

Gender preferences among antenatal women: a cross-sectional study from coastal South India

Kumar Nithin¹, Kanchan Tanuj², Bhaskaran Unnikrishnan¹, T Rekha¹, Mithra Prasanna¹, Kulkarni Vaman¹, Holla Ramesh¹, Bhagwan Darshan¹, Reddy Samskruthi³

1. Department of Community Medicine, Kasturba Medical College (Manipal University), Mangalore, Karnataka, India
2. Department of Forensic Medicine, Kasturba Medical College (Manipal University), Mangalore, Karnataka, India.
3. Kasturba Medical College (Manipal University), Mangalore, Karnataka, India.

Abstract

Background: A balanced sex ratio is essential for a stable society.

Objective: The main objective of the present research was to study the perceptions of women attending the antenatal care (ANC) facility regarding their gender preferences and family composition.

Method: In this cross-sectional study 132 antenatal women were interviewed in their preferred language using a predesigned semi-structured questionnaire. The collected information was analyzed using SPSS version 11.5.

Results: The mean age of the study participants was 27.2 ± 4.1 years. The majority of the antenatal women (60.6%, n=80) did not have any gender preferences. Among those who had a gender preference (39.4%, n=52), male and female preference was reported by 55.7% (n=29) and 44.3% (n=23) of the participants respectively. The overall son preference index was observed to be 1.3. No consistent relationship could be established between the socio-demographic factors and the preference for gender. The mean preferred family size in our study was 1.85 ± 0.531 and more than half of the participants had a balanced gender preference. The majority of the participants were aware that the adverse sex ratio can lead to fall in the number of brides and that it would bring about a social imbalance.

Conclusion: As a developed society we need to ensure that both the genders get equal respect and are free from any sort of preferences and prejudices. To achieve this, more and more people need to be made aware of the consequences of gender imbalance and adverse sex ratio in a society.

Keywords: Gender preferences; family composition; antenatal women; coastal South India

DOI: <http://dx.doi.org/10.4314/ahs.v15i2.31>

Introduction

A family is the most fundamental unit in the human society. The household size and its composition are an important aspect of the family, and the society at large. A balanced sex ratio plays a vital part in bringing out, and maintaining a stable society. People in India exhibit

it a strong gender preference for male child and this discrimination or prejudice continues in spite of socio-economic development and higher growth rates^{1,2}. The preference for sons has been associated with preferential abortion of female fetuses and even to female infanticide. This differential treatment given to the girls and the sex-selective illegal abortions has resulted in estimated 30 to 70 million "missing" women in India³.

Though the sex ratio in the country is low at 940 females per 1000 males, it has increased from 933 females per 1000 males as reported in 2001⁴. Unfavorable sex-ratio is not unique to India. Distorted sex-ratios are reported in many Asian countries including China, Taiwan, Singapore and Vietnam. However, the alarming fact is that India has one of the lowest child sex ratios (female – male ratio of children below 6 years) in the world with 914 girls /1000 boys, which has fallen from

927 girls/1000 boys in 2001⁵. This has brought the dark side of India's demographic imbalance into the world's attention. Gender bias, even when not disastrous, may still generate greater debility among surviving girls. The preference for sons can result in gender based inequality within household which manifests itself in the form of discrimination against daughters in providing food, health care and education which in turn increases the vulnerability of the surviving girl child⁶.

Although the sex ratio at the National level is low, the district of Dakshina Kannada in the State of Karnataka, where the present study was carried out has reported a favorable sex ratio of 1018 females per 1000 males. This region has high female literacy rate and matriarchal system of inheritance followed in many communities. However the child sex ratio in the region has dropped to 946 in 2011 from 952 in 2001 which is in par with the National statistics. This figure is only marginally higher than the average of 943/1000 reported in the State of Karnataka⁴. Not many studies have assessed the perception of antenatal women regarding their gender preferences. With the issue of decreasing sex ratio in children aged between 0-6 years looming large in Dakshina Kannada district of coastal South India, the current study was aimed to study the perceptions of women attending the antenatal care (ANC) facility at a tertiary care hospital regarding their gender preferences and family composition.

Materials and methods

An approval was taken from the institutional ethics committee of Kasturba medical college, Mangalore (Manipal University), India prior to the commencement of the study. This cross sectional study was conducted among women attending the antenatal care centres at tertiary care hospitals attached to Kasturba medical college, Mangalore in coastal South India. Permission was obtained from the concerned authorities of the hospitals to interview the study participants. The participants were approached individually and briefed about the nature and purpose of the study. A written informed consent was obtained from those who were willing to participate, after which they were interviewed in their preferred language. A predesigned semi-structured questionnaire was used to collect relevant information pertaining to the study variables. The questionnaire had three sections; Section 'A' consisted of the socio demographic details of the participant, Section 'B' consisted

of questions regarding the participant's perception on gender preference and family composition and Section 'C' captured the participant's awareness about the adverse sex ratio in our country.

The sample size was calculated assuming that 50% of the antenatal women had a gender preference, taking 20% relative precision (80% power) and 95% confidence level, the sample size was found to be 100. Adding 20% as non-response error, the sample size for the study was calculated to be 120. A total of 132 antenatal women voluntarily participated in the study. The collected information was analyzed using SPSS version 11.5 and the results obtained were expressed in proportions. Son Preference Index (SPI) was calculated⁷ as:

$$\text{SPI} = \frac{\text{number of women who preferred the next child to be male}}{\text{number of women who preferred the next child to be female}}$$

Results

A total of 132 antenatal women were included in the study to assess their perception regarding gender preference and family composition. The mean age of the study participant was 27.2 ± 4.1 years. The majority of the participants (43.2%) were in the age group between 26 to 30 years. The mean age at marriage was 23.9 ± 3.5 years and the mean age at first pregnancy was 25.3 ± 3.5 years. The socio demographic characteristics of the study participants are shown in Table 1. It is shown that proportionately large numbers of the participants were Hindus, housewives and had schooling up to grade ten.

The majority of the antenatal women (60.6%, n=80) did not have any gender preference. Among those who had a gender preference (n=52), male and female preference was reported by 55.7% (n=29) and 44.3% (n=23) of the participants respectively. Preference for son/ daughter varied in the different age groups. A larger proportion of participants in the age group between 21 to 30 years preferred a male child (23.5% vs. 14.7%), whereas those above 30 years preferred a female child (30.8% vs. 19.5%). A relatively larger proportion of housewives (20.8%) preferred a female child while working women preferred a male child (31.7%). The overall son preference index was observed to be 1.3. No consistent relationship could be established between the socio-demographic factors and the preference for gender. The son preference index for each variable is shown in Table 1.

Corresponding author:

Kumar Nithin,
Department of Community Medicine,
Kasturba Medical College
(Manipal University), Mangalore,
Karnataka, India
Mobile no: +919591895839
Tel: +91 824-2422271(O)
Email: nithin.gatty@manipal.edu,
drnithin_kumar@yahoo.co.in

Table 1: Socio-demographic profile and gender preferences among the participants [N=132]

Variables	Total (N=132)	Son preference (N=29) n (%)	Daughter preference (N=23) n (%)	No Preference (N=80) n (%)	SPI
Age distribution:					
<20	04 (03.0)	00 (00)	00 (00)	04 (100.0)	00
21-30	102 (77.3)	24 (23.5)	15 (14.7)	63 (61.8)	1.6
>30	26 (19.7)	05 (19.5)	08 (30.8)	13 (50.0)	0.6
Parity:					
Primigravida	87(65.9)	18(20.7)	9(10.4)	60(68.9)	2.0
Multigravida	45(34.1)	11(24.4)	14(31.1)	20(44.4)	0.8
Religion					
Hindus	117 (88.6)	26 (22.2)	21 (17.9)	70 (59.8)	1.2
Christians	10 (07.8)	01 (10.0)	01 (10.0)	08 (80.0)	1.0
Muslims	05 (03.8)	02 (40.0)	01 (20.0)	02 (40.0)	2.0
Occupation					
Housewife	72 (54.6)	10 (13.9)	15 (20.8)	47 (65.3)	0.7
Working	60 (45.5)	19 (31.7)	08 (13.3)	33 (55.0)	2.4
Education level					
No formal education	01 (0.9)	01 (100)	00 (00)	00 (00)	00
Schooling up to grade 8	15 (11.4)	03 (20.0)	03 (20.0)	09 (60.0)	1.0
Schooling up to grade 10	56 (42.4)	16 (28.6)	10 (17.9)	30 (53.6)	1.6
Schooling up to grade 12	38 (28.7)	05 (13.2)	07 (18.4)	26 (68.4)	0.7
Graduation	18 (13.6)	04 (22.2)	03 (16.7)	11 (61.1)	1.3
Post-graduation	04 (03.0)	00 (00)	00 (00)	04 (100)	0.0
Income:					
<5000	46 (34.8)	11 (23.9)	09 (19.6)	26 (56.5)	1.2
5000 -10000	46 (34.8)	08 (19.4)	07 (15.2)	31 (67.4)	1.1
> 10000	40 (30.3)	10 (25.0)	07 (17.5)	23 (57.5)	1.4

SPI = Son Preference Index

A higher proportion of the participants (n=95, 72%) preferred having two children in the family, and more than half of them (n=72, 54.5%) had a balanced gender preference, i.e. one male and one female child in the family. The mean preferred family size in our study was 1.85±0.531. The preference of gender and preferred family compositions among the participants is shown in Table 2.

Table 2: Preferred family and gender composition among the participants [N=132]

	N (%)
Number of children	
1 child	29 (22)
2 child	95 (72)
> 2 child	08 (06)
Preferred gender composition	
Only male	07 (05.3)
Only female	05 (03.8)
One male and one female	72 (54.5)
No preference	48 (36.4)

Among the participants who preferred a male child (n=29), majority did so because they believed that male is the working hand or breadwinner for the family (34.5%) while, 27.6% of the participants already had a female child. Of the 23 participants who preferred a female child, majority (60.7%) already had a male child and cited it to be the main reason for the female preference.

Details of the awareness of the participants on the adverse sex ratio and its consequences are shown in Table 3. The majority of the participants (75%) were aware about the adverse sex ratio in the country and a larger proportion of them (41.7%) felt that it will lead to fall in the number of brides and that it would bring about a social imbalance (22.7%).

Table 3: Awareness of the participants on the adverse sex ratio and its consequences [N=132]

Variables	N (%)
Adverse sex ratio	
Aware	100 (75.0)
Not aware	32 (25.0)
Consequences of adverse sex ratio*	
Decrease in the number of brides	55 (41.7)
Social imbalance	35 (26.7)
Increase in Inter-caste and inter-religion marriage	17 (12.9)
Increase in violence against women	15 (11.4)
Don't know	46 (34.8)

* Participants were asked to give more than one response if they felt so.

Discussion

Gender preferences are a well-known feature of human society. A couple's gender preference for children is usually influenced by their traditional background and cultural practices which has been handed over from generations. Wide differences in gender preferences exist in both developed as well as developing countries of the world. An empirical review of standardized data from 17 European countries with respect to their gender preference for children showed a strong tendency towards a mixed sex composition. Interestingly, girl preference was seen in Czech Republic, Lithuania and Portugal. All the countries in the review had similar socio-economic conditions and family policies.⁸ Individual studies from UK, and Turkey have also reported a strong preference for daughters^{9,10}.

In another review of data from 50 developing countries majority had a balanced gender preference i.e. a preference for equal number of boys and girls. Latin America and the Caribbean (with the exception of Bolivia) along with several Southeast Asian countries

showed a predominant daughter preference. Son preference was more prevalent in Southern Asia, Western Asia, and Northern Africa¹¹. Individual studies from Egypt, Nepal, and China have reported a strong preference for sons over daughters.^{7,12,13} Of the 28 countries in sub-Saharan Africa, which were part of the review son preference was seen in 16 countries. This review demonstrated that son preference was not predominant across countries and daughter preference was common in many countries.¹¹ Among the countries from South East Asia region a strong preference for sons has been observed in India, China and South Korea.¹⁴ However, the situation regarding son preference in India is alarming, which is frequently associated with the neglect and death of millions of females through infanticide, sex selective abortions, improper nutrition, and lack of medical care⁵. India is a land of diversity with different religions, regions, and population groups across India showing a vast variance in their beliefs and preferences. A cultural divide exists between North and South Indian states. In North India exogamous marriage system favor strong patriarchal value and lower

female autonomy compared to South India. High levels of gender discrimination against females have been reported in Northern and Western states of India.¹⁵

The studies from the different parts of India show a difference in the pattern of gender preferences. In a study from Bangalore, in Karnataka¹⁶, 62.2% of the urban women wanted at least one son. In a study from Howrah, in West Bengal¹⁷, 22.2% women had a son preference, while 37.8% and 36.2% had a balanced preference and no gender preference respectively. In a study from Darjeeling, in West Bengal¹⁸, 32.7% of the women wanted more sons than daughters while a balanced preference was seen in 53.8% of the participants. In this preliminary investigation of gender preference in coastal South India, antenatal women attending the ANC facility at a tertiary care hospital were interviewed to assess their perception regarding gender preference and family composition. In our study, the majority of the participants had no gender preference for their current pregnancy

The influence of women's education status and employment on gender preference has also been observed. A study by international center for research on women (ICRW) reported Mothers' education as the single most significant factor in reducing son preference.¹⁹ A woman's education might change her perception regarding a daughter's role in the family and decrease the son preference. However, it has been observed that women educated beyond primary i.e. secondary or higher studies have a change in their perceived belief that sons are the sole means of economic and social support.²⁰ The son preference will be weaker in employed women since they would consider having a daughter on par with son in terms of providing economic security to the family. Interestingly, in our study the SPI was higher among working women and those who have completed their secondary education. In a study from Ahmadabad²¹, the son preference was higher among illiterate women. The variations in gender preference among rural and urban areas, as well as, on the basis of socio-economic status have also been reported. A study from Western part of India²¹ has shown a higher preference for sons in rural (94.3%) than urban areas (80.3%). In a study from West Bengal²² gender preference was seen in 55.6% subjects and was significantly high in participants with low socio-economic status and lower level of education..

Gender preferences can influence a couple's fertility

behaviour. Studies have shown that couples who have a preference for a particular sex of their 1st born are more likely to have a larger family size if the preference is not met.⁸ With regard to the number of children and preferred gender composition in the family, the majority of the participants preferred 2 children and a balanced gender composition. The gender of the children in a family is likely to influence the gender preferences among women in the subsequent pregnancies thus resulting in a larger family size. Son preference can be a normal attribute for couples who have only girls⁵. In a study from Howrah, West Bengal in India¹⁷ a relatively higher proportion of women preferred more than 2 children, when compared to our study observations. In a study from Botswana²³, the mean desired family size was higher than that reported in our study. The rapidly growing population is a major concern in India. A two child norm has been proposed by the Government of India for population control²⁴. Our observations with regard to desired family size are encouraging since the majority of the participants preferred having two or less children in the family.

In a traditional society sons are preferred since they bring an economic stability to the family and in a patrilineal society ensure kinship continuity. Daughters are preferred since they are reliable to provide old age assistance in form of emotional support, along with household tasks and care of younger children. However in modern societies children are not considered a source of economic security but are valued for social and psychosocial reasons. The reviews from both developed and developing countries^{8,11} have demonstrated a balanced gender preference where in the benefits of both gender can be utilized. There are instances when each partner prefers to have at least one child of his or her own gender for companionship. However, in India the practice of dowry has been an important reason behind non preference of daughters.¹⁵ The son preference in our study was associated with a common belief that they are the breadwinner for the family. The existence of a male child in the family was the main reason for the female preference among the participants who preferred a female child. In a study from Ahmadabad²¹, the main reason for preferring sons was to keep the family lineage while non-preference for daughters was associated with the reason that the girls won't stay with them after marriage and for dowry and marriage related problems. Similar observations are reported in a study

from Egypt⁷, where son preference was related to the belief that the sons represent the power status of the family, help and inherit family business and continue family name. Thus, matriarchal or patriarchal societies and matrilineal or patrilineal systems are likely to influence the gender preferences in a population. The overall son preference index in our study was 1.3.

The effect of parity on the gender preferences has also been studied and documented. Roberto Bulatao observed that in low parity, emotional and psychological need forms the basis for having children, and gender preferences are usually prominent at 3rd or 4th child. He also observes that at Parity above 5 the need for children is influenced by their potential economic benefits.⁸ In our study majority of the primigravida mothers had no gender preference. However among those mothers who had a gender preference higher SPI was observed. The SPI in our study was also higher among those mothers aged between 21 and 30 years. The majority of the participants in the present study were aware about the adverse sex ratio in the country and its consequences. The decrease in the number of prospective brides and social imbalance were the most commonly felt consequences of the adverse sex ratio. A high degree of awareness in this regard among the participants from this region of coastal South India is encouraging.

Based on our study findings, as well as from similar studies and reviews from both developing and developed parts of the world we can conclude that having no gender preference for children or having a balanced gender preference i.e. mixed gender composition seems to be the current trend. These findings are encouraging and seem to be the right path in our progress towards achieving the goal 3 of the millennium development goals.

As far as our study setting was concerned the results were not surprising owing to the high female literacy rate and matriarchal system prevailing in this region. It is heartening to note that the majority of the participants in the present study did not have any gender preferences in particular. However, a continuous effort needs to be put in to improve upon this existent scenario. What surprised us was that, among those who had a gender preference majority had a son preference especially among those educated and employed. This may be due

to the influence of prevailing social and cultural factors rather than for economic reasons.

With the population of India growing at an alarming rate, having a gender preference for children or preference for a particular family composition is detrimental in achieving the 2 child norm set by the national family planning program. If the couples continue to have children till they fulfill their desired family composition or desired number of sons we will never achieve the set target of 2 children per family

One thing evident is that gender preference in the society does not solely depend upon its socioeconomic development but on the deeply embedded socio-cultural factors which overrides all the other factors. These socio-cultural factors need to be explored at the regional as well as at the micro-level to identify the determinants for gender preference, which may be different for each woman. The policy makers should come up with strategies to address each of these determinants rather than have a single strategy approach which may not be applicable to all. Policies need to be formulated and implemented which can bring about a change in attitude of the society towards gender preference and achieve the 2 child norm.

As a developed society we need to ensure that both the genders get equal respect and are free from any sort of preferences and prejudices. To achieve this, more and more people need to be made aware of the consequences of gender imbalance and adverse sex ratio in a society.

Details of ethical approval

Ethics committee approval was obtained from the Institutional ethics committee of Kasturba medical college, Mangalore (affiliated to Manipal University), India prior to the commencement of the study.

Competing interests

The authors have declared that no competing interests exist.

Financial Disclosures

None

Acknowledgements

The authors are grateful to the study participants who voluntarily took part in the study. We wish to acknowledge the support provided by the

Department of community medicine, Kasturba medical college, Mangalore and Manipal University for encouraging research and its publication in international journals of repute.

References

1. Bharadwaj P, Nelson LK. Discrimination begins in the womb: Evidence of sex-selective prenatal investments. Available at URL: http://dss.ucsd.edu/~prbharadwaj/index/Papers_files/Bharadwaj_Nelson_Oct24_2010.pdf Accessed on: 24/02/2013.
2. Dasgupta S. Son Preference and Gender Gaps in Child Nutrition: Does the Level of Female Autonomy Matter? Available at URL: http://i.pacdev.ucdavis.edu/files/conferenceschedule/session/papers/Dasgupta_SonPrefAutonomyAbstract.pdf. Accessed on: 24/02/2013.
3. Nandi A, Deolalikar AB. Does a Legal Ban on Sex-Selective Abortions Improve Child Sex Ratios? Evidence from a Policy Change in India. Available at URL: http://www.cddep.org/sites/cddep.org/files/publication_files/ssrn-id2200613.pdf. Accessed on: 24/02/2013.
4. Government of India. Census 2011. Available at URL: <http://censusindia.gov.in/2011-prov-results/indiaatglance.html>. Accessed on: 27/02/2013.
5. Mithra A. Son preference in India: implications for gender development. Available at URL: <http://www.socialeconomics.org/Papers/Mitra4A.pdf>. Accessed on: 6/03/2013.
6. Singh A. Gender Based Within-Household Inequality in Childhood Immunization in India: Changes over Time and across Regions. *PLoS ONE* 2012; 7(4): 1-8.
7. El-Gilany AH, Shady E. Determinants and causes of son preference among women delivering in Mansoura, Egypt. *East Mediterr Health J* 2007; 13(1):119-28.
8. Hank K, Kohler H-P. Gender Preferences for Children in Europe: Empirical Results from 17 FFS Countries. *Demographic Research* 2000; 2(1). Available at URL: <http://www.demographic-research.org/volumes/vol2/1/2-1.pdf>. Accessed on: 12/08/2014.
9. Walker MK, Conner GK. Fetal sex preference of second-trimester gravidas. *J Nurse Midwifery* 1993; 38(2):110-3.
10. İşeri E, Gürhan N, Ozbaş AA, Sari BA. Preferences for sex of firstborn child among primiparous Turkish women. *Psychol Rep* 2012; 111(1):165-72.

11. Fuse K. Variations in attitudinal gender preferences for children across 50 less-developed countries. *Demographic Research* 2010; 23 (36):1031-1048.
12. Chhetri UD, Ansari I, Bandary S, Adhikari N. Sex preferences among mothers delivering at Patan Hospital. *Kathmandu Univ Med J (KUMJ)* 2011; 9 (36):229-32.
13. Du LR, Ding ZY. Reproductive expectation and gender preferences of parents in poverty areas of China. *Zhonghua Er Ke Za Zhi* 2004; 42(12):898-901.
14. Gupta MD, Zhenghua J, Bohua L, Zhenming X, Chung W, Hwa-Ok B. Why is son preference so persistent in East and South Asia? A cross-country study of China, India and the Republic of Korea. The World Bank Development Research Group Public Services and Rural Development 2002. Available at URL: http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2003/02/07/000094946_03012804060286/Rendered/PDF/multi0page.pdf. Accessed on : 14/08/2014.
15. Arokiasamy P, Pradhan J. Gender bias against female children in India: Regional differences and their implications for MDGs. Available at URL: <http://paa2006.princeton.edu/papers/60960>. Accessed on: 13/08/2014.
16. Edmeades J, Pande RP, Falle T, Krishnan S. Son preference and sterilization use among young married women in two slums in Bengaluru city, India. *Glob Public Health* 2011; 6 (4):407-20.
17. Haldar A, Dasgupta U, Sen S, Laskar K. Influence of social correlates on gender preference and small family norm: an impression from West Bengal. *J Fam Welfare* 2011; 57(1):79-84.
18. Dey I, Chaudhuri RN. Gender Preference and its Implications on Reproductive Behavior of Mothers in a Rural Area of West Bengal. *Indian J Community Med* 2009; 34(1): 65–67.
19. Pande R, Malhotra A. Son Preference and Daughter Neglect in India –What Happens to Living Girls? International Center for Research on Women 2006. Available at URL: <http://www.icrw.org/files/publications/Son-Preference-and-Daughter-Neglect-in-India.pdf>. Accessed on: 14/08/2014.
20. Pande R, Astone NM. Explaining son preference in rural India: the independent role of structural versus individual factors. *Popul Res Policy Rev* 2007; 26:1–29.
21. Chavada M, Bhagyalaxmi A. Effect of socio-cultural factors on the preference for the sex of children by women in Ahmedabad District. *HPPI* 2009; 32(4):184-189.

22. Yasmin S, Mukherjee A, Manna N, Baur B, Datta M, Sau M et al. Gender preference and awareness regarding sex determination among antenatal mothers attending a medical college of eastern India. *Scand J Public Health* 2013 [Epub ahead of print].
23. Campbell EK, Campbell PG. Family size and sex

preferences and eventual fertility in Botswana. *J Biosoc Sci* 1997; 29 (2):191-204.

24. The promotion of two child norm bill, 2006. Available at URL: http://164.100.24.219/BillsTexts/RSBillTexts/asintroduced/LXVIII_2006.pdf. Accessed on: 26/03/2013.