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Awareness, knowledge, and psycho-emotional aspect of infertility among women seeking fertility assistance at a tertiary care hospital in Chhattisgarh, a cross-sectional study

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Abstract:

BACKGROUND: The lack of fundamental knowledge and awareness about the biological process of reproduction is low worldwide but has reportedly higher incidence rates in under-developed countries. Infertility can have a tremendous effect on a woman's psychological and social well-being, pushing her toward mental stress, anxiety, depression self-blame, self-isolation, feeling of worthlessness, and lack of interest in life. The present study was conducted to determine the level of knowledge and awareness regarding factors affecting fertility and also to ascertain the emotional status of females visiting the Obstetrics and Gynecology out-patient department for fertility assistance.

MATERIALS AND METHODS: A cross-sectional study was performed by using a questionnaire which had two parts; the first part had questions about awareness and knowledge of the subject of infertility, and the second part had 12 questions that assessed the psychological and emotional status of the participants, and it also explored prevailing myths about infertility based on a validated questionnaire.

RESULTS: There was a significant difference in mean knowledge score; those who were more educated had better knowledge of various aspects of infertility. The overall adequacy for knowledge and awareness revealed that only 62 (47.7%) of the participants had adequate knowledge (score >6) regarding female infertility. The mean score for knowledge among all the respondents was 6.61 ± 1.48 . The overall emotional and psychological score suggested that 30 (23%) of the respondents were disturbed because of stress because of infertility.

CONCLUSION: Infertility can have a serious impact on the psychological well-being of females, and social pressure and stigma associated with childlessness can further worsen the physical and emotional well-being of couples, which needs to be addressed before starting treatment of infertility for a better response to treatment. The limited knowledge and prevailing mis-conceptions regarding infertility need to be sincerely dealt with to complement the medical treatment of infertility.

Keywords:

Depression, infertility, knowledge, myths, psychological stress

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Introduction

Infertility is the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse.^[1] It is estimated that globally 10–15% of couples

are affected by infertility.^[2,3] The overall burden of sub-fertility/infertility is significant, likely under-estimated, and has not displayed any decrease over the past 20 years. The fertility rate is declining everywhere in the world, and a recent report

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by the United Nations has stated that the fertility rate in India has reduced to almost 50% in the past 40 years.^[4]

The lack of fundamental knowledge and awareness about the biological reproduction process is low worldwide but has reportedly higher incidence rates in under-developed countries.^[5,6] Fertility rates can increase if couples are made aware of basic facts such as ovulation time when they should be undergoing unprotected intercourse, the effect of age on fertility, and finally when to seek infertility treatment.^[7-9] Myths and mis-information too have a negative impact on fertility [Annaxure 1].^[10] Other infertility-related risk factors which adversely affect reproductive potential are sexually transmitted infections, PCOS, and lifestyle factors such as obesity, smoking, and alcohol consumption, which are modifiable or preventable risk factors, and hence, if couples are made aware of refraining from such behaviors, it would increase their fertility potential.^[11-15]

In male-dominated countries such as India, the inability to bear a child is socially stigmatized and may subject women to be a victim of physical abuse, ostracism, marital disharmony, sexual dysfunction, divorce, second marriage, and so on.^[16-18] Infertility can have a tremendous effect on a woman's psychological and social well-being, pushing her toward mental stress, anxiety, depression self-blame, self-isolation, feeling of worthlessness, and the lack of interest in life.^[19-22] Therefore, based on the above-mentioned reasons, the objectives of the study are as follows:

1. To determine the level of knowledge and awareness among infertile couples regarding factors affecting fertility.
2. To ascertain the emotional status of females visiting the Obstetrics and Gynecology out-patient department (OPD) for fertility assistance. The present study was also performed with the aim to provide necessary fertility education and counseling to the suffering females and palliate their psychological and social distress.

Materials and Methods

Study Design and Setting

This was a cross-sectional study. The study was carried out in Gynecology OPD of a tertiary care Central Government teaching hospital of Raipur, Chhattisgarh, India, for 2 months in the year 2019–20 (December 2019 to March 2020).

Study Participants and Sampling

All females attending the Obstetrics and Gynecology OPD with primary or secondary infertility and seeking fertility assistance for the first time at this hospital were considered for the study. A total of 146 patients

were recruited for the current study. The inclusion criteria were females of a reproductive age group, that is, 21–44 years, and those who voluntarily agreed to participate after reading the patient information sheet and signed written consent were recruited for the study and offered a questionnaire to respond freely under supervision and guidance of a fertility counselor. Women who had taken prior treatment or counseling for the same cause at any time before this study or who suffered from any psychiatric co-morbidities, psychiatric illness, or any serious medical disorders were excluded from the current study. Participants were ensured of their privacy during the interview. The interview was conducted in the native language of Hindi using a structured, pre-tested questionnaire and lasted between 20 and 25 minutes, which included a counseling session too. The patients had to mark the most suitable option to the best of their abilities given after each question. The questionnaire was designed by the research team after reviewing previous papers on fertility awareness and modified according to the local patient population and researchers' experience of prevailing common modifiable issues among the patients seeking treatment of infertility. The questionnaire also had a column depicting the patient's demographic details, which included name, age, education level, occupation, and per capita income. The socio-economic status was identified using modified BG Prasad's socio-economic classification.^[23] The patients were then counseled further about all the basic knowledge about improving fertility and modifiable risk factors and after obtaining confidence made aware of the myths and facts of infertility. They were also provided with psychological counseling by the psychiatric team of our institute.

Bias: All the patients fulfilling the exclusion and inclusion criteria and attending gynecology OPD in the study period were enrolled for the study, so there was no scope of any bias.

Data collection tool and technique

Patient information sheet

The patients were provided with a patient information sheet clearly explaining the nature, objectives, and procedure of the study.

Written Informed Consent

After their willingness to participate in this study, the consent form was obtained duly signed by them. A copy of the signed consent form was retained with the investigators, and the other copy was given to the study participants.

Questionnaire

This had two parts. The first part had 11 questions of awareness and knowledge of the subject of infertility.^[10]

The second part had 12 questions that assessed the psychological and emotional status of the participants, and it also explored prevailing myths about infertility based on a validated questionnaire. Responses to the questions on knowledge and awareness were recorded as correct or incorrect, and each of the correct answers was given a score of 1 and the wrong answer as score 0. Based on the sum of the scores of the questions on knowledge and awareness, two categories were defined for each of them: Adequate (≥ 6 score) and inadequate (< 6 scores). The responses of psychological and emotional statuses were assigned four grades with respect to frequency (1 = never or rarely, 2 = sometimes, 3 = many times, and 4 = always). The score of ≥ 24 points was defined as the cut-off point for emotionally disturbed and the necessity of more specific psychological advice.

Variables

Continuous variables such as age, years of infertility, and years of marriage were expressed as mean \pm SD. Categorical variables such as education, SES, type of infertility, and responses of the questionnaire were expressed as frequency and percentages.

Statistical analysis

Statistical analysis was carried out using statistical packages for SPSS 16.0 for Windows (SPSS Inc., Chicago, IL, USA). Continuous variables such as age, years of infertility, and years of marriage were expressed as mean \pm SD. Categorical variables such as education, SES, type of infertility, and responses of the questionnaire were expressed as frequencies and percentages. Knowledge and awareness scores were classified as adequate (score > 6) and inadequate (score ≤ 6). The emotional aspect score was classified as not disturbed (score < 24) and disturbed (score ≥ 24). One-way ANOVA test was applied to see the difference in mean knowledge and emotional scores in different education, SES, and infertility categories. Two-sided *P* values were considered as statistically significant at *P* < 0.05 .

Ethical consideration with code of Ethics

This study was carried out in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines. The authors maintained all the protocols before performing all the procedures engaged in this study involving human participants in accordance with the ethical standards of the institutional research committee. The confidentiality and anonymity of the participant's information were also ensured before starting the interview. This study is the part of the research project initiated after obtaining clearance from the Institute Ethics Committee with clearance reference number AIIMS/RPR/IEC/2019/296.

Results

We approached almost 146 patients for 2 months of our study period who fell into our inclusion criteria, but only 130 could be finally recruited for the study as the rest did not give consent for the study because of either constraints of time of the visiting couple or reluctance to share their thoughts and issues because of family pressure.

Table 1(a) depicts that among all the females included in the study (N = 130), the mean age was 28.75 (± 4.86), with the mean years of infertility being 1.7 (± 0.83) years and the mean years of marriage being 5.45 (± 4.46) years. 67.2% of the respondents had primary Infertility.

Table 1(b) assesses their socio-demographic characteristics, which revealed that 76.3% of respondents were educated up to the higher secondary school or above. 85.9% of the respondents were having a socio-economic class more than the upper-middle class.

Table 2 shows that the maximum correct answers were given for Q5 and Q11. The maximum incorrect answers were given for Q10 and Q3.

Assessment of knowledge and awareness among all the responders compared to the standard answers showed that maximum correct knowledge was observed for that infertility is not a legal ground for divorce (96.1%

Table 1a: Socio-demographic details of the study population (n=130)

Variable	Mean	SD
Age (years)	28.75	4.86
Years of infertility	1.70	0.83
Years of marriage	5.45	4.46

Table 1b: Socio-demographic details of the study population (n=130)

Variables	Frequency	Percentage
Education		
No	2	1.5
Primary School	15	11.5
High School	14	10.7
Higher secondary School	27	20.6
Graduation	38	29.0
Post-Graduation	35	26.7
SES		
Poor	1	0.8
Lower middle	8	6.1
Upper middle	32	24.4
High	36	27.5
Upper high	54	41.2
Infertility		
Primary	88	67.2
Secondary	43	32.8

answered correctly), and by the response of Q11, it is evident that couples have a very high preference to opt for medical management of infertility (95.3% answered correctly) and they are very well aware of the hardship of other methods such as artificial reproductive technology and adoption. The least knowledge was seen for queries of the most fertile time during the menstrual cycle (30.8% answered correctly), and only 21.5% answered correctly that just regulation of the menstrual cycle cannot help to prevent infertility. For questions regarding the optimum number of coituses required for pregnancy and major blame for childlessness, the knowledge among the majority of responders was found to be less than 50%.

Optimum knowledge was found among the responders for questions such as the age of reducing fertility, the minimum duration of unprotected intercourse before being classified as infertile, the possibility of male infertility, plausible causes of female infertility, and initial examination for infertility. For all these questions, more than 50% of the responders could answer correctly. Q8 enlisted ten probable causes of infertility, out of which seven were the actual cause and three were myths, and those who could mark more than five options correctly were counted as positive responders. Therefore, 64.6% of participants had satisfactory knowledge of probable causes of infertility, and most, that is, more than 80%, were not misled by myths such as black magic, supernatural power, or use of oral contraceptive pills that can cause infertility.

Table 3 analyzes the response of the emotional aspect questionnaire.

Never, hardly ever responses are maximum for Q1, Q11, and Q12. For Q3, Q8 responses are mainly ever, and more often. Assessment of emotional and psychological response among all the female responders revealed that for questions of feeling of being cast out from the family, mental and physical violence in the family, or the thought of running away from the family because of infertility garnered positive (never or hardly ever experienced) response more than 90% of the times.

For questions of experience of depression during the time of menstruation and feeling of emptiness because of inability to have a child, more than 40% of the females responded negatively (mainly ever experienced or more often experienced).

For all other questions such as peer pressure following a pregnancy of a peer, lost interest in sexual activity, affected day-to-day relationship with the spouse, feeling of anxiety, palpitation, or self-pity because of infertility, positive response (never, hardly ever experienced) was garnered from the majority of the respondents.

Table 2: Response of the knowledge and awareness questionnaire

	Correct answers (n)	Percentage	Incorrect answers (n)	Percentage
Q1	67	51.5	63	48.5
Q2	57	43.8	73	56.2
Q3	40	30.8	90	69.2
Q4	67	51.5	63	48.5
Q5	125	96.1	5	3.9
Q6	115	88.5	15	11.5
Q7	55	42.3	75	57.7
Q8	84	64.6	46	35.4
Q9	104	80	26	20
Q10	28	21.5	102	78.5
Q11	124	95.38	6	4.62

Table 3: Response of the emotional aspect questionnaire

	Low-frequency response (score 1, 2)		High-frequency response (score 3, 4)	
	Frequency	Percentage	Frequency	Percentage
Q1	126	96.2	5	3.8
Q2	96	73.3	35	26.7
Q3	73	55.7	58	44.3
Q4	116	88.5	15	11.5
Q5	116	88.5	15	11.5
Q6	112	85.5	19	14.5
Q7	95	72.5	36	27.5
Q8	68	51.9	63	48.1
Q9	116	88.5	15	11.5
Q10	89	67.9	42	32.1
Q11	122	93.1	9	6.9
Q12	118	90.1	13	9.9

Table 4 is the classification of participants according to their knowledge and emotional aspect.

The above table shows that almost half of them have adequate knowledge and awareness, and only 30% are emotionally disturbed because of infertility. The overall adequacy for knowledge and awareness revealed that only 62 (47.7%) of the participants had adequate knowledge (score > 6) regarding female infertility. The mean score for knowledge among all the respondents was 6.61 ± 1.48 .

The overall emotional and psychological score suggested that 30 (23%) of the respondents were disturbed because of stress because of infertility.

Table 5 shows the mean scores of knowledge and emotional aspect. The mean score for emotional and psychological aspects among all the respondents was 21.06 ± 6.00 .

Table 6 highlights the factors affecting knowledge and emotional scores. A one-way ANOVA test was applied,

and $P < 0.05$ was considered to be significant. There was a significant difference in mean knowledge score; those who were more educated had better knowledge of various aspects of infertility. There was a significant difference in the mean knowledge score among the females with different educational backgrounds (p-value 0.025). The mean knowledge score among the illiterate respondents was significantly lower (mean score 5) as compared to literate females.

There was no difference in mean knowledge score among respondents of different socio-economic classes (p-value 0.33). There was no difference in the mean knowledge score among females of primary and secondary infertility (p-value 0.64). There was no difference in mean emotional and psychological scores among the females concerning their educational and socio-economic backgrounds or the type of infertility (p-values 0.21, 0.93, and 0.12, respectively).

Discussion

Infertility is a global problem, and hence, worldwide, many studies have been performed, which have come

Table 4: Classification of participants according to their knowledge and emotional aspect

	Frequency	Percentage
Knowledge and awareness (total score=11)		
Inadequate knowledge (score ≤6)	68	52.3
Adequate knowledge (score >6)	62	47.7
Emotional aspect (total score=48)		
Not disturbed (score <24)	100	77.0
Disturbed (score ≥24)	30	23.0

Table 5: Mean scores of knowledge and emotional aspect

	Minimum	Maximum	Mean	SD
Knowledge score	3.00	11.00	6.61	1.48
Emotional score	12.00	43.00	21.06	6.00

Table 6: Factors affecting knowledge and emotional scores

Variables	Categories	n	Knowledge score		P	Emotional score		P
			Mean	S.D		Mean	S.D	
Education	No	2	5.0000	0.00000	0.025*	26.5000	4.94975	0.201
	Primary School	15	6.5333	1.40746		22.1333	5.79244	
	High School	14	6.0000	1.30089		22.0000	5.62959	
	Higher secondary School	27	6.3333	1.46760		21.9630	6.37593	
	Graduation	38	7.2368	1.53225		21.2895	6.59200	
	Post-Graduation	35	6.5143	1.40108		19.0000	4.99411	
SES	Poor	1	8.0000	.	0.335	21.0000	.	
	Lower middle	8	5.7500	1.16496		22.1250	8.14928	
	Upper middle	32	6.5000	1.56576		20.4375	5.21126	
	High	36	6.5833	1.44173		21.5556	5.71936	
	Upper high	54	6.7963	1.49691		20.9630	6.43974	
Infertility	Primary	88	6.5682	1.46056	0.64	21.6364	5.94840	
	Secondary	43	6.6977	1.55126		19.9070	6.00719	

out with definite evidence of a lack of basic knowledge among couples seeking fertility help about the factors influencing fertility.^[8,24,25]

In our study, we approached all the women attending our infertility OPD for the first time in the 2 months of study and have also ensured that they have not undergone any kind of treatment or counseling for fertility elsewhere before coming here. The response rate was 85.5%, and the reasons for denial to participate in the study were that mostly those who were illiterate and could not read the questions even in their local language and when offered to explain the questions in detail by the fertility counselor, they refused to reciprocate saying they do not understand anything. In our study, regarding assessment of knowledge and awareness of the participants as assessed by the answers selected in the questionnaire part 1, 69.2% did not have any idea of the most fertile period of the cycle and when to have intercourse to increase the chance of conception and 78.5% wrongly believed that just regularizing the menstrual cycle will solve the problem of infertility. Somewhat similar findings were seen in a study performed in Australia, Turkey, and Grenada. 68%, 64%, and 60% of the participants, respectively, could not correctly identify the middle week between periods to be the most fertile period.^[26-28] In another similar study performed in Australia in 2007–2008, only 12.7% could accurately identify this window, which was very close to the findings of the study performed at the apex institute of India, where only 15% could correctly identify the fertile window of the menstrual cycle.^[29] The study population in Pakistan and Spain had still better knowledge, where 46% and 50.7%, respectively, could identify the middle week as the most fertile week.^[10,30]

In our study, 76.3% of respondents were educated up to the higher secondary school or above. 85.9% of the respondents were having a socio-economic class more

than the upper-middle class, but still, we could see the considerable knowledge gap in infertility awareness. Similarly, a study at AIIMS, Delhi, in India and a study by Hampton *et al.* in Australia found no association between high fertility awareness and socio-economic status.^[30,31] This was in contrast to the study by Bunting L *et al.*, who quoted that higher education and a higher societal class had more fertility knowledge.^[7]

In the current study, 43.8% had some idea of the optimum number of coitus required for conception and 50% of participants were aware of the fact that a minimum of 1 year of regular unprotected sexual intercourse must be considered before seeking out help for infertility treatment, in contrast to the study of Pakistan, where only 25.0% of the participants correctly recognized the same.^[10]

Optimum knowledge was found among the responders for questions such as the age of reduced fertility; 50% could identify a critical threshold of 35 years, after which fertility rapidly declines in contrast to the study of Australia, Spain, and India, where only 26% acknowledged that it could be somewhat difficult to get pregnant after the mid-thirties.^[27,31,32] In a study performed in Turkey, 68.4% of the participants responded correctly to the items, indicating that age is an important influencing factor for fertility in females.^[28]

In a question regarding causes of infertility, seven options were actual causes such as abnormal menstruation, blocked tubes, obesity, stress, family history, and infections in genital organs and three were myths such as prior use of oral contraceptive pills, supernatural powers, and black magic, and those who could mark more than five options correctly were counted as positive responders, so 64.6% participants had satisfactory knowledge of probable causes of infertility and most, that is, more than 80%, were not misled by myths such as black magic, supernatural power, or use of oral contraceptive pills that can cause infertility. In the study of Australia,^[27] more than 70% of the participants correctly identified irregularity of menses, blocked tubes, and genital tract infections as a cause of infertility, but 76% of them did not think of smoking to be a cause of infertility. In a study of Pakistan, 50% could identify that irregularity of menses, blocked fallopian tubes, and genitourinary tract infections can be the causes of infertility.^[10] In the study among Saudi couples, 70% of invitro fertilization and 55% of fertile out-patients were rightly aware of obesity affecting fertility.^[14] Still, the mis-belief among the participants that prior use of oral contraceptive pills has a significant negative impact on infertility is prevalent in many countries, for example, 97% in the study of AIIMS (India)^[32], 62% in a study performed in Africa,^[32] and around 50% in the study of Pakistan^[10] and Turkey.^[28]

Saudi Arabia found that 67.5% had the mis-conception that black magic causes infertility, and 58.8% thought it to be because of supernatural causes;^[14] similarly in Pakistan,^[10] 30% of the people blamed jinns and almost 40% believed black magic to be the cause of infertility.

In our study, none of the females believed that males alone could be blamed for childlessness, 42.3% believed that it is the wife who is to be blamed, and the rest marked either none or both. 96.1% responded that infertility is not a legal ground for divorce. In a study of Pakistan, 40% of them were aware that both partners are equally responsible and (86%) knew that it is the women who are being blamed for infertility in the society. 90% of them were rightly positive that female infertility should not be the ground for divorce, but being an Islamic country, 57% believed that to overcome childlessness, a man has a valid reason for second marriage.^[10] In a study among Saudi couples, 65% believed that both partners are equally responsible and 85% were aware of the fact that both should be treated simultaneously.^[14] In our study, couples had a very high preference for medical management of infertility (95.3%) over artificial reproductive technology and adoption and were very well aware of the hardship of invitro fertilization, surrogacy, and adoption. In contrast to this, in Pakistan, where people are driven by rigid beliefs, 92% found fertility drugs unacceptable, 55% of the participants did not support “test-tube baby” as an acceptable option despite the acceptability by their religious dictums, and 92% agreed upon adoption as an option for infertile couples.^[10]

In developing countries, bearing children after marriage is thought to be a necessity and a blessing. In western cultures, where bearing children can be a choice, eastern cultures do not provide that relief. Infertility in developing nations therefore seems like a curse since age-old times. This has been witnessed by studies performed even 1–2 decades earlier. A study performed in 2002 revealed that social isolation and domestic violence were present because of the problem of infertility.^[33] A study on infertile women undergoing treatment found increased rates of depression and anxiety.^[34]

In another study, hopelessness and impatience were reported during treatment and it was also felt that there was no comfort while being around pregnant women or couples with children.^[35] A study on psychological evaluation of infertile patients concluded that depression was a significant factor during menstruation.^[36] Around half of the patients undergoing IVF treatment strongly agreed to divorce.^[14] A study performed in Puducherry, India, found that childlessness made about 65% of infertile women crazy and they had a sensation of emptiness which made carrying out their daily activity

difficult. The couple also confessed that they felt inferior to cope in the society, which hampered their self-esteem and social relationships, and they were definitely under stress, especially because of family and social pressure.^[37]

Similar to the above studies as assessed through questionnaire part 2, our study also showed depression during the time of menstruation and the feeling of emptiness because of the inability to have a child. More than 40% of the females responded negatively. In the current study, female responders revealed that social isolation, mental and physical violence in the family, or the thought of running away from the family because of infertility was not present. Another positive response was also noted with the fact of no pressure following the pregnancy of a peer, losing interest in sexual activity was absent.

In a Saudi Arabian study, the higher level of knowledge correlated with correct reporting of possible causes for infertility as compared to a lower level of knowledge of the fertile out-patient group.^[14] A study from Iran performed in 2013 showed that infertile patients do suffer from the psychological upset of loneliness, guilt, and regret and were stressed out more because of social pressure and infertility treatment, and furthermore, this was never valued or taken care of.^[35] A study performed in India in 2014 to assess the difference in psychological variables—dimensions of an infertile woman with that of a fertile woman found that definitely a difference persists at various aspects of psychological well-being and psychotherapeutic programs were needed for the well-being of infertile women.^[38] Many studies have highlighted the importance of health literacy for health promotion, and simple tools for improving health literacy can promote any health-related issues.^[39] These issues of woman mental health can also be addresses through provision of adequate nutrition, sleep, and an environment which is comfortable and safe, which would definitely meet their emotional needs as they would feel valued and powerful.^[40]

Conclusion

Problems of infertility are on an increasing trend day by day, and the couples seeking help should be initially assessed for their knowledge regarding infertility and counseled on all modifiable factors which can improve their fertility status. To the best of our knowledge, this study is the first community-based survey conducted in backward state Chhattisgarh, India, and we observed gaps in the knowledge regarding infertility and various modifiable factors which can improve their fertility status. We propose that infertility can have a serious impact on the psychological well-being of females, and social pressure and stigma associated with childlessness

can further worsen the physical and emotional well-being of couples, which needs to be addressed before starting treatment of infertility for a better response to treatment. The limited knowledge and prevailing mis-conceptions regarding infertility need to be sincerely dealt with to complement the medical treatment of infertility.

Limitations and recommendations

The participants were mostly of the middle and upper classes, which is not an actual representation of the society, maybe because the study was performed in a tertiary care center where couples seek help usually late and those residing in the remote area do not even come for treatment. We included only patients who had come for the first time for an initial consultation so that a real idea of their knowledge of infertility could be assessed, but they might not be that much emotionally upset and psychologically distressed compared to those who have been seeking treatment for long, so our results could not be generalized. We could have included many more questions to cover many more aspects of knowledge and psychological assessment of fertility help-seeking couples. Mostly, the studies performed are cross-sectional studies; we might not be very conclusive to assess delayed social and psychological impacts on the childless couples for which we need large-scale, long-term prospective cohort studies. More long-term prospective cohort studies which will address the social as well as psychological consequences of infertility along with the impact of positive counseling on fertility enhancement and a changed perspective toward infertility are needed.

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Conflicts of interest

There are no conflicts of interest.

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Annexure

Reference ID- 2019-07051

Annexure 3

Tick the most appropriate response according to you –

SECTION – A (KNOWLEDGE AND AWARENESS)

Q.1 After which age, according to you, it becomes difficult to get pregnant?

- a. 25
- b. 30
- c. 35**
- d. Age doesn't matter

Q.2 How many times should you engage in coitus in order to get pregnant?

- a. Once a week
- b. At least twice a week**
- c. Once a month
- d. On alternate days

Q.3 According to you, which is the most fertile period in a woman's cycle (the time during which there are maximum chances of conceiving)? [MAX INCORRECT]

- a. Right after menses
- b. Mid cycle**
- c. Just before menses
- d. Time doesn't matter

Q.4 After how many months of trying should you consult a doctor?

- a. 4 months
- b. 9 months
- c. 12 months**
- d. 3 months

Q.5 If a female can't conceive, is that grounds for divorce or second marriage? [MAX CORRECT]

- a. Yes
- b. No**

Q.6 Do you think males can also be infertile?

- a. **Yes**
- b. No

Q.7 Who, according to you is being blamed by the society for you not able to have a child?

- a. Husband
- b. **Wife**
- c. Both
- d. None

Q.8 Tick against all the possible causes of female infertility according to you.

- a. **Abnormal menses**
- b. **Blocked tubes**
- c. **Infection**
- d. **Smoking**
- e. Prior use of Oral contraceptive pill
- f. Supernatural causes
- g. Black magic
- h. **Stress**
- i. **Obesity**
- j. **Family history**

Q.9 Who should be examined first?

- a. Male
- b. Female
- c. **Both at the same time**

Q.10 Does regulation of monthly cycle correct infertility? [MAX INCORRECT]

- a. Yes
- b. **No**

Q.11. What kind of treatment will you prefer? [MAX CORRECT]

- a. **Medicines**
- b. Test tube baby.
- c. Adoption

(SECTION B) EMOTIONAL AND PSYCHOLOGICAL STATUS

Q.1 Are you out casted from family functions for not being able to get pregnant?

1. Rarely
2. Sometimes
3. Many times
4. Always

Q.2 Do you get upset when a friend or a relative becomes pregnant?

1. Rarely
2. Sometimes
3. Many times
4. Always

Q.3 Are you depressed every time you menstruate?

1. Rarely
2. Sometimes
3. Many times
4. Always

Q.4 Have you lost interest in engaging in sexual activity because you can't become pregnant?

1. Rarely
2. Sometimes
3. Many times
4. Always

Q.5 Has being unable to have a child affected your daily relationship with your husband?

1. Rarely
2. Sometimes
3. Many times
4. Always

Q.6 Do you feel inferior to other women because you do not have children?

1. Rarely
2. Sometimes
3. Many times
4. Always

Q.7 Do you have palpitations or sweating when you think of not having a child ?

1. Rarely
2. Sometimes
3. Many times
4. Always

Q.8 Do you have a feeling of emptiness because of your inability to have a child?

5. Rarely
6. Sometimes
7. Many times
8. Always

Q.9 Do you feel bad about yourself or that you are a failure or have let yourself or your family down?

1. Rarely
2. Sometimes
3. Many times
4. Always

Q.10 Do you have trouble falling asleep when you think about your inability to bear children?

1. Rarely
2. Sometimes
3. Many times
4. Always

Q.11 Does the thought of not having a child make you want to run away from your home ?

1. Rarely
2. Sometimes
3. Many times
4. Always

Q.12 Are you subjected to mental or physical violence due to your inability to become pregnant?

1. Never
2. Sometimes
3. Many times

4. Always

Q.1 क्या आप गर्भवती होने में सक्षम नहीं होने के लिए पारिवारिक कार्यों से बाहर हैं?

1. शायद ही कभी
2. कभी-कभी
3. कई बार
4. हमेशा

Q.2 क्या आप तब परेशान हो जाती है जब कोई दोस्त या रिश्तेदार गर्भवती हो जाती है?

1. शायद ही कभी
2. कभी-कभी
3. कई बार
4. हमेशा

Q.3 क्या आप हर बार मासिक धर्म के दौरान उदास हो जाती हैं?

1. शायद ही कभी
2. कभी-कभी
3. कई बार
4. हमेशा

Q.4 क्या आपने यौन गतिविधियों में रुचि खो दी है क्योंकि आप गर्भवती नहीं हो सकती हैं?

1. शायद ही कभी
2. कभी-कभी
3. कई बार
4. हमेशा

Q.5 क्या आपके बच्चे न होने के कारण आपके पति के साथ दैनिक संबंध प्रभावित हुए हैं?

1. शायद ही कभी
2. कभी-कभी
3. कई बार
4. हमेशा

Q.6 क्या आपको अन्य महिलाओं से हीनता महसूस होती है क्योंकि आपके बच्चे नहीं हैं?

1. शायद ही कभी
2. कभी-कभी
3. कई बार
4. हमेशा

Q.7 जब आपको बच्चा नहीं होने का ख्याल आता है, तो क्या आपको घबराहट होती है या पसीना आ जाता है?

1. शायद ही कभी
2. कभी-कभी
3. कई बार
4. हमेशा

Q.8 क्या बच्चा होने में असमर्थता के कारण आपको खालीपन का अहसास होता है?

1. शायद ही कभी
2. कभी-कभी
3. कई बार
4. हमेशा

Q.9 क्या आप अपने बारे में बुरा महसूस करते हैं या क्या आपको लगता है कि आप असफल हैं या आपने खुद को या अपने परिवार को नीचा दिखाया है?

1. शायद ही कभी
2. कभी-कभी
3. कई बार
4. हमेशा

Q.10 जब आप बच्चे होने में असमर्थता के बारे में सोचते हैं तो क्या आप सोते समय परेशानी महसूस करते हैं?

1. शायद ही कभी
2. कभी-कभी
3. कई बार
4. हमेशा

Q.11. क्या बच्चा पैदा न कर पाने के बारे में सोच कर आपको अपने घर से दूर भागने का मन करता है?

1. शायद ही कभी
2. कभी-कभी
3. कई बार
4. हमेशा

Q.12 क्या आप गर्भवती होने में असमर्थता के कारण मानसिक या शारीरिक हिंसा के शिकार हैं?

1. शायद ही कभी
2. कभी-कभी
3. कई बार
4. हमेशा