

Research Article

Assessment of Contributing Factors of Infertility and Challenges Faced by the Women Attending Selected Infertility Clinic West Bengal

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A B S T R A C T

Introduction: The majority of emerging nations discovered that a number of infertility risk factors had serious social and psychological repercussions for both men and women. While we have greatly improved medical technology in the twenty - first century, infertility continues to be a significant social and reproductive health issue. More than 10% of people worldwide experience infertility. **Background:** It is imperative that both the male and female be evaluated for infertility even if an issue has already been identified with one of the partners.

Methodology: The research parameters include Age of marriage, irregular menstrual cycles, sexual practises, medical history, drug or alcohol usage, obesity, hormonal and semen analysis, and the cause of infertility as identified are all contributing variables. Social, family - related, economic, psychological, and emotional difficulties that women encounter.

Results: The majority of the study's findings involved the identification of a typical menstruation histories, sexual practices, hormone evaluations, and semen evaluations as contributory factors. 100% of them felt alone in their struggles, although stigmatisation and family - related discrimination were also discovered.

Conclusion: It includes research approach, research design, variables under study, research setting, population, sampling techniques, sample size, selection and development of the study instruments, content validity, pre - test, reliability, content validity of research tool, ethical consideration, pilot study, the procedure of data collection and plan for data analysis.

Keywords: Infertility, Health

Table 1. Data Collection Tools and Techniques

Variables	Tools	Technique
Demographic	Tool- I	
Characteristics	Semi-Structured Interview Schedule	Interviewing
Contributing factors	Tool-II	
	Part A	
	Structured Interview Schedule	Interviewing
	Part B	
	Physical assessment recording proforma	
	Part C	Biophysical assessment
	Record analysis proforma	
Challenges		Record analysis
	Tool-III	
	Structured Interview Schedule	Interviewing

The final data collection procedure was conducted at IPGME & R, SSKM Hospital, Kolkata -20 from 23.12.2019 to 03.02.2020. All formalities were fulfilled before conducting the final study such as Permission was taken from respective administrators. Self - introduction and establishment of rapport were done with the women. The purpose of the study was explained to each woman separately and women were assured about the confidentiality of their responses to obtain free and frank responses. The informed consent was taken from each woman for their willingness to take part in the study. The sample was selected by nonprobability purposive sampling technique according to pre-set inclusion and exclusion criteria. Each interview was taken in a separate room for each subject. The data were collected three days a week from selected women during their OPD visits for treatment. The researcher collected the data regarding background information related to contributing factors, and challenges through the interview schedule and physical assessment and record analysis proforma. 20 minutes were taken for each woman to collect data. After completing the total procedure, the investigator thanked the women for their cooperation.

Results

This chapter is about the analysis and interpretation of data. Analysis and interpretation of data were based on the information collected by structured interview schedule and physical assessment and record analysis to find out the

contributing factors of infertility and challenges faced by women attending the infertility clinic in IPGME & R, SSKM Hospital, Kolkata - 20.

In the present study, data were collected from 66 women. Both descriptive and inferential statistics were used to analyse, classify and tabulate the data. The analysis and interpretation of data were done on the basis of the objectives of the study.

Objectives of the Study

- To find out the contributing factors of infertility
- To identify the challenges faced by women with infertility
- To determine the association between the contributing factors and selected demographic variables
- To determine the association between the challenges and selected demographic variables

Organization of the Study Findings

The findings are presented according to the objectives set for the study. Data are organized under the following sections.

Section I: Description of sample characteristics.

Section II: Findings related to contributing factors of infertility.

Section III: Findings related to women faced challenges.

Section IV: Findings related to the association between contributing factors and challenges with selected demographic variables.

Section I: Description of Sample Characteristics

Table 2. Distribution of Women with Infertility According to their Demographic Characteristics (N=66)

Variables	Frequency	Percentage
Age (in Years)		
20-29	50	75.77
30-39	15	22.72
40-49	1	1.51
Educational Status		
No formal education	0	0
Primary	9	13.7
Secondary	29	43.9
Higher Secondary	17	25.8
Graduate and above	11	16.6
Occupation		
House wife	53	80.3
Labour	4	6
Service	3	4.6

Teacher	2	3
Tailor	3	4.6
Farmer	1	1.5

Contd, N=66

Variables	Frequency	Percentage
Duration of Married life (in years)		
<5	29	43.95
5-9	27	40.90
≥10	10	15.14
Monthly family Income (in Rupees)		
1000-10000	53	80.30
10001-20000	8	12.10
≥20001	5	7.60
Type of family		
Nuclear	31	46.97
Joint	35	53.03

Data presented in Table 2, depicted that most of the women (75.77%) belonged to the age group between 20 - 29 years, the majority of women's (43.90%) educational status was secondary and most of the women (80.30%) were housewives. The majority of women's (43.96%) duration of married life was less than 5 years, most of the women's (80.30%) monthly family income was within 1000 - 10000 Rupees and the majority of women (50.10%) belonged to joint family.

Table 3. Distribution of Women's Husbands According to their Demographic Characteristics N=66

Variables	Frequency	Percentage
Age (in years)		
20-29	19	28.80
30-39	40	60.60
40-49	5	7.60
≥50	2	3.00
Educational Status		
No formal education	1	1.50
Primary	23	34.80
Secondary	20	30.30
H.S	5	7.60
Graduate and above	17	25.80
Occupation		
Labour	35	53.00

Service	16	24.20
Farmer	1	1.50
Business	8	12.20
Teacher	1	1.50
Tailor	5	7.60

Data presented in Table 3, depicted that the majority of women's husbands (60.60%) belonged to the age group between 30 - 39 years, the maximum of husbands' (38.8%) educational status was primary and the majority of women's husbands (53%) laboured.

Table 4. Distribution of Area - Wise Contributing Factors of Women with Infertility

Variables	Frequency	Percentage
Married > 35 years	1	1.5
Abnormal Menstrual History		
Menarche > 15 years	10	15.15
Irregular cycle	54	81.81
Dysmenorrhea	25	37.87
Heavy Bleeding during menstruation	15	22.72
Regular dark colour bleeding during menstruation	16	24.24
Sexual Practice		
Sexual intercourse <4times/ week	28	42.42
Painful intercourse	15	22.72
Fear during sexual intercourse	42	63.63
History of illness		
Diabetes	2	3.03
Hormone analysis		
High FSH	9	
High LH	12	
High Prolactin	17	
High THS level	8	
Low TSH level	4	
Diagnosed cause of Infertility		
Ovulation dysfunction	22	
PCOS	10	
Multiple Fibroids	7	
Ovarian cyst	5	
Bilateral tubal block	17	

All data are exhaustive, not mutually exclusive Data presented in table 4 depicted that only 1.50% of women got married after 35 years, most of the women (81.81%) had an irregular menstrual cycle in abnormal menstrual history and 63.63% of women had fear during sexual intercourse.13.63% of women had undergone pelvic surgery of their history of illness, no one had an addiction to tobaccos and alcohol and only 10.60 % of women were suffering from obesity. 13.63% of women had high FSH level, 18.19% had high LH level, 25.75% had high PRL and 12.12% had high TSH and 6.06 % had low TSH level found in their hormone analysis and the majority of the women (33.33%) were suffering from ovulation dysfunction.

Table 5. Distribution of Area-Wise Contributing Factors of Husbands of Women related to Infertility, N=66

Variables	Frequency	Percentage
Married > 40 years	3	4.54
History of illness		
Diabetes	2	3.03
Thyroid problem	0	00
STI	2	3.03
TB in the reproductive tract	0	00
Testes or hernia surgery	6	9.09
Radiation in pelvic organ	00	00
History of Mumps Working in radiotherapy/ diagnostic unit	30	4.5400
Addiction		
Addiction to tobaccos	16	24.24
Addiction to alcohol	10	15.15
Semen Analysis		
Low volume	26	39.40
Low count	25	37.88
Low sperm motility	26	39.40
Abnormal Sperm morphology	26	39.40

All data are exhaustive, not mutually exclusive Data presented in table 5 revealed that only 4.54% of spouses were married after 40 years, 9.09% of spouses had undergone testes or hernia surgery according to their history of illness and a maximum of 24.24% had addiction to tobaccos. 39.40% of husbands had a low volume of semen, motility and 37.88% abnormal sperm morphology was found in their semen analysis.

Table 6. Distribution of Area-Wise Challenges Faced by Women with Infertility, N=66

Variables	Frequency	Percentage
Social challenges		
Faced restriction to attend any ritual and social ceremony	20	30.30
Faced social stigma	20	30.30
Faced discrimination from the society	10	15.15
Family-related challenges		
Blamed by the family members	27	40.90
Faced discrimination from the family members	8	12.12
Underestimated by husband	9	13.64
Got threat from in-laws of husband's remarriage	8	12.12
Got threat of divorce from the husband	4	6.06
Economical	39	59.09
Psychological and emotional		
Felt sad	28	42.42
Felt alone	66	100
Felt hopeless	21	31.81
Loss of self-confidence	21	31.81

All data are exhaustive but not mutually exclusive Data presented in table 6 depicted that 30.30% of women were restricted to attend any social ritual and social ceremony and were also affected by social stigma. A Maximum (40.90%) of women were blamed by family members. The majority of women (59.09%) had faced economic challenges and 100% of women felt alone the psychological and emotional challenges.

Table 7, depicted that the association between fear and the age of women was calculated by chi - square after yet correction of $p=0.005$, which found an association between fear during sexual intercourse and the age of women at a 0.05 level of significance. It was also found that there was no association between the duration of married life with fear during sexual intercourse ($p=0.922$) at a 0.05 level of significance So it was concluded that fear during sexual

intercourse depends on the age of the women and not depend on the duration of married life.

Table 7. Association between fear During Sexual Intercourse with the age of Women and Duration of Married Life, N=66

Demographic variables	Fear during sexual intercourse		Total	x ² value	df	p value
	Yes	No				
Age of women (in years)						
<30	22	28	50			
≥30	14	2	16	7.579	1	0.005*
Total	36	30	66			
Duration of Married life (in years)						
<10	35	21	56			
≥10	7	3	10	0.009	1	0.922
Total	42	24	66			

Table 8. Association between Practising Sexual Intercourse 4 times/week with the Educational Status of Women and their Husbands, N=66

Demographic variables	Sexual intercourse 4 times /week		Total	x ² value	df	p-value
	Yes	No				
Education of women						
<Secondary	4	5	9			
≥Secondary	34	23	57	0.244	1	0.620
Total	38	28	66			
Education of husband						
<Secondary	12	12	24			
≥Secondary	26	16	42	0.886	1	0.346
Total	38	28	66			

Data presented in Table 8, revealed that an association between the educational status of women and practising sexual intercourse 4 times/week was calculated by chi-square after yet correction of p=0.620, which found no significant association between the educational status of women and practising sexual intercourse 4 times/week

at 0.05 level of significance and also no association was found between the educational status of husband with practising sexual intercourse 4time/week p=0.344 at 0.05 level of significance. So, it was concluded that practising sexual intercourse 4times/ week was not depends on the educational status of both women and their husband.

Table 9. Association between the Addition of Husbands with the Age of Husbands and Duration of Married life, N=66

Demographic variables	Addiction		Total	x ² value	df	p-value
	Yes	No				
Age of Husband (in years)						
<40	14	45	59			
≥40	2	5	7	0.338	1	0.854
Total	16	50	66			
Duration of married life (in years)						
<10	14	42	56			
≥10	2	8	10	0.003	1	0.951
Total	16	50	66			

Table 9 depicted that the association between addiction of husbands with the age of husbands was calculated by chi - square after yet correction p=0.854, which was found that no association between addiction of husbands with the age of husbands at 0.05 level of significance and also no association was found between addiction of husbands with a duration of married life (p=0.951) at 0.05 level of significance. So, it was concluded that the addition of husbands was not dependent on the age of husbands and the duration of their married life.

Table 10. Association between Obesity with the Age of Women, N=66

Demographic variables	Obesity		Total	x ² value	df	p-value
	Present	Not present				
Age of Women- (in years)						
<30	6	44	50			
≥30	1	15	16	0.033	1	0.854
Total	7	59	66			

Data presented in table 10 depicted that the association between obesity with the age of women was calculated by chi - square after yet correction of $p=0.854$ which was found that no association between obesity and the age of women at a 0.05 level of significance which means obesity was not dependent on the age of the women.

Table 11. Association between Challenges Faced by the Women with Age of Women and Duration of Married life, N=66

Demographic variables	Challenges		Total	x ² value	df	p-value
	< Median (<3)	≥ Median (≥3)				
Age of women						
<30	20	30	50			
≥30	10	6	16	2.475	1	0.116
Total	30	36	66			
Duration of married life						
<10	22	34	56			
≥10	8	2	10	4.149	1	0.041*
Total	30	36	66			

Data presented in Table 11, revealed that the association between challenges and with the age of women was calculated by chi - square p - value, which is 0.116. So, there was no association between challenges and the age of women at a 0.05 level of significance. This table also showed that the association between challenges with a duration of married life by chi-square after yet correction p-value is 0.042, which was found an association between challenges and duration of married life at 0.05 level of significance. So, it was concluded that challenges was depends on the duration of married life.

Table 12. Association between Challenges Faced by the Women with the Education of Women and their Husbands, N=66

Demographic variables	Challenges		Total	x ² value	df	p-value
	<Median (<3)	≥Median (≥3)				
Education of women						

<Secondary	9	1	10			
≥Secondary	21	35	56	7.433	1	0.006*
Total	30	36	66			
Education of Husband						
<Secondary	15	9	24			
≥Secondary	15	27	42	4.41	1	0.035*
Total	30	36	66			

Data presented in Table 12, revealed that the association between challenges with the education of women was calculated by chi - square, p-value is 0.006 so, an association was found between challenges with the education of women at 0.05 level of significance. The Association between challenges with the education of the husband was calculated by chi-square, the p - value is 0.035 which means an association was found between challenges with the education of the husband at a 0.05 level of significance. So, it was concluded that challenges depend on the educational status of both women and their husbands.

Table 13. Association between Challenges Faced by the Women with a Type of Family, N=66

Demographic variable	Challenge		Total	x ² value	df	p-value
	<Median (<3)	≥Median (≥3)				
Type of family						
Nuclear	16	15	31			
Joint	14	21	35			
Total	30	36	66			

Data depicted in Table 13, depicted that the association between challenges faced by the women with a type of family was calculated by chi-square, the p - value is 0.344 indicating there was no association found between the type of family and challenges faced by the women at 0.05 level of significance. So, it was concluded that challenges did not depend on their type of family.

Discussion

A cross - sectional study was conducted by Reinaldo S. A. et al about regular or irregular menstrual situations of

presence or absence of ovulation in Brazil in July 2016. By the non - probability sampling technique, they evaluated 413 subjects by the bio-physiological method (USG, full clinical examination). The patients were divided into two groups: those who reported having a regular menstrual cycle and those who reported irregularity of cycle. The analysis showed that among 199 patients who reported having a regular menstrual cycle, 113 had proven ovulation upon USG monitoring, and 86 did not ovulate. Among 29 who reported irregular cycles, 24 did not ovulate at the cycle monitoring.²¹

The present study findings are supported by the above-mentioned findings. In the present study also, the researcher had got that majority of women (81.81%) had an irregular menstrual situation and 33.33% had a condition of ovulation dysfunction.

The present study is supported by a retrospective observational study conducted by Ramgir S Shalak and Abilash V.G about the impact of smoking and alcohol consumption on oxidative status in male infertility and sperm quality in Vellor, India (August 2019). The study revealed that 133 were infertile men and 124 were fertile men. Among the participants 28(10.8%) fertile men were non - alcoholic and non - smokers(abstainers), 29(11.2%) were smokers, 33(12.3%) were alcohol drinkers 34(13.2%) were smokers plus drinkers.³⁴

The present study finding are also supported by above mention findings. The findings were 24.24% of women's husbands addicted to tobacco and 15.15% addicted to alcohol.

The present study is supported by a descriptive cross - sectional study about thyroid profile in infertile women in Nepa (2018)conducted by Manandher R, Manandher LB, and Sharma J. 12 (7.6%) women were found prevalence of thyroid disorder. 6.4% of hypothyroidism and 1.3 % of hyperthyroidism were found.

The present study finding is also supported by above mention findings. 12.12% were hyperthyroidism and 6.06% were hypothyroidism.

Discussion Related to the Demographic Variables

A cross - sectional community - based study conducted by Katole A, Saoji AV in India in November 2019 about the prevalence of primary infertility and associated risk factors in an urban population of central India. 570 married women aged between (15 - 49) years were evaluated. The study result showed a majority of the women (39.3%) belong to the 25-29 years of age group and the overall prevalence of primary infertility among the reproductive age group of women was 8.9% (51/570). Sociodemographic factors,

higher education level and also various contributing factors were associated with infertility.¹³

The present study findings are supported by the above-mentioned findings. In the present study also, researcher has also found a significant association with age, duration of married life, and educational status.

Other findings

Other findings and information which were observed during the study but could not be mentioned especially are the followings:

- Most of the women were responding voluntarily
- The investigator received good cooperation from all the participants in the present study

Limitations

The study findings could not be generalized because of the following reasons:

- This study was limited to generalise beyond this present study population

Recommendations

On the basis of the findings of the study following recommendations were made for further research:

- A similar study could be replicated by using a larger sample with different demographic characteristics
- Comparative study to identify male and female infertility factors
- Comparative study to identify primary and secondary infertility
- Comparative study between urban and rural communities
- Counselling on sexual habits and practices can be included in premarital counselling sessions for young men and women
- Different challenges faced with women: A comparative study between urban and rural communities

Conclusion

Most of the study findings found abnormal menstrual history, sexual practice, hormonal analysis and also semen analysis as their contributing factors. In their challenges, 100% were felt alone but family - related and social discrimination, and stigma also found. Statistically significant associations were found between women's age with fear regularly during sexual intercourse, educational status of women and their husbands with challenges and duration of married life with challenges at 0.05 level of significance from the study findings, it can be concluded that the assessment of contributing factors and challenges of women is important as it contributes to women's

satisfaction through counselling. By counselling, various challenges are solved and they can lead a normal daily life and also know the importance of a fertile period.

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