Journal of Advanced Medical and Dental Sciences Research

@Society of Scientific Research and Studies

Journal home page: www.jamdsr.com doi: 10.21276/jamdsr ICV 2018= 82.06

(e) ISSN Online: 2321-9599; (p) ISSN Print: 2348-6805

Original Research

Determination of risk factors of infertility in village women- An epidemiological survey

Dr. Sujit Kumar Singh

Associate Professor, Department of Community medicine, Mulayam Singh Yadav Medical College, Meerut, U.P., India

ABSTRACT:

Background: The present study was conducted to determine infertility and risk factors in village population. **Materials & Methods:** 370 village population were enrolled. Socioeconomic status, education, duration of marriage, age at marriage, occupation status, type of family, menstruation pattern, age of menarche, first child born after marriage, family history of infertility etc. was recorded. **Results:** Age group 20-25 years had 25 subjects, 25-30 years had 190, 30-35 years had 110, 35-40 years had 35 and 40-50 years had 10 subjects. Out of 370 women, 40 were infertile. Under infertile women, age at marriage time >25 were 35 and <25 were 5, nuclear family was seen in 30 and joint I 10 subjects, SE status was I and II in 25 and III, IV and V in 15. 28 were employed and 12 were homemaker and Family history of infertility was seen in 34, 34 had upto middle standard education. 31 were obese, age at menarche >14 years was seen in 24 and in 20 regular menstruation cycle was seen. The difference was significant (P< 0.05). **Conclusion:** Risk factors associated with infertility was nuclear family, low education status and obesity.

Key words: Infertility, Menstruation Women

Received: 12 November, 2019 Accepted: 21 December, 2019

Corresponding author: Dr. Sujit Kumar Singh, Associate Professor, Department of Community medicine, Mulayam Singh Yadav Medical College, Meerut, U.P., India

This article may be cited as: Singh SK. Determination of risk factors of infertility in village women- An epidemiological survey. J Adv Med Dent Scie Res 2020;8(1): 281-284.

INTRODUCTION

Infertility is a serious health issue worldwide, affecting approximately 8%–10% of couples worldwide. Of 60–80 million couples suffering from infertility every year worldwide, probably between 15 and 20 million (25%) are in India alone.[1] According to a report by the World Health Organization (WHO), one in every four couples in developing countries is affected by infertility. The magnitude of the problem calls for urgent action, particularly when the majority of cases of infertility is avoidable.[2]

Causes of infertility are numerous such as anatomical, physiological and genetic factors. Many environmental and acquired factors also influence fertility and may lead to infertility.[3] Menstrual and ovulation dysfunction and uterine factors are the most common causes of impairment in fertility. Etiology of infertility prevalence and patterns of causes of infertility in different regions are diverse.[4] This discrepancy is due to existence of differences in environmental conditions associated with reproductive behaviors, such as age at marriage, environmental pollution, smoking and alcohol abuse, changing in lifestyle and diet.[5] Although many studies have been conducted on the prevalence of infertility in the world, because infertility is increasing and the life style is changing. Not only underweight but also overweight due to disturbances of the hormone household and ovarian dysfunction have decisive effects on fertility: women with a BMI >25 or $<19\,kg/m^2$ have a higher risk that a pregnancy occurs after more than 12 months than a woman of normal

weight.[6] The present study was conducted to determine infertility and risk factors in village population.

MATERIALS & METHODS

The present study was conducted among 370 village population. All subjects were enrolled after explaining them the purpose of the study. The approval for the study was obtained from institutional ethical committee. Demographic profile such as name, age, socioeconomic status, education, duration of marriage, age at marriage, occupation status, type of family, menstruation pattern, age of menarche, first child born after marriage, family history of infertility etc. was recorded. Parameters such as height, weight, body mass index (BMI), depression, anxiety, and stress were also recorded. History of menstruation pattern was seen for the time span of 10 years since marriage. The socioeconomic class of the sample group was determined by modified BG Prasad's classification. Direct-attached storage scale was used to determine depression, anxiety, and stress. Results were tabulated and analyzed statistically using Mann Whitney U test. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of subjects

Age group (Years)	Number	P value
20-25	25	0.02
25-30	190	
30-35	110	
35-40	35	
40-50	10	

Table I shows that age group 20-25 years had 25 subjects, 25-30 years had 190, 30-35 years had 110, 35-40 years had 35 and 40-50 years had 10 subjects. The difference was significant (P< 0.05).

Table II Sociodemographic factors associated with primary infertility

	Sociodemographic factors	Infertile women	Normal women	X^2	P value
Age at marriage	>25	35	190	47.2	0.01
	<25	5	140		
Type of family	Nuclear	30	240	0.96	0.04
	Joint	10	90		
SE status	I & II	25	210	6.5	0.05
	III, IV & V	15	120		
Occupation	Employed	28	260	31.6	0.01
	Homemaker	12	70		
Family history of infertility	Yes	29	270	4.9	0.02
	No	11	60		
Literacy	Middle	34	180	37.2	0.03
	High & above	6	150		

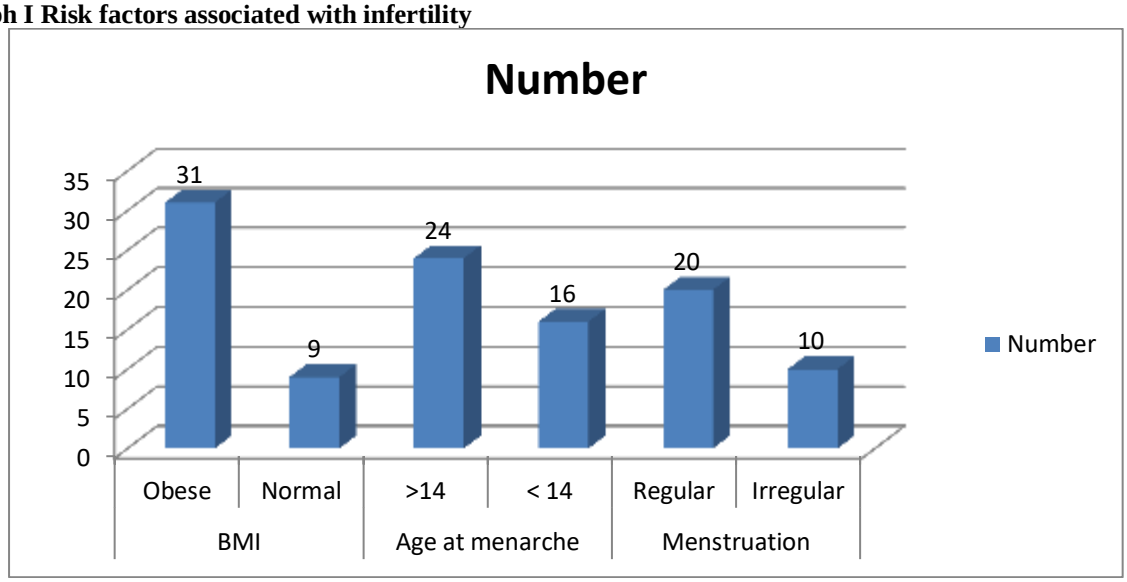
Table II shows that out of 370 women, 40 were infertile. Under infertile women, age at marriage time >25 were 35 and <25 were 5, nuclear family was seen in 30 and joint I 10 subjects, SE status was I and II in 25 and III, IV and V in 15. 28 were employed and 12 were homemaker and Family history of infertility was seen in 34, 34 had upto middle standard education. The difference was significant (P< 0.05).

Table III Risk factors associated with infertility

Parameters	Factors	Number	P value
BMI	Obese	31	0.01
	Normal	9	
Age at menarche	>14	24	0.04
	< 14	16	
Menstruation	Regular	20	0.05
	Irregular	10	

Table III, graph I shows that 31 were obese, age at menarche >14 years was seen in 24 and in 20 regular menstruation cycle was seen. The difference was significant (P< 0.05).

Graph I Risk factors associated with infertility



DISCUSSION

The distinction between voluntary and involuntary childlessness is not always easy. Many couples put off having children due to career planning and/or feel that they are still too young to have children.[7] Then, when the individually appropriate point in time for parenthood has been found, an initially voluntary childlessness can rapidly become an involuntary childlessness since fertility decreases with age of the man and especially of the woman.[8] The blame lies mainly with the decreasing quality of sperm and egg cells. For women over the age of 30 years every additional year of life is associated with a 13% reduction of the chance to give birth to a living baby.[9] The present study was conducted to determine infertility and risk factors in village population.

In present study, age group 20-25 years had 25 subjects, 25-30 years had 190, 30-35 years had 110, 35-40 years had 35 and 40-50 years had 10 subjects. Masoumi et al[10] determined the frequency causes of infertility in infertile couples. In this cross sectional descriptive study 1200 infertile men and women that were referred to infertility clinic were examined. The prevalence of primary and secondary infertility was 69.5% and 30.5% respectively. Among the various causes of infertility women factors (88.6%) had the highest regard. In the causes of female infertility, menstrual disorders, diseases (obesity, thyroid diseases, and diabetes), ovulation dysfunction, uterine factor, fallopian tubes and cervical factor had the highest prevalence respectively.

The causes of male infertility based on their frequency included semen fluid abnormalities, genetic factors, vascular abnormalities, and anti-spermatogenesis factors, respectively.

We found that out of 370 women, 40 were infertile. Under infertile women, age at marriage time >25 were 35 and <25 were 5, nuclear family was seen in 30 and joint I 10 subjects, SE status was I and II in 25 and III, IV and V in 15. 28 were employed and 12 were homemaker and Family history of infertility was seen in 34, 34 had upto middle standard education. Katole et al[11] conducted a study in which the prevalence of primary infertility among women of reproductive age group in urban population of Central India and its associated risk factors were recorded. The majority of the women (39.3%) belonged to 25–29 years of age group. The overall prevalence of primary infertility among reproductive age group women was 8.9% (51/570). Sociodemographic factors that had statistically significant association with infertility were age at marriage more than 25 years ($P < 0.05$), nuclear family ($P < 0.05$), higher education level ($P = 0.04$), employed women ($P < 0.05$), high socioeconomic status ($P = 0.01$), and family history of infertility ($P < 0.05$). Physiological factors that had statistically significant association with infertility were obesity ($P = 0.03$), age at menarche more than 14 years ($P < 0.05$) and irregular menstruation pattern ($P < 0.05$). Depression ($P = 0.01$) and stress ($P < 0.05$) were the psychological factors significantly associated with infertility.

Fügener et al[12] included 498 women and men between the ages of 18 and 30 years. The sample consisted of

153 medical students, 190 students from other faculties and 155 vocational trainees. Their knowledge was tested by way of open questions on reproduction. The sum total from relevant life-style factors was used to estimate their risk-taking behaviour. The participants were aware of the risks for fertility disorders but did not always correctly assess their influence on fertility. Their knowledge about reproduction was rather low (on average 6.3 from 16 points). Medical students had a significantly higher state of knowledge and exhibited less risky behaviour as compared to the other two groups. Depressiveness and risky behaviour correlated positively and emotional aspects played the major role in attitudes towards having children. Risk behaviour was best predicted by the variables depressiveness, low level of knowledge and the feeling of being restricted in personal life by children.

CONCLUSION

Authors found that risk factors associated with infertility was nuclear family, low education status and obesity.

REFERENCES

1. Orhue A, Aziken M. Experience with a comprehensive university hospital based infertility program in Nigeria. Int J Gynaecol Obstet 2008; 101: 11-15.
2. Nwajiaku L, Mbachu I, Ikeako L. Prevalence, Clinical Pattern and Major Causes of Male Infertility in Nnewi, South East Nigeria: A Five Year Review. AFRIMEDIC J 2012; 3: 16-19.
3. Cates W, Farley T, Rowe P. Worldwide patterns of infertility:Is Africa different. Lancet 1985; 2: 596-598.
4. Ikechebelu J, Adinma J, Orie F, Ikegwuonu S. High prevalence of male infertility in south eastern Nigeria. J Obstet Gynaecol 2003; 236: 657-659.
5. Bayasgalen G, Naraset D, Tsedmaa B, Tsogmaa B, Sukhee D, Amarjargal O, et al. Clinical patterns and major causes of infertility in Mongolia. J Obstet Gynaecol Res 2004; 30: 386-393. 6. Aflatoonian A, Seyedhassani S, Tabibnejad N. The epidemiological and etiological aspect of infertility inYazd province of Iran. Iran J Reprod Med 2009; 7: 117-122.
6. Safarinejad M. Infertility among couples in a population-based study in Iran: prevalence and associated risk factors. Int J Androl 2008; 31: 303- 314.
7. Rahim R, Majid S. Aetiological factors of infertility. JPMI 2004; 18: 166-171.
8. Luciano A, Lanzone A, Goverde A. Management of female infertility from hormonal causes. Int J Gynecol Obstet 2013; 123: S9-S17.
9. Masoumi SZ, Parsa P, Darvish N, Mokhtari S, Yavangi M, Roshanaei G. An epidemiologic survey on the causes of infertility in patients referred to infertility center in Fatemieh Hospital in Hamadan. Iranian journal of reproductive medicine. 2015 Aug;13(8):513.
10. Katole A, Saoji AV. Prevalence of primary infertility and its associated risk factors in urban population of central India: A community-based cross-sectional study. Indian J Community Med 2019;44:337-41.
11. Fügener J, Matthes A, Strauss B. Knowledge and behaviour of young people concerning fertility risks–results of a questionnaire. Geburtshilfe und Frauenheilkunde. 2013 Aug;73(8):800.