

Pattern of Gender Imbalance in Uttar Pradesh – Social Perspective

Shalini Singh

HRRC, Indian Council of Medical Research (ICMR),
Department of Obstetrics & Gynaecology,
K.G. Medical University, Lucknow
Email: sshuklalko@gmail.com

Sex ratio is an important demographic indicator reflecting the socioeconomic structure of any society. The decreasing child sex ratio (0-6 years) (CSR) has been a concern in India's demography in recent times. The declining in CSR 2011 in rural areas marks significant shift in this pattern. In 2011 of the 71 districts in the state, 60 districts recorded a decline in CSR in 2011. The preview of the present study is to assess the trends, spatial pattern of child sex ratio in Uttar Pradesh and prevailing socio cultural stereotypes, which encourage such barbarous practice of female feticides.
[Key Words: sex ratio, gender discrimination, gender biased, female foeticide]

Introduction

Sex ratio is an important demographic indicator reflecting the socioeconomic structure of any society. The decreasing child sex ratio (0-6 years) has been a concern in India's demography in recent times as this ratio has decreased markedly from 927 in 2001 to 914 in 2011 for the country as a whole. This decline is more for rural areas from 934 in 2001 to 919 in 2011, and for urban areas it is 906 in 2001 and 902 in 2011. Such a demographic profile will necessarily have far-reaching social consequences with widespread concern and likely to have adverse consequences on adverse sex ratios. This paper, therefore, examines the social consequences of the gender imbalance, and explores the root causes of gender imbalance.

In India, according to the 2011 Census, there are nearly 37.3 million more men than women (Census of India 2011). The increasing deficit of women in India's population has been documented ever since the first decennial enumeration of people was conducted in the British-occupied parts of India in the late 19th century. Over the span of more than 100 years, the deficit of women has progressively increased as evident from the sex ratio of the population (Visaria, 1972, 2002). The first recorded instances of female infanticide are to be found as far back as 1789 among the Rajkumar Rajputs of Jaunpur. According to L.S. Viswanath, the British records initially displayed a mix of orientalism (ascribing the practice to ancient sacred texts), while providing anecdotal accounts of the practice among particular landed castes, sometimes with numerical evidence of highly disparate numbers of boys and

girls (Viswanath, 1998) (Panigrahi, 1972). Vishwanath discusses the mixed history of the scattered colonial accounts of female infanticide and their claims about the number of baby girls done away with. The most frequently cited reasons have been pithily summarized by Barbara Miller as “pride and purse” (Miller, 1981), namely the practice of hypergamy and the necessity of giving large dowries. Everyone seemed to agree that among such castes, nothing was worse than the shame and danger of an unmarried daughter, hence the need to do away with them at birth if need be. Commentators have noted the ambiguous and long drawn out British response to female infanticide, from overt fears of interfering in the domestic matters of a ‘martial race’ like the Rajputs to the passing of the Female Infanticide Act in 1870, and the subsequent tracking of sex ratios in the Census. According to Miller, the very first Census Report of 1872 left female infanticide and neglect out of their purview altogether, and explained the discrepant numbers with alternatives such as ‘hot climate’, and inaccuracies in enumeration due to undercounting and age misreporting.

According to others, however, the very creation of the Census for the counting of the Indian population by the colonial state was fuelled not just by Malthusian discourses of population or the need to fix caste and community boundaries, but by the wish to demonstrate its civilizing mission to combat ‘violence against women’ through addressing female infanticide via the counting of men and women, boys and girls (Bhatnagar et al 2005 cited in Purewal 2010). Certainly we see that, in 1911 and 1921, the Census divided north Indian castes into two groups based on the numbers of males and females – according to the figures put out ,overall sex ratio figures were below 800 girls/women for 1000 men/boys amongst Rajput castes, Jats, Ahirs and Gujjars in the north and north-west. Castes could thus be categorized according to how they treated their women, and marked as deviant accordingly (Sen, 2002) (Malhotra, 2002). Here is a quotation from the Census Commissioner in 1911, decades after the passing of the Female Infanticide Act: “Hypergamy, or the rule that a girl must be given in marriage to a man of higher rank, makes it very difficult and very expensive to obtain a suitable husband, while the admission of inferiority which is implied in giving a girl in marriage is a blow to a man’s pride. Apart from this, a Rajput husband often tyrannizes his father-in-law. Female infanticide was resorted to in order to avoid these troubles which the marriage of a daughter involved” (Raju and Premi 1998).By comparing the overall numbers of women and men across the decades, starting from 1871 into the first decades following independence, the shock was that this simple comparative measure of the life chances of women and men was worsening over time. There were definite regional variations, with the north-west displaying the lowest trends. In this backdrop, and in historical perspective this study has been undertaken to understand the root causes of declining sex ratio on the social fabric.

Sex Ratio - India and States

As per the provisional results of Census 2011, total population of India is 1,21,01,93,422 which comprises of 62, 37,24,248 males and 58,64,69,174 females with the sex ratio of 940 females per 1000 males. As per Census 2011, top five states/Union territories which have the highest sex ratio are Kerela (1,084) followed by Puducherry (1,038), Tamil Nadu (995), Andhra Pradesh (992) and Chhattisgarh (991). Five states which have the lowest sex ratio are Daman & Diu (618), Dadra & Nagar Haveli (775), Chandigarh (818), NCT of Delhi (866) and Andaman & Nicobar Islands (878).

It has long been observed that as a natural phenomenon, more boys are born than girls. As a result, the normal sex ratio at birth (SRB), calculated as the number of girls born for every 1000 boys born. Over time, with higher mortality, this imbalance is expected to even out for higher age groups. However, early discriminatory behaviour such as gender-biased sex selection before birth or neglect of girls after birth artificially skews SRB as well as child sex ratio (CSR), measured as the number of girls per 1000 boys in the age group 0-6, in favour of boys.

Given this context, the CSR remains much below the normal or desirable range of 950 or more girls per 1000 boys. The CSR in India has declined from 927 girls per 1000 boys in 2001 to 918 according to Census 2011 States/Union Territories.

Trends Of Over All Sex Ratio and Child Sex Ratio in India

Child sex ratios are recognized to be a better indicator of women’s position, because it is very likely that they would be vitiated by sex-selective migration trends. In a population unaffected bias against girl children (as evident for example in female infanticide and feticide), the CSR would favour girls since girls are endowed by nature.

Table 1 Trend of Over-all Sex Ratio (OSR) and Child Sex Ratio (CSR) in India

YEAR	1951	1961	1971	1981	1991	2001	2011
OSR	946	941	930	934	927	933	940
CSR	983	976	964	962	945	927	918

Source: Census of India

The child sex ratio has been declining faster than overall sex ratio. The decline in the child sex ratio in 2011 Census is a major cause of worry among the planners, demographers and researchers. Lower sex ratio among children may lead to demographic imbalance over time if the trend continues in future.

Uttar Pradesh (UP)

To capture the regional variations on the consequences of declining sex ratio as a fall out of female foeticide, the paper has focused in Uttar Pradesh where the sex ratio (CSR) has been declining continuously since 1971 Census (Table 2) and assesses the intra-regional cause-effect relationship of female foeticide.

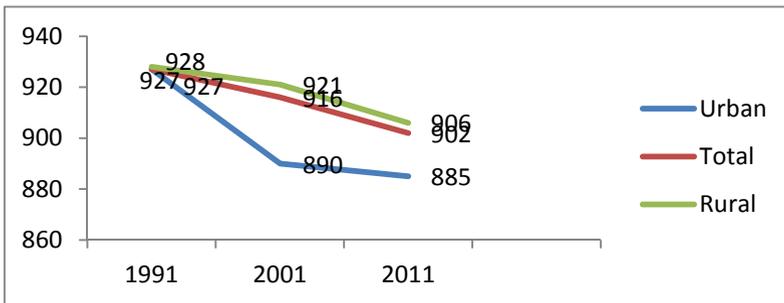
Table-2 Trends of Over All Sex Ratio in India and in Uttar Pradesh

Year	1901	1911	1921	1931	1941	1951	1961	1971	1981	1991	2001	2011
India	972	964	955	950	945	946	941	930	934	927	933	940
UP	938	916	908	903	907	908	907	876	882	876	898	908

Source: Census of India,

It is a cause for grave concern that in up the sex ratio for children aged up to six years has declined from 927 girls for every 1000 boys in 1991 to 916 in 2001 dropping further to reach 902 in 2011. The decline in CSR between 2001 and 2011 was higher in rural areas than in urban areas marking a significant shift in the patterns seen in Census 1991 and 2001 when urban areas had recorded a severe drop in CSR and rural areas had shown marginal decline. (Figure 1) In 2011, the severity of the problem seems to be spreading across rural areas more rapidly than before.

Figure 1 Child Sex Ratio (0-6 years)



Pattern of Sex Ratio

In Uttar Pradesh out of the 71 districts in the state, 60 districts recorded a decline in CSR in 2011. Pilibhit and other border districts to the east such as Bahraich, Siddharthnagar, Kushinagar, Gorakhpur, Ballia, Ghazipur, Chandauli, Sonbhadra, Mirzapur, Azamgarh, and Varanasi, Gonda and Maharajganj experienced decline in CSR ranging from 25 points to over 40 points. The problem seems to have worsened along the western border of the state, the decline further diffusing inwards engulfing central districts of Hardoi and Kannauj and southern districts of Hamirpur and Mahoba. As compared to 2001 the decline further diffusing inwards engulfing central districts of Hardoi and Kannauj and southern districts of Hamirpur and Mahoba.

All 71 districts are categorized into three groups as follows as per the decline in the CSR ranging from:

Categories	Districts
Districts where CSR dropped above 25 point	Azamgarh, Gorakhpur, Varanasi, Ghazipur, Kushinagar, Bahraich, Gonda, Ballia, Maharajganj, Siddharth Nagar, Mirzapur, Pilibhit, Sonbhadra, Mau
Districts where CSR dropped between 10-24	Hardoi, Kheri, Sultanpur, Bijnor, Bulandshahar, Rae Bareli, Pratapgarh, Etawah, Sant Ravidas Nagar, Mahamaya Nagar, Kanshiram Nagar, Lalitpur, Shrawasti,

point	Hamirpur, Chitrakoot,Deoria, Fatehpur, Faizabad, Ambedkar Nagar, Balrampur, Jhansi, Chandauli, Farrukhabad, Banda, Kannauj, Gautam Buddha Nagar, Kaushambi
Districts where CSR dropped below 10 point	Moradabad, Ghaziabad, Lucknow, Kanpur Nagar, Jaunpur, Sitapur Bareilly, Agra,, Muzaffarnagar, Budaun, Aligarh, Saharanpur, Meerut, Barabanki, Unnao, Shahjahanpur, Mathura, Firozabad, Basti, Rampur, Mainpuri, Jyotiba Phule Nagar, Etah, Sant Kabir Nagar,,Jalaun, Auraiyam Baghpat, Mahoba

Literacy and Sex Ratio

Literacy and education is universally recognized as a major component of human development. As such, certain minimum level of literacy seems to be essential for a population to break out the vicious of poverty. Literacy affected on various attributes of the population such as fertility, mortality, migration and also sex ratio. The knowledge of sex ratio is essential for the understanding the condition of women in society. A decline or low number of female population in the total population is strongly suggestive of the neglect of girl children, sex selective abortions and traditional attitudes of the society. Thus, the analysis of literacy and sex ratio is immense significant.

According to 2011 census, there are wide disparities in the literacy and sex ratio in Uttar Pradesh. The highest literacy was found in Kanpur Nagar i.e.79.6% and lowest is in Bahraich i.e. 49.3% but the sex ratio in both the district is 862 & 892 respectively. But the CSR shows that in Bahraich the CSR declined 30 points from 2001 to 2011 and only 4 point declined in Kanpur district.

Root causes of declining sex ratio on the social perspective

Gender biased sex selection is a discriminatory practice that is a result of a complex web of factors: deep-seated patriarchal mindsets that lead families to value sons over daughters, the need for small families, but with sons, and commercialization and misuse of medical technology that enables illegal sex selection. Sex ratio imbalances are expected to have serious socio-demographic consequences, further reinforcing the subordination of girls and women. The issue therefore requires a multi-faceted response to enhance the value of girls, as well as legal measures to curb misuse of medical technology. If we analyse the causes in UP then the geographical location becomes important factor.

The state of Uttar Pradesh has four economic regions in the state viz., western, central, eastern and Bundelkhand and vast inter-regional disparities can be witnessed in terms of development and growth amongst these regions. If we consider the historical background of these regions, then the reasons for killing girls have been different in various regions. For example the Western Uttar Pradesh is basically agrarian in nature with feudal mindset. Moreover, this part of the state is comparatively more prosperous. Hence, there is both availability and affordability of technology in this region. Further, the land

ownership makes the preference for the son stronger. If we think of Bundelkhand, then it has a long history of honour killings and bowing head is something considered to be below dignity. Hence, daughters are less preferred as the father of the daughter has to bow his head down in front of the groom's parents. In the Eastern and Central part of Uttar Pradesh, dowry, illiteracy and backwardness together results in more inclination towards the sons. It can be inferred that the cultural roots and schizophrenic attitude of the people in the state has led to drastic decline in female-male ratio (Roli Mishr, 2011).

The problem of female foeticide is a complex problem it has to be viewed in context of cultural, technological and mechanism through which it is prevailing and rising

1. Cultural causes

i) Patrilocality

Patrilocality is whereby a married couple lives near or with the husband's parents. When a woman gets married, she essentially ceases to be a member of her birth family and joins her husband's family. Under this system, parents potentially reap more of the returns to investments in a son's health and education because he will remain a part of their family, whereas a daughter will physically and financially leave the household upon marriage. (Ebenstein, 2014). Within India, the northern region specially in UP has a much stronger patrilocal (and patrilineal) system than the then other region of India, which is a leading explanation for why gender inequality is more pronounced in the north (Dyson and Moore, 1983). In one study, 405 parents in India who had been advised that their child needed surgery to correct a congenital heart condition were followed up one year later; 70 percent of the boys but only 44 percent of the girls had undergone surgery (Ramakrishnan et al., 2011). The financial mindset about investing in daughters is encapsulated in an often quoted Indian saying that "raising a daughter is like watering your neighbors' garden."

Poverty could exacerbate the tendency to invest more in sons than daughters. Suppose the net returns to surgery are positive for both boys and girls but higher for boys. If a family is liquidity-constrained, they might seek medical care only for their son.

Old-age support from sons

Closely linked to patrilocality is the fact that sons traditionally provide old-age support for their parents in India. Daughters are supposed to move out from the family and sons will be residing with parents, this consideration might be one reason that the desire to have a sons.

ii) Dowry system

In UP there is a dowry system through which parents make a payment to the couple or groom at the time of marriage. Historically the daughter held property rights over this money; dowry was a pre-mortem inheritance from her parents. In this original formulation, the dowry system was intended to improve the financial well-being of females. However, the system has evolved so that today the groom usually has property rights over the money. Dowry has

morphed into the price of a groom (Anderson, 2007). Most of the evidence on the impacts of the dowry system on women's welfare is anecdotal. The anecdotal evidence points to the dowry system causing pro-male bias. The prospect of paying dowry is often cited as a key factor in parents' desire to have sons rather than daughters in India (Arnold et al., 1998; Das Gupta et al., 2003). Financial burden of dowry indeed seems to loom large in prospective parents' minds. (Kusum, 1993) describes a billboard that was put up when prenatal sex-diagnostic tests were just arriving in India; a new clinic in the city of Amristar urged parents to invest Rs. 500 now, save Rs. 50,000 later." The 500 rupees today was for an ultrasound test, which would tell the parents if their fetus was female; the 50,000 rupees late which was obvious enough that it did not need to be spelled out on the billboard was the dowry the parents would save if they aborted the female fetus.

iii) Patrilineality

In a patrilineal system, names and property pass to the next generation through male descendants. This system puts sons on a higher footing than daughters, and the specific feature of land inheritance is especially likely to have effects on gender gaps. For example, in India because widows traditionally do not inherit their husbands' ancestral property, they rely on their sons as their conduit for holding onto the family property and maintaining their standard of living in widowhood. This consideration might be one reason that the desire to have sons.

iv) Role of sons in religious rituals

In Hinduism in India, sons play a special role in rituals. Similarly, son preference is mentioned in the Vedas, the ancient Hindu texts. In addition, in Hindu societies, it is supposed to be a son who lights a deceased person's funeral pyre and brings him or her salvation. Hindu kinship norms are adhered to more strictly among upper castes than lower castes (Mandelbaum, 1970), and (Chakraborty and Kim, 2010), in their analysis of the 1901 Indian Census, and a more skewed sex ratio for upper castes than lower castes. The funeral-pyre underpinning of son preference specifically generates a strong desire for one. Other reasons for son preference such as wanting someone to carry on the family name or widows wanting to retain family land also make the first son especially valuable.

v) Desire to protect female safety and purity

Concern for women's and girls' safety and purity" constrains their physical mobility in many parts of countries. Especially in UP the safety and security of girls is very awful. Now a day's nuclear family system is much more prevailing in UP therefore to leave the girls alone at home is very much concern for working class women, that create desire to have son rather than daughter.

vi) Persistence of gender norms when economic conditions change

One type of evidence that gender gaps do not simply react the current economic environment that culture also matters is their persistence even when the economic environment changes. The male-skewed sex ratio is concentrated

at higher parity and in cases when all the older siblings are girls, consistent with couples having sex-selective abortions when they are trying to have a son but conceive a daughter.

2. Role of technologies in creating gender imbalance

Technology facilitates a series of pre-natal diagnostic tools to identify and cure any potential birth defects and associated conditions. In a gross misuse of the scientific tools, female fetuses are selectively aborted after such pre-natal sex determination, in spite of a massive influx of legal regulations banning the same. Techniques such as Amniocentesis were introduced in 1975 to identify any genetic abnormalities. Sadly, these soon became a tool for sex determination and proved to be a call of death for the tiny unborn female fetuses.

The first reports of amniocentesis testing for sex determination in cities like Delhi, Bombay and Amritsar were published. Later investigations revealed that a department of Human Cytogenetic had been set up at the All India Institute of Medical Sciences (AIIMS), New Delhi's premier state financed research hospital, during the 1970s. This hospital undertook a sample survey in 1974 with the aid of amniocentesis to detect foetal abnormalities among women in the city. Within a year it was apparent to the medical establishment that the pregnant women being tested wanted to know the sex of the foetus and opted in "7 out of 8 cases" for abortion when the sex was female (Mazumdar, 1994). Though the Indian Council of Medical Research (ICMR) stopped the AIIMS tests by 1979, private practitioners promoting such tests emerged in Punjab, Maharashtra and Delhi soon after. An investigative study by Dr. Sanjeev Kulkarni of the Foundation for Research in Community Health in Bombay found that 42 out of 50 gynecologists contacted, acknowledged performing sex determination tests for patients, most of whom came from middle and upper class backgrounds (Kulkarni, 1986). Robin Jeffrey and Patricia Jeffrey similarly observed the entry of amniocentesis testing at some distance from metropolitan India, in Bijnor town in Uttar Pradesh (Jeffrey and Jeffrey 1983). Such specific cases of female infanticide apart, it was sex selection via medical technologies (namely the detection of foetal sex followed by an abortion) that came to be perceived as the main danger. As a consequence of campaign pressure, the first central legislation took the form of the Pre-Natal Diagnostic Techniques (Prohibition of Sex Selection) (PNDT) Act of 1994, subsequently revised as the PC (Pre-Conception) - PNDT (Regulation and Prevention of Misuse) Act of 2003. However, legislation by no means had the result that was anticipated – the practice continued and has been spreading even though it is a crime (carrying a punishment of imprisonment of up to three years and a fine) (UNFPA report 2014). The apathetic attitude of the administration coupled with inefficient legislative implementation further adds to the woes of the girl child in India, facing elimination and discrimination in their very right to live. What makes sex selection unique is that it requires the active intervention by medical personnel and their misuse of medical technology. Medical practitioners, moreover,

occupy a position of social power and influence. Hence one of the biggest failures of the PNDT Act has been their overall immunity, which may be why it took so many years to even put monitoring bodies in place. It should come as no surprise, then, that extreme measures such as sting operations by news channels with decoy patients have been resorted to in efforts to catch erring doctors. According to Brinda Karat and Sabu George, the strong nexus connecting medical personnel, politicians and bureaucrats has made a mockery of the law. As they point out, “since 1994 when the PC-PNDT law was enacted there have been only 93 convictions. Of the 1,036 ongoing cases, only a small per cent, possibly 10 per cent, relate to charges of communication of the sex of the foetus” (*The Hindu*, Feb 4th 2012).

As per the Quality Progress Reports (QPRs) submitted by States/UTs 49998 bodies have been registered under the PC&PNDT Act .So far a total of 1682 machines have been sealed and seized foe violations of the law .A total of 1945 ongoing court cases and 201 convictions have been secured under this Act and following the conviction the medical license of 97 doctors been suspended/cancelled. (MOHFW annual report 2013 – 14)

In Uttar Pradesh, as per the Quality Progress Reports (QPRs) submitted 5248 bodies have been registered under the PC&PNDT Act .So far a total of 34 machines have been sealed and seized foe violations of the law .A total of 154 ongoing court cases and 1 convictions have been done under this Act and no conviction of the medical license of doctor been suspended/cancelled. (MOHFW Annual Report 2013-14)

3. Apparatus : By Grass root level workers

The grass root level workers: accredited social health activists (ASHAs) also have an important role to play at times in encouraging the practice of female foeticide. During my field visit in District Barabanki Uttar Pradesh, “it was found that one of the couple had 3 daughters and again the lady was pregnant, on asking why she wants to continue the pregnancy when she has already 3 daughters, she replied this time I will have son, I was surprised to know this and asked how she is so sure she replied that ASHA didi has taken me to the Kanpur for test and she assured me to have son.” It was very shocking to know from Barabanki to Kanpur the distance is approx. 130 km and form such interior rural area the couples are being tapped through these workers and helped to take them to ultrasound centre. It needs to be mentioned here that at times it is not always the greed for ASHAs but their sympathetic attitude and concern for their fellow women which results in extending a hand of helpfulness by facilitating ultrasound facility to pregnant women.

Conclusion

The consequences of skewed sex ratio and strong son preference, it needs to be pondered more seriously that how can one transform the mindset of people in a positive way. Perspectives that see the solution of the skewed sex ratios as one of restoring a certain ‘gender balance’, necessary for social reproduction, may well not be particularly concerned about gender equality.

Rather they may be responding to the disorder created by a significant 'shortage' of women in a region. Surplus men with few chances of finding brides are here the problem, for whom a supply of women needs to be ensured to maintain the basic harmony of the existing social order (familial, patrilineal, heteronormative, and gender unequal). It is indeed a perplexed situation that how the policies and programmes initiated by the government to control this menace are going to work not only in rural communities but also in urban population. The way out for this situation seems that the desire to have son is the crux of the problem. If the government can sensitize to the public at large by removing the cultural barrier from common peoples mind about the son desire the half the battle will be won. For example if parents fully internalized their daughters' returns to nutrition, health care, and schooling, then patrilocality would not necessarily cause gender gaps in these inputs. If a formal institution for retirement savings arose, the informal method of relying on sons became less important, and therefore this force driving son preference became less relevant. The religious dimension to the problem needs special attention and more methods to remove this cultural barrier. Here it becomes imperative to sensitise all frontline workers that how the declining sex ratio is going to affect the community in general and women in particular who are going to face various forms of violence against them. To check the misuse of ultrasound machines, hence strict implementation of the Pre Conception and Pre-Natal Diagnostic Techniques (PCPNDT) Act by the government is the most desirable. Societal forums need to engage more to discuss and dialogue these socio-cultural repercussions and bring them to public domain.

To conclude, it can only be suggested that sensitisation is the most important thing which needs to be done else it may take generations and centuries to take people out of the 'son desire' situation. People should be made aware of this sex imbalance and they must join hands to save the daughters.

References

- Anderson, S. (2007). The Economics of Dowry and Brideprice. *Journal of Economic Perspectives*, 21-151,174.
- Bhatnagar, et al. (2005). Female Infanticide in India: A Feminist Cultural History. *Albany: State University of New York Press*.
- Chakraborty, T., Kim, Sukkoo. (2008). Caste, Kinship and Sex Ratios in India. Working Paper 132828, National Bureau of Economic Research.
Retrieved from <http://www.nber.org/papers/w13828>
- Croll, Elisabeth. (2001). Endangered Daughters: Discrimination and Development in Asia. *The Economist*, February 22, Routledge Publication.
- Dyson, T., M. Moore. (1983). On Kinship Structure: Female Autonomy and Demographic Behaviour in India. *Population and Development Review*.
- George, Sabu M., Dahiya Ranbir S. (1998). Female Foeticide in Rural Haryana, *Economic and Political Weekly* 33(32), 8-14 August, 1998.p.2191-2198.
- Jeffery, R. P. (1983). Female Infanticide and Amniocentesis, *Economic and Political Weekly*; April 16, 654-56.
- Karat, B., Sabu George. Don't Trash this Law - The Problem lies in Implementation. *The Hindu*, Feb 4, 2012.
- Kusum (1993). The Use Of Pre-Natal Diagnostic Techniques for Sex Selection: The Indian Scene, *Bioethics*, 7, 149-165.

- Kalyan Sundar Som, Mishra R.P. (2014). *International Journal of Scientific and Research Publications* Vol. 4, Issue 7, July 2014.
- Malhotra, Anshu. (2002). Gender, Caste and Religious Identities: Restructuring Class in Sex Ratios and Gender Biased Sex Selection History, Debates and Future Directions Colonial Punjab. *Delhi: Oxford University Press*.
- Mazumdar, Vina. (1994). Amniocentesis and Sex Selection. *Centre for Women's Development Studies*, New Delh, P. no. 21.
- Miller, Barbara. (1981). The Endangered Sex: Female Neglect in Rural North India. *Ithaca: Cornell University Press*.
- Panigrahi, L. (1972). British Social Policy and Female Infanticide in India.
- Ramakrishnan, S., Khera, R., et al. (2011). Gender Differences in the Utilisation of Surgery for Congenital Heart Disease in India. *Heart*, 97, 1920-1925.
- Raju, S., Premi M. K. (1992). Decline in Sex Ratio: Alternative Explanation Re-examined, *Economic and Political Weekly*; Vol. 27 no.17.
- (1996). Born to die. *Madhya Pradesh Bulletin*.
- Roli Misra. (2011). Social Consequences of Declining Sex Ratio Experiences from Rural Community in Uttar Pradesh, *Journal of The Indian Economic Association* Volume 59, Number 2, July - Sep 2011
- Seema Jayachandran. (2014). The Roots of Gender Inequality in Developing Countries. *Northwestern University Prepared for Annual Review of Economics*
- Sen, S. (2002). The Savage Family: Colonialism and Female Infanticide in Nineteenth Century India. *Journal of Women's History*, Vol. 14, no. 3. 53- 79.
- UNFPA (2014). Sex Ratios and Gender Biased Sex Selection- History, Debates and Future Directions implications, *Bangkok, UNFPA*.
- UNFPA (2014). Missing girls, Mapping the adverse Child sex ratio. *Census 2011*.
- Visaria, Pravin. (1969). Mortality and Fertility in India 1951-1961, *The Milbank Memorial Fund Quarterly*, Vol. 47, no.1, pp. 91-116.
- Visaria, Pravin. (1971). The Sex Ratio of the Population of India, *Census of India 1961* Vol.1 Monograph no. 10.

[The final revised version of this paper was received on 26 March, 2016]