine.org. (1997) Infertility is a world-wide problem affecting people of all communities, though the cause and magnitude may vary with geographical location and socio-

economic status. Approximately 8-10% of couples within the reproductive age group present for medical assessment, generally following two years of failed efforts to reproduce (WHO, 1992). It is estimated that globally between 60-80 million couples suffer from infertility every year (WHO, 1996), of which probably between 15- 20 million are in India alone. The magnitude of the problem calls for urgent action, particularly when in the majority of cases the infertility is avoidable. Infertility affects relatively large number of couples both global as well as in India. In the present study an effort has been made to find out the common factors responsible for primary infertility in females to detect any anatomical defects of the genital tract responsible for the same in women in this part of the country by simple diagnostic procedures that are available in many settings. total 66 women were studied in this series over a span of one year. (Sumita *et al.*, 2007)

Prevalence

Global estimates suggest that nearly 72.4 million couples experience fertility problems (Boivin *et al.*, 2007). Accurate knowledge about the prevalence of infertility, awareness of secular trends and geographical differences are essential for

***Corresponding author: Uzma Amin**

Institute of Home Science, University of Kashmir, Srinagar, India

providers of reproductive health care as well as policy-makers. Critical to establishing prevalence is a clear, unambiguous definition of the condition and an efficient instrument for making a diagnosis. In 2002, over 186 million women worldwide experienced problems conceiving. This figure is higher than previous estimates, suggesting a global rise in the prevalence of infertility (Farley, 1986, Rutstein and Shah, 2004). At the turn of the last century projections of infertility in the United States indicated a sharp upward trend over the next two decades (Stephen and Chandra, 1998) while data from Europe suggested that increasing numbers of couples were seeking assisted reproduction (Lutz and Qiang, 2002). The incidence of infertility is unknown; prevalence varies worldwide. The prevalence of "current" infertility ranges from 3.6% to 14-3% and "lifetime" infertility from 12.5% to 33.6%. (Hirsh and Mosher, 1987) According to data from the National Survey of Family Growth (NSFG), 52% of women with primary infertility and 22% with secondary infertility reported seeking medical services. These figures include women who were unable to become pregnant or carry a pregnancy to term. Women who sought care for primary infertility were more likely to have used contraception than women who did not seek care (Schmidt and Munster, 1995).

Causes of infertility

Infertility has a wide range of causes stemming from three general sources: physiological dysfunctions, preventable causes, and unexplained issues. Anatomical, genetic, endocrinological and immunological problems can all cause or contribute to infertility. (Daar and Merali, 2001) Physiological causes of female infertility include: tubal blockage, abnormal ovulation, congenital malformation, and endometriosis. (American Society of Reproductive Medicine.org. 1997) most primary and secondary infertility in developing countries is attributable to infectious disease and subsequent damage or blockage of the fallopian tubes. (Vayena *et al.*, 2002) Tubal blockage is responsible for up to two-thirds of infertility in nulliparous women in sub-Saharan Africa, up to one-third of the infertility in other parts of the developing world and up to one-quarter in the developed world. (Vayena *et al.*, 2001) Infection-related infertility can be caused by undiagnosed or poorly treated genital tract infections, sexually transmitted infections (STIs), or postpartum or post abortion infection.

Infectious and parasitic diseases such as pelvic tuberculosis, schistosomiasis or malaria can also cause infertility (Family Health International 2003). Other preventable causes of infertility include "lifestyle factors", a diverse group of issues such as obesity, weight gain and loss, eating disorders, malnutrition, excessive exercise, and use of nicotine, alcohol or caffeine. While these factors are important, their effects on infertility are considerably less than those of infection. An increasingly common cause of infertility in the developed world is advancing maternal age. As maternal age increases egg quality and ovulatory function diminish while risk of reproductive disorders such as endometriosis increases (Fidler and Bernstein, 1999) In women, the causes of infertility include tubal disease, ovulatory dysfunction, endometriosis, immunological factors, congenital abnormalities and sexual dysfunction or it could be unexplained. Based on the diagnostic criteria established by the WHO, data from 8,456

couples, from 34 centres in 25 developed and developing countries, diagnosed with infertility problems showed that in women tubal occlusion and other tubal abnormalities contributed the most (almost 41%) to infertility (Rowe *et al.*, 1988), which is often a result of chronic pelvic inflammatory disease caused by different infections including STDs (gonorrhoea, and chlamydia infections), abdominal tuberculosis, post-partum and post-abortion infections. Tubal-factor infertility is the single cause among 85% infertile couples in Africa, 44% in Latin America, 39% in Asia and 36% in developed countries (Farley *et al.*, 1988). This study aimed to determine the current prevalence and potential causes of infertility in a defined geographical population.

MATERIALS AND METHODS

In the present study, both primary as well as secondary data was utilized to obtain the desired information. Data collection from secondary sources was represent the information obtained from books, published or unpublished dissertation, medical and public health journals and the latest information from the internet. The present study was proposed to be conducted in a hospital setting. A structural questionnaire and an interview schedule were used in the collection of primary information from the sample selected. Sampling of the patients was purposive as per the nature of the study. The sample of the study comprises of 3098 females, out of which 2698 were fertile and 400 infertile women. Percentage was calculated to determine the current prevalence and potential causes of infertility in a defined geographical population.

RESULTS AND DISCUSSION

Infertility is a world-wide problem affecting people of all communities, though the cause and magnitude may vary with geographical location and socio-economic status. Infertility affects a relatively large number of couples at some point in their reproductive lives - globally, between 50 and 80 million couples. An attempt was made to determine the prevalence and causes of infertility and the results so obtained are presented in tables.

Table 1. Distribution of respondents (infertile and fertile women) from J and K

Status		Province			
		Jammu	Kashmir	Ladakh	Total
Infertile	Count	199	196	5	400
	%	49.8%	49.0%	1.2%	12.91%
Fertile	Count	1155	1501	42	2698
	%	42.8%	55.6%	1.6%	100.0%
Total	Count	1354	1697	47	3098
	%	43.7%	54.8%	1.5%	87.08%

Table 2. Prevalence of infertility among various geographic areas

Geographic location	No of respondents studied	No of infertile	Prevalence rate
Jammu	1354	199	14.69%
Kashmir	1697	196	11.54%
Ladakh	47	5	10.63%
Overall	3098	400	12.91%

Table 3. Causes of infertility among women

Provisional diagnosis	Jammu		Kashmir		Ladakh		Overall	
	Count	%	Count	%	Count	%	Count	%
Endocrinal disorders	83	41.7%	40	20.4%	1	20.0%	124	31%
Menstrual disorders	1	.5%	4	2.0%	0	.0%	5	1.25%
Reproductive organ pathology	78	39.2%	102	52.0%	2	40.0%	182	45.5%
Others	1	.5%	0	.0%	0	.0%	1	0.25%
Unexpected causes	36	18.1%	50	25.5%	2	40.0%	88	22%
Total	199	49.75%	196	49%	5	10.6%	400	100%

Table1: reveals that status (Infertile/Fertile) and province wise distribution of respondents from Jammu and Kashmir region. A total number of 3098 respondents were studied. It is observed that the majority of the respondents (54.8%) were from Kashmir whereas (43.7%) from Jammu and (1.5%) from Ladakh. Out of total respondents 400 women were infertile and 2698 were fertile women.

Table 2: indicates the prevalence of infertility among various geographic areas of Jammu and Kashmir. Out of 3098 respondents 400 (12.91%) women were infertile. Jammu region shows highest prevalence (14.69%) of infertility while Kashmir region shows (11.54%) and Ladakh region shows (10.63%) of infertility rate.

Table 3: presents distribution of respondents with respect to diagnosis reported by infertile women. Majority (45.5%) of the respondents were diagnosed by reproductive organ pathology, followed by endocrine disorders (31%), unexpected causes (22%), menstrual disorders (1.25%) and other causes (0.25%) in the regions of Jammu and Kashmir. The table also shows that Jammu region shows highest percentage (41.7%) of endocrine disorders whereas Kashmir shows highest percentage (52.0%) of reproductive organ pathology and Ladakh region shows (40.0%) of unexpected causes.

Conclusion

Infertility is a world-wide problem affecting people of all communities, though the cause and magnitude may vary with geographical location and socio-economic status. Infertility has a wide range of causes stemming from three general sources: physiological dysfunctions, preventable causes, and unexplained issues. The finding of the study indicates that Jammu region shows highest prevalence of infertility rate and Ladakh region shows the lowest prevalence. The causes of infertility are various and in some instances, a combination of factors may exist. Majority of the infertile females were diagnosed by reproductive organ pathology, followed by endocrine disorders, unexpected causes, menstrual disorders and other causes in the regions of Jammu and Kashmir. The study also shows that Jammu region shows highest percentage of endocrine disorders whereas Kashmir shows highest percentage of reproductive organ pathology and Ladakh region shows of unexpected causes.

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