## **Original Research Article**

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# Knowledge, attitude, and practices about male infertility among men and women in slums of Chennai, Tamil Nadu: a cross-sectional study

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## **ABSTRACT**

**Background:** Infertility is a major public health problem that affects 15% of the global population. Fertility is the ability to conceive pregnancy and has a positive social value whereas; infertility has a negative social value in Indian culture. So, infertility is a serious problem in developing and undeveloped countries are more than of biological.

Aim: To assess the knowledge, attitude, perception, and practices, and myths about male infertility in the slums of Chennai.

**Methods:** This is a cross-sectional study carried out in the Slums of Chennai from January 2020 to March 2020. A total of 125 male and 125 female participants of the age group ≥18 years were recruited for the study by simple random sampling.

**Results:** The study revealed that there is adequate knowledge of the common causes of infertility, but clinical knowledge is comparatively low. Both men and women shared almost equal knowledge of infertility.

**Conclusion:** Educational programmes, regular campaigns by Accredited social health activists (ASHAs) and the involvement of community are recommended to increase knowledge about the causes of infertility as well as decrease the stigma associated with this condition.

Keywords: Infertility, Reproductive health, Male infertility, Knowledge

#### INTRODUCTION

According to the World Health Organization (WHO), infertility is a failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse.<sup>1</sup>

About 8-10% of couples of reproductive age experience infertility and approximately 40% of male infertility is the major factor. Another 40% is due to abnormalities of woman's reproductive system and the remaining 20% involve couples that both suffer reproductive difficulties.<sup>2</sup> But women seem to be more affected and undergo physical and mental stress, threats of divorce or remarriage for the

men, and even physical abuse by both spouse and in-laws of the family.

Men are most likely to be infertile if they had sperm counts below 13.5 million, less than 32% sperm motility; fewer than 9% of sperm had a normal appearance. The causes of infertility in females were ovulation problems (20-25%), tubal problems (15-25%), endometriosis (4-8%), cervical mucus hostility (1-2%), and uterine problems (2.5%). Unexplained infertility was seen in 5-10% of couples.<sup>4</sup>

Several studies have also established that the adverse impact of lifestyle factors such as smoking, alcohol and drug abuse, unhealthy diet, due to tight outfits, stress, anxiety by improper work-life balance and unsafe sexual practices had proved as causes for infertility. 6,7,10 Many studies have been conducted to assess the level of knowledge in men and women of various age groups regarding the factors causing infertility in both sexes. 5,7,11 Our aim of the study is to ascertain knowledge, attitude, and practice about male infertility of people residing in slums of Chennai, where no scientific studies are explored.

#### **METHODS**

#### Study area and sampling

This is a community-based cross-sectional study conducted in the slums of Chennai, Capital of Tamil Nadu. We recruited 250 samples, 125 males, and 125 females by simple random sampling (lottery method). The study was conducted from January 2020 to March 2020.

#### Inclusion criteria

Only the participants of 18 years old and above of both male and female, and those who expressed their willingness to participate in the study were selected as samples

#### Exclusion criteria

Those who refused to participate in the survey or were not there during the survey after three visits were excluded from the study.

#### Data collection tools

Data were collected through a pre-tested questionnaire. It consists of social and demographic features, knowledge and other factors. The questionnaire was prepared in English and Tamil (local language) for the illiterate or vernacular medium people.

## Statistical analysis

The data obtained from the study was entered and coded in Microsoft excel and exported to Statistical package for social sciences (SPSS). The data has been analyzed using the SPSS version 17. Univariate Statistics was performed.

#### Ethical consideration

The objectives of the study, purpose and confidentiality of the data have been explained to each participant before the commencement of the study. The participation is voluntary, and they had full right to withdraw from the study at any point. Written informed consent was obtained.

## **RESULTS**

A total of 250 participants participated in this study. The mean age of the participants was 33.2. The majority of our participants were from the age group of 30-49. Nearly 76% of the people were married, only 32% have been graduated

from the college and 42.8% of participants were working in the private sector. The majority of participants were from low economic backgrounds (Table 1).

Table 1: Social and demographic characteristics.

Social and devariables	emographic	Frequency	%	
	Male	125	50	
Gender	Female	125	50	
Gender	Total	250	100	
	16-29	65	26	
Age in	30-49	160	64	
years	50-59	20	8	
jears	Above 60	5	2	
	Never married	42	16.8	
Marital	Married	189	75.6	
status	Widow/divorce	19	7.6	
	Middle school and below	35	14	
	Higher school	41	16.4	
	Secondary School	43	17.2	
Education	Diploma degree	50	20	
	Undergraduate	60	24	
	Post-graduate and above	21	8.4	
	Student	31	12.4	
	Private sector	107	42.8	
	Public sector	30	12	
0	Self-employed	47	18.8	
Occupation	Unemployed	35	14	
	Up to Rs. 8000	67	26.8	
	Rs. 8001 to Rs. 16000	46	18.4	
	Rs. 16001 to 24000	56	22.4	
Income	Rs. 24001 to 32000	49	19.6	
category	Rs. 32001 to 40000	28	11.2	
	Rs. 40001 to 48000	4	1.6	

## Factors influencing infertility

Most of the participants responded the reasons for infertility as both male and female (51.2%) followed by either, female alone (12.4%), and male alone (14.8%), either male or female (21.6%) (Figure 1). Majority of the population was aware that (70.4%) smoking and alcohol consumption was the main reason for infertility and vigorous exercise (20.4%) does not cause infertility (Table 2).

**Table 2: Factors influencing infertility.** 

Factors	Males (n=125)		Female (r	n=125)	Percentage of
ractors	Yes	No	Yes	No	acceptance
Urinary tract infection	58	67	79	46	54.8
Smoking/alcohol	90	35	86	39	70.4
Vigorous exercises	30	95	24	101	21.6
Sexually transmitted diseases	73	52	45	80	47.2
Previous use of contraceptives	53	72	48	77	40.4
Constant heat around genitals	77	48	85	40	64.8
Obesity	50	75	62	63	44.8
Psychological stress	80	45	71	54	60.4
Hormone imbalance	70	55	84	41	61.6
Late marriages	49	76	73	52	48.8
Diabetes mellitus/other NCD's	33	92	36	89	27.6
Side effects previously used medications	17	108	11	114	11.2

Table 3: Attitude towards male fertility.

Attitudes towards male fertility	Males (n=125)			Females (n=125)	
	Yes	No	Yes	No	
Infertility: a disease?	40	85	61	64	
Need medical	101	24	105	20	
treatment?					
Do you think if a	50	75	53	72	
couple conceives					
once, they might					
have problems in					
conceiving again?			O 40		
Who do you think shou	ıld inve	estigate i			
Husband	13		19		
Wife	19		17		
Both	93		89		
Who in your mind sho	uld be	your pre	eference	for	
treating infertility?					
Allopathy	110		105		
AYUSH	14		17		
Astrologer	1		3		
Do you think	3	122	6	119	
infertility is due to					
god's will? Or curse?					

The majority of the population (82.4%) was aware that infertility could be treated. 72.8% of people responded that both men and women should be investigated and almost (86%) told that the allopathic system of medicines would be their foregoing treatment. Only 3.6% of the respondents have responded that fertility is a god's will (Table 3).

On taking the perception, 40% responded that they could divorce and remarry. Nearly 59.6% of respondents knew about in vitro fertilization. 54.8% and 45.2% opted for invitro-fertilization and adoption (Table 4).

Table 4: Perception and myths associated with male fertility.

Perception and myths	Males (n=125)		Females (n=125)	
Iny this	Yes	No	Yes	No
Is male infertility ground for divorce?	79	46	82	43
If the husband is infertile, do you think the wife can divorce him and remarry?	62	63	74	51
Do you know anything about IVF?	76	49	83	42
Which is better?				
IVF	74		63	
Adoption	51		62	

**Table 5: Practices to improve infertility.** 

Practices to improve	Males (n=125)		Females (n=125)	
fertility	Yes	No	Yes	No
Allopathy medicine	105	20	100	25
Quitting smoking and alcohol	81	44	89	36
Eating healthy food	69	56	64	61
Healthy lifestyle	101	24	99	26

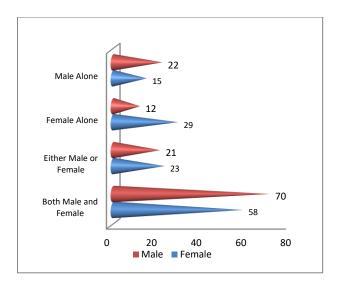


Figure 1: Knowledge about infertility.

Taking regular medications (82%), living a healthy lifestyle (80%), quitting alcohol and smoking (68%) were the best practices to improve fertility (Table 5).

#### **DISCUSSION**

Our study was designed to collect information about knowledge, attitudes, and practices about male infertility in the slum population of Chennai, Tamil Nadu. Knowledge about infertility is inadequate in many parts of the world. A global survey of almost 17,500 women (mostly of childbearing age) from ten countries revealed that knowledge regarding fertility and the biology of reproduction was poor. On the contrary, this finding is in disagreement with the findings of our present study in which the level of knowledge was generally high, as identified by the high mean percent score for knowledge among the study participants.

Countless factors have been determined which influences infertility (example: urinary tract infection. smoking/alcohol consumption, obesity, etc.). Among the various influencing factors, the highest reported factor among the study population was smoking and alcohol consumption with 70.4% of acceptance. Several studies have noted noxious effects of tobacco before and after conception, in both women and men, from the smoker's gametes to their offspring. 13,14,15 Yet 29.6% of our study population did believe that quitting smoking and alcohol consumption improves fertility. According to a multicentric study conducted by WHO from 1982 to 1985, 20% of cases were attributed to male factors, 38% to female factors, 27% had casual factors identified in both partners, and 15% could not be satisfactorily attributed to either partner.<sup>16</sup> However, in our study, 14.8% of participants reported that infertility was caused by male factors alone, 12.4% suggested that it was caused by female factors alone, 51.2% suggested both male and female factors were responsible, and 21.6% said either it was male or female factors that cause fertility.

A similar study conducted among Saudi couples by Abolfotouh et al states that the majority of their study population agreed that infertility can be treated. This finding is similar to our study finding in which 82.4% of them reported that infertility can be cured. Moreover, the same study conducted by Abolfotouh et al claimed that most of their participants reported that both partners should be investigated at the same time, and obstetrics and gynecology specialists were their first preference for treatment. According to our study, considering the investigation and treatment preference the results were comparatively similar to that study with 72.8% insisted that both the partners should get the investigation done for infertility and 86% preferred the allopathic mode of treatment.

Because of the social consequences of infertility, among the various available options, 40% responded that they can divorce and remarry. A study by Wang J et al and Casper R el at reveals the recent advancements in invitro fertilization for the past three decades produces strong shreds of evidence for the treatment of fertility. Thus 54.8% and 45.2% opted for invitro-fertilization and adoption.

#### Limitations

The study was conducted in metropolitan slums. It would be better if it had been compared with semi-urban and rural, as traditional medicine or Ayurveda, yoga and naturopathy, unani, siddha and homeopathy (AYUSH) could be high compared to our study.

## **CONCLUSION**

Infertility is suffering for both women and men. Infertility is only a biological problem, but people tents to act as a social problem especially in the developing countries. We need to encourage both men and women to come with their family support to the clinic and appropriate counselling be provided to couples who attend with an aim of continuity in their treatment. Education programs, regular campaigns by ASHA's and the involvement of community are recommended to increase knowledge and decrease the stigma associated with this condition

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