

Female Foeticide and Sex Ratio

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ABSTRACT Theoretical analysis of the impact of female foeticide on sex ratio reveals that the ratio is going to be highly distorted in favour of the male, unless effective measures are taken to check this evil practice.

The twentieth century India has experienced a perpetual decline in the ratio of females from 972 females per 1000 males in 1901 to 929 females per 1000 males in 1991 (UNI, 1991). The female generally has a higher life expectancy and lower infant mortality, and consequently in most of the world the female : male ratio is greater than or equal to one. In India, Kerala is the only State with a sex ratio of 1032 females per 1000 males. Punjab and Haryana on the other hand have 870 and 879 females respectively per 1000 males.

The recent introduction and usage of sex determination tests have become rather a curse for the female foetus in India. The practice of aborting female embryo emnates from the male preference in our society. The present report simulates the sex ratio ensuing from the practice of female foeticide. The analysis takes into consideration the rank of the child at which the couple practises the female foeticide in order to have a male child, assuming that the couple does not practise female foeticide to have more than one child of male sex (Tables 1, 2).

THE MODEL

Model 1. Female Foeticide at the First Child Level

In this case, the couple goes for only one child and retains the foetus if it is a male but aborts it if it is a female, as revealed by the

Table 1: Sex frequency of children born at different levels

Parents	First child	Second child	Third child
M (100) + F (100)	M (50)	M (25)	M (12.5)
			F (12.5)
		F (25)	M (12.5)
			F (12.5)
	F (50)	M (25)	M (12.5)
			F (12.5)
		F (25)	M (12.5)
			F (12.5)
P_m	0.5	0.75	0.875

P_m = Cumulative probability that a male will be born to a couple

sex determination test. Depending upon the number of couples exercising such an option, the sex ratio will range from 1000 females per 1000 males to 0 female per 1000 males. This would be an extreme situation and may lead to quite large sex ratio distortions. The sex ratio equation is

$$F : M = 50 - X : 50 + X$$

where X is the percentage of couples resorting to female foeticide in order to have a male child. The maximum value of X (X_{max}) may be 50 per cent.

Table 2: Models based on the level at which female foeticide is made to have a male child as indicated by arrow

Model	Rank of the child: Process determining the sex of the child	First child	Second child	Third child
1.	Natural	$\frac{M}{F}$		
	Foeticide	$\frac{M}{F \rightarrow M}$		
2.	Natural	$\frac{M}{F}$	$\frac{M}{F}$	
	Foeticide	$\frac{M}{F}$	$\frac{M}{F \rightarrow M}$	
3.	Natural	$\frac{M}{F}$	$\frac{M}{F}$	$\frac{M}{F}$
	Foeticide	$\frac{M}{F}$	$\frac{M}{F}$	$\frac{M}{F \rightarrow M}$

Model 2. Female Foeticide at the Second Child Level

Two cases are discussed below:

2.1. The couple produces the first child as per the nature's will and stops after the first if it is a male but chooses the second child to be a male if the first one is a female, i.e.

First child	Second child
M.	M.
F	$F \rightarrow M$

The arrow represents female foeticide in the case of a male. The sex ratio ensuing from such a case would range from 1000 females per 1000 males to 500 females per 1000 males. The sex ratio equation is

$$F : M = 75 - X : 75 + X$$

The value of $X_{\max}$ is 25 per cent.

2.2. The couple produces two children, leaving to nature the sex of the first child. The second child is retained if the first one is a male. Choice of the male sex is exercised by the couple at the second child level if the first one is a female, i.e.,

First child	Second child
M	M.
F	F.
	M.
	$F \rightarrow M$

Such a situation would result into a sex ratio in the range of 1000 females per 1000 males to 600 females per 1000 males. The sex ratio equation is

$$F : M = 100 - X : 100 + X$$

where X can take a maximum value of 25 per cent.

Model 3. Female Foeticide at the Third Child Level

Two cases are discussed below:

3.1. The couple stops after the first child if it is a male but continues to reproduce in lure of the second child to be a male without adopting sex determination tests. At the third child level the couple goes only for the male child, may be by adopting female foeticide.

First child	Second child	Third child
M.		
F	M.	
	F	M.
		$F \rightarrow M$

The sex ratio that will emerge from such a practice will range from 1000 females per 1000 males to 750 females per 1000 males. The sex ratio equation is

$$F : M = 87.5 - X : 87.5 + X$$

where $X_{\max}$ is 12.5 per cent.

3.2. The couple produces two children without any bias and stops after the second if a male is born, but goes for a third child by resorting to sex determination test-retaining the embryo, if it is a male but aborting it if it is a female.

First child	Second child	Third child
M.	M.	
	F.	
F.	M.	
	F.	M.
		F→M.

Depending upon the number of couples resorting to such a practice the sex ratio will range from 1000 females per 1000 males to 800 females per 1000 males. The sex ratio equation is

$$F : M = 112.5 - X : 112.5 + X$$

where $X_{\max}$ may be 12.5 per cent.

Table 3 gives the population sex ratio that will result from the practice of female foeticide as per various models given above.

Table 3: Number of females per 1000 males as per different models

Model	1	2.1	2.2	3.1	3.2
X					
0	1000	1000	1000	1000	1000
5	818	875	905	892	915
10	667	765	818	795	837
12.5	600	714	778	750	800
15	538	667	739		
20	428	579	667		
25	333	500	600		
30	250				
35	176				
40	111				
45	53				
50	0				

X Per cent couples practising female foeticide to have a male child

DISCUSSION

The actual statistics on female foeticide in India are startling. Between 1978 to 1983, as

many as 78,000 female foetuses were aborted after their gender was established through various sex determination tests (Chandra, 1990). The best known example of this practice was found in Bombay, where in 1984 alone 40,000 female foetuses were aborted. In the big cities, the number of educated young couples choosing the sex of their child is continuously increasing. In Delhi the number of women undergoing sex determination test in one centre in one year may be around 2,000. A study carried out in Punjab revealed that among the women having the female foeticide, the practice is more common among urbanites and literates (73.7% and 66.7%, respectively) than among rural people and illiterates (26.3% and 33.3%, respectively) (Sarin et al., 1990). The worst part of the story is that even those having one son (31.6%) had the female foeticide and 97.4% of the cases studied had no regrets whatsoever.

The problem can not be discussed in isolation of other inhuman practices in vogue. A study revealed that the practice of female infanticide is widely prevalent in certain communities in Rajasthan. For example, in Bhati community in Rajasthan, the sex ratio is one of the lowest in the world, at approximately 550 (Bajpayee, 1990). Further, the female child care is worst in India. Of every 1000 girls born, 125 die within one year, another 71 die before their 5th birthday and only 750 cross the age of 15.

It would, therefore, be no exaggeration to say that any population control policy overlooking the consequences of these silent murders would be disastrous. Besides the social and cultural factors, female illiteracy is also behind the crisis. Even today, 60.58% of the Indian females are illiterate. To be more realistic, even the literate need be educated in this regard.

THE REMEDY

The legislative measures taken by the Government of India declaring any abortion

based exclusively on the sex of the foetus as a cognizable offence under the Indian penal code have not proved effective to any extent. It is no secret that legislation seldom helps in matters involving customs, rituals, myths and beliefs. Therefore, a social awakening might mitigate the problem to a great extent. So, a better approach would be to take necessary steps so as to make the female child as asset than a liability to the parents. Experience has shown that reservation of jobs for a particular class might create more problems than solving the desired one. A viable solution to the problem, therefore, lies in providing the female child more incentives in the form of

- Free education, clothing and a nominal stipend during her school education,

- Additional provisions for merit-cum-means scholarships, book allowance and fees concession for females going for higher education,

- Free medical aid for the female child, and

- Increasing the number of seats for females in job oriented integrated training centres.

The crisis warrants an immediate remedial action in form of steps as listed above to provide the oppressed sex her due. Otherwise, the fallout is imminent. Declaring the sex determination centres illegal and heavily penalizing the greedy doctors making a quick buck by such unethical means may also solve the problem to a great extent.

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