

Ethical–Legal Perspective of Stem Cell Therapy Under Indonesian and Islamic Law

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ABSTRACT

Stem cell therapy is a promising medical innovation for the treatment of various degenerative and chronic diseases. However, the use of this therapy in Indonesia faces big challenges, both from the perspective of positive law which still limits the use of stem cells, and from the perspective of Islamic law which has ethical principles in the use of medical technology. This research aims to analyse the legal status of stem cell therapy from the perspectives of Indonesian positive law and Islamic law. This research is a normative juridical research as well as an *istinbāṭ* method, mainly on Indonesian law and progressive *fiqh* (Islamic jurisprudence). Positive law in Indonesia is restrictive towards the use of embryonic-based stem cells in order to maintain biomedical ethics but prevent optimal potential. From the perspective of Islamic law, the use of stem cells is considered acceptable for the benefit of the people, especially if they are used for the purpose of curing diseases in emergency situations (*maqasid sharia*) and providing space for adaptation to scientific developments that can provide great benefits to society. Therefore, stem cell therapy in Indonesia is permitted for medical purposes in accordance with positive law, but is limited to the use of non-embryonic stem cells, while Islamic law supports the use of this therapy based on the principles of *maqasid sharia*, which prioritizes the benefit of the people. The importance of harmonization between positive law and Islamic law in Indonesia to create policies that are more inclusive, fair and responsive to stem cell development.

INTRODUCTION

A country always responsible for guaranteeing and protecting health rights for all its citizens, in accordance with Article 28H (1) of the 1945 Constitution of the Republic of Indonesia which states that "Every person has the right to live in physical and spiritual well-being, to reside in a proper and healthy environment, and to obtain adequate health services." Treatment of the disease is carried out conventionally with the development of biotechnology research by administering drugs containing chemicals. Although various chemical medications have been approved for managing these conditions, many remain costly, provide suboptimal therapeutic responses, and are associated with significant side effects (De Luca et al., 2019; Riva et al., 2019).

Medical and biological sciences, particularly in the fields of genetics and embryology, have developed with the latest results in the form of

disease detection and diagnosis that can be done at the molecular and genetic level, one of which uses stem cells. Stem cells are a special type of cell, with a very unique ability to multiply and renew themselves until they become specialized cells (Hartono, 2016). Another uniqueness is the ability to change into various different types of cells, according to their environment so that every component of the cell needed by the body is fulfilled, unspecialized stem cells have 2 properties, namely: 1) The ability to differentiate into other cells and 2) The ability to renew or regenerate themselves (self-regenerate/self-renew) (Girlovanu et al., 2015)

The use of stem cells has been directed at various diseases using specific media. Mesenchymal stem cells can repair damage to the lung parenchyma caused by exposure to cigarette smoke or other lung damage. Efforts are underway to restore lung parenchymal tissue using stem cells and reduce the carcinogenic properties of the stem cells used. Other

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research on Parkinson's disease has yielded quite positive results. Parkinson's disease, which currently can only be reduced in progression through drug therapy, is expected to be curable by using stem cells to replace damaged nerve cells in humans. Further research is ongoing to discover effective therapies for COVID-19, including the use of stem cells (Brahim et al., 2023).

According to Article 64 and Article 70 of Health Law Number 36/2009, the treatment of diseases with stem cells has been legally recognized. Furthermore, Regulation of the Minister of Health of the Republic of Indonesia Number 833/MENKES/PER/IX/2009 concerning the Implementation of Stem Cell Services; Decree of the Minister of Health of the Republic of Indonesia Number 834/MENKES/SK/IX/2009 concerning Guidelines for the Implementation of Stem Cell Medical Services; and Regulation of the Minister of Health of the Republic of Indonesia Number 48/2012 concerning the Implementation of Umbilical Cord Blood Stem Cell Banks; and Regulation of the Minister of Health of the Republic of Indonesia Number 32/2012 concerning the Implementation of Stem Cells. Based on these regulations, stem cells are human body cells that have an extraordinary ability to regenerate/renew themselves and are able to differentiate into other cells.

Stem cells used for treatment or recovery are non-embryonic stem cells, namely adult cells derived from umbilical cord blood, bone marrow (Bone Marrow Punction), peripheral blood, and other body tissues (Brahim et al., 2023). Treatment of several diseases with stem cells is carried out by specialist doctors in hospitals that have been appointed by the government as regulated in the Decree of the Minister of Health of the Republic of Indonesia Number 32/2014 concerning the Establishment of Hospitals in the Framework of Developing Medical Services, Research and Education of Tissue Banks and Stem Cells. In contrast to some countries that do not regulate the extent of the role of hospitals in stem cell treatment, as long as the health care provider has sufficient competence and adequate facilities, it is permitted to perform such medical procedures that have high risks (Moradi et al., 2019).

Stem cell treatment efforts in Indonesia offer new hope for treating patients with degenerative diseases that are notoriously difficult to treat. However, there are downsides, including issues related to ethical, religious, and legal norms (Dieu et al., 2022). What can be achieved with technology may not be acceptable to religion and prevailing laws. This therapy presents a complex issue across various

fields of study. Transplant therapy utilizes a multidisciplinary approach, encompassing medicine, biology, law, ethics, and religion (Bredenoord et al., 2017). Ethical and religious issues include the permissibility of using embryonic and non-embryonic stem cells for treatment and research. Legal issues include the legal status of embryos and whether they constitute legal subjects or objects. Achieving a therapeutic contract is not a desired outcome (resultats verbintenis) but rather a genuine effort (Inspanning verbintenis).

In the religious field, some scholars have compared the law on stem cells to the law on cloning, which is haram (forbidden). This has led to ambiguity regarding the law on the use of stem cells in therapy, especially for Muslim. Cloning itself can be understood as a process of taking a cell from the human body, either male or female, then pairing the cell nucleus with a woman's egg cell, which is ultimately removed to be transformed into a fetus. This biotechnology is recognized as a spectacular gateway to improving the quality of human offspring, intelligence, strength, and beauty, as well as a quick way to multiply the number of offspring without the need for conventional reproductive processes (Al-Ahmad, 2017).

A minority of Islamic scholars who allow it base their arguments on the transcendental foundation of the Qur'an, Surah (QS) al-Qamar [54]: 49 and al-Furqān [25]: 2. According to them, stem cells are not actually an intervention in creation and are not a violation of God's prerogative and obligations over creation, but on the other hand are proof of His greatness and power. This is only one of the many discoveries about a number of laws and secrets of nature and there is no element of creation in it. The essence of this discovery is not creating something from nothing, but only revealing what already exists.

Some parties prohibit stem cells with several opinions: first, offspring are produced in an unnatural way (namely from the fertilization of an egg cell by a sperm cell), which is contrary to QS al-Najm [53]: 45-46 and al-Qiyāmah [75]: 37-38. Second, the offspring do not have a biological father, contrary to QS al-Aḥzāb [33]: 5. Third, this process will eliminate the lineage, even though lineage is considered very important in Islam because it is related to many other things including custody in marriage, maintenance rights, inheritance rights, and mahram relationships. Regarding lineage, there are several hadiths of the Prophet that remind people to be extra careful in responding to it. In the hadith narrated by Muslim (2001) no. 467, the Prophet said: "Whoever claims to be a child other than his

biological father or a slave who gives his allegiance to someone who is not his true guardian, then the curse of Allah, the Angels, and all humans will befall him, and on the Day of Resurrection, Allah will not accept from him, neither the obligations nor the recommendations (which he has done)." Likewise, al-Bukhari (1998) narrated hadith no. 6766 that the Prophet SAW said: "Whoever acknowledges a father other than his biological father, even though he knows that that person is not his father, then heaven is forbidden for him." Fourth, this process will blur many legal provisions as previously mentioned regarding guardianship in marriage, lineage, maintenance rights, inheritance rights and *maḥrām* relationships.

The development of stem cell therapy in Indonesia shows an increasing trend in research and clinical practice, but its implementation still faces various regulatory and ethical challenges. Several studies report that Indonesia's legal framework regarding stem cells still focuses on the prohibition of embryonic stem cells without providing detailed guidelines on sanctions, clinical governance, and oversight of health facilities (Lestari et al., 2023; Dewi et al., 2022). International studies also highlight the need for a more adaptive bioethical framework in developing countries to bridge biomedical advances with socio-religious values (Zhang et al., 2016; Zhou et al., 2016). Medically, stem cells are not the same as cloning, necessitating alternatives to Islamic law in the therapeutic field, particularly regarding their use. Ethical questions include whether human embryos are perceived as equal to humans and whether they should be treated as equals, as something with the potential to become human, or as living tissue. Unfortunately, literature in Indonesia is still limited in its comparative analysis of positive and Islamic law regarding the use of stem cells, despite this issue being a significant debate in Muslim communities. Therefore, this study will fill this gap by providing a comprehensive perspective analysis of stem cell treatment practices in Indonesia and analyzing embryonic stem cell treatment from the perspective of positive and Islamic law. This will contribute to the development of the literature on stem cell therapy and an in-depth understanding of the legal framework governing it as a basis for improving future regulations. Practically, this study is useful in providing an overview of the challenges of law enforcement in stem cell therapy practices and offers a *fiqh* analysis that can serve as a guideline for the use of stem cells in accordance with *sharia* provisions, thereby supporting the formation of safer, more ethical medical policies and practices that

align with legal regulations and religious principles.

RESEARCH METHOD

This research design uses a normative juridical approach, legal research that focuses on rules or principles in the sense that law is conceptualized as norms or rules originating from statutory regulations, court decisions, and doctrines from leading legal experts. The research was conducted by tracing regulations in Indonesia as well as transcendental legal foundations based on verses of the Qur'an and *aḥkām* hadith, opinions of Islamic legal experts, legal theories, and legal rules implemented. The *istinbāt* method (the practice of issuing laws or decisions based on the Qur'an and or hadith) as a progressive method of *uṣūl fiqh* that is advanced, fast, and responsive to immediately provide alternatives, preventative measures, and provide solutions to legal provisions for various new and actual problems faced by Muslims by combining the methods of *maṣlaḥah mursalah* (unlimited interests) and *ijtihād maqṣidi* (critical thinking based on law).

This study uses an empirical approach with a normative-empirical legal research method. Data were collected through two main sources: primary and secondary data. Primary data were obtained from observations of the law enforcement process in stem cell therapy cases to gain a more direct understanding. Secondary data were collected through library research, including relevant laws and regulations (such as the Law and the Minister of Health Regulation on stem cells), the Quran, hadiths, fatwas, scientific journals, books, articles, research reports, and other documents relevant to the topic of stem cells. The obtained data will be reduced according to the research objectives. Next, relevant data will be presented in a systematic narrative, grouping information based on key themes such as the social, economic, and psychological impacts of online gambling, challenges in law enforcement, and applicable regulations. Conclusions are then drawn by linking research findings to existing theories and formulating answers to the research questions. This process involves interpreting the processed data and verifying it to ensure that the conclusions are truly supported by strong empirical evidence.

RESULT AND DISCUSSION

A Legal Analysis of Stem Cell Therapy Implementation in Indonesia

The most concerning controversy surrounding stem cell treatment is the destruction of human embryos during stem cell isolation, which conflicts with

human ethical standards and violates religious law. Therefore, to obtain stem cells capable of developing into all body cells (pluripotency), cells must first be taken from the embryo 5-7 days after fertilization, before implantation in the uterus. This stem cell removal process is considered to be the destruction of the early stages of human life. Many argue that, just like humans, embryos also have the right to life and development. The use of embryonic stem cells is prohibited in Indonesia. This is regulated in the Decree of the Minister of Health Number 834 of 2009, in the definition of stem cell services, point B, which regulates the philosophy of point 5, namely reproductive stem cells or stem cells, pluripotent and totipotent embryonic stem cells are prohibited on the grounds that they violate human dignity.

Statutory regulations are the legal basis needed to protect and guarantee the health of every Indonesian citizen. Based on these regulations, stem cell therapy for medical treatment is basically permitted under Indonesian law although there are several strict requirements that must be complied with. Law Number 36 of 2009 concerning the use of stem cells in article 64 which reads: (1) Healing of disease and restoration of health can be done through organ and/or tissue transplantation, treatment and/or implantation of medical devices, plastic and reconstructive surgery, and the use of stem cells, (2) Organ and/or tissue transplantation as referred to in paragraph (1) is carried out only for humanitarian purposes and is prohibited from being commercialized, and (3) Organs and/or body tissues are prohibited from being traded under any pretext. Furthermore, in article 70 of the Law it is stated: (1) Stem cells can only be used for the purpose of healing disease and restoring a person's health and are prohibited from being used for reproductive purposes, (2) Stem cells as referred to in paragraph (1) may not come from embryonic stem cells, and (3) Further provisions regarding the use of stem cells as referred to in paragraphs (1) and (2) are regulated by Ministerial Regulation. Thus, the principle of stem cell therapy is permissible for the purposes of curing disease and humanitarian purposes, but not for reproductive purposes. Furthermore, the tissues and cells used must not be commercialized and must not be derived from embryonic stem cells.

The implementation of stem cells is further regulated in the latest regulations of the Indonesian Minister of Health, namely Regulation of the Minister of Health Number 62 of 2013 and Regulation of the Minister of Health Number 32 of 2018. Article 20 of the previous regulation states as follows: (1) Tissue and/or cell donors are voluntary,

(2) Tissue and/or cells taken by the Bank for transplant services can come from deceased or living donors, (3) The taking of donor body tissue as referred to in paragraph (1) is in accordance with the wishes of the donor. (4) Tissue taken from living donors as referred to in paragraph (2) comes from residual tissue from medical operations and/or amniotic membranes. (5) Cells taken from living donors as referred to in paragraph (2) include bone marrow, fat tissue, and non-embryonic stem cells (Government of Indonesia 2013). Meanwhile, Article 21 reads: (1) Tissue and/or cells originating from humans are prohibited from being traded, (2) Tissue originating from animals can be traded in accordance with the provisions of laws and regulations. These articles regulate the origin of tissue or cells (including stem cells) used in medicine, which must come from voluntary donors, whether living or deceased, and may not be traded. However, tissue from animals may be traded under certain conditions.

This final regulation regulates the management of health services that utilize stem cells and/or cells. Article 4 states: (1) Stem cell and/or cell services may only be carried out for the purpose of curing disease and restoring health, and are prohibited from being used for reproductive purposes, (2) Diseases as referred to in paragraph (1) include degenerative and non-regenerative diseases, (3) Health recovery as referred to in paragraph (1) includes rejuvenation of cells, tissues, and organs, and (4) Prohibitions for reproductive purposes as referred to in paragraph (1) are a prohibition on the use of stem cells and/or cells for the 'creation' of new individuals (Government of Indonesia 2018). Article 5 states that: (1) Stem cells and/or cells used for health services are sourced from humans, and it is not permitted to use sources derived from animals and plants, (2) Stem cells and/or cells from humans as referred to in paragraph (1) are taken from voluntary donors without asking for compensation, and (3) Donors as referred to in paragraph (2) come from oneself or other people (Government of Indonesia 2013). Article 6 states that: (1) Types of stem cells consist of: a). embryonic stem cells, and b) non-embryonic stem cells, and (2) embryonic stem cells as referred to in paragraph (1) letter (a) are prohibited from being used to cure diseases and restore health (Government of Indonesia 2013). From these regulations it can be concluded that basically stem cell therapy is permitted for the purpose of curing diseases and restoring health, not for reproductive purposes. The cells used must come from non-human embryonic sources and not from animals or plants. Therefore, from a legal perspective in

Indonesia, stem cell therapy is permitted but with several strict requirements.

Islamic Legal Perspective on the Implementation of Stem Cell Therapy

Islamic law is believed to be able to adapt to social developments and modernization. This aims to achieve the benefit of humanity, therefore it is appropriate to appreciate every social change and modernization, both of which are considered to play a role in achieving the *maqāsid shari'ah* (the goals of Islamic law). Therefore, considering these goals, Islamic law must be flexible. Based on the works of previous scholars, al-Shaṭibi (1999) explains and concludes that all scholars agree that Allah has established various legal provisions with the aim of preserving the five basic elements of humankind (*al-darūriyyat al-khams*), namely: preserving religion, life, reason, offspring, and property. Maintaining one's health is, directly or indirectly, part of preserving these basic needs.

In Islam, all aspects of life in this world are regulated by Sharia law, both social, cultural, economic and health, this is in line with the existing *Maqasid as-Syari'ah*, namely the goal of Islamic law is the benefit of human life, both spiritual and physical, individual and social. This benefit is not only for life in this world but also for eternal life in the afterlife. Abu Ishaq al-Shatibi formulated five objectives of Islamic law (*maqasid al khamsah*), namely: *Hifdz Ad-Din* (Maintaining Religion); *Hifdz An-Nafs* (Nurturing the Soul); *Hifdz Al'Aql* (Maintaining Reason); *Hifdz An-Nasb* (Care for Offspring); *Hifdz Al-Maal* (Maintaining Assets), therefore maintaining health and treating disease is part of *Maqasid asSyari'ah*, namely *Hifdz An-Nafs*.

Prophet Muhammad (PBUH) recommended seeking treatment for sick people as per the following hadith. "“Indeed, Allah has sent down both the disease and its cure, and He has appointed a remedy for every illness. So seek treatment, but do not seek treatment with what is unlawful.” (Reported by Abu Dāwūd from Abu al-Dardā)

Therefore, finding a treatment method that suits the patient's illness is urgent because it concerns the safety of a patient's life, in this case for patients with chronic diseases. Based on this, scientists are trying to find a treatment method that is effective and efficient in dealing with various diseases suffered by patients. The latest treatment method that has been intensively researched by experts in the last decade and has begun to be widely introduced by health institutions is health facilities in the form of stem cell services. This method is considered effective and

modern in treating various diseases because it has been clinically proven to be able to cure various diseases significantly. However, this treatment method with stem cells at a glance may seem like it does not exist in the literature of Islamic law, but we as Muslims must believe that Allah has revealed this religion perfectly, so that all existing problems, both in the past and the end of time, have been regulated by Allah in the Qur'an and al-Hadith. However, it requires in-depth study and understanding to find it.

الْيَوْمَ أَكْمَلْتُ لَكُمْ دِينَكُمْ وَأَتْمَمْتُ عَلَيْكُمْ نِعْمَتِي وَرَضِيتُ لَكُمُ الْإِسْلَامَ دِينًا

“This day I have perfected for you your religion, completed My favor upon you, and approved Islam as your way of life.” (Qur'an, Surah al-Mā'idah 5:3)

When examined from the perspective of Islamic legal maxims (*qawā'id fiqhiyyah*), the permissibility of using stem cells for medical treatment can be found in *al-Wajiz fi Idāh Qawā'id al-Fiqh al-Kulliyyah*, authored by Shaykh Dr. Muhammad Siddiq ibn Aḥmad al-Burnū. One of the relevant maxims states:

الضَّرُورَاتُ تُبِيحُ الْمَحْظُورَاتِ. ١٦

“Necessity permits what is ordinarily prohibited.”

In this case, the patient's need for treatment is very urgent and there is no other treatment method (path) that can be taken by the patient except with this stem cell method. Namely, the need to cure the patient's illness which was previously able to be met with conventional treatment methods, has changed to be worse due to several reasons, either the patient's advanced age, or other circumstances such as the patient's condition is already very suffering such as a victim of a full body burn, heart failure or acute diabetes patient so that it is no longer possible to take stem cells from the patient's body, on the other hand, if taking stem cells from the patient would require a very long time in the process, this would certainly torture the patient who is already seriously ill or even feared that the patient will die first before their stem cells are ready to be used, therefore stem cell donation from another person becomes an emergency because it is the only way to cure the patient. Based on these reasons, the patient's condition which was previously in the position of *hajiyyat* (secondary) needs, which can be treated with conventional methods in general, changes to *dharuriyat* (primary) needs because it concerns the safety of the patient's life.

Stem cell practice has become crucial due to this urgent or emergency need. The need for stem cell allograft patients to obtain treatment who cannot receive conventional treatment like other patients due to several factors, both from the type of disease suffered by the patient itself and other circumstances, which results in the patient being hampered by obtaining treatment with conventional methods. This situation certainly makes it difficult for patients to obtain treatment, which in the end will worsen (exacerbate) the patient's condition, therefore the law is broadened for these patients because they have been narrowed. This is where they get leniency to be able to obtain treatment methods that are generally prohibited by sharia (haram) to be permitted, including the Stem Cell method, because there are no other treatment methods that can be expected to cure these patients.

The legal status of donors who willingly donate some of their stem cells, whether extracted from blood, fat, or even bone marrow, is similar to that of stem cell therapy by the patient, as per Islamic jurisprudence, which states that it is permissible or permissible. Furthermore, stem cell donation involves an element of mutual assistance, specifically to save the life of someone who is seriously ill and needs a stem cell donor as soon as possible.

وَتَعَاوَنُوا عَلَى الْبِرِّ وَالتَّقْوَىٰ وَلَا تَعَاوَنُوا عَلَى الْإِثْمِ
وَالْعُدْوَانِ ۗ وَاتَّقُوا اللَّهَ ۚ

“And cooperate with one another in righteousness and piety, but do not cooperate in sin and transgression. And fear Allah; indeed, Allah is severe in punishment.”

(Qur'an, Surah al-Mā'idah 5:2)

The command to help one another in practicing goodness and piety is a command for all of humanity. That is, let some of you help others. Strive to do what Allah commands and apply it. Avoid what Allah forbids and avoid it. In this verse, Imam al-Qurtubi explains the relationship between goodness and piety. He explains that the words goodness and piety are two words that have one meaning. In short, every goodness is piety, and every piety is goodness. He classifies goodness into obligatory and mandatory, while piety is only obligatory. Imam al-Mawardi, on the other hand, argues that goodness and piety have different meanings. In piety, what is found is the pleasure of Allah SWT, while in goodness, what is found is only the pleasure of humans.

The *istinbāt* method is a progressive fiqh methodology that is advanced, fast and responsive to immediately provide alternative, preventive and problem-solving legal provisions regarding new and actual problems faced by Muslims by combining the *maṣlaḥah murlahah* and *ijtihād maqṣidi* methods. The *maṣlaḥah murlahah* method is used to explore legal causes based on the benefits of stem cells, namely, textually, not ordered and not prohibited. The *ijtihād maqṣidi* method (al-Shatibi 1999; Auda, 2008; Thahir 2019) is used to explore the universal values for the benefit of the verses quoted.

The legal principles of Islamic jurisprudence used in discussing stem cell therapy are explained sequentially as follows:

- The first principle: *al-aṣlu fī al-a'yān al-ibāḥah wa al-ṭahārah* (the original law of everything is permissible and pure). In this context, stem cells, substantially and naturally, are a pure part of the human body and can become part of the human body if medically proven to have significant beneficial value for their owner or for other uses.
- The second principle: *al-aṣlu fī al-maḍāri al-ṭahrim* (the original law of everything that is harmful is *harām* (unlawful/forbidden)). Abortion is basically prohibited unless it is medically believed that the existence of the fetus threatens the life of the mother. In addition, abortion is prohibited if it is carried out with the aim of taking fetal cells for medical use, either for the mother of the baby or for others. This is also strengthened by the following third, fourth, and fifth principles. The third principle states: *lā ḍarra wa lā ḍirār* (there should be no harm and no reciprocity), the fourth states: *al-ḍarār lā yuzālu bi al-ḍarār aw al-ḍarār lā yuzālu bi mithlih* (evil should not be prevented by another evil or by parable), while the fifth principle says: *al-ḍarār al-ashaddu yuzāl bi al-ḍarār al-akhaff* (severe damage will be removed with a smaller loss).
- The sixth maxim states: *al-ḍarār yudfa'u bi qadr al-imbān* (evil must be prevented as much as possible) and the seventh maxim states: *al-ḍarar yuzāl* (evil must be avoided). This maxim is similar to the third maxim mentioned previously. The eighth maxim states: *al-ḍarār lā yakūnu qadīman* (evil is not justified because of aging). Based on these three maxims, it can be concluded that all efforts to cure a disease in any form, for any reason, and even at any stage, must continue to be pursued, one of which is stem cell therapy.
- The ninth principle: *iẓā ta'āraḍat mafsadātāni rū'iyā a'zāmuhumā ḍarār bi iritkābi akhaffihimā* (in the presence of two evils, the greater evil will

be prevented by doing the lesser evil). In the case of stem cell therapy, medical clarity is needed to decide which condition is more dangerous, destructive, and life-threatening, and then the more serious injury should be treated first. Or, the greater harm that covers many subjects should be prioritized over the narrower one that covers only a few subjects. This is in accordance with the tenth principle which states: *yutaḥammal al-ḍarār al-khāṣṣ li dafʿi al-ḍarār al-āmm* (private harm must be tolerated to eliminate public harm), and the eleventh principle which states: *darʿu al-mafāsīd awlā min jalb al-maṣāliḥ* (avoiding harm is preferred over bringing about benefit).

- The twelfth principle states: *al-mashaqqah tajlib al-taysīr* (difficulty brings about ease). The thirteenth maxim states: *Izā dāq al-amr ittasaʿa* (everything that is constricted must be expanded). For people suffering from illness and premature aging, a medical breakthrough has been discovered without surgery that is easier and more effective, of course legitimized by Islamic law through these principles.
- The fourteenth principle states: *al-ḍarūrāt tubīḥ al-maḥzūrāt* (necessity makes the forbidden permissible). Menstrual blood, as a source of stem cells, is inherently najis (impure). However, if the blood contains cells that can cure certain diseases, then based on the maxim of necessity, its use is permissible. However, its use is limited by the fifteenth principle, which states: *mā jāza li ʿuzrin baṭala bi zawāiḥ* (if something becomes permissible for a valid reason, it becomes forbidden when that reason ceases).
- The sixteenth principle states: *al-iḍṭirār lā yubṭilu haqq al-ghayr* (urgent need does not invalidate other rights), and the seventeenth maxim states: No one can dispose of another person's property without their permission. Therefore, if the source of stem cells in the therapy comes from another person, the permission or consent of their heirs is required. The seventeenth rule regarding guarantees only applies if the cells are already in a cell bank.

Integration of Legal Analysis of Stem Cell Therapy Implementation in Indonesia

The implementation of stem cell therapy in Indonesia faces quite strict legal restrictions based on existing regulations, such as Law No. 36 of 2009, Minister of Health Regulation No. 62 of 2013, and Minister of Health Regulation No. 32 of 2018. These regulations prioritize the protection of human dignity by prohibiting the use of embryonic stem cells, as they

are considered detrimental to human life in its early stages. Furthermore, these regulations ensure that stem cells are sourced from voluntary donors, whether from one's own body tissue or from another person. This regulation demonstrates a firm approach to maintaining biomedical ethics in Indonesia. However, on the other hand, this policy overlooks the full potential of embryonic stem cell therapy, which may be more effective in treating certain diseases, raising critical questions regarding legal flexibility in addressing urgent medical needs.

From an Islamic perspective, stem cell therapy is viewed through the *maqasid sharia* approach, which emphasizes the welfare of humanity. Principles such as *hifdz an-nafs* (preserving the soul) emphasize that maintaining health is part of a religious responsibility. Furthermore, Islamic jurisprudence principles such as "*al-darurat tubīḥ al-maḥzurat*" (urgent necessity permits the forbidden) provide a legal basis for the use of methods that may initially be impermissible, such as stem cell donation from another person or the use of unconventional sources, as long as no other alternatives are available. This reflects the flexibility of Islamic law in responding to scientific developments and societal needs.

The difference between Indonesian and Islamic legal policies lies in the level of adaptability to emergency situations. While Islamic law tends to be adaptive, Indonesian regulations are more restrictive and provide less scope for urgent cases. An integrated approach between Indonesian and Islamic law can enrich discussions on the regulation of stem cell therapy. Indonesian law needs to consider the long-established emergency-based leniency of Islamic law, while the Sharia approach can adopt more modern ethical and governance frameworks already established in national regulations. Thus, there is potential synergy between the two legal systems to create more inclusive, equitable, and adaptive policies to evolving medical technologies without neglecting ethical and humanitarian values.

CONCLUSION

Current stem cell treatment practices in Indonesia only permit the use of adult stem cells as a method for treating degenerative diseases because they are easier to identify, do not raise ethical issues, and are in accordance with regulations stipulated in Law No. 36 of 2009 and Minister of Health Regulation No. 32 of 2018, which expressly prohibit the use of embryonic stem cells. Stem cell services are still research-based and can only be performed in hospitals designated by the Ministry of Health. From a positive legal perspective, the use of embryonic

stem cells is prohibited because it is considered to cause ethical problems and violate human dignity. Therefore, the permissible solution is the use of adult stem cells derived from the patient's own body after undergoing laboratory research. Meanwhile, from an Islamic legal perspective, the use of embryonic stem cells is categorized as an emergency (*dharuri*) with two opinions: first, it is forbidden to use because it is considered not to achieve the goal of preserving the soul (*hifz an-nafs*) and involves the potential for other lives, so it must be avoided; second, it is permitted only if there are no other treatment alternatives and based on medical recommendations and research evidence that the use of embryonic stem cells is safe for therapy. Overall, the analysis of both legal regimes indicates that the use of adult stem cells is the most appropriate option in accordance with the ethical, legal, and religious principles applicable in Indonesia.

Based on these findings, this study recommends that the government develop more comprehensive policies, particularly regarding the need for clear and measurable sanctions for hospitals or clinics that violate stem cell therapy procedures, thereby further strengthening legal certainty and protection for both medical personnel and patients. Furthermore, the study should highlight effective strategies for increasing public access to accurate information regarding stem cell therapy, including educational mechanisms, service transparency, and the role of government institutions in ensuring the public receives accurate and easily understood information.

REFERENCES

- Al-ahmad, G. (2017). The Saudi law of ethics of research on living creatures and its implementing regulations. *Developing world bioethics*, 17(2), 63-69.
- Brahim, N. M. H., Ramlli, N. N. H., & Azmar, N. Z. (2023). The Permissibility of Utilising Stem cells in Biomedical Treatment in ASEAN Countries: Religious Compliance Perspective. *Journal of Halal Science and Technology*, 2(2), 60-75.
- Bredenoord, A. L., Clevers, H., & Knoblich, J. A. (2017). Human tissues in a dish: the research and ethical implications of organoid technology. *Science*, 355(6322).
- De Luca, G, Moradi, S., & Sharifi, K. (2019) 'Risks of stem cell therapy: Ethical and legal considerations', *Journal of Biotechnology Advances*, 39(2), pp. 300-310.
- Dewi, D. A. R., Nasser, N., Buaton, T., & Lumbuun, T. G. (2022). Stem Cells Service Legality Post-Application of Law Number 36 Year 2009 about Health. *Eduwest-Journal of Universal Studies*, 2(7), 1-270.
- Dieu, D., Khoa, N. Q., & Hien, D. Q. (2022). Contract of Treatment Between Doctor and Patient: Based on Medical Ethics and Evidence-Based Medicine. *Biomedical Journal of Scientific & Technical Research*, 44(1), 35105-35108
- Girlovanu, M., Susman, S., Soritau, O., Rus-Ciuca, D., Melincovici, C., Constantin, A. M., & Miha, C. M. (2015). Stem cells-biological update and cell therapy progress. *Clujul medical*, 88(3), 265.
- Hartono, B. (2016). Sel Punca: Karakteristik, potensi dan aplikasinya. *Jurnal Kedokteran Meditek*.
- Lestari, A. Y., Muhammad, D. W., Kautsar, I. A., & Jenie, S. I. (2023). Legality of therapeutic contract of stem cell treatment in Indonesia. *International Journal of Public Health Science*, 12(1), 215-224.
- Moradi, S., Mahdizadeh, H., Šarić, T., Kim, J., Harati, J., Shamsavarani, H., ... & Moore, J. B. (2019). Research and therapy with induced pluripotent stem cells (iPSCs): social, legal, and ethical considerations. *Stem cell research & therapy*, 10, 1-13.
- Zhang, T. et al. 2016. G9a/GLP complex maintains imprinted DNA methylation in embryonic stem cells. *Cell Reports* 15(1): 77-85. <https://doi.org/10.1016/j.celrep.2016.03.007>.
- Zhou, Q. et al. 2016. Complete meiosis from embryonic stem cell-derived germ cells in vitro. *Cell Stem cell* 18(3): 330-340.

*Issalillah, F. (2023). Ethical-Legal Perspective of Stem Cell Therapy Under Indonesian and Islamic Law, *Journal of Social Science Studies*, 3(2), 365 - 372.