

Original Article

CHILD SEX RATIO AND IT'S SOCIO-DEMOGRAPHIC CORRELATES: A CROSS SECTIONAL STUDY IN AN URBAN AREA OF EASTERN MAHARASHTRA

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ABSTRACT

Background: Sex ratio is an important social indicator to measure the extent of prevailing equity between males and females in a society.

Objective: The Objective of the study was to find Child Sex Ratio (CSR) in the urban area of Aurangabad, Maharashtra and socio-demographic factors affecting it.

Methods: The present study is community based cross sectional study which involved house to house interview of mothers of 0-6 year children from urban area of Aurangabad. Information regarding all children born in last 6 years, their date of birth, birth order and demographic information of family was noted.

Results: Overall child sex ratio of study area was 853. The highest child sex ratio was obtained for (CSR 1255) Muslim religion, (CSR 2667) when father studies up-to primary school, (CSR1778) when mother was illiterate and (CSR 1000) for class V and III socio-economic status. Least CSR 605 was obtained when the families have all females in previous birth order.

Conclusion: This part of country or Maharashtra has lower CSR than national average. There are demographic factors like socio-economic status, education status of parents, religion and previous birth order, which influence CSR. There is less girl child insubsequent birth order, especially when the previous born child is female.

Keywords: Child sex ratio, urban, birth order, India.

INTRODUCTION

The girl children in India have been the most vulnerable for centuries and are even today vulnerable to the insults of deprivation as well as discrimination. Whatever the natural biological laws of human reproduction had given mankind for balancing its natural sex ratio, has been taken away by man made laws, customs, traditions, religious beliefs and sophisticated medical technology, resulting in a lower status in society for girls as well as women. Sex ratio is an important social indicator to measure the extent of prevailing equity between males and females in a society. The sex ratio at birth is slightly favourable to boys, which is a natural phenomenon.¹ For too long they have been left on the back burner, facing discrimination throughout their entire journey from cradle to the grave.¹ Sex-ratio (number of females per thousand males) is one of the most important indicators used for study of population characteristics.² Defining the sex ratio by covering children in age group 0-6 may seem arbitrary but the Census uses it for the purposes of literacy status, categorising (from

1991 onwards) the entire population into two groups, those aged 0-6 years and those 7 years and above. It has been evident from study that child sex ratios are less likely to be affected by migration, which, if sizeable, can significantly alter the sex composition in numerical terms.³ Demographically, the 2011 Census has shown an improvement in overall sex ratio from 933 in 2001 to 940 females per 1000 males during the last decade, the number of girls to boys in 0-6 years age group fell from 927: 1000 to 914:1000. It is the lowest since independence.⁴ With this perspective, the present study was conducted to determine the child sex ratio in the study area and how various socio-demographic factors affect it.

METHODS

The present community based cross-sectional study was carried out in the urban area of Aurangabad, Maharashtra (Marathwada). The study was conducted during October-2010 to September-2011. Institutional ethical clearance was sought. Study

subjects were children less than six years of age and their mothers. With expected proportion of girls and boys as 50% each, and 5% precision at 95% confidence level, a sample size of 384 was calculated to answer the research question. Municipal Corporation of Aurangabad has total 99 wards. A list of all the wards in the area was obtained, from which 10% of the total wards i.e. 10 wards were selected for study, using systematic random sampling. This means 40 children aged 0-6 years form each ward to reach the current sample size of 384. First ward in the list was randomly selected using Random number table, that comes out to be ward no 5, after that every 10th ward was selected, till total 10 wards were chosen. Data was collected using predesigned questionnaire by house -to-house survey, carried out in the selected ward, starting on the left hand from any of the landmark like temple, masjids, shops or hospitals till the sample size of 40 children aged 0-6 year was achieved. Study was carried out in the morning as well as in the afternoon, so as to achieve maximum coverage. Mothers were informed about the purpose of study & they were motivated to participate. They were asked regarding total no of children they were having; no of children in the age group 0-6 years, their date of birth; birth order; sex; interval between two births. Analysis was performed using statistical programme (SPSS Ver10.0, SPSS Inc, Chicago, USA).

RESULTS

Table 2: Distribution of study subjects and child sex ratio from birth order 2 onwards according to sex composition of previous children.

Sex composition of previous child	Male (n=140)	Female (n=101)	Total (n=251)	CSR
No male or all female	71 (51.0)	43 (42.5)	114 (45.4)	605
No female or all male	45 (32.1)	39 (38.6)	84 (33.4)	866
At least 1 male	69 (49.2)	52 (51.4)	121 (48.2)	754
At least 1female	95 (68.0)	60 (59.4)	155 (62.0)	631

Figures in parenthesis indicate percentages (Calculated from “n” of column head)

Highest CSR 2667 was of those whose fathers studied till primary school and lowest CSR 655 was of father studied graduate or above. Study subjects whose mothers were illiterate had highest CSR 1778, followed by CSR 1333 of mothers studied till primary school. As the education level of mothers increases from illiterate to middle school, CSR decreases from 1778 to 492. But, as education level increases from high school to graduate and above CSR also increased. Child sex ratio according to socio-economic status as per Prasad classification modified as per current price index (2011 Aug) showed that the highest CSR 1000 was among class V and class III study subjects, followed by CSR 812 among class IV study subjects. Lowest CSR 333 was found among study subjects belonging to class I of socio-economic state. Table 1 shows child sex ratio according to birth order, lowest CSR 667 was at birth order 3. As the birth order increased the CSR decreased. Table 2 shows the influence of the sex of the pervious child on CSR; highest CSR 866 was of the

A total of 415 children in 0-6 years age group were included in the study, 224 (54%) children were male while 191 (46%) were female child. Maximum, (23.2%) males were in 13-24 months age group while (20%) females were in 0-12 months age group. Majority of study subjects i.e. 86 (38.4%) males and 67 (56.9%) females belonged to Buddhist religion, followed by Hindus [38% male and 31.5% female] and Muslims [21% male and 31% female]. Maximum, 225 (54%) children belong to nuclear family, followed by 108 (26%) belong to joint family. Mostly, 242(58%) children belong to class III, followed by 104(25%) belong to class II. Majority, 189(45.3%) fathers were studied till high school while 161(38%) mothers were educated till high school. Overall child sex ratio of study area was 853. Highest CSR 1255 was obtained for Muslim, followed by CSR 779 of Buddhist religion while lowest CSR 714 was for Hindus. Joint & three generation family had the highest CSR 939 followed by CSR 786 for nuclear family.

Table 1: Distribution of study subjects and child sex ratio according to birth order

Birth order	Male	Female	Total	CSR
1	84 (37.5)	90 (47.3)	174 (42.0)	1071
2	88 (39.5)	65 (34.0)	153 (37.0)	739
3	39 (17.5)	26 (13.5)	65 (16.0)	667
4 & above	13 (5.5)	10 (5.2)	23 (5.0)	769
Total	224	191	415 (100.0)	853

Figures in parenthesis indicate percentages

study subjects having all male children in previous birth order. Least CSR 605 was obtained when the family have all females in previous birth order.

DISCUSSION

The overall child sex ratio of study area was 853, which was comparable with CSR 859 of study area as per census 2011.⁴ The CSR 853 of study area was less against the CSR 914 at national level and CSR 883 at state level². The present study CSR was lesser than the findings obtained by Chand P et al⁵ (CSR 896) in Himachal Pradesh and Bhasin SK et al⁶ CSR 876. Highest CSR 1255 was of Muslim and lowest CSR 714 of Hindus, which was less as compare to the findings of Garg S et al ⁷ who observed CSR 925 among Hindus, which indicates that sex discrimination is still continued and deep rooted among Hindus, but for Muslims present study CSR 1255 was comparable to Garg S et al⁷ who observed CSR 950 among Muslim. Similarly,

Halder A⁸ observed CSR 942 among Buddhists, CSR 925 among Muslims and Hindus each, which is more as compared to present study.

Subramanian SV et al⁹ observed in a nationally representative time series data for five most recent years (1983- 2005) highest CSR 988 amongst schedule caste and CSR 1016 amongst schedule tribes, against CSR 779 amongst Buddhist in present study, which indirectly shows that gender discrimination has not been restricted to socially advantage caste only, instead it has been increasing in schedule caste and schedule tribe, which has been reflecting in overall adverse child sex ratio.

In present study, highest child sex ratio was of children whose mothers were illiterate, which is consistent with findings of Subramanian S V et al⁹ who observed an inverse association between CSR and education status of mother. He observed CSR 859, where women household had graduate education as compared to CSR 943 where woman household had no education. He also observed rural households with no formal education had a CSR of 963, while those with college or more education had a CSR of 815. Similarly, Jha P et al¹⁰ observed that mothers with grade 10 or higher education had a significantly lower sex ratio 683 than did illiterate mothers 869. In present study, CSR 2667 was observed where father had primary school education against CSR 655 where fathers were graduate and above. The finding is comparable with Bora R S et al.¹¹ CSR was more among the joint family in comparison to nuclear family. In nuclear family due to lack of care taker, lack of financial support, parents might go for gender preference.

An inverse relationship was found between socioeconomic status and child sex ratio. Children who belong to class I had CSR 333, CSR 677 among class II, which is consistent with analysis of various studies which points to the positive linkage between abnormal sex ratio and better socio-economic status.¹² Our finding was comparable with that of Subramanian S V et al⁹ who observed that CSR decreased with increasing income. The child sex ratio was dependent on the sex of the previous born child. The families were ensuring that they have at least one male child in the family. The CSR decreased when the families already have a female child. These finding provides an indirect evidence of practices of sex selection adopted by the families. These differences noted for educational level are not correlated with income or measures of wealth. Nevertheless, we believe they indicate cultural preferences and easier access to, and greater affordability of prenatal ultrasound in educated individuals. Although further research is needed, in our opinion, the most plausible explanation for the low female-to-male sex ratios reported at birth is prenatal sex determination followed by selective abortion.

CONCLUSIONS

CSR was lower than the national average in this region. The socio-demographic factors favorable for CSR were lower socio-economic status, lesser education of father and mother, and children living in joint families. The counterintuitive association between sex imbalance and SES raises special public policy concern. Our finding that the problem of sex imbalance is particularly concentrated and acute in the more educated households is suggestive of the failure of education in transforming societal norms related to son-preference. Sex preference also takes its root from religion; some religion had special preference for sons. It was also evident that the families were ensuring at least one male child in the family, which suggests in direct evidence of sex selection practices.

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