


RESEARCH ARTICLE

Knowledge, attitude, and practice of infertility: a comparative study in infertile and fertile Indian women

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Abstract

For women who are trying to conceive, it is critical to assess their general knowledge regarding fertility and fertility-awareness practices to identify the fertile window and their agency to achieve pregnancy. The couple's ability to deal with the infertility issue may be influenced by their beliefs and attitudes concerning infertility, which are based on social and cultural influences as well as their inner aspirations. As a result, it's critical to examine infertile and fertile woman's general knowledge of reproduction and infertility risk factors. It's also crucial to learn about women's attitudes toward infertility (social beliefs), as well as the repercussions of infertility and the practises they employ to avoid it. The present study includes 250 fertile and 250 infertile women. Data collection for infertile women was done from the Gynecology Outpatient Department (OPD). Participants from both groups i.e., infertile and fertile women have little knowledge about infertility but, infertile women have significantly higher knowledge than fertile women. Knowledge of the fertile period, as well as several potential causes of infertility, were found to be significantly higher in women with infertility problem rather than fertile women, indicating that the knowledge they have acquired is not attributable to education system, but rather to their experience gained during visits to medical practitioners. In addition to differences with respect to knowledge, infertile and fertile women differed in terms of both attitude (societal beliefs and social consequences of infertility) and practices. Better knowledge regarding infertility is likely to bring positive notes among women with infertility problems. Which will further improve the attitude and practices of society towards infertile women. Therefore, its crucial to introduce reproductive health education at high school or undergraduate level, to assist women in avoiding infertility and to help infertile women develop healthier attitudes regarding infertility treatment and coping techniques.

Keywords: Infertility; infertility knowledge; infertility awareness; infertility practices; infertile women

Introduction

Infertility affects 15% of the world's population, making it a major public health issue. (Datta et al., 2016) Fertility is the ability to conceive a child and has a positive social value in Indian culture, whereas infertility has a negative social value. As a result, infertility is a major issue in developing and underdeveloped countries for reasons other than biological. For women who are trying to conceive, it is critical to assess their general knowledge regarding fertility and fertility-awareness practices to identify the fertile window. According to Zegers-Hochschild et al., (2017), fertility-awareness is defined by the International Glossary on Infertility and Fertility Care as “the

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understanding of reproduction, fecundity, fecundability, and related individual risk factors (e.g., advanced age, sexual health factors such as sexually transmitted infections, and life style factors such as smoking, obesity) and non-individual risk factors (e.g., environmental and work place factors), including the awareness of societal and cultural factors affecting options to meet reproductive family planning, as well as family building needs.” (p. 8) Frequently, women may not even recognize the relevance of good nutrition and exercise, particularly for infertile women. In order to lower the chance of inconception, the WHO recommends more than 150 minutes of high physical activity per week. (Piercy *et al.*, 2018) Incorrect food consumption that results in severe under or over-weight causes an imbalanced protein and calorie intake, which alters ovarian function and increases infertility.

Research has highlighted that knowledge is a key factor associated with fertility self-care (i.e. knowing about your own fertility potential) and the initiation of treatment (when needed), concluding that education about fertility issues is needed to prevent fear and unnecessary delay in seeking help when faced with problems conceiving. (Bunting & Boivin, 2007) Modern approaches can help couples who are experiencing infertility avoid unneeded Artificial Reproductive Technology (ART) treatment by assisting with precisely timed intercourse. (Gnoth *et al.*, 2005; Stanford *et al.*, 2002) One of several probable causes of health disparities caused by infertility is patient variables such as attitudes and awareness. (Ekkekakis *et al.*, 2000)

Despite the high prevalence of infertility (Lucke *et al.*, 2010) and unintended pregnancy, as well as the consequences for mothers and babies, (Rassi *et al.*, 2013; Wade *et al.*, 2012) there has been surprisingly little research on the possible link between women’s understanding of the fertile period of the menstrual cycle and their agency to achieve and avoid pregnancy. The knowledge gaps demonstrated in a study by Kudesia *et al.*, (2017) correlate with national trends in delayed childbearing and time to initiate treatment. The couple’s ability to deal with the infertility issue may be influenced by their beliefs and attitudes concerning infertility, which are based on social and cultural influences as well as their inner aspirations. As a result, it’s critical to examine infertile and fertile woman’s general knowledge of reproduction and infertility risk factors, as well as her understanding of her individual fertility. It’s also crucial to learn about women’s attitudes towards infertility (social beliefs), as well as the repercussions of infertility and the practises they employ to avoid it. The objective of this study is to understand the difference between the knowledge, attitude, and practices regarding infertility among infertile and fertile women.

Material and Methods

In the present case-control study; data was collected from 500 females, including 250 fertile and 250 infertile individuals aged between 22 to 35 years. Data collection for infertile women was done from the Gynecology Outpatient Department (OPD) of the Lady Harding Medical College (LHMC) and Smt. Sucheta Kriplani Hospital, Delhi, North India. The matching criteria for recruitment of infertile cases and fertile controls were married women in their reproductive age (which is 22 to 35 years) and hailing from North India (Delhi, National Capital Region and regions surrounding Delhi). Infertile women recruited were women seeking infertility treatment or any infertility related diagnosis from LHMC. One fertile age-matched woman was selected for each infertile woman who met the matching criteria and lived in a similar locality. Inclusion criteria for controls was women with successful pregnancies and having children older than one year.

The Ethical committee of LHMC and the Department of Anthropology, University of Delhi approved the work. Further, informed written consent was obtained from all the participants before data collection. For collecting data from the infertile and fertile women, a non-probability consecutive sampling method was used. A pretested modified interview schedule was used, which included demographic variables (age), questions related to knowledge about fertile period and

various possible causes of infertility; attitude towards infertility (social belief) and attitude towards consequences of infertility; and practice for avoiding infertility from previously validated tools. (Abolfotouh et al., 2013; Ali et al., 2011; Kjellberg et al., 2000) The first section gathered demographic information about the participants, such as their age, occupation, and level of education. The second section looked at how much people knew about infertility. (Ali et al., 2011) There were a total of 16 statements in this section. The remarks were on several factors that could affect fertility as well as some common myths about infertility. The right answer received a score of “1.” “0” was assigned to incorrect and “don’t know” responses. Summing the scores for the assertions yielded an overall knowledge score. As a result, the highest possible score was 16. It determined what the mean scores was, which is eight in this case. The score below eight was considered less knowledge and a score above was considered more knowledge. The questions about fertile period were considered separately. The third section dealt with how people felt about infertility. (Ali et al., 2011; Kjellberg et al., 2000) The present study examined the participants’ attitudes on infertility, namely through their social beliefs about infertility and the social consequences of infertility. The participants’ attitude towards infertility and its social consequences were assessed using a ten-item attitude statement questionnaire with a five-point Likert scale. Their attitudes concerning the nature of infertility, its severity, society’s responsibility toward childless couples, a couples right to have children, divorce and remarriage, and medical treatment of infertility, adoption and Assisted Reproductive Technologies (ART) as an alternative solution were all addressed in the remarks. All of the questions were answered with strongly agree, agree, not sure, disagree, or strongly disagree. The negative attitude statements were graded on a scale of one to five (strongly agree to strongly disagree). The positive attitude statements were scored using the opposite of this scoring system i.e., five to one. As a result, the minimum score for the attitude questions was 7, and the maximum cumulative score for these questions was 35. Calculated was the mean percentage score. Accordingly, the participants were distributed into negative and positive attitude categories. For practice two questions were considered of physical activity and nutrition. Calculated was the mean percentage score.

Statistical Analysis

Descriptive statistics were used for quantitative variables and were expressed as mean, standard deviation, frequencies, and percentages. Independent t test was performed for comparison of mean values. Pearson’s chi-square test was carried out for finding out the difference in the knowledge, attitude, and practice of infertile and fertile women. Binary logistic regression analysis was done to understand the effect of infertility on the knowledge level of the reproductive health among the participants. All statistical analysis was carried out using SPSS, IBM version 24, with a significance level of 0.05.

Results

A total of 500 women were interviewed during this study, among which 250 were infertile, and 250 were fertile. The mean age of infertile and fertile women was 27.104 ± 3.74 .

Table 1 shows that infertile women have significantly better knowledge about infertility as compared to fertile women. However, in the present study, majority of both infertile (69.5%) and fertile (93.2%) women have less knowledge about infertility. Similar results are observed through independent t test. Binary logistic regression analysis revealed that there is a significant six folds increase in knowledge levels of the participants with infertility with O.R. 6.021 (95% C.I. – 3.434 to 10.536 with a p value <0.001*).

Table 2 shows the distribution of fertile and infertile women according to their knowledge and misconceptions of infertility and the factors that may affect infertility. Infertile women (84.8%) as compared to fertile women (58.8%) were better aware of the ovulation period showing a

Table 1. Comparison of the knowledge about infertility aspect between infertile and fertile women

| | Less knowledge N(%) | More knowledge N(%) | Chi square value (p-value) | Mean± S.D. | t value (p-value) |
|--------------------------------------|------------------------|------------------------|-------------------------------|-------------|----------------------|
| Infertile women (N = 250) | 173(69.5) | 76(30.5) | 46.2 (0.00**) | 6.38 ± 3.84 | 2.53 (0.00**) |
| Fertile women (N = 250) | 233(93.2) | 17(6.8) | | 3.84 ± 2.58 | |

N is the sample size, p value <0.05 is statistically significant; S.D. = Standard Deviation.

significant difference. The majority of infertile women (56.4%) believe that irregular menstruation might be a cause of infertility, whereas nearly half of the fertile women (49.6%) didn't know if irregular menstruation causes infertility. Showing a significant difference, the majority of participants didn't know if blocked fallopian tubes (45.8% in infertile and 64.8% in fertile women) and history of genitourinary tract infection (46.4% in infertile and 76.8% in fertile women) in women can cause infertility. History of genitourinary infection in men, drinking alcohol, use of contraceptives, supernatural causes and diabetes show a significant difference among infertile and fertile women. The majority of participants responded that they don't know if infection of the genitourinary tract causes infertility in men. A higher proportion of infertile women (26%) as compared to fertile women (10.8%) believe that a history of genitourinary tract infection might not cause infertility in men. A higher proportion of infertile women in comparison to fertile women believe that drinking alcohol (40.8%) and smoking (42.4%) does not cause infertility. Almost half the infertile women (52.8%) believe that the use of contraceptives might cause infertility. A higher proportion of infertile women (62%) believe that infertility is caused due to psychological distress than fertile women (28.8%). Almost half of the infertile women (48.8%) believe that marrying at an advanced age might cause infertility whereas, a higher proportion of fertile women (48%) believe that it doesn't affect infertility. A higher proportion of infertile women (39.6%) believe that endocrine problems might affect infertility as compared to fertile women (12%). The majority of participants say they don't know if diabetes might be a cause of infertility or not. 24% of infertile women believe that diabetes might cause infertility. A higher proportion of infertile women than the fertile women (44.4% compared with 16.8%) believe that obesity might as well lead to infertility. Only a minority of either fertile or infertile women believe that practices such as black magic can cause infertility. The majority of infertile women (58.8%) believe that infertility can be caused due to various supernatural causes.

In Table 3, majority of both infertile and fertile women have negative attitude towards infertility. However, fertile women have a comparatively better positive attitude towards infertility than the infertile women showing a significant difference.

Table 4 shows the attitude of infertile and fertile women towards infertility as per the social beliefs. Half the infertile women but only 14.6 per cent of fertile women do not consider infertility as a disease showing a significant difference. 90% of infertile women believe that infertility causes worry, whereas only 55.5% of fertile women believe the same. Though not significant 92% of infertile and 88% of fertile women believe that infertility should be treated medically. More infertile women (88.4%) believe that it is a human right to have children, and everyone should have children. Majority of infertile women i.e., 85.6% believe that society should help childless couples whereas only 50.8% fertile women believe the same.

The attitude of infertile and fertile women as per the social consequences differs in various aspects. The majority of both fertile (88.8%) and infertile (92.4%) women believe that not having children should not be the grounds of divorce though not showing a significant difference. More than nine out of ten infertile women believe that not having children is not a valid reason to marry

Table 2. Distribution of infertile and fertile women according to their knowledge about infertility

| | | KNOWLEDGE | | |
|--|--|-----------|-----------|---------|
| | | INFERTILE | FERTILE | p value |
| Knowledge about fertile period | | | | |
| | Yes | 212(84.8) | 147(58.8) | <0.001* |
| | No | 38(15.2) | 103(41.2) | |
| According to you which of the following may cause Infertility | | | | |
| 1. | Abnormal Menstruation | | | |
| | Yes | 141(56.4) | 77(30.8) | <0.001* |
| | No | 49(19.6) | 49(19.6) | |
| | Don't Know | 60(24) | 124(49.6) | |
| 2. | Blocked tubes | | | |
| | Yes | 71(28.4) | 45(18) | <0.001* |
| | No | 63(25.2) | 43(17.2) | |
| | Don't Know | 116(45.8) | 162(64.8) | |
| 3. | History of infections of the genitourinary tract in women | | | |
| | Yes | 71(28.4) | 23(9.2) | <0.001* |
| | No | 63(25.2) | 35(14) | |
| | Don't Know | 116(46.4) | 192(76.8) | |
| 4. | History of infections of the genitourinary tract in men | | | |
| | Yes | 60(24) | 33(13.2) | 0.008* |
| | No | 65(26) | 27(10.8) | |
| | Don't Know | 125(50) | 190(76) | |
| 5. | Drinking Alcohol | | | |
| | Yes | 93(37.2) | 82(32.8) | 0.004* |
| | No | 102(40.8) | 64(25.6) | |
| | Don't Know | 55(22) | 104(41.6) | |
| 6. | Smoking | | | |
| | Yes | 94(37.6) | 94(37.6) | <0.001* |
| | No | 106(42.4) | 37(14.8) | |
| | Don't Know | 50(20) | 119(47.6) | |
| 7. | Vigorous exercise | | | |
| | Yes | 63(25.2) | 45(18) | <0.001* |
| | No | 102(40.8) | 31(12.4) | |
| | Don't Know | 85(34) | 174(69.6) | |
| 8. | Previous use of contraceptives | | | |
| | Yes | 132(52.8) | 77(30.8) | 0.002* |
| | No | 39(15.6) | 47(18.8) | |
| | Don't Know | 79(31.2) | 126(50.4) | |

(Continued)

Table 2. (Continued)

| | KNOWLEDGE | | | p value |
|------------|---|-----------|-----------|---------|
| | INFERTILE | FERTILE | | |
| 9. | Previous use of intrauterine devices | | | |
| | Yes | 73(29.2) | 94(37.6) | 0.056 |
| | No | 68(27.2) | 49(19.6) | |
| | Don't Know | 109(43.6) | 107(42.8) | |
| 10. | Psychological Distress | | | |
| | Yes | 155(62) | 72(28.8) | <0.001* |
| | No | 44(17.6) | 100(40) | |
| | Don't Know | 51(20.4) | 78(31.2) | |
| 11. | Marriage at an advanced age | | | |
| | Yes | 122(48.8) | 42(16.8) | <0.001* |
| | No | 62(24.8) | 120(48) | |
| | Don't Know | 66(26.4) | 88(37.2) | |
| 12. | Endocrine problems | | | |
| | Yes | 99(39.6) | 30(12) | <0.001* |
| | No | 39(15.6) | 43(17.2) | |
| | Don't Know | 112(44.8) | 177(70.8) | |
| 13. | Diabetes | | | |
| | Yes | 60(24) | 26(10.4) | 0.001* |
| | No | 67(26.8) | 67(26.8) | |
| | Don't Know | 123(49.2) | 157(62.8) | |
| 14. | Obesity | | | |
| | Yes | 111(44.4) | 42(16.8) | <0.001* |
| | No | 52(20.8) | 55(22) | |
| | Don't Know | 87(34.8) | 153(61.2) | |
| 15. | Black magic | | | |
| | Yes | 91(36.4) | 109(43.6) | 0.138 |
| | No | 120(48) | 114(45.6) | |
| | Don't Know | 39(15.6) | 27(10.8) | |
| 16. | Supernatural causes | | | |
| | Yes | 146(58.4) | 122(48.8) | 0.045* |
| | No | 80(32) | 89(35.6) | |
| | Don't Know | 24(9.6) | 39(15.6) | |

N is sample size; p-value <0.05 is statistically significant.

Table 3. Comparison of the attitude towards infertility aspect between infertile and fertile women

| | Negative attitude | Positive attitude | Chi square value (p-value) | Mean± S.D. | t value (p-value) |
|----------------------------------|-------------------|-------------------|----------------------------|--------------|------------------------|
| Infertile women (N = 250) | 229(91.6) | 21(8.4) | 11.5 (0.006**) | 12.10 ± 3.23 | -16.06 (0.00**) |
| Fertile women (N = 250) | 203(81.2) | 47(18.8) | | 16.22 ± 2.45 | |

N is the sample size, p value <0.05 is statistically significant; S.D. = Standard Deviation.

a second time. Though not significant but 69.6% of infertile women believe that if a couple cannot have children they should adopt. A higher proportion of infertile (32.4%) than the fertile women believe that conceiving through ART should not be acceptable. A higher proportion of infertile (86.4%) than the fertile women believe that fertility drugs are acceptable.

As per the practices are concerned, a higher proportion of infertile women (46.4%) try to do physical activity as compared to fertile women (20%). More infertile women (66%) try and have nutritious food (Table 5).

Discussion

Knowledge of the fertile period, as well as several potential causes of infertility, were found to be significantly different between both infertile and fertile women. In addition to differences with respect to knowledge, infertile and fertile women differed in terms of both attitude (societal beliefs and social consequences of infertility) and practices.

Participants from both groups i.e., infertile and fertile women have little knowledge about infertility. This could conveniently be attributed to the lack of basic reproductive health education in India which further is substantiated by a recent study by Mahey et al., (2018) where the authors depict poor knowledge and awareness about infertility in general population. (Bunting et al., 2013; Mahey et al., 2018) Infertile women in the present study, appear to be more knowledgeable about the fertile period, implying that the knowledge they have received is not due to the education system, but rather through their experience gained during their visits to medical practitioners. Worldwide studies have also shown that people are unaware of biological aspects of conception, and have poor knowledge about the most fertile period in the menstrual cycle. (Childress et al., 2015; Daniluk & Koert, 2013; Kudesia et al., 2017; Mills et al., 2015) The present study observed that infertile women were more knowledgeable because of their treatment protocols, this is also reported in another study where Childress et al., (2015) mentioned that the first visit for infertility can increase their understanding and reduce both unfavourable treatment evaluations and anxiety level. (Childress et al., 2015) Further, Pedro et al., (2018) observed women who had difficulty conceiving, and also all those who had planned their pregnancies all showed higher levels of fertility awareness which is in support to the present study and implies that the women who went to clinicians have better awareness regarding infertility. (Pedro et al., 2018) This demonstrates that participants have little or no understanding of avoiding infertility or when or where to seek treatment if they are infertile. In a poll conducted during World Fertility Awareness Month, this trend was also noted globally. (*World Fertility Awareness Month. What You Never Know about Fertility [Brochure].*, 2006)

The present study depicts that most of the fertile women were absolutely unaware of the possible causes of infertility like abnormal menstruation, blocked fallopian tubes, history of genitourinary infection in male and female, drinking alcohol, smoking, vigorous physical exercise, use of

Table 4. Distribution of fertile and infertile women according to their attitude towards infertility

| ATTITUDE | | | |
|--|-----------|-----------|---------|
| Attitudes towards Infertility (Social Belief) | | | |
| | INFERTILE | FERTILE | p value |
| Infertility is a disease? | | | |
| Agree | 92(36.8) | 120(48) | <0.001* |
| Not sure | 33(13.2) | 101(40.4) | |
| Disagree | 125(50) | 29(14.6) | |
| Does infertility cause worry? | | | |
| Agree | 225(90) | 138(55.2) | <0.001* |
| Not sure | 7(2.8) | 105(42) | |
| Disagree | 18(7.2) | 7(2.8) | |
| Infertility should be treated medically? | | | |
| Agree | 229(92) | 220(88) | 0.28 |
| Not sure | 18(7.2) | 29(11.6) | |
| Disagree | 3(1.2) | 1(0.4) | |
| It is a human right to have children? | | | |
| Agree | 221(88.4) | 213(85.2) | 0.001* |
| Not sure | 10(4) | 34(13.6) | |
| Disagree | 19(7.6) | 3(1.2) | |
| Is it society's obligation to help childless couples? | | | |
| Agree | 214(85.6) | 127(50.8) | <0.001* |
| Not sure | 17(6.8) | 99(29.6) | |
| Disagree | 19(7.6) | 24(9.6) | |
| Attitude toward the social consequences of infertility | | | |
| If the woman cannot have a baby, this should be grounds for divorce? | | | |
| Agree | 11(4.4) | 8(3.2) | 0.05 |
| Not sure | 8(3.2) | 20(8) | |
| Disagree | 231(92.4) | 222(88.8) | |
| If a woman cannot have children, this is a valid reason for the man to marry a second time? | | | |
| Agree | 10(4) | 41(16.4) | 0.002* |
| Not sure | 7(2.8) | 21(8.4) | |
| Disagree | 233(93.2) | 188(75.2) | |
| If a couple cannot have a child, they should adopt? | | | |
| Yes | 174(69.6) | 158(63.2) | 0.12 |
| No | 76(30.4) | 92(36.8) | |
| Conceiving through the use of ART should be acceptable /normalized? | | | |
| Yes | 169(67.6) | 197(78.8) | 0.004* |
| No | 81(32.4) | 53(21.2) | |

(Continued)

Table 4. (Continued)

| ATTITUDE | | | |
|---|-----------|---------|--------------|
| Attitudes towards Infertility (Social Belief) | | | |
| | INFERTILE | FERTILE | p value |
| Fertility drugs are acceptable? | | | |
| Yes | 216(86.4) | 195(78) | 0.01* |
| No | 34(13.6) | 55(22) | |

N is Sample size; p-value <0.05 is statistically significant.

Table 5. Distribution of fertile and infertile women according to their practice for infertility

| PRACTISE | | | |
|--------------------------|------------|----------|-------------------|
| | INFERTILE | FERTILE | p value |
| Physical Activity | | | |
| Yes | 116 (46.4) | 50 (20) | <0.001* |
| No | 134 (53.6) | 200 (80) | |
| Nutritious food | | | |
| Yes | 165 (66) | 85 (34) | <0.001* |
| No | 85 (34) | 165 (66) | |

N is Sample size; p-value <0.05 is statistically significant.

contraceptives, endocrine problems, diabetes and obesity. Similar observations were also found in a study where it was observed that women had poor knowledge of factors affecting fertility, including age-related decline in fertility, the fertile time in the menstrual cycle, and beliefs about the use of oral pills and the risk of infertility. (Mahey et al., 2018; Patra & Unisa, 2021) Infertile women on the otherhand, are comparatively better aware of the possible causes of infertility like disturbed menstruation, blocked fallopian tubes, history of genitourinary infection in male and female, vigorous exercise, use of contraceptives, psychological distress, marriage at an advanced age, endocrine problems, and obesity. A higher proportion of infertile than the fertile women believe that smoking and drinking alcohol does not cause infertility. In concordance to the present study, various other studies depict that in addition to age, other modifiable factors like sexually transmitted infections (STIs) (Ochsendorf, 2008), smoking (Augood et al., 1998; Lintsen et al., 2005), alcohol consumption (Eggert et al., 2004; Hakim et al., 1998), and obesity or low weight (Hassan & Killick, 2004; Lintsen et al., 2005; Ohwaki et al., 2009) impact infertility. Other than biological causes of infertility, infertile women also believe that infertility might as well be due to supernatural causes and black magic. This is also supported by another study which states beliefs in evil forces and supernatural powers as a cause of infertility are still prevalent. (Eggert et al., 2004) People are aware that the negative lifestyle factors reduce fertility but falsely believe in fertility myths and the benefits of healthy habits. (Bunting & Boivin, 2008) The findings revealed that while participants were aware of infertility risk factors, they were less aware of factors that had no effect on fertility (myths and good behaviours) and felt that these elements really boosted a woman's

fertility potential. False perceptions about fertility should be addressed in fertility awareness efforts because they can give people a false sense of assurance about their fertility.

Infertile and fertile women have different attitudes regarding cultural beliefs about infertility. Half of the infertile women do not perceive infertility to be a disease, whereas fertile women tend to have this perception. Which illustrates that infertile women do not want to think of themselves to have some disease and another erroneous belief is that infertility is not a medical condition. The World Health Organization has categorised infertility as a disease, making it a condition that should be treated. (Fisher *et al.*, 2009) The infertile women tend to think of infertility as a permanent or congenital condition. Infertility is frequently attributed to the will of a higher being. As a result, they develop the habit of seeking a more spiritual approach to resolving infertility. Similar observation was found in another study which stated that participants believe that once a couple has conceived or even if they have not conceived, conceiving is merely a matter of time and other superstitious circumstances. (Harzif *et al.*, 2019) Despite this fact that they do believe that they are missing out on life without children. Couples might as well be less likely to seek treatment as a result of this misunderstanding. A study by Patra & Unisa, 2021 also states that women with more understanding about reproductive health were more likely to obtain allopathic infertility therapy, whereas women with less information tended to choose conventional, superstitious, or religious approaches. The majority of infertile women in the present study believe that infertility is a cause of worry they might be describing their own experience here; fertile women, on the other hand, do not believe that infertility is a cause of concern. Fertile women have children and hence are not concerned; nevertheless, infertile women are concerned and distressed by the issues and social pressures they face on a daily basis, particularly in developing nations such as India, where institution of marriage and later having children is a matter of great importance. Another study by Cousineau and Domar, (2007) also states that there is widespread agreement that a woman's role and status should not be determined solely by her ability to bear children; in many communities, femininity is defined by being a mother, which is frequently the only way for women to increase their status within the family and community. (Cousineau & Domar, 2007) The majority of women believe that infertility should be addressed medically. The majority of women both infertile and fertile believe that having children is a human right, yet more infertile women than fertile women say that having children is not necessary. Infertile women believe that infertile couples should be supported by society rather than mocked or pressured. Because the community spread and evaluated knowledge of an individual's infertility as a negative attribute of that person or couple, it is established that infertility is a significant issue in the community, and it is extremely important that society should help the infertile couple. A recent study by Keramat *et al.*, (2013) depicts that social support has been reported to be beneficial for infertile couples' self-esteem and quality of life. (Keramat *et al.*, 2013) Fertile women, on the other hand, do not share this belief. Therefore, infertile and fertile women do not perceive infertility similarly as they are not in similar conditions.

Infertile and fertile women have different perspectives on the social consequences of infertility. The majority of women disagree that if a woman is unable to have children, her husband should divorce or remarry. However, more fertile women, on the other hand, believed that a man should remarry if a woman is unable to bear children, regardless of the various difficulties that remarriage and infertility bring in infertile women's life. Social stigma regarding infertility is especially common across South Asia. For example, in Andhra Pradesh, India, 70% of infertile women reported being physically assaulted as a consequence of their infertility. (Daar & Merali, 2002) Studies depict that women are verbally or physically abused in their own households, denied inheritance, returned to their parents, shunned, looked down upon by society, and even have their marriages dissolved or ended if they are unable to conceive. (Ahmed, 1987; Van Balen & Trimbos-Kemper, 1993) Infertile and fertile women agree that if a couple is unable to have children, they should adopt. Surprisingly, the present study reveals that comparatively less infertile than fertile women agreed on normalising conceiving using ART. This could be due to a lack of awareness about ART,

since infertile women are yearning to have children in whatever manner they can, but this is not evident at the moment, even though they consented to adopt children but not go for ART. In contrast to the present study, it is observed that reproductive wants are intricately tied to biological and social reproduction, and recent anthropological study on reproduction has revealed a growing focus on the emerging biological possibilities afforded by assisted reproductive technology (ARTs). (Carmeli & Carmeli, 2010; Hampshire & Simpson, 2015).

Infertile and fertile women followed different practices. Infertile women were doing more exercise and eating more nutritious foods in the present study. There are studies which state that female reproduction requires far more energy than male reproduction, and the reproductive axis is intimately related to nutritional health as a protective mechanism against malnutrition. Eating disorders are linked to decreased ovulation frequency or cessation. (Baird et al., 2006) Infertile women being more concerned about their nutrition and physical activity might be due to the basic protocols of infertility treatment as recommended by medical practitioners, not because of any concern for one's health or well-being.

Conclusion

Better knowledge, attitude and practice regarding infertility are likely to bring positive note among the infertile women. However, the present study depicts infertile and fertile women have minimal information on infertility prior to infertility. Infertile women know more about the fertile period and other possible causes of infertility, indicating that the knowledge they have acquired is not attributable to education system, but rather to their experience gained during visits to medical practitioners. When compared to fertile women, women with infertility had much more favourable attitude toward infertility, various infertility therapies (such as IVF or fertility medicines), societal beliefs and social consequences of infertility. Therefore, it's crucial to introduce reproductive health education at the high school or undergraduate level, to assist women in avoiding infertility and to help infertile women develop healthier attitudes regarding infertility treatment and coping techniques.

Availability of data and materials. The authors are unable to share raw data because ethical approval was not obtained for data sharing of this nature.

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Ethics Approval and Consent to participate. Obtained the ethical clearance from the Ethics Committee of the Department of Anthropology, University of Delhi and Lady Hardinge Medical college & its associated Hospital, New Delhi. All methods were carried out in accordance with relevant guidelines and regulations. Informed written consent was obtained from all participants included in the study. Informed consent in the form of thumb impression was taken in the presence of the legally authorized representatives for illiterate participants.

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