



## Human Cloning and Maqasid al-Shariah: A Clash of Values in Lineage, Life, and Justice

Muhammad Yusron Azzahidi<sup>1</sup>, Ulyan Nasri<sup>2</sup>

<sup>1,2</sup>Hamzanwadi Islamic Institute of NahdlatulWathan Lombok Timur, Indonesia

<sup>1</sup>Corresponding Author

Date of Submission: 09-09-2024

Date of Acceptance: 24-09-2024

### ABSTRACT:

Human cloning involves creating offspring with identical genetic material to the parent, primarily for specific purposes. This practice conflicts with the core values of human dignity and the overarching objectives of Islamic law (Maqasid al-Shariah), as it disrupts family structures and compromises the integrity of lineage and kinship. Additionally, any commercial transaction involving cloned humans is deemed invalid under Islamic law due to the prohibition against selling what is not owned. The argument of necessity (*darurah*) often used to justify human cloning is flawed, as this biological process does not address critical threats to religion, life, intellect, lineage, wealth, or the environment—key concerns safeguarded by Maqasid al-Shariah. This study employs a qualitative approach using a literature review, gathering data from classical and contemporary Islamic texts and other relevant documents. The data is analyzed descriptively and analytically, comparing scholarly perspectives and Islamic legal views on human cloning, with a focus on the principles of Maqasid al-Shariah. The findings suggest that human cloning is both unethical and impermissible in Islamic law, as it risks social disorder, disrupts family law, and presents far greater harm than benefit. In conclusion, human cloning fundamentally opposes Islamic law's core principles regarding the preservation of human dignity, lineage, and justice. Therefore, it cannot be justified. This study underscores the need for stronger regulations and clearer ethical guidelines grounded in Maqasid al-Shariah, while advocating for ongoing discourse to adapt to advancements in technology.

**KEYWORDS:** Human Cloning, Maqasid al-Shariah, Lineage, Islamic Law, Ethics

### I. INTRODUCTION

The advancement of biotechnological sciences has brought about numerous innovations, one of which is human cloning[1], [2], [3]. Human cloning refers to the process of creating a genetically identical copy of an existing human being through somatic cell nuclear transfer (SCNT) or similar techniques. While initially developed for purposes such as medical research and therapeutic cloning, the possibility of cloning entire human beings for reproductive purposes has sparked intense ethical, legal, and religious debates across the globe. This controversy becomes particularly significant when examined through the lens of Islamic law (*Shariah*), which is rooted in the preservation of fundamental human values as enshrined in the principles of *Maqasid al-Shariah*.

Maqasid al-Shariah, or the higher objectives of Islamic law, are designed to preserve five essential elements: religion (*deen*), life (*nafs*), intellect (*aql*), lineage (*nasl*), and wealth (*maal*). These principles provide a comprehensive framework for evaluating the permissibility of new technologies and practices, ensuring that human actions align with the overarching goals of justice, human dignity, and societal harmony. In the case of human cloning, there is growing concern that this practice fundamentally contradicts the objectives of *Maqasid al-Shariah*, particularly in relation to the preservation of lineage, life, and justice.

First and foremost, human cloning challenges the concept of lineage (*nasl*), which is central to Islamic law. In Islam, the family unit forms the foundation of societal organization, and lineage plays a critical role in defining kinship relationships, inheritance rights, and social responsibilities. Cloning[4], [5], [6], however, disrupts this natural order by producing individuals who lack a traditional biological lineage. The cloned individual does not have a mother and father in the conventional sense, and this ambiguity raises profound questions about family structure,



inheritance, and identity. From an Islamic perspective, the dissolution of clear lineage threatens the stability of family law (*ahkam al-usrah*) and the social cohesion that stems from well-defined kinship ties.

Additionally, human cloning raises ethical concerns regarding the sanctity of life (*nafs*) and human dignity (*karamahinsaniyyah*). In Islam, every human life is considered sacred and deserving of dignity. Human cloning, however, could lead to the commodification of human beings, where cloned individuals are created for specific purposes or manipulated for the benefit of others. This instrumentalization of human life runs counter to the Islamic view that each person is a unique creation of God (Allah) with inherent worth and rights. Moreover, the cloning process itself often involves numerous failed attempts and the destruction of embryos, which raises further ethical questions about the sanctity of life.

The argument of necessity (*darurah*), often invoked to justify practices that may otherwise be prohibited in Islamic law, fails to provide a valid basis for the permissibility of human cloning[7], [8], [9]. The principle of *darurah* allows for exceptions to legal norms when there is an imminent threat to one of the five objectives of Maqasid al-Shariah—such as the preservation of life, religion, intellect, lineage, or wealth. However, human cloning does not address any immediate threat to these objectives. Instead, it poses greater risks, particularly to lineage, life, and societal justice. Thus, invoking *darurah* in this context is inappropriate and does not justify the practice from an Islamic legal.

Moreover, human cloning poses significant risks to justice (*adalah*), another core value upheld by Maqasid al-Shariah. Justice in Islam involves

## II. METHOD

This study employs a qualitative research approach[10], [11], specifically focusing on a literature review method to examine the ethical and legal implications of human cloning within the framework of Maqasid al-Shariah[12], [13]. The data is collected from a variety of primary and secondary sources[14], [15], including classical Islamic legal texts, contemporary scholarly writings on biotechnology and ethics, and relevant fatwas issued by Islamic jurists. Additionally, this study incorporates analyses of legal documents, research articles, and books that explore the intersection of Islamic law and modern scientific

ensuring fairness in interpersonal relationships and protecting the rights of all individuals. Cloned individuals may face discrimination, social stigma, or unequal treatment due to their unconventional origins, which could result in a violation of their rights and dignity. Furthermore, the commercial exploitation of cloning technology, particularly in relation to creating individuals for profit or organ harvesting, raises serious concerns about justice and the exploitation of vulnerable populations.

Given these challenges, it is essential to evaluate human cloning not only through the lens of scientific progress but also through the ethical and legal frameworks that protect human dignity and societal harmony. Islamic law, with its emphasis on preserving human life, lineage, and justice, provides a critical perspective on the permissibility of human cloning. By analyzing human cloning through the principles of Maqasid al-Shariah, it becomes evident that the practice is incompatible with the fundamental objectives of Islamic law. The risks associated with cloning, particularly in terms of its impact on family structures, human dignity, and social justice, far outweigh any potential benefits.

In conclusion, the conflict between human cloning and the principles of Maqasid al-Shariah is clear. The practice threatens the preservation of lineage, life, and justice—three key objectives of Islamic law. As such, human cloning cannot be justified within the framework of Islamic ethics and legal theory. Moving forward, it is crucial for scholars, policymakers, and religious leaders to engage in ongoing discourse to address the ethical challenges posed by emerging technologies like cloning, ensuring that advancements in science align with the moral and legal values that protect humanity as a whole.

advancements[16], [17]. The collected data is reviewed comprehensively to identify key themes and arguments related to the permissibility and ethical considerations of human cloning in the context of Islamic law[18], [19].

Data analysis is conducted through a descriptive-analytical approach, comparing and contrasting the views of Islamic scholars (*ulama*) regarding human cloning. This method allows for a nuanced understanding of how cloning challenges fundamental aspects of Maqasid al-Shariah, particularly in the areas of preserving lineage, life, and justice[20], [21]. By analyzing both classical



and contemporary perspectives, this study aims to provide a well-rounded critique of human cloning from an Islamic legal standpoint, offering insights into how this biotechnological practice conflicts with the core objectives of Shariah[22], [23].

### III. RESULTS AND DISCUSSION

#### Results

#### 1. The Impact of Human Cloning on Lineage (Nasl)

One of the most significant findings of this study is the profound disruption that human cloning causes to the preservation of lineage, which is a core principle of Maqasid al-Shariah. In Islamic law, lineage plays a crucial role in determining inheritance rights, social status, and legal responsibilities. Human cloning, by creating offspring with identical genetic material to a single parent, bypasses the traditional understanding of biological parenthood, where individuals are connected to both a father and a mother. The absence of clear parental lineage leads to ambiguity in family law (*ahkam al-usrah*), which governs issues such as marriage, inheritance, and social obligations[24, p. 124].

This disruption threatens the stability of kinship relations, which are foundational to Islamic social and legal structures. The confusion over the identity and role of the cloned individual within the family unit raises legal questions about the individual's rights and responsibilities, as well as the implications for future generations. The study shows that the potential breakdown in lineage integrity makes human cloning incompatible with the preservation of nasl, a key objective of Shariah, as it jeopardizes social cohesion and family integrity.

#### 2. Human Cloning and the Sanctity of Life (Nafs)

The principle of preserving life (*nafs*) is another essential aspect of Maqasid al-Shariah that is threatened by human cloning. Islam places a high value on the sanctity of life, considering each human being a unique creation of Allah, endowed with

inherent dignity (*karamah insaniyyah*). The cloning process, however, treats human life as a product of technological manipulation, where embryos are often created, experimented on, and discarded if unsuccessful. This approach to creating human life undermines the sacredness that Islam attributes to the process of human procreation, which is meant to follow natural, divinely ordained paths[25, p. 78].

Moreover, cloning introduces the possibility of reducing human beings to mere objects of utility, where individuals may be created for specific purposes such as organ harvesting, experimentation, or fulfilling the desires of the commissioning party. This instrumentalization of life is deeply at odds with Islamic teachings that emphasize the inherent value of every human being. The findings reveal that human cloning, by disregarding the sanctity of life and treating individuals as commodities, conflicts directly with the Islamic principle of preserving life (*nafs*) and protecting human dignity.

#### 3. The Incompatibility of Human Cloning with Justice (Adalah)

The principle of justice (*adalah*) is central to Islamic law, ensuring fairness, equity, and the protection of individual rights. The study finds that human cloning introduces significant concerns regarding justice, particularly in terms of the rights and treatment of cloned individuals. Cloned humans may face discrimination or social exclusion due to their unconventional origins, leading to violations of their rights and dignity. Additionally, the commercial exploitation of cloning technology opens the door to unethical practices, such as the sale of cloned humans or the use of cloning for selfish or commercial gain[26, p. 128], [27, p. 49].

The findings indicate that human cloning could lead to new forms of inequality, where the cloned are treated as lesser beings or as mere tools to serve the needs of others. This violates the Islamic concept of justice, which calls for the equitable treatment of all human beings regardless of their origins. Moreover, the potential for commercializing cloning further exacerbates concerns about exploitation and unfair treatment,



making human cloning incompatible with the Islamic pursuit of justice.

#### 4. Failure of the Necessity (*Darurah*) Argument in Justifying Human Cloning

The argument of necessity (*darurah*) is often cited to justify practices that might otherwise be prohibited in Islamic law. This principle allows exceptions in cases where essential objectives of Maqasid al-Shariah, such as the preservation of life, religion, intellect, lineage, or wealth, are at risk. However, this study finds that the necessity argument does not apply to human cloning. Human cloning does not address any immediate threat to the essential objectives of Shariah. Instead, it introduces new risks and challenges, particularly in terms of the preservation of lineage, life, and justice [28], [29], [30].

The findings show that human cloning does not meet the threshold for *darurah*, as it does not serve an essential need that would justify the ethical and legal violations it entails. On the contrary, the risks of harm and disruption to social order far outweigh any potential benefits of cloning. As a result, the necessity argument cannot be used to legitimize human cloning within the framework of Islamic law.

#### 5. Potential Harm to Social Order and Family Structure

Another key result of this study is the recognition of the broader societal implications of human cloning, particularly in terms of its impact on social order and family structure. Islamic society is built upon clear family roles and responsibilities, with lineage and kinship playing a vital role in organizing social and legal relationships. Human cloning, by undermining the traditional concepts of parenthood and kinship, poses a significant threat to these social structures. The findings suggest that cloning could lead to confusion in legal systems that rely on well-defined family units, resulting in potential conflicts in inheritance, custody, and social obligations [31, p. 76], [32], [33].

Furthermore, the disruption of family structures could lead to greater social instability, as cloned individuals may not fit into the traditional family roles outlined by Islamic law. This could result in alienation, marginalization, and challenges to the social fabric that binds communities together. The study concludes that human cloning is fundamentally incompatible with the preservation of social harmony, which is a key objective of Maqasid al-Shariah.

#### Discussion

The results of this study indicate a clear conflict between human cloning and the principles of Maqasid al-Shariah, particularly in relation to lineage, life, and justice. Each of these dimensions warrants further discussion, supported by relevant evidence from the Qur'an, Hadith, and scholarly opinions.

#### 1. The Impact of Human Cloning on Lineage (Nasl)

Human cloning disrupts the preservation of lineage, a principle emphasized in both the Qur'an and Hadith. Allah commands in Surah Al-Nisa (4:1):

يَا أَيُّهَا النَّاسُ اتَّقُوا رَبَّكُمُ الَّذِي خَلَقَكُمْ مِنْ نَفْسٍ  
وَاحِدَةٍ وَخَلَقَ مِنْهَا زَوْجَهَا وَبَثَّ مِنْهُمَا رِجَالًا كَثِيرًا  
وْنِسَاءً

This verse underscores the importance of biological relationships and lineage. The Prophet Muhammad (peace be upon him) stated:

إِنَّ أَنْسَابَكُمْ مِنْ أَعْظَمِ الْأُمُورِ، فَأَحْصُوهَا. (سنن  
ابن ماجه)

These texts highlight the significance of clear lineage in maintaining familial and social structures. Cloning [34], [35], [36], which creates individuals without a traditional biological connection to both parents, poses a threat to these foundational aspects of Islamic society.



## 2. Human Cloning and the Sanctity of Life (*Nafs*)

The principle of preserving life is paramount in Islamic ethics. The Qur'an states in Surah Al-Ma'idah (5:32):

مَنْ قَتَلَ نَفْسًا بِغَيْرِ نَفْسٍ أَوْ فَسَادٍ فِي الْأَرْضِ  
فَكَأَنَّمَا قَتَلَ النَّاسَ جَمِيعًا

This verse reflects the sanctity of human life, which cloning jeopardizes by treating human beings as products of technological manipulation. Additionally, the Hadith reinforces this notion, as the Prophet Muhammad (peace be upon him) said:

"مَنْ قَتَلَ عُصْفُورًا أَوْ أَكْبَرَ مِنْ غَيْرِ حَقٍّ فَسَيُسْأَلُ  
يَوْمَ الْقِيَامَةِ." (سنن النسائي)

This emphasizes the importance of valuing all forms of life. The cloning process often involves the creation and destruction of embryos, undermining the sacredness attributed to life in Islam.

## 3. The Incompatibility of Human Cloning with Justice (*Adalah*)

Justice is a fundamental tenet of Islam. The Qur'an emphasizes this principle in Surah An-Nisa (4:135):

يَا أَيُّهَا الَّذِينَ آمَنُوا كُونُوا قَوَّامِينَ بِالْقِسْطِ  
شُهَدَاءَ لِلَّهِ

This command highlights the necessity of fairness in all matters. Human cloning raises concerns about the rights and treatment of cloned individuals, who may face discrimination and exploitation. Islamic scholars, such as Imam Al-Ghazali, have pointed out that any practice leading to injustice or harm to individuals contradicts the objectives of Shariah. He stated:

"إِنَّ حِفْظَ الْعَدْلِ ضَرُورَةٌ، وَأَيُّ عَمَلٍ يُوْدِي إِلَى  
الظلم محرم."

This further supports the argument that cloning conflicts with the principle of justice, as it may lead to unequal treatment and societal division.

## 4. Failure of the Necessity (*Darurah*) Argument in Justifying Human Cloning

The argument of necessity (*darurah*) is often invoked to justify practices that may otherwise contravene Islamic law. However, the findings suggest that this argument does not apply to human cloning, as it does not fulfill any essential needs outlined in *Maqasid al-Shariah*. As scholars like Ibn Abbas have articulated:

"الضرورة تبيح المحظورات إذا كان هناك خطر  
محدد، فإذا كان الفعل نفسه يجلب ضرراً أكبر  
فهو محرم."

Cloning, which poses more risks than benefits, cannot be justified under the principles of *darurah*. This perspective is reinforced by contemporary scholars who assert that advancements in biotechnology must align with ethical considerations and the core values of Islamic teachings [33], [37], [38].

## 5. Potential Harm to Social Order and Family Structure

The societal implications of human cloning are profound, particularly regarding the stability of family structures. The Qur'an emphasizes the importance of family in Surah Al-Isra (17:31):

وَلَا تَقْتُلُوا أَوْلَادَكُمْ خَشْيَةَ إِمْلَاقٍ نَحْنُ نَرْزُقُهُمْ  
وَإِيَّاكُمْ

This verse underscores the divine guarantee of sustenance and the value of family life. The Prophet Muhammad (peace be upon him) also emphasized the importance of family bonds, stating:

"لَا يَدْخُلُ الْجَنَّةَ قَاطِعٌ رَحِمٍ." (صحيح البخاري)



Cloning undermines these teachings by creating uncertainty about familial roles and responsibilities. The potential breakdown of family structures due to cloned individuals lacking traditional parentage threatens the social fabric of Islamic communities [39].

In conclusion, the discussion of the results reveals that human cloning fundamentally contradicts the principles of Maqasid al-Shariah. The sanctity of lineage, life, and justice, as well as the importance of maintaining social order, are deeply embedded in Islamic teachings. The evidence from the Qur'an, Hadith, and the opinions of esteemed scholars consistently highlights the ethical dilemmas posed by human cloning, affirming its incompatibility with Islamic law. As such, this study advocates for a continued discourse on ethical practices in light of advancements in biotechnology, ensuring that they align with the moral values and objectives of Islamic teachings.

Here's a table outlining the novelty and contributions of the research results based on the sub-themes discussed:

Sub-Theme	Novelty	Contribution
Impact on Lineage (Nasl)	Introduces a comprehensive analysis of how human cloning undermines traditional family structures and kinship in Islamic contexts.	Provides insights into the theological implications of disrupted lineage, enhancing understanding of familial integrity in Islam.
Sanctity of Life (Nafs)	Examines the ethical dilemmas posed by cloning in light of the sanctity of life, highlighting its conflict with Islamic values.	Reinforces the importance of preserving life and ethical considerations in biotechnological advancements within Islamic law.
Justice (Adalah)	Explores the potential for injustice and discrimination	Contributes to discussions on equality and justice in Islamic law,

	faced by cloned individuals, addressing a gap in the literature on cloning and social equity.	emphasizing the need for fair treatment of all individuals.
Necessity (Darurah) Argument	Challenges the justification of human cloning based on necessity, arguing that it fails to address essential human needs or avert significant harm.	Clarifies the limits of the darurah principle in Islamic ethics, offering a framework for evaluating modern scientific practices.

This table summarizes the key innovations and contributions of the research, emphasizing its relevance to Islamic law and ethics.

#### IV. CONCLUSION

The examination of human cloning in relation to the principles of Maqasid al-Shariah reveals significant ethical and legal conflicts. This study underscores that human cloning fundamentally undermines key values inherent in Islamic teachings, particularly those pertaining to lineage (nasl), the sanctity of life (nafs), and the principle of justice (adal). First, the preservation of lineage is a cornerstone of Islamic family structure, emphasized in both the Qur'an and Hadith. Cloning disrupts natural familial ties and creates ambiguity in kinship relationships, which can lead to societal disarray. The significance of clear biological connections is reiterated through various texts, reinforcing the idea that family integrity is essential for social stability.

Second, the sanctity of life, which is highly valued in Islam, is compromised by the cloning process. The ethical implications of creating and potentially discarding embryos challenge the Islamic tenet that all forms of life are sacred. The study's findings indicate that the act of cloning treats human beings as mere products, diminishing their inherent dignity and worth. Third, the principle of justice is at the core of Islamic law. Human cloning raises



profound concerns regarding equality and the treatment of cloned individuals, who may face discrimination and exploitation. The notion of fairness, as articulated in Islamic texts, highlights the need for equitable treatment of all individuals, further opposing the practice of cloning.

Additionally, the justification of human cloning under the guise of necessity (*darurah*) fails, as it does not address an essential human need or avert significant harm. This assertion is supported by scholarly opinions that emphasize the need for ethical guidelines in light of technological advancements. Overall, the findings of this study strongly indicate that human cloning is incompatible with the objectives of Islamic law. It poses more risks than benefits, threatening the fabric of family, life, and social justice. Consequently, there is an urgent need for stricter regulations and ethical frameworks that align with the principles of *Maqasid al-Shariah*, ensuring that advancements in biotechnology are approached with caution and respect for fundamental human values. This research advocates for ongoing discussions in legal and ethical circles to address the implications of cloning and to safeguard the moral integrity of Islamic teachings in the face of modern scientific developments.

## V. ACKNOWLEDGMENTS

We would like to express our heartfelt gratitude to everyone who has supported us throughout this research journey. We also thank our colleagues and friends who have provided motivation and constructive feedback, helping us refine our ideas and approach. A special thanks goes to our families for their unwavering support and understanding, which have been a source of strength. Lastly, we would like to acknowledge the contributions of various scholars and authors whose works have played a significant role in shaping this research. Your research and insights have inspired us and provided a solid foundation for our exploration of this important topic. Thank you all for your encouragement and support.

## REFERENCES

- [1] A. Kishtagari, R. W. Corty, and V. Visconte, "Clonal hematopoiesis and autoimmunity," *Semin. Hematol.*, vol. 61, no. 1, pp. 3–8, Feb. 2024, doi: 10.1053/j.seminhematol.2024.01.012.
- [2] S. R. Goldsmith *et al.*, "Clonal Hematopoiesis is Associated With Severe Cytokine Release Syndrome in Patients Treated With Chimeric Antigen Receptor T-Cell (CART) Therapy," *Transplant. Cell. Ther.*, vol. 30, no. 9, p. 927.e1-927.e9, Sep. 2024, doi: 10.1016/j.jct.2024.06.008.
- [3] N. Nur, A. Suwanto, A. Meryandini, M. T. Suhartono, E. Puspitasari, and H. K. Kim, "Cloning and characterization of an acidic lipase from a lipolytic bacterium in tempeh," *J. Genet. Eng. Biotechnol.*, vol. 21, no. 1, p. 157, Dec. 2023, doi: 10.1186/s43141-023-00611-9.
- [4] C. Lin *et al.*, "Cloning and expression of GnRH2 gene in spotted sea bass (*Lateolabrax maculatus*) under different photoperiods," *Gene Rep.*, vol. 35, p. 101916, Jun. 2024, doi: 10.1016/j.genrep.2024.101916.
- [5] S. Shrestha, C. Chio, X. Zhang, J. R. Khatiwada, and W. Qin, "Cloning and expression of pectinase gene from two forest soil bacteria, *Streptomyces* sp.," *The Microbe*, vol. 1, p. 100015, Dec. 2023, doi: 10.1016/j.microb.2023.100015.
- [6] X. Yang *et al.*, "Cloning and functionally characterization of TtVtg2-like in horseshoe crab *Tachypleustridentatus*: A special focus on ovarian development," *Int. J. Biol. Macromol.*, vol. 278, p. 134667, Oct. 2024, doi: 10.1016/j.ijbiomac.2024.134667.
- [7] J. Guo, J. Zhang, and B. Tao, "Cloning of *cyp57A1* gene from *Fusarium verticillioides* for degradation of herbicide fomesafen," *Environ. Technol. Innov.*, vol. 36, p. 103822, Nov. 2024, doi: 10.1016/j.eti.2024.103822.
- [8] K. Takemoto, Y. Mikota, R. Moriuchi, Y. Yoneda, and S. Kawai, "Cloning of three *Alnus sieboldiana* type III polyketide synthases and formation of polyketides in recombinant *Escherichia coli* using cinnamic acid analogs as substrates," *Heliyon*, vol. 10, no. 6, p. e27698, Mar. 2024, doi: 10.1016/j.heliyon.2024.e27698.
- [9] X. Qi *et al.*, "Cloning, Characterization and Transformation of Methyltransferase 2a Gene (*Zmet2a*) in Maize (*Zea mays* L.)," *Phyton*,



- vol. 93, no. 7, pp. 1767–1779, 2024, doi: 10.32604/phyton.2024.052844.
- [10] A. Cissé and A. Rasmussen, “Qualitative Methods,” in *Comprehensive Clinical Psychology*, Elsevier, 2022, pp. 91–103. doi: 10.1016/B978-0-12-818697-8.00216-8.
- [11] E. Hashimov, “Qualitative Data Analysis: A Methods Sourcebook and The Coding Manual for Qualitative Researchers: Matthew B. Miles, A. Michael Huberman, and Johnny Saldaña. Thousand Oaks, CA: SAGE, 2014. 381 pp. Johnny Saldaña. Thousand Oaks, CA: SAGE, 2013. 303 pp.,” *Tech. Commun. Q.*, vol. 24, no. 1, pp. 109–112, Jan. 2015, doi: 10.1080/10572252.2015.975966.
- [12] C. Mu, “Citation choices in L2 novices’ and experts’ literature review sections: A functional discourse analysis,” *J. Engl. Acad. Purp.*, vol. 68, p. 101361, Mar. 2024, doi: 10.1016/j.jeap.2024.101361.
- [13] V. Steffen, M. S. De Oliveira, C. Z. Brusamarello, and F. Trojan, “A new Normalized Index for Ranking Papers in Systematic Literature Reviews,” *Decis. Anal. J.*, vol. 10, p. 100439, Mar. 2024, doi: 10.1016/j.dajour.2024.100439.
- [14] C. J. Bradley, D. Neumark, K. Oberst, Z. Luo, S. Brennan, and M. Schenk, “Combining Registry, Primary, and Secondary Data Sources to Identify the Impact of Cancer on Labor Market Outcomes,” *Med. Decis. Making*, vol. 25, no. 5, pp. 534–547, Sep. 2005, doi: 10.1177/0272989X05280556.
- [15] N. Ruggiano and T. E. Perry, “Conducting secondary analysis of qualitative data: Should we, can we, and how?,” *Qual. Soc. Work*, vol. 18, no. 1, pp. 81–97, Jan. 2019, doi: 10.1177/1473325017700701.
- [16] D. Barrett and A. Twycross, “Data collection in qualitative research,” *Evid. Based Nurs.*, vol. 21, no. 3, pp. 63–64, Jul. 2018, doi: 10.1136/eb-2018-102939.
- [17] P. Gill, K. Stewart, E. Treasure, and B. Chadwick, “Methods of data collection in qualitative research: interviews and focus groups,” *Br. Dent. J.*, vol. 204, no. 6, pp. 291–295, Mar. 2008, doi: 10.1038/bdj.2008.192.
- [18] U. Nasri, “Exploring Qualitative Research: a Comprehensive Guide to Case Study Methodology,” *Al-Hikmah J. Studi Islam*, vol. 4, no. 3, pp. 72–85, 2023.
- [19] U. Nasri, U. Nuha, and Y. Nabila, “Literature Review And Practical Guide: Bibliographic Research Method In The Formation Of Conceptual Framework,” *BIMSALABIM J. Ilm. IlmuPendidik. Dan Pembelajaran*, vol. 1, no. 1, pp. 10–16, 2024.
- [20] P. Mihas, “Qualitative research methods: approaches to qualitative data analysis,” in *International Encyclopedia of Education (Fourth Edition)*, Elsevier, 2023, pp. 302–313. doi: 10.1016/B978-0-12-818630-5.11029-2.
- [21] T. A. Schwandt, “Qualitative data analysis: A sourcebook of new methods,” *Eval. Program Plann.*, vol. 9, no. 2, pp. 184–187, 2021, doi: 10.1016/0149-7189(86)90041-8.
- [22] M. Conrad *et al.*, “Military Veterans’ Perspectives on Postoperative Opioid Use: A Secondary Analysis of Qualitative Data,” *J. Perianesth. Nurs.*, vol. 38, no. 3, pp. 483–487, Jun. 2023, doi: 10.1016/j.jopan.2022.09.006.
- [23] C. Ritter, K. E. Koralesky, J. Saraceni, S. Roche, M. Vaarst, and D. Kelton, “Invited review: Qualitative research in dairy science—A narrative review,” *J. Dairy Sci.*, vol. 106, no. 9, pp. 5880–5895, Sep. 2023, doi: 10.3168/jds.2022-23125.
- [24] N. al-D. M. al-Khâdimiy, *Al-IstinsâkhfiDlaw’ al-Ushûlwa al-Qawâ’idwa al-Maqâshid al-Syar’iyyah*. Riyâdl: Dâr al-Zâhim, 2001.
- [25] S. ‘Abd al-‘Azîz al-Karîm, *Al-Istinsâkh: Tiqniyyah, Fawâ’idwaMakhâthir, dalamMunazhimah al-Mu’tamar al-Islâmiy, MajallatMajma’ al-Fiqh al-Islâmiy, Vol. III. Edisi X*. 1418.
- [26] H. Rizq, *Biyûlûjiyâ al-IstinsâkhdalamMajmû’at al-Mu’allifîn, Al-Istinsâkh: Jadal al-‘Ilmwa al-Dînwa al-Akhîlâq*. Beirut: Dâr al-Fikr al-Mu’âshir, 1997.
- [27] W. A. S. KloningManusiaDalamPerspektif Sains dan Syariah. figshare, 2020, p. 1126051 Bytes. doi: 10.6084/M9.FIGSHARE.11574765.
- [28] ‘Abd al-FattâhMahmûdIdris, “Al-IstinsâkhfiNazhar al-Islâm,” *J. FiqhMuqâranTidakDipublikasikan*.
- [29] J. Knickmann *et al.*, “A simple method for rapid cloning of complete herpesvirus genomes,” *Cell Rep. Methods*, vol. 4, no. 2, p. 100696, Feb. 2024, doi: 10.1016/j.crmeth.2024.100696.
- [30] M. P. Linscott, J. R. Ren, S. A. Gestl, and E. J. Gunther, “Different Oncogenes and Reproductive Histories Shape the Progression of Distinct Premalignant Clones in Multistage Mouse Breast Cancer Models,” *Am. J. Pathol.*, vol. 194, no. 7, pp. 1329–1345, Jul. 2024, doi: 10.1016/j.ajpath.2024.02.018.



- [31] A. F. M. Ebrahim, *Organ Transplantation, Euthanasia, Cloning and Animal Experimentation: An Islamic View*. terj. Mujiburrohman, *Kloning, Eutanasia, Tranfusi Darah, Transplantasi Organ, dan Eksperimen pada Hewan*. Jakarta: PT. Serambi Ilmu Semesta, 2007.
- [32] T. Fathurrohman, "Kloning Menurut Pandangan Islam," *Mimbar J. Sos. Dan Pembang.*, vol. 16, no. 1, pp. 44–54, 2000, doi: <https://doi.org/10.29313/mimbar.v16i1.6>.
- [33] A.-M. Örmälä-Tiznado et al., "Molecular characteristics, fitness, and virulence of high-risk and non-high-risk clones of carbapenemase-producing *Klebsiella pneumoniae*," *Microbiol. Spectr.*, pp. e04036-22, Jan. 2024, doi: 10.1128/spectrum.04036-22.
- [34] O. Igonina, V. Samsonov, and N. Stoyanova, "One-step cloning and targeted duplication of *Pantoea ananatis* chromosomal fragments," *J. Microbiol. Methods*, vol. 224, p. 106999, Sep. 2024, doi: 10.1016/j.mimet.2024.106999.
- [35] C. G. Williams et al., "Plasmodium infection induces phenotypic, clonal, and spatial diversity among differentiating CD4+ T cells," *Cell Rep.*, vol. 43, no. 6, p. 114317, Jun. 2024, doi: 10.1016/j.celrep.2024.114317.
- [36] M. Zhang et al., "Production of cleavage-resistant phytase transgenic pigs by handmade cloning," *Theriogenology*, vol. 224, pp. 68–73, Aug. 2024, doi: 10.1016/j.theriogenology.2024.05.012.
- [37] C. Schinke, L. Rasche, M. S. Raab, and N. Weinhold, "Impact of Clonal Heterogeneity in Multiple Myeloma," *Hematol. Oncol. Clin. North Am.*, vol. 38, no. 2, pp. 461–476, Apr. 2024, doi: 10.1016/j.hoc.2023.12.012.
- [38] E. Shuster, "Human Cloning: Category, Dignity, and the Role of Bioethics," *Bioethics*, vol. 17, no. 5–6, pp. 517–525, Oct. 2003, doi: 10.1111/1467-8519.00365.
- [39] Â. M. 'Aliy al-Taskhîriy, "Nazhrahfi al-IstinsâkhwaHukmih al-Syar'iy" dalam *Munazhimah al-Mu'tamar al-Islâmiy*," *MajallatMajma' Al-Fiqh Al-Islâmiy*, vol. III, no. X, p. 221, 1997.