International Journal of Law, Policy and Social Review
www.lawjournals.net
Online ISSN: 2664-6838, Print ISSN: 2664-682X
Received: 23-12-2024, Accepted: 22-01-2025, Published: 06-02-2025
Volume 7, Issue 1, 2025, Page No. 110-115

Cloning: A study on bioethics, ethical cloning, framework of its legal jurisprudence and reinvigorating issues across countries

Shreyasi Upadhyaya[1], Dr. A K Keshot[2], Dr. Harsh Purohit[3]
[1] Research Scholar, Department of legal Studies, Banasthali vidyapith, Rajasthan, India
[2] Professor, Department of legal Studies, Banasthali vidyapith, Rajasthan, India
[3] FMS-WISDOM, Banasthali Vidyapith, Rajasthan, India

Abstract
This study aims at studying the bioethical, ethical-political, legal and human rights aspects of cloning technology in the modern scientific world and is entitled "Cloning: A Study on Bioethics, Ethical Cloning, Framework of its Legal Jurisprudence and Reinvigorating Issues across Countries". Cloning has proven itself to be a significant breakthrough in the field of biotechnology which has a number of applications like conservation of endangered species, pharmaceutical production, stem cell therapy, and agriculture. It explains the various types of cloning (reproductive cloning, therapeutic cloning and gene cloning), their scientific significance, and applications. It also discusses the evolution of cloning methods from the initial experiments in genetics to the actual cloning of Dolly the Sheep using Somatic Cell Nuclear Transfer (SCNT). The research reveals significant bioethical problems like destruction of embryo, commercialization of human life, genetic manipulation, human identity problems, and threats to human dignity. Comparative legal frameworks and international regulations on the cloning practices of various countries are also analyzed. The research highlights the contribution of the international organizations such as the United Nations and UNESCO to ethical governance and the protection of human rights. Finally, the paper examines the potential medical and scientific advantages of cloning technology and concludes that there is an immediate need for harmonised international legal norms, ethical oversight and responsible governance to ensure that cloning technology moves forward in an ethical, moral and socially beneficial manner.

Keywords: Cloning technology, bioethics, therapeutic cloning, legal jurisprudence, human rights

Introduction

The study "Cloning: A Study on Bioethics, Ethical Cloning, Framework of its Legal Jurisprudence and Reinvigorating Issues across Countries" examines the complex nature of cloning from the ethical, legal and social point of view. Since 1996, when Dolly the sheep was successfully cloned, cloning, especially human cloning has been a focal point of discussion. This study examines the bioethical considerations surrounding cloning such as the ethical concerns of creating genetically identical organisms and the possible advantages and disadvantages of therapeutic and reproductive cloning.

Legal aspects of cloning are different in various countries, depending on cultural, religious and ethical views. There are different laws and regulations regarding human cloning that are implemented by different governments where some have very strict rules against human cloning, while others have more lenient laws permitting some forms of cloning under specific conditions. The study looks at the legal contexts and problems involved in developing an integrated international legal framework for cloning.[1]

Discuss international issues such as the possible increase in socio-economic inequalities if clones were to be widespread, moral issues regarding the commercialisation of the human body, and implications for identity and individuality. The study explores the influence of religious and cultural beliefs on public attitudes and those of policy makers towards cloning.

Cloning is the scientific procedure of creating a genetically identical copy of an organism, cell or section of DNA. Cloning derives from the Greek word "klon", which means twig or branch, and is a form of asexual reproduction. Cloning is also applied in the field of biotechnology and medical science to duplicate genes, cells, tissues and even organisms for scientific and therapeutic research and development. Cloning can happen naturally in bacteria or plants, but there are also artificial methods that have been created by modern science that can assist medical research, agriculture and genetic engineering[2].

There are basically three types of cloning: Reproductive Cloning, Therapeutic Cloning, and Gene Cloning. Reproductive cloning attempts to produce a whole organism, whereas therapeutic cloning is used to produce stem cells or tissues for therapeutic use. Cloning of genes is the process of copying DNA sequences that are used for research or medicine. In 1996, Dolly the Sheep was successfully cloned using Somatic Cell Nuclear Transfer (SCNT) marking a significant breakthrough in cloning research and introducing a range of new biotechnology and regenerative medicine opportunities[3].

Development of Cloning Technology in Modern Science

Cloning technology has been developed over a number of years as a result of scientific research and experimentation. Gregor Mendel's early work contributed to the understanding of genetic inheritance. In later years, nuclear transfer was improved by other scientists such as Hans Spemann and John Gurdon. Finally, in 1996, the Roslin Institute produced Dolly, the sheep who was a clone of an adult cell.Finally, in 1996 the Roslin Institute successfully cloned Dolly the sheep, showing that adult cells could be used to create new organisms. The applications of cloning today include stem cell studies, agriculture, regeneration of organs and endangered species, but there are still problems associated with cloning such as abnormalities and low success rate.

Importance of Bioethics in Scientific Advancement

In the context of scientific developments regarding cloning, there is a significant place for bioethics to guide these developments. Uses moral/ethical values in biological research and medicine. Cloning is an activity that respects human dignity, rights, and social values, based on such principles as autonomy, beneficence, non-maleficence and justice. Ethical issues are related to destruction of the embryo, exploitation for egg donation, and commercialization of human life. Therapeutic cloning has medical advantages but there is concerns about individuality, identity and psychological and social effects from reproductive cloning.

Need for Legal Regulation and Ethical Governance of Cloning Across Countries

The rapid growth of cloning technology has increased the need for legal regulation and ethical governance worldwide. Cloning laws vary throughout different countries depending on cultural, religious, ethical and political values. Reproductive human cloning is prohibited by many countries, but therapeutic cloning is permitted in a controlled manner for medical research. International organisations, such as the United Nations and UNESCO, have drawn up declarations to safeguard the dignity of the human person and to govern cloning. However, there is no uniformity in such laws all throughout the world, and therefore, ethical governance is crucial to responsible scientific research.

Historical Evolution and Scientific Development of Cloning

Cloning is a historical process of evolution and scientific development of one of the most significant of modern biotechnology. The ideas of cloning and heredity began to form from the study of genetics and biological reproduction, which focused on the mechanisms by which traits were passed from one generation to the next. Gregor Mendel's work in genetics was the foundation of the science of genetics and the motivation for later cloning. In the twentieth century, a number of scientists, including Hans Spemann, advanced significant research into nuclear transfer and experiments on embryonic cells. Robert Briggs and Thomas King later successfully did nuclear transplants on frogs, demonstrating that the genetic material of a cell is complete to make a living being[4]. These finds formed the scientific foundation of the present day cloning technology. The first important step was in 1996 when Dolly the Sheep was born at the Roslin Institute using a technique called Somatic Cell Nuclear Transfer (SCNT). The cloning of Dolly showed that specialized adult cells can be reprogrammed to form a new organism, and that an adult somatic cell can be used to clone a whole animal. Cloning technology has since grown quickly across various fields of medicine, agriculture, and biotechnology, in the areas of stem cell therapy, organ regeneration, livestock improvement, pharmaceutical research and conservation of endangered species[5].

Types of Cloning and Their Applications

There are three broad types of cloning: reproductive cloning, therapeutic cloning, and gene or molecular cloning. These are used for various scientific and medical applications. Reproductive cloning aims at creating a genetically identical organism, therapeutic cloning is employed in the area of regenerative medicine and research on stem cells, whereas gene cloning is used to copy a fragment of DNA for scientific research or pharmaceutical manufacturing. Such methods have been very useful in biotechnology, healthcare, agriculture and global genetic studies.[6].

Reproductive Cloning: Reproductive cloning is a technique that produces an organism that is genetically identical to the original organism. This technique is known as Somatic Cell Nuclear Transfer (SCNT). Dolly the Sheep's birth was the first of successful reproductive cloning. It is beneficial scientifically, but it poses ethical issues on the dignity of a human, identity, and the welfare of animals.

Therapeutic Cloning: Therapeutic cloning refers to the development of embryonic stem cells for therapeutic uses and research on regeneration. Using the SCNT method, stem cells are created which have the ability to form other tissues and organs. This kind of cloning could have benefits for diseases like Parkinson's disease, diabetes, spinal injuries and heart disorders. Therapeutic cloning has been performed in many countries under special conditions due to its medical importance, but there are still ethical issues regarding the destruction of embryos.

Gene or Molecular Cloning: Gene cloning/molecular cloning is the copying of certain DNA sequences for scientific studies and biotechnology. It is useful for scientists in their research of genes, the creation of genetically modified organisms, and the production of useful proteins and medicines. Molecular cloning uses many techniques, including the Polymerase Chain Reaction (PCR) and restriction enzyme digestion. This approach has now become a crucial technique in the fields of genetic engineering, pharmaceutical manufacturing, forensics, and disease diagnosis[7].

Applications in Healthcare, Stem Cell Therapy, Agriculture, and Conservation of Endangered Species

Cloning technology has revolutionized contemporary medicine, farming and environmental protection. Cloning is used in the medical field for stem cell therapy, regeneration of tissues and the treatment of genetic diseases. It makes livestock high-quality and enhances crop productivity in agriculture. Another use of cloning is to preserve endangered species by reproducing rare animals and maintaining biodiversity. The applications here illustrate the increasing significance of cloning in the scientific and social development.

- The stem cell therapy and regenerative medicine were listed.
- Several treatments are being developed for genetic and degenerative diseases.
- Enhancement of livestock and agricultural production
- Research and development into pharmaceutical proteins, vaccines, and other therapeutic products
- Conservation and recovery of endangered and extinct species.
- The application of scientific research in genetics and biotechnology[8].

Literature review

N.S. (2026) [9] The study discusses the great advances made by scientists in the field of biotechnology, while also addressing legal, ethical and human rights issues. The author emphasizes that a human rights approach is helpful, inasmuch as it brings together law and ethics. The paper explores the link between natural law, morality and human rights in the context of human life value. The study indicates that life has significant intrinsic values like dignity, integrity, survival, sustenance and self-preservation. These are universal values which are the principles of human rights. The research finds that biotechnology and cloning should be regulated by ethical and legal mechanisms that are respectful of human dignity, and that aim to safeguard the natural value of life and promote scientific development responsibly.

Tarasevych et al. (2023) [10] This study will concentrate on the ethical and legal control of human cloning and genetic engineering. The authors explain that appropriate national and international legal control is needed to enable scientific advancement in cloning. Analysis, synthesis and generalization techniques are used to analyze legal frameworks, such as the Convention on Human Rights and Biomedicine (1997). The paper explains that human cloning is not just a scientific phenomenon, it is also a moral, ethical and legal problem. It highlights the need for the legal regulation to be a precautionary step against the misuse of cloning technology. The study also emphasizes the ethical responsibility for science development. In general, the study finds that effective legal frameworks are essential to control cloning practices, and to keep biotechnology within reasonable ethical and human rights parameters.

Nabavizadeh, Mehrabani & Vahedi (2016) [11] The study explores the evolution of cloning technology in Iran and the gap in laws regarding scientific research in this area. No legal and ethical rules exist, explains the authors, which can result in an improper use of cloning technology and breach of the rights of those involved in its research. It is the author's opinion that complete prohibition of cloning is not an effective solution but rather proper guidance and control is required. There is also a discussion on religious and jurisprudential issues such as whether human cloning should be allowed or disallowed. Future ethical, medical and social issues could impact on religious decisions regarding cloning, the study points out. The authors strongly recommend the need for a comprehensive legal and ethical framework to ensure a responsible regulation of the cloning technology in order to avoid undesirable effects and ensure the progress and the scientific and moral good of the scientific research.

Hervey & Black (2005) [12] This paper explores the governance of stem cell research in the EU and the tension between scientific innovation and ethical and human rights issues. Research into stem cells may provide treatment for certain illnesses like cancer, diabetes and Parkinson's disease, but using embryonic stem cells has been met with moral and legal questions due to the destruction of embryos. The paper plots out the steps taken by the European Union to establish legislation and moral principles via bodies such as the European Commission and the European Court of Justice. But the member states have different policies, which results in regulatory diversity in Europe. Depending on the country, research is widely supported; in other countries there are significant restrictions. The study concludes that it is necessary to take a balanced and co-operative international approach, to ensure medical advances, respect for human dignity, ethical values and human rights.

Jaenisch (2004) [13] The article presents two types of cloning: reproductive cloning and therapeutic cloning. The author has a strong objection to the concept of reproductive cloning due to definite scientific and ethical dangers involved with the production of cloned humans. But the research argues against reproductive cloning, which would involve using somatic-cell nuclear transfer to create embryonic stem cells destined to become human beings for use in medicine and therapy. Stem cells made using therapeutic cloning can also lead to the development of personalized therapies, as cells derived from a patient's own cells may not require immunosuppressive drugs. The paper also details how these stem cells can be used in the laboratory to model human genetic diseases and their development. In general, the researchers find that while reproductive cloning is ethically dubious and technically dangerous, therapeutic cloning is a promising technology that could one day make a huge difference in medicine, treating a variety of diseases.

Best & Kellner (2002) [14] This study covers ethics, social, and philosophical issues that have arisen with biotechnology, cloning, and stem cell research. Ethics, politics and social issues will not be ignored in the understanding of biotechnology issues, the author’s state, explaining that these issues cannot be learned solely by science. The paper highlights several scientific and ethical issues with animal cloning and how it is unacceptable at present for human cloning. Meanwhile, the authors believe that stem cell research should be carried out due to its potential for providing valuable medical breakthroughs. Biotec, however, notes that it can also create significant risks if not properly managed. The study highlights to importance of democratic discussion, ethical assessment and critical social theory for scientific development. The authors believe that Biotechnology should be taken up in the right way with the right public debate and with due responsibility to avoid harmful impacts on society and humanity.

Kenwright (1997) [15] The study traces the history of ethical debates about cloning from the 1960s to the present, and after the first somatic cell nuclear transfer was used to clone a mammal in 1997. This was a scientific accomplishment that would bring up the question of cloning and improving humans. Most ethicists agree that at this time it is too soon to try to make human beings by cloning, the paper notes. But some scholars argue against cloning, for a variety of reasons. Some would speak of personal liberty and satisfaction of preferences, others would speak on the basis of religious and moral beliefs. The study finds that the discussion about cloning since the 1970s has been repetitive, with little in the way of ethical development. The author believes that more will be gained from the application of more refined analysis to the assumptions that underlie the cloning arguments of philosophers and ethicists to enable future discussions to be more meaningful and constructive.

Research Gap

While there are numerous studies that have covered various aspects of cloning technology, bioethics, stem cell research, and legal regulations, there is very little research that integrates ethical, legal, human rights, and comparative international perspectives in one study. The existing

literature primarily addresses scientific progress or ethical questions, with a neglect of the absence of a uniform international legal framework and the new issues brought about by more advanced technologies like genetic manipulation and CRISPR. There are also some previous studies with limited discussion about the social, cultural and human rights implications of cloning in various countries. Moreover, regulatory gaps, commercialization of cloning, and ethics of governance in developing countries are not adequately analysed. Thus, the study must be comprehensive, that is, take all the three perspectives of bioethics, law and global policy into account.

Problem of the Statement

Cloning technology has made significant advances in biotechnology, medicine, stem cell therapy and genetic engineering. But with this scientific advancement comes serious ethical, legal and social and human rights concerns around the world. There is no uniformity or uniformity issues between the different countries as to their laws on reproductive and therapeutic cloning. The ethical questions of embryo destruction, genetic modification, and commercialization of human life, issues surrounding identity, and the misuse of cloning technologies continue to be the topic of global debate. Lack of strong international governance and a harmonised legal framework raises the risk of unethical scientific practises and exploitation. Hence the critical analysis of the bioethical principles, legal jurisprudence, human rights issues and the new challenges that stem from cloning technology in different countries to foster responsible scientific progress and ethical governance.

Research Objectives

- To study the ethical and bioethical issues related to cloning technology.
- To examine the legal framework and jurisprudence of cloning across different countries.
- To analyse the emerging challenges and global governance issues in cloning technology.

Research Questions

- What are the major ethical and bioethical concerns associated with cloning technology?
- How do different countries regulate reproductive and therapeutic cloning through legal frameworks?
- What are the emerging global challenges and regulatory issues related to cloning and genetic technologies?

Research Methodology

This study is based on secondary research methodology and follows a doctrinal method of research. This study is primarily based on secondary sources such as previous studies, legal documents, research papers, books, journal articles, government reports, international conventions and academic sources available through the internet. The data will be gathered from the reliable platforms like PubMed, Research Gate, Scopus, Google Scholar, Shodhganga, Government websites, Reports of International organizations, and Legal databases. Additionally, different publications, articles and previous research on cloning, bioethics, stem cell research, legal jurisprudence, and human rights will be reviewed. The gathered information will be discussed critically and the ethical issues, legal aspects, international experiences and new issues arising with the application of cloning technologies will be explored. This method is useful in conducting a detailed analytical and comparative study based on existing literature and legal sources.

Scope of the Study

In the present study, the ethical, legal and social aspects of the cloning technology are emphasized with special focus on the aspects of bioethics and global legal governance. It covers the various forms of cloning (reproductive, therapeutic and gene cloning) and their scientific uses in the field of medicine, stem cell therapy, agriculture and biotechnology. The study also examines international laws, human rights issues and comparative laws on cloning in various countries. Moreover, it outlines new problems like genetic manipulation, destruction of embryos, commercialization of human life and the lack of regulation of cloning. This research is to have a descriptive research type and focuses on the issues of cloning jurisprudence, ethical governance, and world cloning policy issues about modern cloning technology.

Limitation of the Study

This is a secondary study with no empirical or field studies. The research relies on existing literature, legislation, reports, and published academic research (which can differ between countries and legal systems).

- Only includes secondary data sources.
- The comparative laws may evolve or alter over time.
- Limited access to unpublished research from the past few years.

Bioethical Principles and Ethical Cloning

Ethical cloning is the application of cloning technologies in a responsible and morally acceptable way for scientific, medical and social purposes, which upholds human dignity and ethical norms. Bioethical principles are crucial in shaping the ethical and legal frameworks that govern cloning and prevent scientific advances from infringing on human rights and societal norms[16]. Autonomy, beneficence, non-maleficence and justice are the major bioethical principles that are connected to cloning. Autonomy is about people's right to decide about scientific procedures impacting their lives. Beneficence is the principle of using cloning for good purposes like treating diseases and regenerative medicine, while non-maleficence is the principle of avoiding harm due to unsafe experiments or unsafe applications of cloning technology. The principle of justice implies equitable access to the benefits of science and prevention from exploitation and discrimination[15].

Cloning, particularly human reproductive cloning, has several ethical issues about identity, individuality, psychological issues and life as a sacred entity. The opponents say that cloning could lead to commercialization of the human life and to a decrease of natural reproduction, while the supporters believe that therapeutic cloning can play a significant role in stem cell therapy, organ transplantation and treatment of severe diseases[17]. Ethical views on cloning have also been heavily shaped by religious and cultural convictions such as the opposition to reproductive cloning by many traditions because of interference with natural or divine creation. Thus, there is need for ethical governance and rigid regulation within the scientific innovation to ensure both moral responsibility and human welfare[18].

Human Rights, Society, and Cultural Perspectives on Cloning

Cloning has significant impacts on human rights, society, and cultural values across the world. Ethical concerns arise regarding human dignity, individuality, identity, and the moral status of cloned individuals. Many societies are worried about the possibility of commercialization of human life and development of inequality in society due to the possibility of cloning[19]. Public attitudes to cloning are greatly shaped by religious and cultural beliefs, some of which are opposed to reproductive cloning, and others which are more open to the potential of therapeutic cloning for medical gain. Thus, the process of cloning should be ethically governed and also legally regulated to safeguard human rights and social welfare[20].

- **Human Rights and Human Dignity:** Cloning issues questions on the protection of human dignity, individuality, and personal identity. Some opponents say that reproductive cloning could be a violation of fundamental rights, as it would make people into "products" instead of "persons." Ethical systems place an emphasis on protecting autonomy and respect for human life.

- **Social and Psychological Concerns:** Society is concerned that the cloning could lead to discrimination between individuals, psychological pressure on those with the same genes and identity issues. Other issues include commercialization of human life and inequitable distribution of cloning technology, which could worsen social and economic disparities worldwide.

- **Religious and Cultural Perspectives:** Religious and cultural beliefs have a great impact on the attitudes towards cloning. The general view of Christianity and Islam is that reproductive cloning is contrary to the process of natural or divine creation. But other cultures welcome therapeutic cloning, provided it is done ethically for medical purposes and for the good of the public.

- **Need for Ethical Governance:** International regulation is challenged by the different cultural and legal views that exist; Ethical governance and international collaboration are needed to achieve a balance between scientific advances and moral values, social justice and respect for human rights, and responsible use of cloning technology globally[21].

Global Legal Framework and Jurisprudence of Cloning

International law and case law on cloning emphasizes the need to strike a balance between scientific progress and ethical values and the rights and dignity of humans. Due to cultural, religious and political values, the laws concerning reproductive and therapeutic cloning are different among countries. There are important laws introduced by international organizations like UNESCO and the United Nations which help control cloning practices[22]. The UNESCO Universal Declaration on the Human Genome and Human Rights (1997) discourages the practice of reproductive cloning which is incompatible with the human dignity[23]. The UN Declaration on Human Cloning (2005) advocates the ban on cloning practices that run counter to ethical standards. Protection of human genome and ethical scientific research is also a theme of the Oviedo Convention. Even with these frameworks, regulatory conflicts and legal uncertainty will occur due to differences in national laws. Thus, more international collaboration and harmonisation of the legal frameworks are needed to guarantee an ethical governance, scientific accountability and responsible use of the cloning technology globally[24].

Comparative Analysis of Cloning Laws across Countries

The concept of cloning is very different in different countries, depending on the different ethical, cultural, religious and political values. There is no complete federal ban on cloning in the U.S. but some states allow therapeutic cloning while others ban all forms of cloning[25]. The European Union has banned reproductive cloning, although this ban doesn't apply to all member countries and there are some provisions designed to ensure that such research is conducted ethically. Japan and South Korea allow for some extent of therapeutic cloning, which is overseen, while China has more loose policies in place to foster scientific innovationProclamación Solemne, "Fundamental rights of the European Union" Official Journal of the European Communities (2000).. In the Middle East, there are countries that regulate cloning based on Islamic bioethics, such as Saudi Arabia and Iran, which, in general, prohibit the process of reproductive cloning.[27]. The lack of resources and infrastructure in most African countries translates to limited cloning laws[28]. The disparities across the globe underscore the pressing need for international harmonization of standards, ethical standards in governance, and collaborative legal frameworks for responsible scientific development and safeguarding human dignity on a global scale[29].

Emerging Challenges and Reinvigorating Issues in Cloning

The new cloning techniques have raised complex ethical, legal and social issues globally. Cloning research and biotechnology still remains a subject of concern with regard to human dignity, scientific misuses, and global ethical governance because of issues related to embryo destruction, genetic engineering, genetic commercialization, and weak international regulations[30].

- **Ethical Issues in Embryo Destruction:** Therapeutic cloning frequently involves sacrificing the embryos to make stem cells for medical research. Some opponents have raised moral issues about the rights and status of human embryos and the practice of producing them for research has been condemned as a breach of the sanctity of human life.

- **Genetic Manipulation and CRISPR Concerns:** Increased concerns about unintended genetic mutations, designer babies and unethical human gene manipulation through use of advanced technologies like CRISPR-Cas9. These developments pose questions to existing ethical and legal limits in biotechnology.

- **Commercialization of Human Life:** Many scholars are against cloning because they believe that it commercializes human life by making genes, embryos and human tissues available for the market. Another ethical issue is the exploitation of the economically weaker sections of society, particularly women, in egg donation.

- **Misuse of Human Cloning:** Eugenics, illegal experimentation, and misuse in identity matters could be possibilities stemming from reproductive human cloning. Also, there are concerns about psychological effects, social exclusion and threats to individuality and human dignity.

- **Regulatory Gaps and Global Policy Challenges:** National differences in cloning laws generate regulatory loopholes and "regulation shopping", where researchers relocate to countries with less stringent laws. There is no uniformity of international standards, which makes it complicated to govern and be ethically responsible on a global level[31].

Conclusion

The study concludes that cloning technology has become one of the most significant developments in modern biotechnology, offering important applications in healthcare, stem cell therapy, agriculture, and genetic research. The study revealed that therapeutic cloning can be used to cure severe diseases and to aid in the research of regenerative medicine, whereas gene cloning helps in the manufacturing of pharmaceuticals and scientific research. These, however, are serious ethical issues regarding human dignity, individuality, identity, destruction of embryos, commercialization of human life and potential misuse of genetic technologies that continue to be raised in the debate on reproductive cloning. It was also found in this study that the concept of bioethics—autonomy, beneficence, non-maleficence and justice—must be adhered to in order to maintain responsible scientific practice. Countries analysed showed that differences in culture, religion, politics and ethics contribute to the differences in the laws and regulations governing cloning, resulting in gaps in regulatory provisions and legal uncertainty at the international level. International institutions, such as the United Nations and UNESCO, have tried to set up some ethical regulations, but there is no uniform global governance. The study's goals were achieved by analyzing the issues of bioethics, legal interpretation, and new challenges in the field of cloning technology. As such, the study highlights the need for harmonised international legal frameworks, ethical governance and responsible regulation, in order to keep scientific innovation and human rights and social welfare in balance.

References

1. Ncbi. Cloning: Definitions And Applications. Natl. Libr. Med., 2002.
2. https://www.ncbi.nlm.nih.gov/books/NBK223960/#ddd00036.
3. Lee SR, Lee KL, Kong IK. Cloning Articles from across Nature Portfolio, 2024, 14.
4. Nabavizadeh SL et al. Cloning: A Review on Bioethics, Legal, Jurisprudence and Regenerative Issues in Iran. World J. Plast. Surg., 2016.
5. Rahbaran M et al. Cloning and Embryo Splitting in Mammalians: Brief History, Methods, and Achievements. Stem Cells International, 2021.
6. McKinnell RG, Di Berardino MA. The Biology of Cloning: History and Rationale. Bioscience, 1999.
7. NEXT IAS. Cloning: Types, Advantages, Disadvantages & More, 2024.
8. Nagata S. Cloning of Human Type I Interferon CDNAs. Proc. Jpn. Acad. Ser. B. Phys. Biol. Sci., 2024.
9. Gagwani D. Cloning Overview, Types & Examples, 2023.
10. Sreenivasulu NS. Human Rights Concerns in Biotechnology, in Law Relating to Biotechnology, 2nd Ed., 2026.
11. Tarasevych T et al. Ethical And Legal Aspects Of Cloning The Human Body. Lex Humana (ISSN 2175-0947), 2023.
12. Manafi F, Nabavizadeh SL, Mehrabani D, Vahedi Z. Cloning: A Review on Bioethics, Legal, Jurisprudence and Regenerative Issues in Iran. World J. Plast. Surg.,2016:5:213.
13. Hervey TK, Black H. The European Union and the Governance of Stem Cell Research. Maastrich. J. Eur. Comp. Law, 2005.
14. Jaenisch R. Human Cloning — The Science and Ethics of Nuclear Transplantation. N. Engl. J. Med., 2004.
15. Best S, Kellner D. Biotechnology, Ethics and the Politics of Cloning. Democr. Nat., 2002.
16. Kenwright S. Ethics of Cloning. Lancet, 1997.
17. Nasrullah N et al. Ethical Issues of Human Cloning. Journal of Medical Sciences (Taiwan), 2020.
18. Kenwright. supra note 15.
19. Nwoye L. Ethical Issues in Human Cloning. Int. J. Humanit. Innov., 2020.
20. Savulescu J. The Ethics of Cloning. Medicine (Baltimore), 2005.
21. Putra EAM et al. Analysis of Human Cloning from the Perspectives of Natural Law, Legal Positivism, and Utilitarianism. E-Lex J. Kaji. Huk. dan Keadilan ∗, 2024.
22. Mohammad A. Human Cloning: Scientific, Ethical, Legal and Religious Aspects. Res. gate,2008:4:1.
23. Birnbacher D. Human Cloning and Human Dignity. Reprod. Biomed. Online, 2005.
24. Latham & Watkins. The Ethics of Human Cloning and Stem Cell Research, 2001.
25. Ayala FJ. Cloning Humans? Biological, Ethical, and Social Considerations. Proc. Natl. Acad. Sci. U. S. A., 2015.
26. Yadav S, Sharma V. Human Cloning: Perspectives, Ethical Issues and Legal Implications. International Journal of Pharma and Bio Sciences, 2011.
27. Rosner F. Contemporary Biomedical Ethical Issues, 2007.
28. Proclamación Solemne. "Fundamental rights of the European Union". Official Journal of the European Communities, 2000.
29. Rab MA, Khayat MH. Human Cloning: Eastern Mediterranean Region Perspective. East. Mediterr. Heal. J., 2006.
30. Dhai A et al. Ethical and Legal Controversies in Cloning for Biomedical Research - A South African Perspectives. South African Med. J., 2004.
31. Langlois A. The Global Governance of Human Cloning, 2017.
32. Andrews LB. Current and Future Legal Status of Cloning, 2022.
33. Shirazi A. Cloning Challenges, Current and Future Applications. J. Reprod. Infertil., 2018.