

**ORIGINAL RESEARCH**

# Knowledge and attitude of gender preference and female foeticide amongst unmarried population of reproductive age group

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Received: 02Jan, 2024

Accepted: 25Feb, 2024

## ABSTRACT

**Background:** Gender preference and the practice of female foeticide continue to be significant social issues in many parts of the world. Understanding the knowledge and attitudes towards these issues among the unmarried population of reproductive age is crucial for developing effective interventions. **Objective:** This study aims to assess the level of knowledge and attitudes regarding gender preference and female foeticide among the unmarried population of reproductive age. **Material and Methods:** A cross-sectional study was conducted among unmarried individuals aged 18-45 years. Data were collected using a structured questionnaire, which included questions about demographic information, knowledge about gender preference, attitudes towards female foeticide, and sources of information influencing these attitudes. Descriptive statistics and inferential analysis were used to examine the data. **Results:** A high level of awareness about what female foeticide is, was observed among both female (93.18% high awareness) and male (96.29% high awareness) participants. Knowledge on how sex determination is conducted showed some variation, with a higher percentage of females (73.86% high awareness) compared to males (72.84% high awareness) having high awareness, and more males (24.69%) than females (14.77%) having medium awareness. Awareness of places where sex determination is conducted was very high among both genders, with 95.45% of females and 98.77% of males having high awareness. The most cited reason for female foeticide and gender preference is poverty, with 40.8% of participants identifying it as a primary factor. **Conclusion:** The findings of this study shed light on the need for targeted educational and awareness programs to address gender biases and misconceptions about female foeticide among the unmarried population of reproductive age. The study underscores the importance of involving this demographic in efforts to combat gender discrimination and promote gender equality.

**Key words:** Female foeticide, unmarried population, sex determination

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## INTRODUCTION

Although gender inequality and gender preference continue to plague Indian society, progress towards gender equality has been slow despite the nation's 70 years of independence and the implementation of protective measures for women in its constitution. Discrimination against women remains pervasive in their everyday lives, highlighting the urgent need for

transformation. The deep-rooted bias against female children often evolves into hostility, leading to dire consequences starting from birth. India's notoriety for its imbalanced sex ratio persists, despite the existence of a law criminalising sex-selective practices and female foeticide since 1994<sup>1</sup>. Moreover, centuries of subjugation have inadvertently contributed to women themselves becoming agents of patriarchy. Numerous

reasons are cited for the prevalence of female foeticide in India, including some that are unfounded or irrational<sup>2</sup>. One such explanation is that, by eliminating the girl child, parents believe they are sparing her from a life fraught with inequalities and injustices, but this conveniently ignores their own contribution to societal problems<sup>3</sup>. Sexual depravity and a lack of security for women are major problems in our society. Sadly, the birth of a male child is celebrated and seen as an asset for the family, while having a girl is regarded as a drain on the family's resources. Her education, marriage, dowry and other customary expenditures are an additional financial burden on the family of her birth, as society regards her in-laws as the rightful claimants of her monetary earnings<sup>4</sup>.

A son carries forward the family's name, and the girl changes her surname post-marriage. This is a long-standing social practice devoid of any legal sanction, which reinforces the significance of a male offspring for the perpetuation of the family name<sup>5</sup>. Earlier, we had ludicrous customs where the ancestral property would devolve only upon sons after their father's demise, and in the absence of sons, the property would go to his brothers or other relatives. Thus, people would go to any extent, such as having multiple children and resorting to remarriages, surrogacy, or adoption, to have a male heir. Legally, daughters are equal shareholders in ancestral properties, but often they are compelled to give up their rightful shares. The Medical Termination of Pregnancy Act, 1971, acknowledged a woman's right to protect her health as superior to that of an unborn child's, thus legalising safe abortions as an option for women to avoid dangerous procedures from untrained individuals<sup>6</sup>. The ability to determine the sex of a foetus in utero emerged in the late 1970s and early 1980s as a result of technological advancements. In response to the potential misuse of this technology, we introduced the Preconception and Prenatal Diagnostic Techniques (Prohibition of Sex Selection) Act in 1994, which was later amended in 2002 and supplemented with rules in 2003<sup>6</sup>. This legislation unequivocally prohibits sex selection or determination and imposes severe penalties on violators. Unfortunately, this law's existence has not prevented the ongoing practices of female foeticide, which serve as a stark reminder of the extensive gender discrimination that plagues Indian society.

According to a statement from the United Nations, India accounted for approximately 45.8 million of the world's 142.6 million "missing females" over the past 50 years<sup>3, 7</sup>. The term "missing females" refers to women who were absent from the population at a

specific point in time due to the cumulative impact of prenatal and postnatal sex selection. Between 2013 and 2017, an estimated 460,000 girls were reported missing at birth each year in India<sup>3, 7</sup>. Another survey indicated that gender bias was responsible for around two-thirds of the total number of missing girls, while post-birth female mortality accounted for approximately one-third of these cases.

### OBJECTIVES OF THE STUDY

1. To establish the understanding of female foeticide amongst the young, unmarried population of our society
2. To determine whether the attitude of the unmarried population towards gender preferences and female foeticide is favourable or not.
3. To identify the blemishes in our society leading to unending female foeticide.

### MATERIALS AND METHODS

We had adopted the quantitative research approach, and the descriptive survey method of study design was opted for. We had organised the survey at J K Hospital, Bhopal, for a duration of 6 months, starting from July 2021 up to January 2022, comprising all the unmarried adults and their relatives of the age group of 18-39 years attending the Gynaecology OPD. The participants were recruited via a convenient, non-probability sampling method. Based upon the estimated prevalence rate of unmarried people coming to our OPDs being around 10%, a sample size of 169 was calculated via the Open Epi application. After procuring consent, individual participants were interviewed via a structured questionnaire, and the authentication of this tool was given by a panel of experts from the Department of Obstetrics and Gynaecology and Community Medicine from various medical colleges in Bhopal. The questionnaire was framed under three headings, which incorporated demographic variables, questions to gauge knowledge regarding awareness of various sex determination practices, and female foeticide using Likert scaling, and inquired about their thoughts and attitudes regarding the above practices. After being assigned clearance via the ethical committee of LN Medical College, we started taking the interviews with due consent and after explaining the motive of the study. Complete confidentiality had been maintained throughout the research by assigning numbers, and the responses of each participant were noted. The data collected had been analysed via descriptive and inferential statistics in SPSS version 21 as per the objectives and hypotheses of the research.

### RESULTS

**Table 1: Distribution of participants according to their demographic characteristics**

	Sociodemographic profile	Number	Percentage
Age	18-24 years	74	43.78%
	25-29 years	95	56.21%

<b>Sex</b>	Male	81	47.92%
	Female	88	52.07%
<b>Education</b>	Primary	23	13.6%
	Secondary	74	43.78%
	Graduate	49	28.99%
	Post graduate	23	13.6%
<b>Occupation</b>	Employed	87	51.47%
	Unemployed	82	48.52%
<b>Religion</b>	Hindu	72	42.60%
	Muslim	31	18.34%
	Christian	6	3.5%
	Others	60	35.5%
<b>Socioeconomic Status</b>	Lower class	30	17.75%
	Middle class	98	57.98%
	Upper middle class	31	18.34%
	Upper class	10	5.9%
<b>Urban/Rural</b>	Rural	92	54.43%
	Urban	77	45.56%

Table 1 illustrates the sociodemographic characteristics of the participants. A majority of the participants are in the age group of 25-29 years, representing 56.21% of the total, while the 18-24 years age group comprises 43.78%. This indicates that the study primarily involved young adults. The distribution between male and female participants is fairly balanced, with females slightly outnumbering males, accounting for 52.07% of the participants compared to 47.92% male participants. Participants exhibited a diverse range of educational backgrounds, with the majority having completed secondary education (43.78%). Graduates represented 28.99% of the sample, while primary and postgraduate levels each accounted for 13.6%. A slight majority of participants were employed (51.47%), as opposed to 48.52% who were unemployed, indicating a nearly

even distribution between these two categories. The participants identified with various religions, with Hindus constituting the largest group (42.60%), followed by Muslims (18.34%), and a small percentage of Christians (3.5%). Participants who identified with other religions or did not specify their religion made up 35.5% of the total. The majority of participants were from the middle class (57.98%), with smaller proportions representing the lower class (17.75%), upper middle class (18.34%), and upper class (5.9%). This suggests that the study predominantly involved participants from the middle socioeconomic bracket. The study included participants from both rural (54.43%) and urban (45.56%) areas, with a slightly higher representation from rural regions.

**Table 2: Knowledge of Study Participants With Respect to Sex Determination Practices and Female Foeticide**

Knowledge	Level of Awareness*					
	Female (88)			Male (81)		
	High	Medium	Low	High	Medium	Low
What is female foeticide	82	5	1	78	3	0
Knowledge of prevalence in our country	76	9	3	70	9	2
How is sex determination done	65	13	10	59	20	2
Places where sex determination is done	84	4	0	80	1	0
Chinese herbs or other medications used for a belief to increase the chances of having a male child	56	6	26	53	15	13
What are PCPNDT and MTP acts	51	33	4	49	25	7
Sex Determination is a criminal offence	84	4	0	79	2	0
Large scale abortion practices for female foeticide	79	8	1	71	10	0
Experienced female foeticide	1	3	84	1	2	78

\*Level of awareness indicates:  
High-Extremely aware, very aware.  
Medium-Moderately aware.  
Low-Slightly aware, not at all aware.

Table 2 describes the level of knowledge of study participants with respect to sex determination practices and female foeticide. A high level of awareness about what female foeticide is, was

observed among both female (93.18% high awareness) and male (96.29% high awareness) participants. The majority of both female (86.36% high awareness) and male (86.42% high awareness) participants were aware of the prevalence of these practices in their country, indicating widespread knowledge of the issue. Knowledge on how sex determination is conducted showed some variation, with a higher percentage of females (73.86% high awareness) compared to males (72.84% high awareness) having high awareness, and more males

(24.69%) than females (14.77%) having medium awareness. Awareness of places where sex determination is conducted was very high among both genders, with 95.45% of females and 98.77% of males having high awareness. Awareness campaigns and educational efforts seem to have been effective in informing the public about the illegality and ethical concerns surrounding sex determination and female foeticide. Nonetheless, the varied levels of knowledge on specific aspects suggest that further education could help address the remaining gaps.

**Table 3: Distribution of reasons for female foeticide and gender preference amongst participants**

Reasons	Frequency	Percentage
Poverty	69	40.8%
Dowry reasons	23	13.6%
Consider girl child as a burden	12	7.1%
Family pressure	35	20.7%
Social and cultural convictions	30	17.75%

The findings from Table 3 highlight the multifaceted reasons behind female foeticide and gender preference, underscoring the need for comprehensive strategies that address economic, social, and cultural factors. Efforts to combat female foeticide should include economic support and empowerment for families, educational campaigns to challenge and change gender-biased perceptions and practices, and legal measures to enforce and reinforce the equality and value of female children. These strategies require the collaboration of governments, NGOs, community leaders, and society at large to create a more equitable and inclusive environment that values all children, regardless of gender.

The most cited reason for female foeticide and gender preference is poverty, with 40.8% of participants identifying it as a primary factor. This indicates that

economic challenges are perceived as a significant driver behind the preference for male children, potentially due to the expectation that sons will become financial providers. Dowry, a practice where the bride's family must give gifts or money to the groom's family, is the second most common reason, cited by 13.6% of participants. This suggests that the financial burden associated with marrying off daughters contributes to the preference for male children. A smaller percentage of participants (7.1%) consider the girl child as a burden, which reflects gender-biased perceptions about the value and roles of women in society. Family pressure is another significant reason, with 20.7% of participants citing it. Social and cultural convictions are cited by 17.75% of participants as reasons for female foeticide and gender preference.

**Table 4: Attitude of participants with regards to gender preference and female foeticide**

Attitude	Female (88)		Male (81)	
	Favourable*	Not favourable	Favourable	Not favourable
Does discrimination occur between boys and girls at workplaces?	61	27	50	31
Should sex determination and female foeticide be a punishable offence?	88	0	81	0
Is advances in technology playing an important role for increase in female foeticide?	53	35	55	26
Are you willing to volunteer to motivate people and spread awareness against female foeticide?	36	52	41	40
Should education regarding female foeticide be provided in schools?	78	10	70	11

\*Favourable attitude signifies that participants are against the practise of sex determination and female foeticide.

Table 4 illustrates the attitudes of participants with regards to gender preference and female foeticide. A majority of both female (69.32%) and male (61.73%) participants acknowledge that discrimination occurs between boys and girls at workplaces, though females

perceive it more strongly. There is a unanimous agreement among both female and male participants (100%) that sex determination and female foeticide should be a punishable offence. A majority of participants, both female (60.23%) and male

(67.90%), believe that advances in technology have played an important role in the increase of female foeticide. The willingness to volunteer for motivating people and spreading awareness against female foeticide shows a division among participants, with a

larger proportion of males (50.62%) being favourable compared to females (40.91%). A strong majority of both female (88.64%) and male (86.42%) participants support the idea that education regarding female foeticide should be provided in schools.

**Table 5: Association of Attitude on gender preference and awareness with some chosen demographic variables**

Variable		Positive attitude	Negative attitude	P value
Occupation	Employed	86	1	0.00027
	Unemployed	68	14	
Religion	Hindu	68	4	0.87
	Muslim	21	10	
	Christian	6	0	
	Others	59	1	
Education status	Primary	18	6	0.014
	Secondary	68	6	
	Graduate	47	3	
	Postgraduate	23	0	
Socioeconomic status	Lower class	23	7	0.0142
	Middle class	94	4	
	Upper middle class	28	3	
	Upper class	9	1	
Age	18-24 years	80	12	0.061
	25-29 years	75	3	
Rural/urban	Rural	64	10	0.035
	Urban	90	5	

Table 5 provides information about the association of attitude on gender preference and awareness with some chosen demographic variables. There is a significant association between occupation and attitude towards gender preference and awareness, with employed participants showing a predominantly positive attitude (P value = 0.00027). This suggests that employment status may influence attitudes towards gender issues, potentially due to exposure to diverse perspectives and financial independence. Education status is significantly associated with attitude, with higher education levels correlating with more positive attitudes towards gender preference and awareness (P value = 0.014). This underlines the importance of education in shaping attitudes towards gender equality. There is a significant association between socioeconomic status and attitude, with individuals from the middle class showing the most positive attitudes (P value = 0.0142). Age shows a trend towards significance (P value = 0.061), with the 25 – 29 years age group exhibiting more positive attitudes compared to the 18 – 24 years age group. The place of residence (rural vs. urban) is significantly associated with attitude, with urban participants showing more positive attitudes towards gender preference and awareness (P value = 0.035).

## DISCUSSION

In the present study, the majority of study participants

were between the ages of 25 and 29 (56.21%), and the findings were similar to those of another study conducted by Dhande *et al.* in **2015**, where 48% of study participants belonged to the age group of 25 and 30 years<sup>8</sup>. High school education was seen in 22.9% of the study participants and 5.7% were postgraduates, whereas in our study, 57.3% were educated up to secondary school, whereas 13.6% were postgraduates, and the educational status of our participants was statistically significant ( $\chi^2 = 10.63$ ) with a favourable attitude towards female foeticide (p-value = 0.014). In contrast to our study, where both employed and unemployed participants were present in almost equal proportions, Nithin *et al.*'s (2015) analysis found that 55% of the study participants were homemakers<sup>9</sup>. The majority of study participants interviewed belonged to the Hindu community (42.6%), and Muslims and Christians comprised approximately 21% of the participants. In the 2015 analysis by Nithin *et al.*, 3.8% of Muslims, 8% of Christians, and 89% of Hindus were present<sup>9</sup>. There was no statistical association found between participants belonging to various religious groups and their beliefs and thoughts regarding sex determination and female foeticide. (p-value = 0.87)

Our study highlighted that around 88% of participants were aware of the extent of female foeticide and its prevalence. Out of them, only 34% were aware of the calendar method or Chinese herbs in the hope that using such herbs and medicines would enhance the probability of giving birth to a male child. The study

findings show that almost everyone had either a complete or moderate amount of knowledge that sex determination is a criminal offence. In the analysis conducted by Srivastava A *et al.*, about 65.4% of the study participants were aware that sex determination is considered a criminal offence; 16.3% weren't aware, and 18.3% did not know about it<sup>10</sup>. In the analysis conducted by Bedre *et al.* in 2014, 92% knew that sex determination is a criminal offence<sup>11</sup>. It was observed in our study that everyone knew that there exists an act that clearly defines punishment if anyone goes for sex determination. In another study, awareness regarding punishment for sex determination was poor; only 8.2% of the study participants were aware of it, and 92% were not aware. According to Bedre *et al.*'s analysis, 59% of respondents were aware that sex determination is illegal and 29% were aware that sex determination results in legal punishment<sup>11</sup>.

Most of the study participants stated poverty and poor living conditions (40.8%), family and social pressure (38.4%), and rituals as the reasons for their non-preference for female children. In another study, about 11% said they don't prefer female children because they don't stay with their parents after marriage<sup>8</sup>. According to a study by Bedre *et al.*, 41.31% of respondents said they preferred sons because the support their sons provide for the family will help them in their old age, and 16% said they can provide for them financially in the future<sup>11</sup>. While conducting the study, around 80% of females and around 30% of males agreed with the fact that discrimination practices are being followed at various workplaces among boys and girls, and that affects their future career opportunities. Despite all such facts, only 45% of the study participants were willing to volunteer and stand against illegal practices going on in our country. The main reason is social, political, and family pressure, which prohibits youngsters in our country from actively participating in spreading awareness regarding female foeticide. One of the studies conducted by Kaushal *et al.* aimed to assess the knowledge and attitudes of married women living in rural areas of district Kangra, Himachal Pradesh, regarding the declining sex ratio and prevalence of female foeticide in society<sup>12</sup>. The study utilised a pre-designed, semi-structured questionnaire that included sociodemographic information. The findings revealed that only one-third of the participants were aware of the declining female-to-male ratio. Approximately 84% of the female respondents acknowledged the issue of female foeticide. However, only 24.5% of them had knowledge of the laws related to abortion and prenatal sex determination. The primary reason cited for the decreasing sex ratio was the preference for a male heir, accounting for 62.3% of responses. Approximately 60% of women faced challenges due to male dominance, while 48.1% have experienced thoughts of not wanting to have a female child at least once<sup>12</sup>. In a study they conducted at a tertiary care

hospital in Punjab, Kaur H. and Sachdeva S.G. sought to determine the knowledge and attitudes of women using the outpatient department toward female foeticide<sup>13</sup>. The participants were asked to complete a questionnaire that inquired about their understanding and opinions on the practice of female foeticide and its societal impact. Surprisingly, the study revealed that all respondents (100%) were aware of the prevalence of female foeticide in India, particularly in the states of Punjab and Haryana. Additionally, 54% of the respondents (n = 798) had knowledge about sex determination techniques.

In their study conducted at Bhopal, Toppo M *et al.* found that sex ratios at birth varied significantly by religion<sup>14</sup>. The study revealed that Sikhs had the highest gender biased child sex ratio, followed by Jains. Muslims exhibited a comparatively positive female child sex ratio. The impact of education on enhancing sex ratios is uncertain. Mothers with a higher level of education exhibited stronger gender preferences. The combination of education and higher per capita income has enabled couples to utilise advanced technology for the purpose of sex-selective foeticide. An intriguing discovery was made: when the birth order is female, the sex ratio in the following birth order for females decreases as the disparity between male and female children increases. The analysis conducted by Chavada M *et al.* concluded that son preference in rural areas (94.30%) is greater than in urban areas, and the difference was statistically significant, whereas in our study, an almost similar number of participants demonstrated a favourable attitude in both rural and urban areas<sup>15</sup>.

## CONCLUSION

In light of the persistent issues of sex determination and female foeticide, it is imperative that we focus on creating awareness among the unmarried population. Educating them about these concerns, assessing their knowledge and attitudes related to the topic, and motivating them to collaborate with local authorities to empower women and eradicate sex-selective abortion are important steps we must take. Moreover, there needs to be a concerted effort to design social support programmes that boost the rights of girl children. It is equally crucial to educate the unmarried population concerning girl child necessities and the consequences of sex-selective abortion and female foeticide. To this end, we must seek out effective educational technology that can disseminate realistic and efficient information and training to adolescents and community members in our region.

## LIMITATIONS

In spite of our best efforts, we could not avoid the fact that the majority of the participants conveyed that they had acquired information relating to female foeticide via multiple sources like the internet, newspapers, etc., which may not always be the sole truth. There was a theoretical risk that some of the

answers to the questions would have been guesses, which were actually responsible for occultic knowledge and hence could not be applied to the generalised population. Also, since our study was conducted in a private medical college-based facility, the majority of the study participants were students studying under various streams at our university, which might hamper the external validity of our study.

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