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Awareness and knowledge among Indian couple about infertility attending an infertility clinic

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Abstract
Introduction: Infertility defines as the inability to conceive naturally after one year of regular unprotected sexual intercourse. Both males and females are equally responsible for the causes. Factors contributing to infertility have included male factors (sperm abnormality), female factors (an ovulation), couple factors (luteal phase defect, poor sperm production) and factors of unknown origin. Infertility has always existed but is now recognized as a global reproductive health problem and as an important component of reproductive health. It is a world wide health concern and affects 8 -15% of couples. The knowledge regarding fertility and biology of reproduction was poor. Many women have little awareness about the fertility period and the risk factors.
Aim and Objectives: 1. To assess the knowledge of infertile couples attending Infertility clinic 2. To assess the possible risk factors and social consequences towards infertility.
Materials and Methods: This is a cross sectional observational study conducted on infertility patients attending to IVF centre in Muzaffarnagar medical college, UP from .we designed a fertility questionnaire for both the partners with questions covering knowledge and awareness towards infertility.
Results: Out of 100 couples, prevalence of primary and secondary infertility was 70% and 30% respectively. The mean duration of infertility was 4 years. On scoring their level of knowledge, (n= 60) had inadequate, (n= 44) had moderate knowledge and (n= 6) had adequate knowledge. There was no statistically significant difference in the knowledge in relation to their educational qualification and type of infertility among participants.

Keywords: awareness, infertility attending, infertility clinic

Introduction

Parenthood is a dream of many couples, however they may not plan a pregnancy keeping advancing age and issues pertaining to infertility in mind [1]. Both unplanned pregnancy and infertility occur commonly [2]. Traditionally fertility awareness was considered to be knowledge of female anatomy and physiology and its application to family planning [3]. However, as age at first conception is increasing globally, the epidemic of infertility looms large. The global trend in delaying parenthood is being attributed to a number of factors, primarily, pursuit of higher education and career goals, desire for a stable job and delay in finding a suitable partner. In UK in 2013, average age of mothers at first birth was 28.3 years versus 26.6 years in 2001 and approximately half of all live births (51%) were to mothers aged 30 and over [4]. It has been observed that couples have a basic knowledge of factors affecting fertility, but remain unaware of the impact that advancing age has on a women's fertility [3, 5]. It is well established that female fertility declines after age of 30 and more rapidly once women turn 35 years [5, 6]. The advent of assisted reproductive technique (ART) and its widespread availability has helped many couples realize their dream of parenthood [7]. Many women have little awareness of the period of the month in which they are most fertile and when to seek treatment. The risk factors for infertility include obesity, advanced maternal age, menstrual irregularities, sexually transmitted infections, smoking, alcohol consumption. Increasing the level of knowledge of these factors may help to decrease the incidence of infertility by allowing couples to avoid certain risk factors that might lead to it. This knowledge may also help wider society to understand and empathize with the infertile couple, which may lead to a decrease in the psychological burden to those affected. Researches exploring the knowledge, behaviors, perceptions and practices regarding infertility or certain treatment options have been carried out in developed countries but very limited data is available from the Indian population despite high prevalence of infertility.

This present study was conducted in our hospital to evaluate the knowledge of infertile couples attending to outpatient department (OPD) about the risk factors associated with infertility and to assess their attitude towards various methods of infertility treatment.

Aim and Objectives

1. To assess the knowledge of infertile couples attending Infertility clinic
2. To assess the possible risk factors and social consequences towards infertility

Materials and Methods

A prospective observational study was conducted on infertility patients attendi IVF centre of muzaffarnagar medical college UP, on all the infertile couples (n=100). Recruitment was based on the couple's willingness to answer the questionnaire. The couples were informed about the study and offered knowledge and attitude based questionnaires during clinical history taking. The questionnaire contains 16 knowledge based and 7 attitude based questions.

Study population

A total of 100 Couples attending infertility clinic participated in the study. The inclusion criteria were women of age group 21 to 44 years who either directly consulted the infertility clinic or were referred form general OBGYN clinic and were trying for conception for at least 1 year. Women were invited to participate in the study at the initial consultation and those who voluntarily gave written consent were interviewed by a fertility counsellor. The interview consisted of a nine item questionnaire which was designed after reviewing previous papers on fertility awareness and modified according to patient population and level of understanding in an Indian set up. There were questions regarding the age related decline in fertility, the fertile period in the menstrual cycle, relation of oral contraceptive pill intake with fertility, the duration after which to consult a fertility specialist after trying for pregnancy, fertility options for women in advanced age (> 40 years) and those with non functional uterus

Results

Knowledge and misconceptions regarding related to infertility

Table 2 shows the response of infertile towards risk factors associated with infertility. In our study, most of the patients (> 70%) of respondents were aware the common risk factors such as advanced age, obesity, irregular menstrual cycle, stress, advantages of regular exercise. But only 35% respondents were aware about fertile period. In our study only 50% were aware that smoking reduces the sperm parameters in men and 50% were aware that increased age in men also reduces fertility.

Awareness towards infertility and its social consequences

Table 3 shows the response of infertile patients to some attitudinal statements towards infertility and its social consequences. In our study, 60% of couples labelled infertility as disease. Only 30% were that it was a problem of the couple and needed investigation of the couple simultaneously. In our study, we found that 91.5% of females were blamed by the family members and the society inspite of the fact that the cause may be related to any one of the partner.

When we assessed the response in relation to age related decline in fertility, it was found that most participants (> 85%) were aware that young women are more fertile and it is easier to achieve pregnancy between 20 to 30 years. participants (> 85%) were aware that young women are more fertile and it is easier to achieve pregnancy between 20 to 30 years. women in the upper SES had better knowledge (39% correctly answered) regarding need of ART.

Table 1: Demographic parameters

Mean age of female (years)	27.8±4.9	Range 20-44 years
Mean age of male (years)	32.87±3.5	Range 25-50 years
Type of infertility	Primary – 70(70%)	Secondary – 30 (30%)
Mean duration of infertility	Primary -3.2±1.05	Secondary-4.73±2.4

Table 2: Response of couple about knowledge based questionnaire

Questions	Yes	No	Don't know
Do you think increasing age in women may delay to achieve pregnancy?	65	20	15
Does obesity in a women delay the fertility?	30	25	45
Do you think irregular cycle may be a cause for delay in achieving pregnancy?	70	10	30
Does pain in lower abdomen during periods and during sexual intercourse delays in pregnancy?	50	15	35
What do you mean by fertile period in a women having regular cycle?	35	30	35
Do you think foul smelling discharge per vagina in a women is a cause for pregnancy delay?	5	80	15
Do you think frequency of intercourse increases the chance of pregnancy?	50	10	40
Do you think stressful life in a women affects her fertility?	60	20	20
Do you think delay in pregnancy runs in families?	20	62	18
Do you think regular exercise by a women increases her fertility?	60	20	20
Does smoking reduce sperm parameters in men?	30	15	55
Do you think increasing age in men reduces fertility?	50	20	30
Do you think a women conceived previously might have problems to conceive again?	40	22	38
Do you know about assited reproductive technique or not?			

Table 3: Response of couple about attitude based questionnaire

Questions	Yes	No	Don't know
Do you think infertility is a disease?	60	10	30
Who do you think it should be investigated first?	H-10	W-50	B -40
Who is being blamed for infertility in the society	H-2	W-90	B-8
Do you think it is socially acceptable to have a test tube baby?	60	5	35

Do you think your husband should donate sperm to help an infertile couple to have a baby	10	70	20

Table 4: Levels of knowledge

Knowledge	Number	Percentage
Inadequate knowledge	80	80%
Moderately adequate knowledge	15	15%
Adequate knowledge	5	5%

Discussion

In a survey among reproductive age women our data identified significant knowledge gaps and misconceptions surrounding the reproductive health and conceptions. Many women have limited understanding regarding risk factors related to conception and infertility. The rate of infertility in India is 10-14%. The mean age of our study was 27 years for female and 32 years for male. Only 10% were higher education status among females and 20% are graduates among males. According to Bunting and Boivin *et al*. 132007, knowledge about fertility issues is a core motivator for fertility problems. A Global survey revealed inadequate knowledge of women regarding infertility our study also demonstrated that the participants had inadequate knowledge about the risk factors associated with infertility.

In our study, 65% of female partners were aware that increasing age results in decline in fertility which is similar to study by Bunting and Boivin *et al*, 14 but there was lack of awareness of the significance of age for declining fertility among childless Canadian women15 and Australian women, 16 and among the University students in Sweden. 17 In our study, we found that 77% were aware that obesity has negative effects on infertility which is similar to Abolfotouh *et al*., [18] Brannian *et al*., [19] Bunting *et al*. 20 study and Daniluk *et al*. [15] study. In our study, we found that 70% women were aware that irregular cycles may be a cause for delay in pregnancy, but in Abolfotouh *et al* 18 study only 64% were aware about it. It is crucial to know about the fertile period for a women, when she should try to conceive. In our study, fertile period was known to only 35% participants similar to Ali *et al* 21 48% were aware of it. In our study 80% of female partners were not aware about the genital tract infections as risk factor for infertility. Since, diagnosis and treatment of genital tract infections can prevent the major sequel, the tubal block, awareness of genital infection as a risk factor is highly required in our society.

In our study, 60% females were aware about the negative effect of stress on fertility, which is had similar to other studies. In our study, only 20% of couple belief that infertility runs in family but no other study commented on hereditary nature of fertility. In our study, 50% women thought that increasing man's age reduces the chance of infertility, which is similar to Daniluk and Koert *et al*. Considering attitude of people in our study, 60% labelled infertility as disease, but in Ali *et al*. 21 study, only 44% opined that infertility as disease. Unnecessary blame on a woman for infertility can potentially effect her self-esteem and might socially cripple her. In our study, we found that 90% of women thought that they were blamed by the society for infertility and this is similar to Ali *et al*. 21 and Sami *et al*. 22 studies. In our study, we found that >80% patients were not aware about the mode of treatment available such as IVF study. 23.

We also found that 80% of infertile couples husband's were not willing to help infertile couple by sperm donation and this is similar to Sohrabvand *et al*. [23] study were 98.7% opposed sperm donation.

Our study population consisted of women attending infertility clinic who either consulted directly or were referred from general OBGYN clinic. These women are supposed to have more knowledge about infertility than general population.

Conclusion

The present study has identified significant important gaps in couples's knowledge and awareness regarding fertility practices. These include poor knowledge of factors affecting fertility especially age related decline in fertility, fertile period in the menstrual cycle and risk of infertility. The study also concluded that higher socioeconomic status and better education does not translate into improved knowledge and awareness of factors affecting fertility. Better accessibility of higher SES classes to media and internet may have enhanced their knowledge regarding advanced fertility treatment options, but they still lacked the basic knowledge of fertility affecting factors. Hence, there is a need of generalized education of masses and targeted interventions at primary level. The most important information that needs to be transmitted to young infertile couples is when it would be biologically too late to achieve childbearing and availability of other ART facilities at late age. Infertility is common problem affecting 10-15% of the population. The knowledge about infertility and its risk factors is generally limited among the participants, inspite of their educational status. We should create effective strategies for improving the awareness and education regarding fertility by conducting counseling sessions, interactive classes and web based and media based education.

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