

**Title:**

Pre-natal Sex Selection and Infanticide: Advanced Technology vs Social Issues, Global Perspective

**Author:**

Viralkumar B. Mandaliya, Ph.D.

Assistant Professor (Research), Gujarat National Law University, Attalika Avenue, Knowledge Corridor, Koba, Gandhinagar - 382007 (Gujarat, INDIA)

E-mail: viral\_mandaliya@yahoo.com, vmandaliya@gnlu.ac.in

**Abstract:**

Girl Child Campaign, Government of India with its prime line “A happy girl is the future of our country” which focused on burning issue of “Save the Girl Child”. Since a long it’s pertaining that mayhems against women in various forms has become an integral part of the civilization. Shamelessly, India has witnessed most barbaric acts against humanity that not only includes dowry deaths and sati, but also female infanticide and female foeticide. Technologies are invented for the betterment of society. Techniques such as amniotic fluid test and pre-natal diagnostic tools were introduced to identify any genetic abnormalities and to cure any potential birth defects and associated conditions. Mankind in his quest start to misuse of the scientific tools. PCPNDT [Pre-Conception and Pre-Natal Diagnostic Techniques (Prohibition of Sex Selection)] Act, 1994 aimed to control medical practitioners who try to influence the sex of child before conception by using techniques such as sperm sorting. The common medical practice of female fetuses’ abortion after pre-natal sex determination has become most prominent issue even the legal regulations banning the same. Alternatively, people starts to move outside of India for sex determination. The misuse of techniques became a call of death for the tiny unborn female fetuses. It has been a most important topic as a social-legal awareness to the global perspective. There is need to create a transparency in legal form at global level to minimize misuse of medical practice and to save the girl child.

## Introduction:

The unborn child waiting for an aid, just because our fondness towards child especially boy child. Girl Child Campaign, Government of India with its prime line “A happy girl is the future of our country” which focused on burning issue of “Save the Girl Child”<sup>1</sup>. Since a long it’s pertaining that mayhems against women in various forms has become an integral part of the civilization<sup>2</sup>. Shamelessly, India has witnessed most barbaric acts against humanity that not only includes dowry deaths and sati, but also female infanticide and female foeticide<sup>3</sup> (Figure 1).



Figure 1. Child as boy selected against girl and became the reason of female infanticide and female foeticide.

## Introduction of Medical Technologies:

Technologies are invented for the betterment of society. Techniques such as amniotic fluid test and pre-natal diagnostic tools were introduced to identify any genetic abnormalities and to cure any potential birth defects and associated conditions<sup>4</sup>. Mankind in his quest start to misuse of the scientific tools. These techniques just became a tool for sex determination (Figure 2).

<sup>1</sup> <http://laadli.org>, Laadli – A girl child campaign, Population First's campaign against sex selection and falling sex ratio, accessed on 20th March, 2017.

<sup>2</sup> <http://www.ndtv.com/topic/girl-child-campaign>, NDTV, Section: Girl Child Campaign, accessed on 20th March, 2017.

<sup>3</sup> <http://ncw.nic.in/>, National Commission for Women, The apex national level organization of India with the mandate of protecting and promoting the interests of women, accessed on 20th March, 2017.

<sup>4</sup> Carlson LM, Vora NL (2017). Prenatal Diagnosis: Screening and Diagnostic Tools. *Obstetrics and Gynecology Clinics of North America*. 44(2): 245-256. doi: 10.1016/j.ogc.2017.02.004. <https://www.ncbi.nlm.nih.gov/pubmed/28499534>.

There are number of invasive and non-invasive prenatal diagnosis techniques available for detecting genetic disorders/ abnormalities<sup>5</sup> summarized in Figure 3.



Figure 2. Use of Ultra sound technology as a tool for sex determination. (a) The specialist is using the Ultra Sound Technology. (b) The developing fetus inside the womb observed under the Ultra Sound Technology.

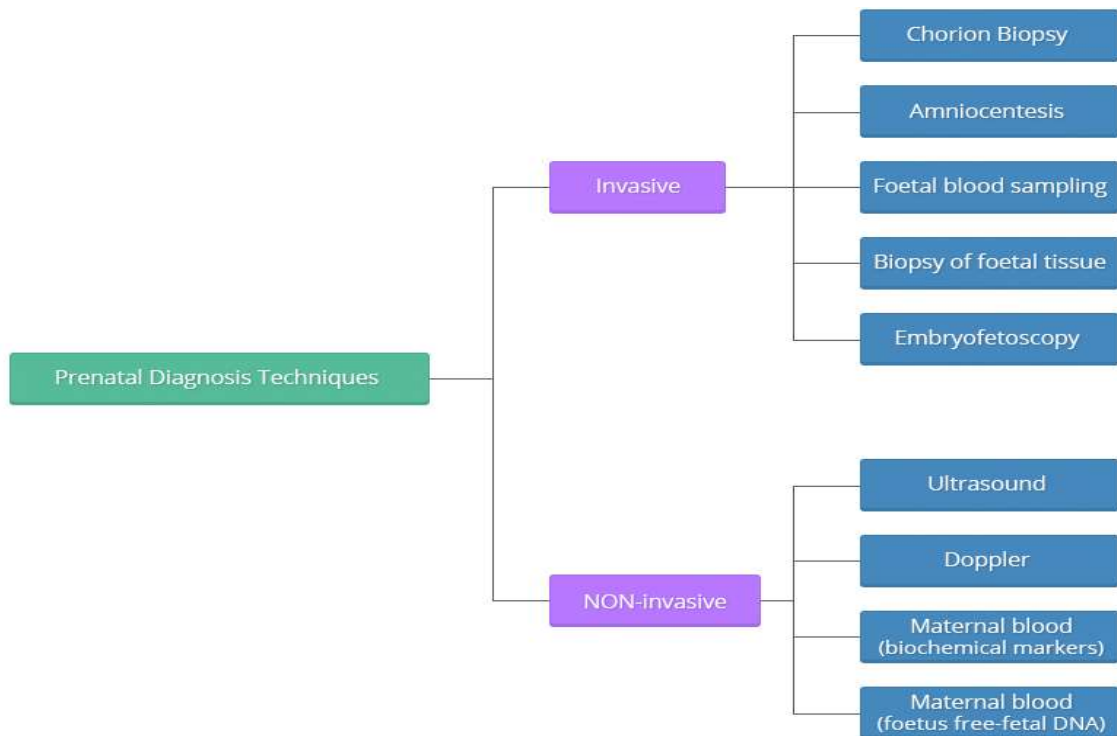


Figure 3. Invasive and non-invasive prenatal diagnosis techniques for detection of genetic disorders/ abnormalities.

<sup>5</sup> <http://lagenetica.info/en/prenatal-diagnosis/prenatal-diagnosis-techniques>, Prenatal Diagnosis Techniques, accessed on 22th March, 2017.

Generally, various advanced prenatal diagnosis technologies used to sex determination<sup>6</sup> (Figure 4) and sampling for identification of fetus based on Y Chromosome staining<sup>7</sup> (Figure 5).

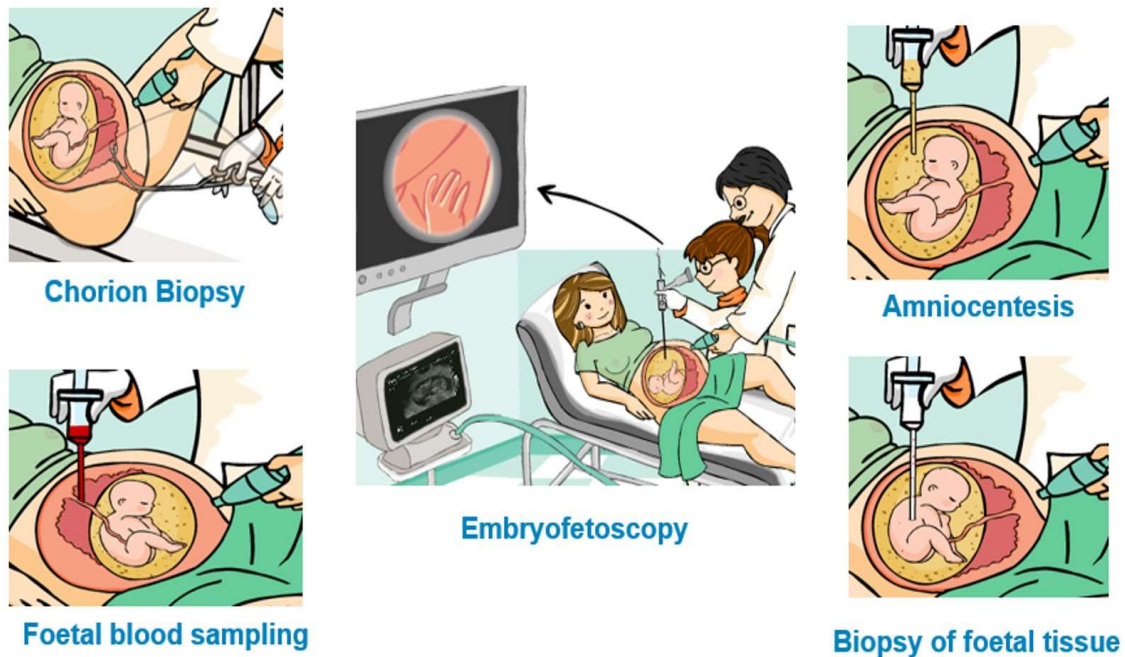


Figure 3. Various advanced prenatal diagnosis techniques for detection of genetic disorders/abnormalities<sup>8</sup>.

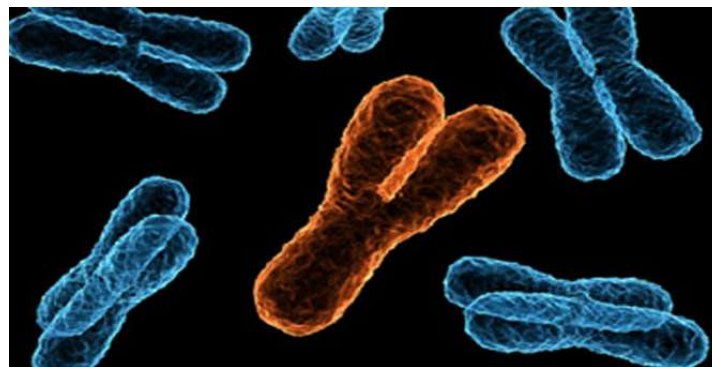


Figure 4. Identification of Y chromosome, leads to determination of Sex

<sup>6</sup> Colah RB, Gorakshakar AC, Nadkarni AH (2011). Invasive & non-invasive approaches for prenatal diagnosis of haemoglobinopathies: Experiences from India. The Indian Journal of Medical Research. 2011;134(4):552-560. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3237256>.

<sup>7</sup> <https://ghr.nlm.nih.gov/chromosome/Y>, National Institute of Health, US, Y chromosome, accessed on 25th March, 2017.

<sup>8</sup> <http://lagenetica.info>. Prenatal Diagnosis Techniques, accessed on 25th March, 2017.

The advent of advanced technologies for pre-natal diagnostic techniques leads to worldwide decrease in child ratio, especially the counties like India and China, where people more fond of boy as their child<sup>9</sup> (Figure 5). While Figure 6 summarizes the child ratio as number of girls for every 1000 boys since 1961-2011, prepared based on the Indian Census Reports of respective years<sup>10</sup>.

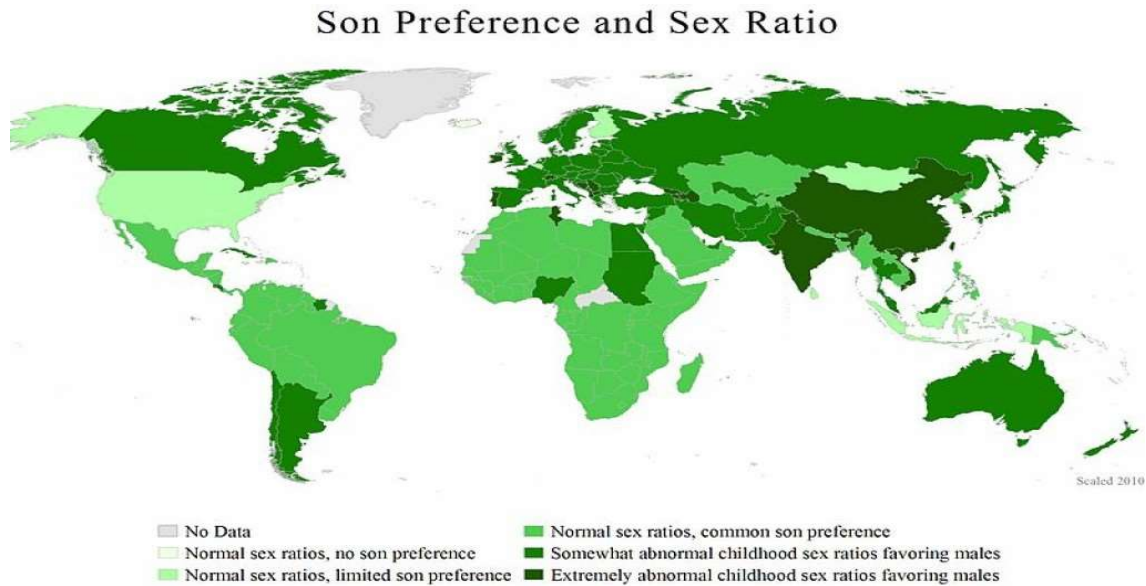


Figure 4. World scenario showing the son preference and status of sex ratio.

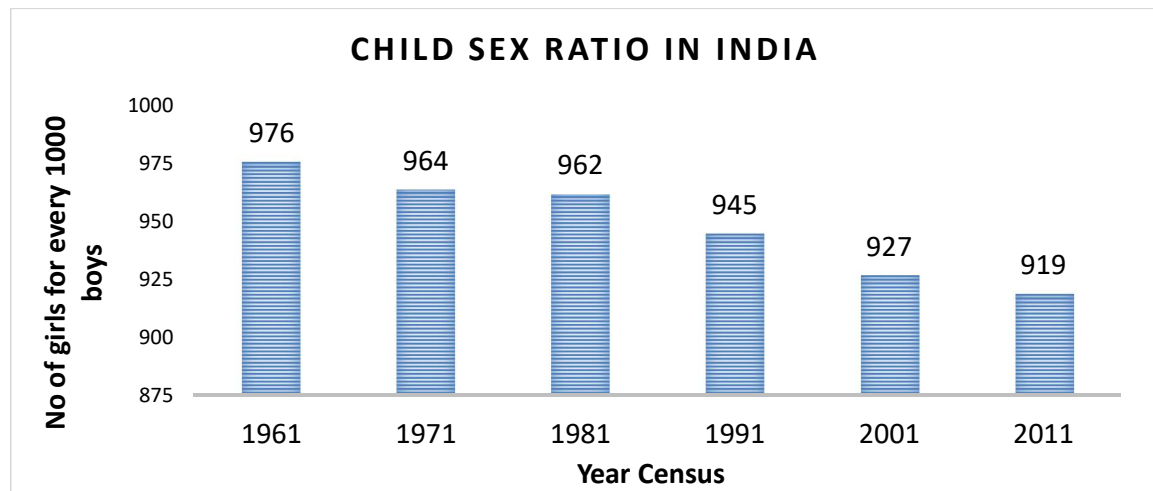


Figure 5. Indian scenario showing the child ratio as number of girls for every 1000 boys since 1961-2011.

<sup>9</sup> <https://soapboxie.com/social-issues/Female-Feticide-Causes-Effects-and-Solutions>, Female Feticide: Causes & Effects of Sex-Selective Abortion, accessed on 26th March, 2017.

<sup>10</sup> [www.censusindia.gov.in](http://www.censusindia.gov.in), Census of India, accessed on 26th March, 2017.

### **An Evolution of PC-PNDT Act, 1994:**

Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act, 1994 was came into force in 1996<sup>11</sup> against the falling sex ratio and fears misuse of ultrasound technologies for determination sex of foetus. Then amended in 2003 as Pre-Conception and Pre-Natal Diagnostic Techniques (Prohibition of Sex Selection) Act, 1994<sup>12</sup>.

The amendment was aimed to control medical practitioners who try to influence the sex of child before conception by using techniques such as sperm sorting. The common medical practice of female fetuses' abortion after pre-natal sex determination has become most prominent issue even the legal regulations banning the same. Alternatively, people starts to move outside of India for sex determination.

The 2011 Census conducted by Government of India, it is most alarming that a sharp decline in the Child Sex Ratio (CSR) highest in urban area rather to rural. It's directly suggestive that technology acquiring urban people misused well of it and resulted in decline of CSR<sup>13</sup>. Amongst the Southeast Asian countries, India represents a one of most adverse CSR figures. It is reflecting a highly undesirable reversal of the norms of nature.

### **Awareness and Policy Development:**

A Socio-legal awareness among academicians, lawyers, doctors, researchers, and societal people towards Save the Girl Child based on conferences and workshops. This idea will cultivate inter alia connection and provide opportunities for *exchange of views* among them to discuss and find solution on scientific and ethical issues prevailing in the country.

Thus, there is need of actual ground of implementation and prospective of this guidelines and/or legislation for Pre-Natal Diagnostic Techniques. Global forum should be formed and such

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<sup>11</sup> <http://pndt.gov.in/writereaddata/mainlinkFile/File51.pdf>, The Pre-Natal Diagnostic Techniques (Regulation And Prevention Of Misuse) Rules, 1996 and Pre-Conception And Pre-Natal Diagnostic Techniques (Prohibition Of Sex Selection) Rules, 1996, accessed on 30th April, 2017.

<sup>12</sup> <http://pndt.gov.in/writereaddata/mainlinkFile/File50.pdf>, The Pre-conception and Prenatal Diagnostic Techniques (Prohibition of Sex Selection) Act, 1994, accessed on 30th April, 2017.

<sup>13</sup> [www.censusindia.gov.in](http://www.censusindia.gov.in), Census of India, accessed on 25th May, 2017.

issues should be addressed to work out the Remedies for Female Infanticide and Female Foeticide.

**Concluding remarks:**

Girls are most important section of society and equally participate in life existence on the earth. The misuse of techniques became a call of death for the tiny unborn female fetuses. It has been a most important topic as a social-legal awareness in the global perspective. There is need to create a transparency in legal form at global level to minimize misuse of medical practice and to save the girl child.

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