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Infertility in Relation to Age among Women in Jammu and Kashmir

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Abstract: ***The study was undertaken on infertility among women in J&K. It was a hospital based study and was conducted in all the three regions of state of J&K (Jammu, Kashmir and Ladakh region). The aim of this study was to assess infertility in relation to age. In order to arrive at dependable conclusion, information has been gathered from both infertile and fertile women. A purposive random sample of 3098 women was selected from these regions. The total respondents from Jammu region were 1354 women, from Kashmir region were 1697 women and from Ladakh region were 47 women. Proportionally respondents from Kashmir, Jammu, and Ladakh were almost equally distributed. Out of total respondents studied 400 women were infertile and 2698 were fertile with an overall infertility prevalence of 12.9% among all ages. The highest prevalence of infertility was seen in the age group of >32 years whereas the lowest percentage of infertility was seen in women aged 18-25 years in the all the three regions (of Jammu and Kashmir).Advancing age among women remains one of the most significant factors for infertility as fertility decreases with increase in age of women***
Key words: Infertility / Age / Women

I. INTRODUCTION

The International Conference on Population and Development, ICPD (1994) has declared the reproductive and sexual health as the fundamental rights to individuals, couples and families all over the world. They called for infertility as one of the basic issues of reproductive health care in their 'Program of action' which should be reached for all by the year of 2015. Infertility is doubtlessly a severe distressful experience for many infertile couples. Freeman et al. (1987) reported that 50% of couples considered infertility as the most disappointing experience in their lives. Another study performed by Mahlstedt et al. (1987) showed that 80% of infertile couples described infertility as a stressful or very stressful experience.

Infertility affects between 60 million and 168 million people worldwide with one in ten couples experiencing primary or secondary infertility. (Vayena, et al., 2002, Vayena, et al., 2001, Butler, 2003). The majority of those who suffer with infertility live in the developing world. Universally, the prevalence rises significantly (among women with no children) with a woman's age. Fidler, et al., 1999, Worldwide rates of infertility vary dramatically corresponding to the incidence of preventable conditions leading to infertility--from a core prevalence of about 5% to rates as high the mid-30's in sub-Saharan Africa. (Daar and Merali, 2001 Vayena, et al., 2001)

II. METHODOLOGY

On the basis of pilot survey conducted on 295 females, and it was found that 27 females were infertile (giving approximately 9.1% prevalence). Using this and some data from previous prevalence studies as a guide, a sample size of 3098 females was calculated by sample size formula for proposed study

$$n = \frac{N\, t_\alpha^2\, P(1-P)/d^2}{N + \left[t_\alpha^2\, P(1-P)/d^2 - 1\right]}$$

With1% margin of error.The sample was drawn from all the three divisions of Jammu & Kashmir (i.e. Kashmir, Jammu and Ladakh. List of all districts was obtained and from this list 50 % of districts were randomly chosen. Population of each district from latest census was obtained and as per population proportion the respondent's number from each district was obtained. The respondents were then randomly selected using alternate number by the investigator at District hospital from all districts except District Jammu & Kashmir were two main referral OBG (Gynecology& Obstetrics) hospitals were included. The total respondents

from districts of Jammu region finally was 1354 women, from Kashmir region was 1697 women and from Ladakh region was 47 women. Besides other socio-demographic characteristics, age was obtained directly or from local events calendar.

III. RESULTS AND DISCUSSION

A. Results

The overall distribution of respondents studied in this study was as under. (table 1.1)

Table 1.1: Distribution of study population from various regions

Status		Province			
		Jammu	Kashmir	Ladakh	Total
Infertile	No. respondents	199	196	5	400
	%age	49.8	49	1.2	12.91
Fertile	No. respondents	1155	1501	42	2698
	%age	42.8	55.6	1.6	100
Total	No. respondents	1354	1697	47	3098
	%age	43.7	54.8	1.5	100

Table 1.1 A total number of 3098 respondents were studied. It is observed that the majority of the respondents 1697 were from Kashmir whereas 1354 from Jammu and 47 from Ladakh. Proportionally the total studied population as well as fertile and infertile women were almost uniformly distributed across the three regions.

Table 1.2: Prevalence of infertile women as per Age of respondents

Province	Age in years	Infertile		Fertile		Total	
		No. respondents	%age	No. respondents	%age	No. respondents	Prevalence of infertility (%age)
Jammu	18-25 yrs	88	44.22	654	56.62	742	11.85
	25-32 yrs	83	41.70	429	37.14	512	16.21
	>32yrs	28	14.7	72	6.23	100	28
	Total	199	100	1155	100	1354	14.69
Kashmir	18-25 yrs	9	4.59	118	7.86	127	7.08
	25-32 yrs	98	50.0	834	55.56	932	10.51
	>32 yrs	89	45.40	549	36.57	628	14.17
	Total	196	100	1501	100	1697	11.54
Ladkah	18-25 yrs	-	-	14	33.33	14	-
	25-32 yrs	2	40	24	57.14	26	7.69
	>32 yrs	3	60	4	9.5	7	42.85
	Total	5	100	42	100	47	10.63

Table 1.2 Out of total respondents 400 women were infertile and 2698 were fertile women, thus giving an overall infertility prevalence of 12.9% in J&K. Jammu region showed highest infertility prevalence among studied women of 14.17%, followed by Kashmir division with 11.5 % prevalence with Ladakh division the least prevalence of 10.63 % (Table 1.2). Also from the table, it can be observed that infertility rate among women in higher age groups i.e. above 32 years was uniformly high in all regions with prevalence rates being 42.85% in Ladakh region, 28% in Jammu region and 14.17 % for Kashmir region. The prevalence rate of infertility in other age groups from Jammu region was 11.85% forage 18-25 years, 16.21% for women age 25-32 years, Kashmir region 7.08% for age 18-25 years,10.51% for age 25-32 years and Ladakh region shows 7.69% of infertility for women aged 25-32 years. The table also indicates that Ladakh region shows the highest percentage of conception rate 57.14 % for women aged 25-32 years, followed by Jammu region 56.62% for women aged 18-25 years and Kashmir region shows 55.56% for women aged 25-32 years.

Table 1.3: Association of Infertility in relation to Age

Province	Age in years	Infertile N	Fertile N	Total N	Prevalence of infertility %age	x^2	p.v
Jammu	18-25 yrs	88	654	742	11.85	19.81	<0.001
	25-32 yrs	83	429	512	16.21		
	>32yrs	28	72	100	28		
	Total	199	1155	1354	14.69		
Kashmir	18-25 yrs	9	118	127	7.08	7.05	0.02
	25-32 yrs	98	834	932	10.51		
	>32 yrs	89	549	628	14.17		
	Total	196	1501	1697	11.54		
Ladkah	18-25 yrs	-	14	14	-	N.A	N.A
	25-32 yrs	2	24	26	7.69		
	>32 yrs	3	4	7	42.85		
	Total	5	42	47	10.63		

Table 1.3 indicates the prevalence of infertility rises in relation to increasing maternal age of the respondents. Using chi square test for association between age and fertility. At 5 % level of significance it was found that there is a strong association (chi-sq = 19.81, p.value<0.001) between rising maternal age and fertility in Jammu region. In Kashmir region there is also a significant association (chi-sq = 7.05, p.v 0.02) between rising maternal age and fertility, however this could not be established in Ladakh region.

B. Discussion

Age group is one of the most significant factors for fertility. A woman's best reproductive years are in her 20s. Fertility gradually declines in the 30s, particularly after age 35. Each month that she tries, a healthy, fertile 30-year-old woman has a 20% chance of getting pregnant. That means that for every 100 fertile 30-year-old women trying to get pregnant in 1 cycle, 20 will be successful and the other 80 will have to try again. By age 40, a woman's chance is less than 5% per cycle, so fewer than 5 out of every 100 women are expected to be successful each month. (American society for reproductive medicine 2012)The incidence of infertility increases with advancing maternal age. In the present study while significantly women above 32 yrs of age had higher chances of infertility in Jammu and Kashmir regions, this could not be established in women from Ladakh region. Also women between 18-25 yrs of age had lowest chances of infertility. These findings are similar to prospective study by (Dunsonet al., 2004) who had confirmed that the percentage of infertility was lowest i.e.8%for women aged 19 – 26 years, 13 – 14% for women aged 27 – 34 years and highest 18% for women aged 35 – 39 years. Female age remains the single most important determinant of spontaneous as well as treatment- related conception, with a gradual decline in infertility especially after the age of 35 years (Menken et al., 1986).Even earlier NFHS-2survey had shown that age of women is a significant factor whereby childlessness decreases with increase in age of women. (Dohle GR et al., 2005) reported that prevalence of infertility increases with age from 20% among subjects 35–39 years old to 25–30% among those 40 years and over, whereas Miller et al. (1999) found a lower prevalence of ovulatory dysfunction but a trend towards an increased risk of unexplained infertility in older women (age=40-45 years) versus younger women (age=20-29 years). Therefore Increasing age at child bearing could also increase the prevalence of infertility, as the ability to become pregnant and deliver a live birth reduces with age in all population.

While the current trend of delaying marriage and or child bearing by a section of women for pursuing better educational standards, carrier building and placements (vocational opportunities) remain priority, the psycho social impact on individuals and family is enormous. The other effects of delaying marriage and conception are that as maternal age increases,the egg quality and adulatory function diminish resulting in lowered chances of fertility (pregnancy), with risk of reproductive disorder such as endometriosis increases (Fidler .A, and Bernstein J., 1999). In addition, the incidence of genetic abnormalities and spontaneous abortion increase observably with maternal age (Nasseri and Grifo, 1998).

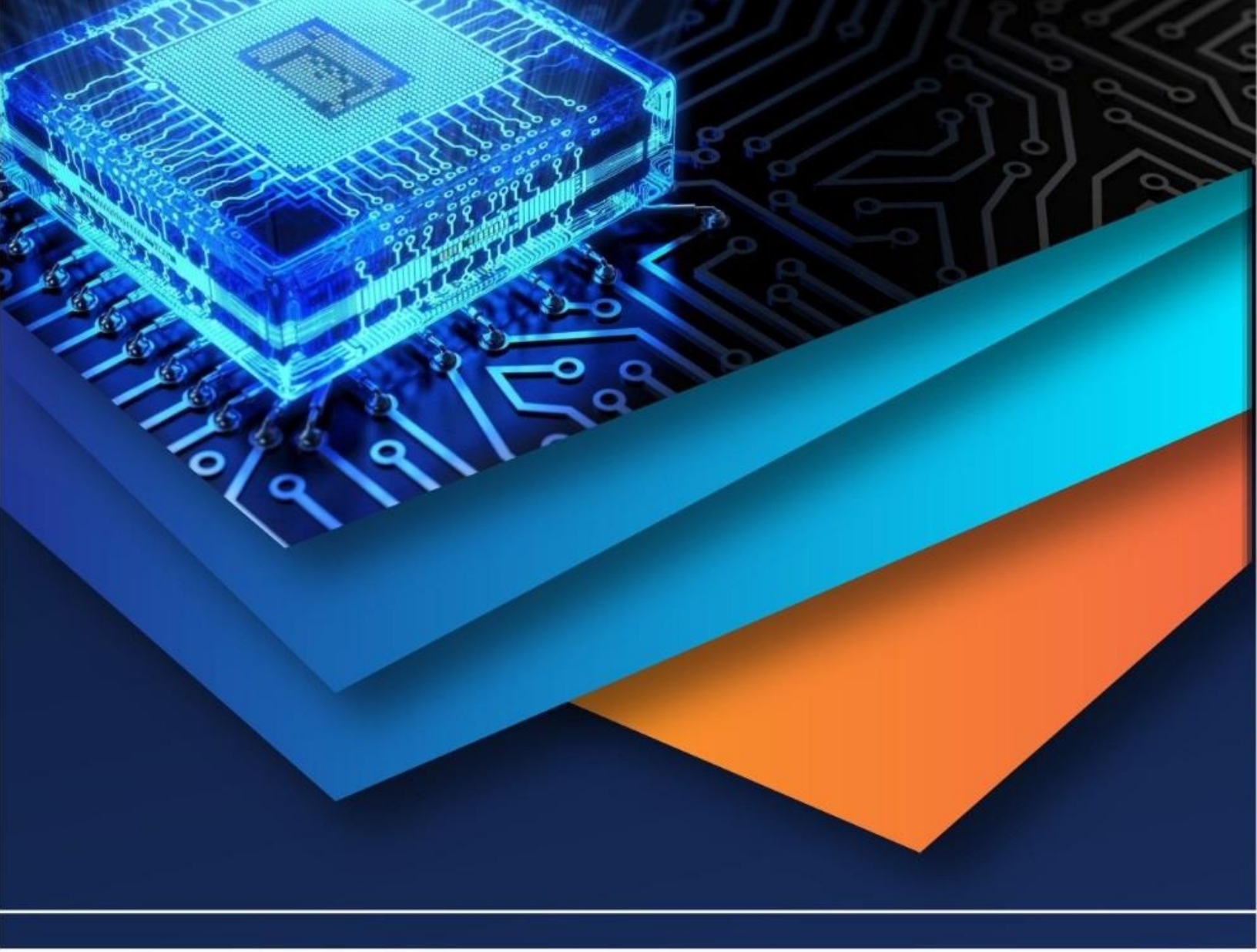
By the time women reach 35 years of age, their fertility is declining (Pal and Santoro, 2003; Bairdet al., 2005; Kaplanet al., 2005).At an even earlier age, the number and quality of oocytes decrease but manifest clinically at around 35 years of age (Angell, 1994;Benadivaet al., 1996; Bairdet al., 2005).

IV. CONCLUSION

Of 3098 respondents studied in the present study, Majority were from Kashmir region, followed by Jammu and least number of women were from Ladakh. The overall infertility prevalence was 12.9%. While Ladakhregion had lowest infertility rates (10.63%), Jammu region had highest infertility rate (14.69%).The highest prevalence of infertility among women was seen in the age group of >32 years and lowest fertility rates were in 18-25 yrs. Overall women above 32 yrs from Ladak regionhad 42.85% infertility prevalence followed by 28% in Jammu region, whereas the lowest percentage of infertility is seen in women aged 18-25 years fromKashmir region (10.5%) followed by Jammu region (11.8%).Evidence suggests that the decline in impaired fertility not only has been followed by an increase in the total fertility rates,but also because of its enormous pscho-social trauma among individuals and families it needs an urgent attention especially in most populous areas/countries.

REFERENCES

[1] Daar, Z. Merali. Infertility and social suffering: the case of ART in developing countries. In: E.Vayena, P.Rowe, D.Griffin: Report of a meeting on "Medical, Ethical, and Social Aspects of Assisted Reproduction, p. 16-21. 2001 17-21 Sept; Geneva, Switzerland: WHO; 2002.
[2] A. Nasseri and J.A. Grifo. Genetics, age, and infertility: Maturitas 30,189–192, 1998.
[3] A.S. Daar and Z. Merali. Infertility and social suffering: the case of ART in developing countries. Current practices and controversies in assisted reproduction, 15-21, 2002.
[4] A.T. Fidler and J. Bernstein. Infertility: from a personal to a public health problem: Public Health Reports, 114(6), 494, 1999.
[5] A.T. Fidler and J. Bernstein. Infertility: from a personal to a public health problem. Public Health Reports, 114(6), 494,
[6] Age and Fertility, A Guide for Patients Revised: American Society for Reproductive Medicine. (2012)
[7] B. Kaplan, R. Nahum, Y. Yairi, M. Hirsch, J. Pardo, Y. Yogev and R. Orvieto. Use of various contraceptive methods and time of conception in a community-based population: Eur J ObstetGynecolReprodBiol 123, 72–76, 2005
[8] C.A. Benadiva, I. Kligman and S. Munne. Aneuploidy 16 in human embryos increases significantly with maternal age: FertilSteril 66,248–255, 1996.
[9] D.B. Dunson, D.D. Baird, B. Colombo. Increased infertility with age in men and women: Am J Obstet Gynecol, 103: 51 – 6, 2004.
[10] D.T Baird, J. Collins, J. Egozcue, L.H. Evers , L. Gianaroli L, H. Leridon , S. Sunde, A. Templeton, A. Van Steirteghem and J. Cohen et al.: Fertility and ageing. Hum Reprod Update 11,261–276, 2005.
[11] E. Vayena, P. Rowe, D. Griffin, P.Van Look, T.Turmen. Forward, Current practices and controversies in assisted reproduction. In: E. Vayena, P.Rowe, D.Griffin, editors. Report of a meeting on "Medical, Ethical, and Social Aspects of Assisted Reproduction; p. xv-xxi, 2001 17-21 Sept; Geneva, Switzerland: WHO; 2002.
[12] E. Vayena, P. Rowe, H.Peterson. Assisted reproductive technology in developing countries: why should we care: Fertil Steril, 78(1):13-15, 2002
[13] E.W. Freeman, K. Rickels, J. Tausig, A. Boxer, L. Mastroianni, R.W. Tureck .Emotional and psychosocial factors in follow-up of women after IVF-ET treatment. A pilot investigation: ActaObstetGynecolScand, 66: 517-521 1987.
[14] G.R. Dohle, G.M. Colpi, T.B. Hargreave, G.K. Papp, A. Jungwirth, W. Weidner , “EAU guidelines on male infertility” *European Urology*. 2005; 48(5):703–711,2005
[15] H.J. Miller, R.K.Weingberg, N.L.Canino, N.A. Klein, M.R. Soules .The pattern of infertilityDiagnosis in women of advanced reproductive age: Am J ObstetGynecol, 181:952-957, 1999.
[16] International Conference on Population and Development (ICPD) Programme of Action 1995. Adopted at the International Conference on Population and Development, Cairo, 5-13 September 1994, United Nations, and UNFPA
[17] L. Pal and N. Santoro. Age-related decline in fertility: Endocrinol Metab Clin North Am 32,669–688. 2003.
[18] P. Butler. Assisted reproduction in developing countries-facing up to the issues: Progress in Reproductive Health Research, 63:1-8, 2003.
[19] P. P. Mahlstedt, S. Macduff, J. Bernstein. Emotional factors and the in vitro fertilization and embryo transfer process: In Vitro Fert Embryo Transf, 4: 232-236, 1987.
[20] R.R. Angell. Aneuploidy in older women. Higher rates of aneuploidy in oocytes from older women: Hum Reprod 9, 1199–1200, 1994.



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