

## IMPACT OF THE GROWTH OF SCIENCE AND TECHNOLOGY ON THE REPRODUCTIVE RIGHTS OF WOMEN: A LEGAL ANALYSIS

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### ABSTRACT

Every State has a legal obligation to fulfill the reproductive rights of women, the most amazing creature of God on the earth. Motherhood, the state of being a mother is unique to every woman and a pregnant woman gets all the respect that she deserves from her loved ones. However, when the same woman fails to beget a child of her own, she is labelled with different names like 'barren', 'sterile', 'infecund', 'unfertile'. The advancement in science and technology and development of medicine as a branch of science has resulted in various Assisted Reproductive Technologies (ARTs). All the techniques and trappings of assisted conception like Artificial Insemination (AI), In Vitro Fertilisation (IVF), gamete and embryo donation, surrogacy etc. soon became real boon to the childless couples. The realization of the need for legal regulation in the practice of medicine gradually extended to all related fields including the different concerns of reproduction. Unfortunately, in spite of legal framework for the protection of the reproductive rights of women there is rampant misuse of these technologies which intrude into the right of a woman to have autonomy over her body.

**Keywords:** *Assisted Reproductive Technologies (ARTs), Reproductive rights, Misuse of technologies, Ethical issues, Legal obligation.*

- I. Introduction**
- II. Development of medicine as a branch of science**
- III. Legal regulation in the practice of medicine**
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### I. Introduction

YEARS TOGETHER were taken for 'modern science' to attain its present status of 'exact science'.<sup>1</sup> Over the course of time, with the advancement of science and in order to meet the needs of the contemporary society, the paths of science and technology gradually crossed<sup>2</sup>

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<sup>1</sup> Edward Grant, "History of Science: When did modern science begin" 66 *The American Scholar* 105-113(1997).

resulting in strengthening their relationship. This relationship between science and technology can be viewed through varied dimensions such as:

- (i) new scientific knowledge resulting in advanced technological developments
- (ii) application of these scientific knowledge resulting in more advancement in the field of research helpful for mankind
- (iii) practice of research to combat human miseries that have a direct impact in the advancement and proper utilization of technology
- (iv) application of new scientific knowledge achieved through practice of research thus can directly lead to refinement of existing technologies.<sup>3</sup>

In spite of the endless debates, on the positive and negative aspects inherent in the technological advancement and the new ethical issues that may arise with every nascent advancement, the way various implements of technology have influenced the values in the society and human life cannot be forgotten. The intertwining and complex concerns of women's reproductive rights and the impact of the technology are the areas that have touched social, ethical and religious issues. Various Assisted Reproductive Technologies (ARTs) like Artificial Insemination (AI), In Vitro Fertilisation (IVF), gamete and embryo donation, surrogacy etc. now a days are real boon to the childless couples but are seen misused in many ways. It is unfortunate to note that there is rampant misuse of these technologies which intrude into the autonomy of women over their bodies in the midst of adequate legal framework for the protection of the reproductive rights of women. In addition to this what the society is witnessing is nothing but the diminishing values of medical ethics. Against this backdrop, this paper makes an attempt to traverse through the development of medicine, technology and law in the light of reproductive rights of women and their glaring misuse and abuse.

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<sup>2</sup> Although the relationship between science and technology are seen to be complex they have always complimented and supplemented each other in different ways. The developments in the health sector can be viewed as an example to illustrate their complex relationship.

<sup>3</sup> "The Relationship between Science and Technology", *available at*: <https://www.ukessays.com/essays/sociology/the-relationship-between-science-and-technology-sociology-essay.php> (last visited on Jan.15, 2022).

## II. Development of medicine as a branch of science

Tracing the roots of medicine in ancient times, around 3000 BC much of the Egyptian medicine relied on magic from where the journey of medicine started. During this time doctors were respected to a great extent and worshiped as God after their death.<sup>4</sup> However, the modern medicine owes its roots from the ancient Greece<sup>5</sup> wherein, there existed belief and faith in the treatment. The God of healing called Asclepius<sup>6</sup> and Greek medicines existed side by side. Famous doctors like Hippocrates and Aristotle<sup>7</sup> belonged to this time. Hippocrates affirmed art of healing as a scientific activity which is based on observation with the very purpose of curing illness. In fact, he was attempting to separate medicine from religion but not from its moral roots.<sup>8</sup> Roman times also saw famous doctors like Galen having proficiency in writing<sup>9</sup> and anatomy. With the fall of Roman Empire learning flourished in Europe in the middle ages thereby, raising the status of medicine to a profession allowing the same to be practiced both by men and women without any discrimination. Christians believed that they had a duty of care towards sick and church operated hospitals and by the middle of the 14<sup>th</sup> Century they also allowed dissection of human bodies in medical schools. Thus, although the 14<sup>th</sup> and 16<sup>th</sup> centuries did not see much advancement in medicine, the 17<sup>th</sup> century saw more scientific approach towards medicine. Over the course of time superstition declined and medicine continued to develop rapidly. Thus, gradually medicine was recognized as a Science.<sup>10</sup> William Osler, the father of modern medicine wrote “Medicine is a science of uncertainty and an art of probability. Absolute diagnoses are unsafe and are made at expense

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<sup>4</sup> Imhotep who lived in 2600 B.C. was an Egyptian vizier to the Pharaoh and was also a doctor. He was worshiped as a God even after his death which reflects that he was very famous as a doctor. The Egyptians during that period used drug obtained from medicinal plants and animals and even had the knowledge of anatomy and surgery.

<sup>5</sup> Great medical schools were established during this time.

<sup>6</sup> Asclepius was a Greek God of medicine and in Greek mythology he was a demigod hero. He was killed by the father of Gods Zeus when he saw that his medical skills were becoming a threat to division between humanity and the Gods.

<sup>7</sup> Hippocrates lived during 460-377 B.C and Aristotle lived during 384-322 B.C.

<sup>8</sup> Tanzella Nitti, I. Colag'e and A. Strumia (ed.), “Interdisciplinary Encyclopedia of Religion and Science”, available at: <http://www.inters.org> (last visited on Jan.15, 2022).

<sup>9</sup> Galen was a Greek physician and became the Roman Empire's greatest physician. For centuries the writings of Galen dominated medical field and was associated with the doctrine of humors. The four humors associated with Galen meaning bodily fluids like Sanguis (blood), flegma (phlegm), chole (yellow bile) and melanchole (black bile) were said to influence health. See Robert M. Stelmack, *Galen and the humour theory of temperament Personality and Individual Differences* 255-263 (Elsevier, Netherlands, 1991) .

<sup>10</sup> John Harley Warner, “The History of Science and the Sciences of Medicine” *Constructing the Knowledge in the History of Science* 164-193 (The University of Chicago Press, Chicago, 1995) .

of the conscience.”<sup>11</sup> Very soon social sciences also made their contribution to medicine. Botany, zoology, biology, chemistry and physics have laid the foundations of modern medicine which developed special techniques for investigating the structure and function of human body. In summary modern science became an exact science<sup>12</sup> and the paths of medicine and law crossed making the revelation that there will be increase in wrongs if medicine is practiced without any legal regulation.

### III. Legal regulation in the practice of medicine

In India there is plethora of legislation for maintaining professional standards in the practice of medicine. These laws impose self-regulations from the time of taking admission as a medical student by enabling them to pursue their studies in recognized medical colleges, recognizing their academic qualifications, licensing of new entrants to the profession, regulating their conduct during their course of service including initiation of disciplinary action against misuse or abuse in the practice of medical profession by practitioners of Allopathy, Ayurveda, Homeopathy, Siddha, Unani<sup>13</sup>, Dentistry; Pharmacy; Nursing etc., These legislations are listed as follows:

- The Indian Medical Council Act, 1956<sup>14</sup>
- Indian Medical Degrees Act, 1916<sup>15</sup>

<sup>11</sup> William Bennett Bean (ed.,) *Sir. William Osler: Aphorisms from his bedside teachings and writings* (Charles C. Thomas, Illinois, 1961).

<sup>12</sup> J. Heyward Gibbes, “The Relationship of Law and Medicine”, 3 *S.C.L.Q.* 13 (1950).

<sup>13</sup> The ministry of AYUSH was formed on November 9, 2014 to ensure propagation and development of AYUSH systems of healthcare. It was initially the Department of Indian System of Medicine and Homeopathy (ISM&H) created in March 1995 and was later renamed as Department of Ayush, Yoga and Naturopathy, Unani, Siddha and Homeopathy in November 2003 which focused attention for development of Education & Research in Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homeopathy.

<sup>14</sup> Medical Council of India was established by the Indian Medical Council Act, 1956(IMC) for establishing uniform standards in medical education and other related matters. It dealt with registration of medical practitioners with State Medical Council and Indian Medical Council, recognizing the rights of registered medical practitioners, granting permission for establishing new medical colleges and to look into the consequences of non-recognition of medical colleges and thereby, to prescribe minimum standards of medical education. Presently the government dissolved Medical Council of India (MCI). The Indian Medical Council (Amendment) Second Ordinance, 2019 was promulgated on February 21, 2019 and the Ordinance amended the Indian Medical Council Act, 1956 which set up the MCI. The National Medical Commission Act, 2019 has been notified vide the Gazette Notification dated August 8, 2019 and has repealed the IMC Act and constituted the National Medical Commission (NMC).

<sup>15</sup> Indian Medical Degrees Act enacted in 1916 regulates the grant of titles from western medical science and their use by unqualified persons of such title wherein, western medical science means the western methods of allopathic medicine, obstetrics and surgery but does not include Homeopathi or Ayurvedic or Unani system of medicine. See K.S. Narayana Reddy, *Medical Jurisprudence and Toxicology* 98 (ALT Publications, Hyderabad, 4<sup>th</sup> edn., 2013).

- Indian Medicine Central Council Act, 1970<sup>16</sup>
- Indian Nursing Council Act, 1947<sup>17</sup>
- The Pharmacy Act, 1948<sup>18</sup>
- The Dentists Act, 1948<sup>19</sup>
- The Homeopathy Central Council Act, 1973<sup>20</sup>
- The Clinical Establishments (Registration and Regulation) Act, 2010<sup>21</sup>

Initially not studied as a subject having its own rights, in the course of time, medical law has evolved itself as a distinct area of legal study.<sup>22</sup> Thus it won't be wrong to say that medical law<sup>23</sup> is made up of different branches of law namely the Criminal law, human rights law, tort law, contract law, property law, family law and public law. Simultaneously with the recognition of medical law as a separate area of legal study the mutual deference that existed between the medical practitioners and legal practitioners was seen deteriorating. Medical decisions reached by experts on clinical matters were once regarded as unchallengeable before a court of law and anyone seeking to challenge such a decision often had to face immense struggle. However, in recent times the relationship has been seen changing wherein, courts are now more and more inclined towards accepting the challenges faced by the doctors. Lord Steyn in *Chester v. Afshar*<sup>24</sup> declared "in medical law paternalism no longer rules." The ethical standards of doctors

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<sup>16</sup> The Act established the Central Council of Indian Medicine and provided for the maintenance of a Central Register of Indian Medicine and all matters connected therewith.

<sup>17</sup> The Act constituted an Indian Nursing Council to establish uniform standard of training for nurses, midwives and health visitors.

<sup>18</sup> A law was found necessary to be enacted as there was no restriction to practice the profession of pharmacy. This resulted in the enactment of the Pharmacy Act, 1948 which provides for regulation in the practice of pharmacy.

<sup>19</sup> The Act aims at regulating the profession of dentistry and was passed by the Indian Parliament in close association with All India Dental Association on March 29, 1948.

<sup>20</sup> The Act aims to provide for the constitution of a Central Council of Homeopathy and maintenance of a Central Register of Homeopathy and related matters.

<sup>21</sup> The Act has been enacted by the Central Government to provide for registration and regulation of all clinical establishments in the country in order to provide minimum standards of facilities and services provided by them. The Act has taken effect in the four States namely Arunachal Pradesh, Mizoram, Sikkim, Himachal Pradesh and all Union Territories except the NCT of Delhi since March 1, 2012 and is applicable to all types of clinical establishments from the public and private sectors belonging to all recognized systems of medicine including single doctor clinics. See [www.clinicalestablishments.gov.in](http://www.clinicalestablishments.gov.in)

<sup>22</sup> Although medical law is now accepted as a separate branch of law which is distinct from others, still there are criticisms from medical ethicists wherein, some even have gone to the extent that there is "death of bioethics."

<sup>23</sup> There are differing views as to the definition of medical law. One view is that medical law is concerned with the relationship between healthcare professionals and patients which is however criticized to be a narrow definition because of giving prominence to doctors and placing them in the fore front. Kennedy and Grubb (ed.), *Principles of Medical Law*, (Oxford University Press, Oxford, 2000).

<sup>24</sup> (2004) UKHL 41.

are seen exceeding the standards prescribed by law exposing oneself to the controversial issues of medical ethics.<sup>25</sup> The British Medical Association (BMA) has defined medical ethics “as the application of ethical reasoning to medical decision making.” Jonathan Herring in his book *Medical Law and Ethics* says<sup>26</sup> “the decreasing trust in the medical profession led to an increasing desire to ensure that doctors were acting ethically”...

However, with the increase in medical practice along with the growth of technology the ethics of medical practice has become more and more complicated and extended to various fields including the reproductive rights of women. All the modern techniques of assisted conception also led to the realization for legal regulation.

#### **IV. Attempts to protect the reproductive rights of women**

World Health Organization (WHO) defines reproductive rights as follows:<sup>27</sup>

Reproductive rights rest on the recognition of the basic right of all couples and individuals to decide freely and responsibly the number, spacing and timing of their children and to have information to do so, and right to attain the highest standard of sexual and reproductive health. They also include the right of all to make decisions concerning reproduction free of discrimination, coercion and violence.”

The reproductive rights of woman have been recognized as human rights since the International Conference on Human Rights Declaration in 1968<sup>28</sup> and by the International Conference on Population and Development in 1994.<sup>29</sup> Analyzing the legislative frame work it can be rightly

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<sup>25</sup> Although difficult to define medical ethics, the term is usually interpreted broadly to mean the moral obligations of medical practitioners in the practice of their profession. See Burton, A. W., *Medical Ethics and the Law* 13 (Australian Medical Publishing Co, Sydney, 1971) .

<sup>26</sup> Jonathan Herring, *Medical Law and Ethics* (Oxford University Press, United Kingdom, 6<sup>th</sup> edn., 2014).

<sup>27</sup> <sup>27</sup> “Gender and Reproductive Rights”, *available at*: <http://who.int/reproductive-health/gender/index.html> (last visited on Jul 20, 2020).

<sup>28</sup> The main purpose of the conference was to review the progress made in twenty years since the adoption of the Universal Declaration of Human Rights and to formulate a programme for the future. The conference acknowledged the need to eliminate the victimization of women in various regions of the world and also for the first time recognized the basic rights of parents “to determine freely and responsibly the number and the spacing of their children” (para.16). The conference also highlighted the positive and negative sides of advancement of scientific discoveries and technological advances pointing that they may endanger the rights and freedoms of individuals and therefore requires continuing attention. *See* Final Act of the International Conference on Human Rights, Tehran, 22 April to 13 May 1968, UN Doc A/CONF. 32/41at 3(1968).

<sup>29</sup> The International Conference on Population and Development (ICPD) was convened under the auspices of the United Nations and adopted a Programme of Action by consensus that emphasized the fundamental role of women’s interest in population matters and also introduced the concepts of sexual and reproductive health and also

understood that there is an obligation on the part of every State to fulfill the reproductive rights of women which can be seen reflected in various international treaties and national legislations listed as below:

- International Convention on the Elimination of All Forms of Discrimination against Women, 1979 (CEDAW)<sup>30</sup>
- International Covenant on Civil and Political Rights, 1996 (ICCPR)<sup>31</sup>
- International Covenant on Economic Social and Cultural Rights, 1996 (ICESCR)<sup>32</sup>
- International Convention on the Rights of Persons with Disabilities, 2006 (CRPD)<sup>33</sup>
- Convention on the Rights of the Child, 1989<sup>34</sup>

The Millennium Development Goals (MDGs) that preceded the Sustainable Development Goals (SDGs) also encompassed various goals that directly and indirectly recognize the reproductive rights of women.<sup>35</sup> In addition to this, in the national level along with the provisions of the Constitution that guarantees fundamental rights and directive principles there are plethora of legislation that touch upon the rights of woman to have self-determination and autonomy over her body. They include:

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reproductive rights. See United Nations, *Report of the International Conference on Population and Development*, Cairo, 5-13 Sep. 1994.

<sup>30</sup> Art. 12, 14 and 16 of the CEDAW specifically deals with women's health and imposes obligation on State to take appropriate measures in the areas of health care services including pregnancy, family planning, post-natal period and also to ensure rights of women to decide the spacing and number of children. Further, General Comment No. 24 on Art. 12 of the Convention provides that State parties shall take appropriate measures to eliminate discrimination against women in the field of health care in order to ensure access to health care services including family planning, pregnancy, confinement and post-natal period.

<sup>31</sup> The Covenant guarantees men and women equality before law and protection against discrimination under Art. 3 and Art. 26.

<sup>32</sup> ICESCR recognizes the highest standard of physical and mental health. In addition, The Committee on Economic, Social and Cultural Rights in its General Comment No. 14 says that States must:

...improve child and maternal health, sexual and reproductive health services, including access to family planning, pre- and post-natal care, emergency obstetric services and access to information, as well as to resources necessary to act on that information.

<sup>33</sup> CPRD is considered to be the first binding treaty for the disabled and also the first comprehensive human rights treaty of the 21<sup>st</sup> Century.

<sup>34</sup> Art. 19 and Art. 34 of the CRC provides that State Parties are to take all appropriate legislative, administrative, social and educational measures to protect the child from all forms of physical, mental abuse and sexual exploitation. Statistics provide that an estimated 2 million adolescents and girls between the ages of 5 and 15 enter or are forced into commercial sex. See UNFPA, *The State of the World's Population*, 1997. P.69

<sup>35</sup> NHRC, *Status of Human Rights in the context of Sexual Health and Reproductive Health Rights in India*, Country Assessment undertaken for NHRC by Partners for Law in Development (PLD) and SAMA Group for Women and Health 16 (2018).

- Medical Termination of Pregnancy Act, 1971
- Pre Conception and Pre Natal Diagnostic Techniques Act, 1994
- The Rights of Persons with Disabilities Act, 2016

All these legislation ensure the obligation of India as a signatory to the International Conventions and Covenants. Apart from these legislations on women there are Surrogacy Bill, the Assisted Reproductive Technology (Regulation) Bill and Indian Council of Medical Research (ICMR) Guidelines that govern different areas of reproductive concerns. In spite of these initiatives of the government and legislations there are several concerns regarding the inadequacy of these laws and lack of its implementation which can be gathered from various case studies, government data and also from independent research. In this regard an attempt is made to give an overview of specific laws in the national scenario for the protection and the rampant misuse of the reproductive rights of women.

#### **V. Rampant violation in laws abusing the reproductive rights of women**

Although there is no dearth of laws recognizing the rights of the women and their protection in the forefront for decades, an attempt is made to analyse three specific laws namely, Medical Termination of Pregnancy Act, 1971; Pre Conception and Pre Natal Diagnostic Techniques Act, 1994 and The Rights of Persons with Disabilities Act, 2016.

- **Medical Termination of Pregnancy Act, 1971**

In India abortion has been liberalized mainly by the Medical Termination of Pregnancy Act with the very objective of reducing population explosion. Under the legislation abortion has been legalized and enables a woman to decide whether she can continue with her pregnancy or to abort it. However, it is pertinent to note that even under the law woman has no right to proceed for abortion as a right but only on five specific conditions under the law which includes situations like:

- (i) Averting physical and mental injury of the pregnant woman,
- (ii) To prevent serious abnormalities in the child,
- (iii) On humanitarian grounds if the pregnancy is the result of rape,
- (iv) If the pregnancy is the result of failure of contraceptive device, and



(v) To prevent any risk of injury arising from actual foreseeable situation.<sup>36</sup>

It is unfortunate to see that despite specific provision in the law<sup>37</sup> that allows termination of pregnancy only in government hospitals or in places approved by the government illegal termination is rampant in North Indian States like Delhi, Rajasthan, Uttar Pradesh etc. This is more common when the victim is below 18 years of age or when she is gang raped or even raped by her own family members.<sup>38</sup> As per the recent statistics of National Crime Records Bureau (NCRB) analyzing the reported cases of offender's relation to victims of rape, the State of Rajasthan is the highest with 5288 reported cases where the offender themselves are known to the victim and in cases of family members themselves as offenders Uttar Pradesh is the leading State with 317<sup>39</sup> reported cases. In such situations lack of awareness of laws, fear of shame in the family and refusal of the doctors to proceed legally<sup>40</sup> may be some of the leading factors that compel the parents to go for illegal abortions. Recently it is found that fake abortions are burgeoning which deceive these women and hamper them to exercise free will about making decisions in abortion.<sup>41</sup> Yet another threat in this area is misleading advertisements which are the direct result of the advancement of technology itself prompting not only teenagers but also women above 40 years. In the wake of these unhealthy practices the progressive approach of judiciary is evident in many recent pronouncements. In a very recent decision of *State of Rajasthan and Ors. v. S & Anr.*<sup>42</sup> the High Court of Rajasthan remarked:

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<sup>36</sup> The Medical Termination Of Pregnancy Act, 1971(Act No. 34 of 1971),s.3.

<sup>37</sup> The Medical Termination Of Pregnancy Act,1971(Act No. 34 of 1971),s.4.

<sup>38</sup> Kanu Sarda, "Illegal Abortions rampant in India", *The New India Express*, 29<sup>th</sup> July 2018, available at: <https://www.newindianexpress.com/thesundaystandard/2018/jul/29/illegal-abortion-rampant-in-india-1849953.html>(last visited on Jan 15, 2022)

<sup>39</sup> National Crime Records Bureau, "*Offenders relation to victims of Rape-2019.*" available at:[https://ncrb.gov.in/sites/default/files/crime\\_in\\_india\\_table\\_additional\\_table\\_chapter\\_reports/Table%203A.4\\_2.pdf](https://ncrb.gov.in/sites/default/files/crime_in_india_table_additional_table_chapter_reports/Table%203A.4_2.pdf) (last visited on Jan 15, 2022).

<sup>40</sup> The main reason for the refusal of doctors may be because of the reason to stay away from legal proceedings as they are legally bound to report to the police about the victim's subjection to rape, the age of the victim etc.,

<sup>41</sup> In the wake of increasing fake abortions it is to be noted that the statistics compiled by the government greatly underestimate abortion incidence because many of the abortions occur outside the facility setting. In 2014-2015 the Ministry of Health and Family Welfare (MoHFW) recorded only 4,877 induced abortions in Bihar. Wherein, Bihar is a State having more than 25 million women of reproductive age and has reported 62,466 in the much less populous state of Assam and 51,467 in Uttar Pradesh, the most populous State in India. See Ministry of Health and Family Welfare, Health and Family Welfare Statistics of India 2015, (MoHFW Statistics Division, New Delhi) 2015.

<sup>42</sup> Spl. Appl. Writ.No.1344/2019.

The right of a child rape victim to make the reproductive choice of terminating the foetus heavily outweighs the right of the child in womb to be born even where the pregnancy is at the advanced stage.

- **Pre Conception and Pre Natal Diagnostic Techniques Act, 1994**

United Nations Population Fund (UNFPA) in its recent report in 2020 made shocking revelation that nearly 4.6 crore females are missing in India because of the sex selection practices giving preference to son.<sup>43</sup> It is also reported that India has the highest rate of excess female mortality at 13.5 per 1000 in the world.<sup>44</sup> The need for legislation in this area was felt mainly because of the alarming decline in the female child sex ratio and also the use of modern technologies<sup>45</sup> for female foeticide. Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act, 1994 was therefore enacted to prevent the use of modern techniques in sex selective abortion and to be used only for detecting genetic abnormalities in the foetus. However, in spite of the stringent provisions in the law and lack of proper implementation a PIL was filed in the Supreme Court in the case *Center for Enquiry into Health and Allied Themes (CEHAT) and Ors. v. Union of India*<sup>46</sup> which resulted in the amendment of the law in the year 2003 and Pre-Conception and Pre-Natal Diagnostic Techniques (Prohibition of Sex Selection) Act (PCPNDT Act) was enacted. One of the important aspects of the amendment is to prevent tests for sex selection from being conducted by any specialist and also prohibits sale of ultra sound machines to persons or institutions not registered under the Act. The amendment Act has set up supervisory boards at the State and Union Territory level to monitor the implementation of the Act<sup>47</sup> and to create public awareness against the practice of sex selection.<sup>48</sup> More powers are conferred on the enforcing

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<sup>43</sup> Sravani Sarkar, "About 4.6 crore females 'missing' in India due to son preference: UNFPA Report" *The Week*, Jul. 01, 2020, available at: <https://www.theweek.in/news/india/2020/07/01/about-46-crore-females-missing-in-india-due-to-son-preference-unfpa-report.html> (last visited on Feb 18, 2022).

<sup>44</sup> Excess female deaths around the world rose between 1970s and 1990 when they peaked at about 2million annually. Skewed sex ratios at birth influenced by gender biased sex selection emerged in 1980s in China, India and Republic of Korea, 1990s in the Eastern European Countries, and after 2000 in Nepal and Vietnam See UNFPA, "Against my Will Defying the practices that harm women and girls and undermine equality", *State of World Population* (2020).

<sup>45</sup> In India Ultrasonography, Amniocentesis and Chronic Villi Biopsy (CVB) is commonly used to diagnose the sex of the foetus. If these technologies are not misused it can help in the detection of abnormalities of the foetus at a very early time only. However it is seen misused resulting in increased foeticide.

<sup>46</sup> (2003) 8 SCC 412.

<sup>47</sup> Pre-Conception & Pre-Natal Diagnostic Techniques Act, 1994 (ACT NO. 57 OF 1994),s.7.

<sup>48</sup> Pre-Conception & Pre-Natal Diagnostic Techniques Act, 1994 (ACT NO. 57 OF 1994),s.16 A.

agencies under the Act wherein, advertising preconception and pre natal determination of sex is prohibited and punishment is enhanced.<sup>49</sup> The basic requirements under the Act are:

- (i) Registration of Genetic Counselling Centres, Genetic Laboratories or Genetic Clinics,<sup>50</sup>
- (ii) Written consent of the pregnant woman and prohibition of communicating the sex of foetus under section 5 of the Act,
- (iii) Maintenance of Records under section 29 of the Act.

The Act prohibits sex selection before and after conception and regulates the places for conducting the test and thus allows these modern technologies to be used only after satisfying the following conditions when

- (i) The age of the woman is above 35 years,
- (ii) The pregnant woman had been exposed to lethal drugs or chemicals,
- (iii) The pregnant woman has undergone two or more spontaneous abortions,
- (iv) There is a family history of mental retardation,
- (v) Any other conditions as specified by the board.<sup>51</sup>

In this regard we can also see some progressive decisions by the apex courts wherein, the Supreme Court in *Sabu Mathew George v. Union of India & Ors.*<sup>52</sup> observed that internet search engines Microsoft, Google and Yahoo are under obligation to see that ‘doctrine of autoblock’<sup>53</sup> is applied within a reasonable period of time to prohibit any attempt to search any keyword pertaining to pre-natal sex determination. Further, Hon’ble Supreme Court in *Federation of Obstetrics and Gynecological Societies of India (FOGSI) v. Union of India and Others*<sup>54</sup> held that giving preference to male child is violative of article 39A and also article 51A(e) as it casts a constitutional duty on every citizen to denounce practices derogatory to the dignity of women.

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<sup>49</sup> Pre-Conception & Pre-Natal Diagnostic Techniques Act, 1994 (ACT NO. 57 OF 1994),s.22.

<sup>50</sup> Pre-Conception & Pre-Natal Diagnostic Techniques Act, 1994 (ACT NO. 57 OF 1994),s.18.

<sup>51</sup> The Act has established State Supervisory Boards as per the provisions of the Pre-Conception & Pre-Natal Diagnostic Techniques Act, 1994.

<sup>52</sup> Writ Petition (Civil) No. 341 of 2008.

<sup>53</sup> As per the ‘doctrine of autoblock’ if anyone tries to avail the corridors of these companies, this device can be adopted so that no one can enter or see the said advertisement that is prohibited under the Act specifically under s. 22 of the Act.

<sup>54</sup> Writ Petition (Civil) No. 129 of 2017.

- **The Rights of Persons with Disabilities Act, 2016**

A woman with disability is always said to be at double disadvantage because of the reason that she is born as a woman first and that she is suffering from disability. She will be the victim of the society if she fails to bear a child. These disabled women also are more exploited by the modern technology traps. In the year 1995 India enacted legislation for the protection of persons with disabilities namely the Persons with Disabilities Act, 1995 which was a comprehensive legislation on disability. However, the Act was not free from gaps and lacuna and failed in its implementation which resulted in the enactment of the Rights of Persons with Disabilities Act, 2016.<sup>55</sup> The present legislation recognizes the equality of men and women in dignity, integrity etc., and also provide special provisions to ensure that the women with disability enjoy their rights equally with others. There is an obligation on the part of the government to take necessary measures for persons with disabilities including the sexual and reproductive health care of women.

In this regard, it is worthy to analyse the decision of *Suchita Srivastava v. Chandigarh Administration*<sup>56</sup> wherein, the Supreme Court accepting the autonomy of a mildly mentally retarded woman over her reproductive rights held that there is a compelling state interest in protecting the life of prospective child.<sup>57</sup> Further, in the landmark judgment on privacy<sup>58</sup> though the conceptions of privacy was phrased differently, the bench commonly held that privacy cover personal autonomy relating to body, mind and to making choices thereby, recognizing that one of the key aspects of personal autonomy is reproductive right which entail rights to make sexual and reproductive decisions. *The Puttaswamy* judgment specifically recognized the constitutional right of women to make reproductive choices as a part of personal liberty under article 21 of the Constitution and reiterated the position adopted by a three-judge bench in *Suchita Srivastava Case*.

After analyzing these legislations that aim at protecting the reproductive rights of women, it is unfortunate that still women are misused, exploited and falling prey to the growing technologies.

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<sup>55</sup> The 2016 legislation was enacted in order to harmonize all the legislation with the international Convention of the Rights of Persons with Disability, 2006 which India ratified on 13<sup>th</sup> December 2006.

<sup>56</sup> (2009) 9 SCC 1.

<sup>57</sup> This was the first time the Supreme Court was faced with a legal question on the reproductive rights of a mentally retarded person and their consent with respect to abortion under the Medical Termination of Pregnancy Act, 1971.

<sup>58</sup> *Justice K.S. Puttaswamy v. Union of India*, Writ Petition (Civil) No. 494 of 2012.

## VI. Misuse and abuse by technologies on the reproductive rights of women

Issues regarding reproductive rights are vigorously contested and their misuse and abuse because of the advancement of science and technology often creates adverse impact on women's reproductive rights. Some of the areas of concern include:

- Right to safe abortion<sup>59</sup>
- Right to exercise reproductive choices free from coercion, discrimination and violence
- Lack of awareness about sexually transmitted diseases and contraception<sup>60</sup>
- Need for counseling during pre and post termination of pregnancy
- Threat of forceful sterilization and contraception<sup>61</sup>
- Increased gender biased practices like female genital mutilation<sup>62</sup>
- Reproductive morbidities that remain grossly neglected within government schemes and polices.
- Commercialization and marketization of health care sectors
- Growth of private sectors neglecting the traditional public sectors
- Proliferation of IVF clinics with commercial motives.
- Flourishing of multinationals because of the significant middle class population in India.<sup>63</sup>

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<sup>59</sup> A study published in 2018 by the Guttmacher Institute in Lancet has reported that more than 1,56,00,000 abortions take place in India every year of which a large number are considered unsafe wherein, the pregnant women are resorting to self-managed medication, approaching dubious providers etc. inviting risks in unsafe abortions. See Nozer Sheriar, "Abortion a right not privilege. On Safe Abortion Day, Government must consider amending MTP Act," *The Print*, Sep. 28, 2019, available at: <https://theprint.in/opinion/abortion-a-right-not-privilege-on-safe-abortion-day-modi-govt-must-consider-amending-mtp-act/298238/> (last visited on Jan 17, 2022)

<sup>60</sup> The lack of awareness about sexually transmitted diseases and contraceptive measures have worsened in the wake of COVID-19 pandemic wherein, a study by global non-governmental organization estimated in August 2020 that 1.3 million women lost access to contraceptives and abortion between January and June, 2020. See "1.3 million women in India lost access to contraceptives, abortions during the COVID-19 pandemic: Report," *First Post*, August 20, 2020, available at: <https://www.firstpost.com/health/1-3-million-women-in-india-lost-access-to-contraceptives-abortion-during-the-covid-19-pandemic-report-8732021.html> (last visited on Jan 17, 2022)

<sup>61</sup> History reveals that marginalized women have been subjected to forced and coerced sterilization even from earlier times. In recent times also the practice has been documented in countries in North and South America, Europe, Asia and Africa. The targeted women include women who are ethnic and racial minorities, women with disabilities, women living with HIV and poor women. See Priti Patel, "Forced Sterilization of Women as Discrimination," 38 *Public Health Reviews* 15 (2017).

<sup>62</sup> Srinivas Kosgi et., al., "Women Reproductive Rights in India: Prospective Future," 10 (1) *Journal of Health and Allied Sciences* 1 (2011).

<sup>63</sup> Mc Kinlay has observed that for any substantive analysis of privatization of health services there needs to be recognition of the role played by the large finance capital in the health sector who will be largely confined to

Autonomy, confidentiality and right to informed consent are always considered the fundamental ethical principles in providing reproductive health services. The miracles of science and technology though looked as a solace by thousands of the women all over the world are seen many a times misused and abused and thereby, shattered because of the profit oriented institutions providing health services.

Glaring deviations can be seen in several instances. However, an attempt is made to analyse three specific instances of violation of the reproductive rights of women. There is a proliferation of infertility clinics which are running with an ulterior objective of making monetary benefits. These IVF clinics provide assisted reproduction when approached by infertile couples to produce sons.<sup>64</sup> As already mentioned, it was because of the sharp decline in the female child sex ratio and rampant misuse of modern techniques in aid of female foeticide Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act, 1994 was enacted in India.<sup>65</sup> Although the legislation is stringent, it is poorly implemented and has significantly failed to curb female foeticide and its related consequences. In *Voluntary Health Association of Punjab v. Union of India*<sup>66</sup> Supreme Court observed “the predicament with regard to female foeticide by misuse of modern science and technology has aggravated and enormously affected the sex ratio.”

Abortion is yet another controversial issue which means the spontaneous or induced termination of pregnancy before the foetus is independently viable, which is taken as occurring after the 28<sup>th</sup> week of conception.<sup>67</sup> As already mentioned, Medical Termination of Pregnancy Act, 1971 has liberalized abortion with the social aim of reducing the population explosion threatening India allowing for a lawful abortion of foetus without conferring or recognize any right on any person to perform an abortion or termination of pregnancy. Even the pregnant woman cannot terminate the pregnancy except under the circumstances mentioned under the Act. The pregnant woman

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pharmaceuticals, medical equipment etc. which are operated globally. The impact of these industries is visible in Indian cases. For more details see Mc Kinlay, J.B., “Evaluating Medical Technology in the Context of a Financial Crisis: The Case of New Zealand” 58 (2) *Milibank Memorial Fund Quarterly Health and Society* (1980).

<sup>64</sup> As per latest estimates 5 lakh female fetuses are aborted annually and a recent report of UNICEF also says that since 2007 India has lost over one crore girls.

<sup>65</sup> Although PNDT Act, 1994 referred to prenatal sex determination and matters connected therewith or incidental thereto, it did not specify the Pre-conception sex selection and hence the law was amended in 2003 and is renamed as Pre-Conception and Pre-Natal Diagnostic Techniques (Prohibition of Sex Selection) Act, 2003.

<sup>66</sup> (2013) 4 SCC 1.

<sup>67</sup> Jaising P. Modi, *Modi A Textbook of Medical Jurisprudence and Technology*, (ed.,) by Justice K. Kannan, (Lexis Nexis, New Delhi, 25<sup>th</sup> edn., 2016).

cannot also abort during the initial ‘12 weeks’ at her own will.<sup>68</sup> Moreover, until very recently a woman could undergo abortion only till 20 weeks as per the law. Because of these stringent provisions in the law more than 10 women used to die every day due to unsafe abortions carried out illegally.<sup>69</sup> The main drawback was that when a woman learns about the problem and makes up her mind to take the difficult decision of abortion, her pregnancy might have gone past the 20 weeks permitted by the MTP Act. Even though the judiciary had shown concern over this issue and permitted abortion beyond 24 weeks, the systematic problem continued till the parliament amended the MTP Act very recently in 2021.<sup>70</sup> Moreover, there is wide criticism that the amendment has failed to make the abortion law as a rights-based legislation. It is thus the obligation of the State to identify all health care concerns of women and to provide adequate facilities to safeguard the dignity and welfare of not only the pregnant woman but also the foetus. Effective measures also should be taken for the proper implementation of the law which is not only the obligation but also the duty of a welfare state.

All the assisted reproductive technologies like AI; IVF<sup>71</sup>, Gamete Intrafallopian Transfer<sup>72</sup> (GIFT), Zygote Intrafallopian Transfer<sup>73</sup> (ZIFT), Pronuclear Stage Tubal Transfer<sup>74</sup> (PROST), Cryopreservation of gametes, eggs, and embryos, gamete and embryo donation and surrogacy are a challenge to the traditional views of procreation and parenthood and has its own legal and ethical implications. Another concern confronted in IVF is great enthusiasm among involuntary childless women. Moreover, reproductive technology has now become ‘procreative tourism’ and

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<sup>68</sup> The Medical Termination Of Pregnancy Act, 1971(Act No. 34 of 1971),s.3 is meant only to save the registered medical practitioner from the purview of the IPC.

<sup>69</sup> Nikhil Datar, “Amend the MTP Act: Current Version is Archaic and Causes Needless Suffering to Pregnant Women,” *The Times of India*, July 29, 2019, available at: [https://timesofindia.indiatimes.com/blogs/toi-edit-page/amend-the-mtp-act-current-version-is-archaic-and-causes-needless-suffering-to-pregnant-women/\(last visited on Jan17, 2022\)](https://timesofindia.indiatimes.com/blogs/toi-edit-page/amend-the-mtp-act-current-version-is-archaic-and-causes-needless-suffering-to-pregnant-women/(last%20visited%20on%20Jan17,%202022))

<sup>70</sup> The Medical Termination of Pregnancy (Amendment) Bill, 2020 was introduced in Lok Sabha by the Health and Family Welfare Minister on March 2, 2020. Rajya Sabha approved the Medical Termination (Amendment) Bill, 2021 on 16<sup>th</sup> March 2021 which was approved earlier by Lok Sabha on 17<sup>th</sup> March, 2020 raising the upper gestation period from 20 to 24 weeks.

<sup>71</sup> In IVF, the procedure involves surgically removing the eggs from the women and the same is fertilized with the available sperms in the laboratory and finally the embryo will be replaced into the womb of the woman who completes the gestation period.

<sup>72</sup> In GIFT multiple eggs collected from the ovaries are placed into a thin flexible tube (catheter) along with the sperm to be used. The gametes (both egg and sperm) are then injected into the fallopian tubes using a surgical procedure called laparoscopy.

<sup>73</sup> ZIFT is a combination of IVF and GIFT wherein, eggs are collected using IVF method and are mixed with sperm in the lab. The fertilized eggs (zygotes) are then laparoscopically returned to the fallopian tubes.

<sup>74</sup> PROST is similar to ZIFT and uses IVF. In this process transfer of egg to the fallopian tube takes place before cell division occurs.

‘ethical dumping’ where one can travel and avail the services of these reproductive tourist offices which are spread through-out the globe.<sup>75</sup> When it comes to legislation, in India there is no law on ART and therefore, the code of conduct for ART is formulated by ICMR. A draft Assisted Reproductive Technology (Regulation) Bill was developed by ICMR in the year 2008 and was sent to Ministry of Health and Family Welfare which was later revised by the Ministry of Law and Justice as Assisted Technology Regulation Bill 2003. In 2016 this bill came before the Cabinet for consideration and the final version of the Bill was brought out in ART Bill which however was not passed.<sup>76</sup> Finally, what followed was the Surrogacy (Regulation) Bill 2020 by the Health Ministry<sup>77</sup> that proposed to legalise domestic surrogacy. In recent times there is proliferation of IVF Clinics in different parts of the world which are functioning with commercial purposes. Lack of specific law to govern these clinics also have given added impetus to their proliferation wherein, many a times, monetary benefits override the sentiments of the childless couples opening up to more and more ethical issues.<sup>78</sup>

India having become a hub of surrogacy for couples from all over the world has made to witness an increase in unethical practices concerning the exploitation of surrogate mothers who normally will be from financially backward class, innocent, illiterate, poor and abandoned women. In addition to this the other ill effects include abandonment of children born out of surrogacy and involvement of intermediaries or third parties in importing human embryo and gametes. The Law Commission<sup>79</sup> therefore, recommended for prohibiting commercial surrogacy and allowing ethical altruistic surrogacy by enacting a suitable legislation which has not been realized so far. Very recently Union Cabinet approved the recommendations of the Rajya Sabha Select

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<sup>75</sup> B.M. Knoppers et. al., “Recent Advances in Medically Assisted Conception: Legal, Ethical and Social Issues” 17 (4) *Am J Law and Medicine* 329-361 (1991). .

<sup>76</sup> The bill aims at safeguarding the rights of women and children born of ART, regulating the 3000 crore infertility treatment clinics and also advocating safe and ethical practices but the same is silent about the health risks and also the safeguards and it was felt by the experts that the Bill requires a thorough review. See Sunitha Rao, “ART Bill has grey areas, needs review: Experts,” *The Times of India*, Dec. 11, 2020, available at: <https://timesofindia.indiatimes.com/city/bengaluru/art-bill-has-grey-areas-needs-review-experts/articleshow/79668862.cms> (last visited on Jan 17, 2022)

<sup>77</sup> The Surrogacy (Regulation) Bill, 2019 was introduced by Dr. Harsh Vardhan, the Minister of Health and Family Welfare, in Lok Sabha on July 15, 2019. For more details See [www.prsindia.org](http://www.prsindia.org) Recently, Cabinet has approved the Surrogacy (Regulation) Bill, 2020.

<sup>78</sup> Sushmi Dey, “Only 20% IVF Clinics, 2% ART Units registered with ICMR” *The Times of India*, (August 21, 2017) available at: <https://timesofindia.indiatimes.com/india/only-20-ivf-clinics-2-art-units-registered-with-icmr/articleshow/60150184.cms> (last visited on Jan 17, 2022).

<sup>79</sup> Law Commission of India, “ 228<sup>th</sup> Report on Need for Legislation to Regulate Assisted Reproductive Technology Clinics as well as Rights and Obligations of Parties to a Surrogacy” ( August, 2009).



Committee before approving the Surrogacy<sup>80</sup> 2020 Bill. The bill regulates surrogacy by providing the surrogate mother only medical expenses and insurance coverage during pregnancy thereby, prohibiting no monetary compensation. However, in spite of this these surrogate mothers still do not have power to decide about their own body and most of these women are from poor financial background. There is no provision of life insurance or post pregnancy medical and psychiatric treatment in cases of unfavorable outcome of pregnancy which will push them to illegal activities like prostitution, thereby, becoming puppets in the hands of the middle men and commercial agencies who get ransom from the surrogacy arrangement itself. Moreover, the eligibility conditions<sup>81</sup> under the 2019 Bill amounted to unreasonable restrictions on the reproductive rights of married couples. It also provided that the surrogate mother must be a ‘close relative’ of the intending couple without defining the term ‘close relative’ itself and allowing the surrogate mother<sup>82</sup> to donate her own egg which may ultimately lead to negative health consequences for the surrogate baby. Although the Parliamentary Standing Committee has widened the scope of getting surrogate mothers from outside the close confines of the family of intending couple it has failed to reconsider the medical repercussions involved in allowing close relatives as surrogate mothers. For abortion, in addition to complying with MTP Act, 1971 the approval of the appropriate authority and the consent of the surrogate mother is required. Moreover, the Bill does not specify a time limit for granting such an approval and the intending couple does not have any say in the consent to abort. It is to be noted that even the 2020 Bill prevents same sex couples to have surrogate children thereby violating the provisions of the Constitution. All these issues which are closely related to the reproductive rights of women have direct impact on the misuse of science and technology.

### VIII. Conclusion

In spite of the misuse of science and technology and the issues affecting the reproductive rights of women that are not exhaustive and endless it is well recognized by the courts including the apex courts that women have complete right over their own body which can be seen reflected in

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<sup>80</sup> The Bill defines Surrogacy as a practice where a woman gives birth to a child for the intending couple with the intention of handing over the child after the birth.

<sup>81</sup> The intending couple should have a ‘certificate of essentiality’ and ‘certificate of eligibility’ issued by the appropriate authority.

<sup>82</sup> The Cabinet approved the Surrogacy (Regulation) Bill after incorporating the recommendations of Rajya Sabha Select Committee allowing ‘willing mother’ to be a surrogate mother. See Parliament of India, “Rajya Sabha Report of the Select Committee on the Surrogacy (Regulation) Bill, 2019” (February 5, 2020).

various decisions of the court and also in the enactments. Medical Termination of Pregnancy Act clearly specifies that only the consent of the pregnant women undergoing termination of pregnancy is required under the provisions of the Act.<sup>83</sup> Court further added that an unwanted pregnancy as per Explanation 11 to Section 3(2) of the Act is a grave injury to the physical or mental health of the woman. The court remarked:<sup>84</sup>

If the wife has consented to matrimonial sex and created sexual relations with her own husband, it does not mean that she has consented to conceive a child. It is the freewill of the wife to give birth to a child or not. The husband cannot compel her to conceive and give birth to his child.

Moreover, the right to make free and informed decisions about health care and medical treatment including decisions about one's fertility and sexuality is also enshrined in various International Conventions including the Convention on the Elimination of Discrimination against Women, 1978<sup>85</sup> and also in the national legislations. When it comes to different parts of the world, recently New Zealand government has decriminalized abortion allowing women to choose their right to terminate pregnancy.<sup>86</sup> However, there are wide spread misuse and abuse of women's reproductive rights establishing and reiterating the fact that women are always suppressed and vulnerable sections which should not be allowed to continue. Medical practitioners and the practice of medicine are becoming more unethical resulting in waiving the codes of medical ethics. Women and their desire to have a child are exploited by the booming infertility clinics in one hand and being the marginalized section in the society they are forced to be surrogate mother by middle men. Although State Medical councils can take action against objectionable practices this is rarely done. The stigma involved in the illegal practices compels the women including the family members not to reveal these practices which again will be a protection for the violators of law. In fact women, the most amazing creature of God on the earth who is bestowed with innumerable potentials of playing multiple

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<sup>83</sup> Court referred to s. 3(4) (b) of the MTP Act.

<sup>84</sup> Supreme Court on October 27, 2017 in *Anil Kumar Malhotra v. Ajay Pasricha* dismissed a man's petition who was seeking damages from his wife as she terminated her pregnancy without his consent. See Civil Appeal No. 4704/2013 (September 22, 2017).

<sup>85</sup> The Convention on the Elimination of All Forms of Discrimination against Women, 1979, art.12, art.16.

<sup>86</sup> New Zealand is the latest state to liberalize abortion laws, South Korea's High Court also over turned a ban on abortion, while Ireland has also legalized abortion. See "New Zealand passes landmark law to decriminalize abortion", *The Guardian*, Mar. 18, 2020, available at: <https://www.theguardian.com/world/2020/mar/18/new-zealand-passes-landmark-law-decriminalise-abortion> (last visited on Jan 17, 2022).

roles in her life time as a daughter, wife, mother, grand- mother and so on many a times sacrifices her own life to give shelter to others are shamed by the same society. In this regard it is unfortunate that State is deliberately failing in its duty and legal obligation to protect women and thereby, fulfill their reproductive rights.