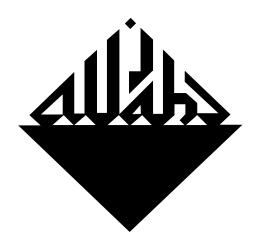


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## Homogenizing Indonesian Islam: Persecution of the Shia Group in Yogyakarta

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### Maizer Said Nahdi & Eka Sulistiyowati

Bioethics and Islamic Values: Assisted Reproductive Technology in the Context of Indonesia

**Abstract:** Assisted-reproductive technology (ART) has developed rapidly, and has brought controversies in terms of legality and ethics. Todays, majority of people rely on bioethics to address the issue. Yet, bioethics in its development, mostly is influenced by Western values such as autonomy, beneficence, nonmaleficence, and justice. Some communities, like Islam, need to respond the issue using "Islamic bioethics". This paper explores how Muslims in Indonesia tackle the issue and set up "Islamic bioethical values" accordingly. Our literary research found that some individual interpretation and judgments (ijtihād) have been given both by Islamic organizations [Muhammadiyah, Nahdlatul Ulama (NU), and Majelis Ulama Indonesia (MUI)] and outstanding ulama. Fatwas issued by the majorities indicate that although the methods of inquiries are different, the result is the same, that is rejecting the presence of a third party in the form of sperm, ovum, or uterus.

**Keywords:** Assisted Reproductice Technology, Bioethics, Islamic Values, Muhammadiyah, Nahdlatul Ulama.

Abstrak: Teknologi Reproduksi Terbantukan (ART) mengalami perkembangan yang sangat pesat dan menimbulkan kontroversi terkait aspek legal dan etika. Sekarang ini, kebanyakan masyarakat bergantung pada bioetika dalam memandang isu tersebut. Tapi, bioetika dalam perkembangannya sangat dipengaruhi oleh perkembangan nilai-nilai barat seperti autonomi, manfaat, keamanan, dan keadilan. Di beberapa komunitas, seperti Islam, perlu merespon hal tersebut menggunakan 'bioetika Islam". Paper ini mengulas bagaimana Muslim di Indonesia merefleksikan isu yang ada dan menciptakan nilai-nilai "bioetika Islam". Studi literatur menunjukkan bahwa organisasi Islam (Muhammadiyah, NU, dan MUI) menggunakan interpretasi individual (ijtihad) untuk menanggapi isu ART. Meskipun menggunakan metode ijtihad yang berbeda-beda, fatwa yang muncul sama, yaitu melarang adanya pihak ketiga dalam bentuk sperma, ovum, maupun uterus.

**Kata kunci:** Teknologi Reproduksi Terbantukan, Bioetika, Nilai-niai Islam, Muhammadiyah, Nahdlatul Ulama.

ملخص: لقد تطورت التكنولوجيا المساعدة على الإنجاب (ART) بشكل سريع جدا، وأثارت جدلا من حيث جوانبها القانونية والأحلاقية. وتعتمد أغلبية المجتمع في معالج هذه القضية على الأحلاقيات البيولوجية التي تأثرت في تطورها بالقيم الغربية، مثل الاستقلالية، والإحسان، والأمن، والعدالة. لذلك، فإن بعض المجتمعات، مثل المسلمين، بحاجة إلى الرد على هذه القضية باستخدام الأحلاقيات البيولوجية الإسلامية. وتناولت هذه الورقة كيفية معالجة المسلمين في إندونيسيا هذه القضية وإيجاد الأحلاقيات البيولوجية الإسلامية. وقد أشارت دراسة المراجع إلى أن المنظمات الإسلامية، بما فيها الجمعية المحمدية، وجمعية نحضة العلماء، ومحلس العلماء الإندونيسي، تستخدم التفسير الفردي (الاجتهاد) في تعاملها مع القضية. وعلى الرغم من استخدامهم أساليب الاجتهاد المختلفة إلا أن النتيجة تبقى واحدة، وهي منع وجود الطرف الثالث على شكل الحيوانات المنوية، أو البويضة، أو الرحم.

**الكلمات المفتاحية**: التكنولوجيا المساعدة على الإنجاب، الأخلاقيات البيولوجية، القيم الإسلامية، الجمعية المحمدية، جمعية نمضة العلماء. A sisted Reproductive Technology (ART) has been a major issue in developing countries, not only because of the availabity of services but also related to its high demand and high cost. Even in some developed countries, ART is not subsidized by the government; hence couples who seek this service must visit private clinics, and pay for the service privately. From a different perspective, science and technology have been growing rapidly. Biomedical advances have changed traditional values regarding medicine. Today, in-vitro fertilization as one form of ART is widely available, thus conception can occur in a laboratory. ART, as this paper will discuss, brings a new perspective on human reproduction. In the old fashioned way, human reproduction is started by conception in a woman's uterus. This technological advance, in turn, brings controversies in terms of law and ethics. Yet, this makes the discussion of ART, bioethics, and Islam more interesting.

Some organizations that specialize in ethics have created a separate sub-field for the discussion of ART. For example, the Adelaide Centre for Bioethics and Culture (http://www.bioethics.org.au) has specialized discussion about ART in the section of Reproductive Technology. Similarly, Indonesia's National Bioethics Committee/KBI (http:// komisi-bioetika.blogspot.com/) has stated that ART is one of the current issues that need to be addressed. Most recently, four countries in South East Asia with significant Muslim populations, namely, Malaysia, Brunei, Indonesia, and Singapore (MABIMS) held a seminar focusing on ART (http://www.islam.gov.my). The purpose of the seminar was to discuss the Islamic perspectives on ART and how Islam should respond to the issue.

With many organizations beginning to discuss ART in various perspectives, clearly there is a need for a bioethical perspective on the issue that emerges from a local context such as Indonesia. It would be interesting to see how Islamic values in Indonesia mingle with bioethics perspective derived from the West. Islam has to be open for discussion regarding ART because its values are shared among one fifth of the world's population (Salim 2001). Also, it is the fastest growing religion in the USA and other countries (Leonard 2002). In addition, Islamic culture is very diverse and shared by many communities in the Arab world, Indonesia, Malaysia, Singapore, Europe, North America, and elsewhere; all of these communities are strongly influenced by their local cultures (Peek 2005). Considering the diversity of Islamic values, this paper, therefore, will discuss how Islam particularly in Indonesia develops its ethical perspectives regarding ART. The diversity of local Islamic values in Indonesia will add to the body of existing literature.

#### Human Reproduction and ART at a Glance

The human development begins by conception. From 200 million sperm entering the vaginal opening, only 100 sperm manage to continue their journey into the isthmus (upper part of uteric tube), hence at last only 1-2 individual sperm cells fertilize eggs. Fertilization begins before embrionic development, started by the fusion between female and male gamet (Martini, Nath, and Bartholomew 2012). All of the processes involved before birth are called prenatal development or pregnancy, biologically also known as the gestation periodic divided into three phases, with each phase consisting of three months (one trimester).

Pregnancy is a natural biological process for fertile couples, however, for those who are infertile, pregnancy itself creates a problem. Fortunately, today, infertility can sometimes be overcome by the advances in ART. The available technologies vary depending on the causes of infertility: 1) Artificial insemination could be applied for a weak or low sperm count, 2) Sperm donors could be used to help those who have abnormal sperm, 3) Hormonal problems both on male and female could be treated with fertility drugs that stimulate oocyte production in the ovarium. 4) Blocked uterine tract, as a main cause of difficulties affecting oocyte transportation, could be helped by in vitro fertilization (IVF). The procedure involves laboratory - induced fertilization. The zygote is cultured for 1-2 days until reaching cleavage stage, and then is implanted in the uterus. 5) Abnormality of the uterus, the condition where uterus is unable to support pregnancy, is helped by surrogacy.

#### **Bioethics and Islam**

The birth of bioethics can be separated from the development of biology itself as a discipline and biotechnical advances that shape medical practices. Technology is a double-edged sword. On one side, technology may increase human welfare; on the other side, technology may undermine human dignity. The current fast development of science has made it difficult for society to differentiate right from wrong. Society lacks a "shared story" (Somerville 2000) in deciding what is right and what is wrong. This "shared story" constitutes fundamental values, principles, attitudes, beliefs, myths, and commitments that give meaning to communal and individual life in order to function as a society (Somerville 2000). In the modern day, the "shared story" is bioethics, although the modern concept of bioethics is criticized as heavily reflecting secular culture.

Engelhardt (2005) stated that: "Bioethics is an element in a secular culture and the great-grandchild of Enlightenment". This statement, clearly explained that bioethics has its root in Western civilization and is inspired by the enlightenment period, influenced by Christianity. But, in its development, bioethics has been going through a process of secularization. In fact, today's bioethics is an evolution of Western bioethics and thus contains Western cultures and values; as Daniel Callahan put it: "bioethics may even have become popular because it was able to push religion aside" (Cahill 2005). As a subject, bioethics relies on four secular principles: autonomy, beneficence, nonmaleficence, and justice (Glannon 2001). Autonomy means to respect someone's right to make choices, to hold views, and to take actions based on personal values and beliefs. Beneficence and non-maleficence ask a person to make choices that benefit himself and others and not inflict harm intentionally. Finally, justice refers to a person's obligation to treat others equally (Glannon 2001).

Although bioethics is seen as a child of secular culture, many people believe that this 'secularization' must consider religious values. Daniel Maguire, for example, asserted that philosophically, to be mature, ethics must not put religious values aside. Further, Maguire stated "Good ethical method is sensitive to all sources if moral valuation, whether those sources are religiously or otherwise affiliated" (Maguire 1996). This statement shows that Western - standarised bioethics own secular and post - traditional characters are still grounded in Western culture (Engelhardt 2000). One important example can illustrate this point. In solving many ethical problems, Western ethics depends on autonomy. Autonomy, in many cultures could be put as sole basis for decision making, with a lower role of external interferences (such as the role of family) in decision making. In Islamic culture, as a point of contrast, for example, family even the view of extented family is often consulted for making decision (Engelhardt 2005). In this regard, questions arise in our discussion of ethics: How could secular bioethics find harmony with religious value? How could the religious society maintain their positions with respect to the development of secular bioethics and how could they harmonize religious values and secular bioethical values?

Based on the Encyclopedia of Bioethics (Post 2003), the word "bioethics" was coined by VanRenssealer Potter in his book Bridge to the Future in 1971. In his book, Potter asserted that a new wisdom that will provide mankind "knowledge of how to use knowledge" is important for increasing mankind's quality of life and to support human survival (Bryant and Baggott la Velle 2003). Having said this, Potter argued that a new science that could extend science and biology and expand its boundaries to social science and humanities is clearly needed for human survival. He called this a science of survival, which later became well known as bioethics. In its early age, bioethics was discussed by scientists who believed that they had responsibilities to find moral solutions to the negative consequences of technological developments. Bioethics aims at discussing issues related to technological advances and their ethical consequences. The issues are varied, including eugenics, biomedicine, gene-ethics, and all issues pertaining human life (Post 2003). Potter described bioethics "as a bridge between the sciences and humanities in the service of worldwide human health and protected environment" (Bryant and Baggott la Velle 2003).

Although the clear documentation of bioethics terminology first appeared in Potter's book, bioethics had actually been known long before the book, as discussed in Pellegrino's article (Pellegrino 1999). In this article, Pellegrino stated that protobioethics emerged after the World War II due to "dehumanization" in medical schools, nursing schools, and hospitals. At this time, medical schools focused on specialization and were dominated by science. Hence, protobioethics emerged to "humanize" medical schools and practices. We could say that protobioethics is similar to medical ethics, a common term used in the medical world since the founding of the Hippocratic tradition in the fifth century before the Common Era (Glannon 2001). In this long tradition, most medical schools taught bioethics in their curriculum, and bioethics spread beyond the United States and was soon embraced by the larger world (Pellegrino 1999). Later, medical ethics grew as an interdisciplinary study which includes science, religious studies, who stated that bioethics contains discussion of technological application for making sound judgment for the betterment of today and the future medicine, philosophy, and sociology (McCullough 2002); this is the first modern definition of bioethics. Another definition was discussed by Bhatt (1986). Reich (1982) defined bioethics as "the systematic study of human conduct in the area of life sciences and health care, insofar at this conduct is examined in the light of moral values and principles." This definition was then improved in 1995 into "the systematic study of the moral dimensions including moral vision, decisions, conduct, and policies of the life sciences and health care, employing a variety of ethical methodologies in an interdisciplinary setting" (Post 2003).

The application of new findings in Biology often generates debate regarding whether or not the application is ethical, and this debate confuses the society that really needs a final answer. In a secular society, final answer for ethical problems can be reached through courts, legislature, and in particular reference to concepts of human rights, civil rights, and constitutional rights (Somerville 2000).

The first challenge of the breakthrough in biotechnology may arise from a religious point of view. In the Jewish faith, for example, cloning is seen as a transgression. Jews believe that God is the Power of Creation; thus, human participation through cloning can be viewed as "sharing the power as being created by the image of God" (Cohen 1999). Similar to Jewish views, the Protestants refer to the Bible by saying that "sexual differentiation is ordered toward the creation of offspring, and children should be conceived within the marital union" (Greely 2016). Moreover, Catholics seem to share a similar opinion with Jews and Protestants. A recent Catholic document stated that "attempts to produce a human being without any connection with sexuality through twin fission, cloning, or parthenogenesis are able to be considered contrary to the moral law, since they are in opposition to the dignity of both human procreation and the conjugal union" (McGee 2000). In additionally, genetic intervention upon human creation in Islam would appear to be unethical because according to Islam the entire cycle of human life is a divine act by God; "He alone grants life and death; and unto Him you all must return" (Q.S. Yūnus [10] : 56). According to Anees (1994), "the human body is God's property, not a human laboratory."

A similar issue applies to reproduction and the technological breakthroughs related to it. Judaism and Islam, for example, see reproduction as a duty for married couples, hence using technology for helping infertile couple for achieving successful fertilization, conception and delivery of a baby is permissible. From a Jewish perspective, this teaching could be derived from the scripture which reads, "Be fruitful and multiply" (Genesis 1:28) (Ombelet et al. 2008; Schenker 1997). Similarly in Islam, the use of ART is permissible, referring to the record of Abraham and Zakariya, pursuing progeny is a blessing from God (Schenker 1997). Slightly different from Jewish and Islamic views, in Christian's understanding, reproduction is important, but a marriage to be legitimate does not rely on having children. Hence, infertile couples in Christian marriages should not engage in behavior that undermines the marriage itself, in pursuit of having children (Schenker 1997).

By giving the examples above, it can be said that in society there are many norms that limit the access of biotechnological developments. In a secular society, however, society is more permissive towards science yet less humble towards religion. It may be futile to debate biotechnology applications versus ethics.

Recently, UNESCO tried to involve all countries in an international and transcultural discussion about bioethics. The discussion resulted in the Universal Declaration of Bioethics, Human Rights (19 October 2005). This declaration is intended to be an international instrument in bioethics decision. This document has been issued by UNESCO's Division of the Ethics of Science and Technology in the Social and Human Sciences Sector. This division is responsible for the Secretariat of two advisory bodies: the International Bioethics Committee (IBC), composed of 36 independent experts, and the Intergovernmental Bioethics Committee (IGBC), composed of representatives of 36 Member States. Admirably, this declaration is the only international tool in bioethics that we have. Despite the UNESCO involvement in the international debates in regards of bioethics, however, many scientists still argue over the relevance of this declaration if it is to be applied in local settings. For example, bioethicist Udo Schüklenk, and co-author, Willem Landman, a professor of philosophy at the University of Stellenbosch and CEO of the Ethics Institute of South Africa, directly questioned UNESCO's motives in the UNESCO's Declaration on Human Rights and Bioethics (Britt 2005). They said that the declaration was UNESCO's attempt

to mark its territory against other bioethics consensus. Additionally, Engelhardt (2005) from the Center of Medical Ethics and Health Policy in Texas described that global society find it difficult to have a standard version of bioethics. This impossibility, he said, is especially salient in developing countries due to the fact that developing countries have their own convention, moral perspectives, and values which differ from those of developed countries.

To be clear, in a religious environment (and yet a developing country), like Indonesia, the conversation of ethics would go back to religious leaders and religious courts. The objectives from religious leaders sometimes are subject to protest from scientists. Scientists argue that religious leaders' objectives are only based on emotional stances without really seeing the content of the product itself. Moreover, Western standards of bioethics simply could not apply to all areas of the world. Engelhardt writes that "not all countries have the secular and post-traditional character of North America and Western Europe". In many countries, religious values and assumptions still substantively influence the ethicists and the morality of these communities. We cannot force the use of Western ethics in non -Western contexts. With regard to this, Engelhardt (2000) has illustrated a compelling example. In Western values, a person's autonomy in decision making outweighs the traditional paternalistic roles. However, in most Islamic tradition, the family's decision is still important and outweighs that of an individual. Autonomy may not be an important issue in Islamic tradition. Muslim will seek a fatwa concerning a moral problem from their religious leaders. And sometimes, obedience towards fatwas or family decisions is a value that holds Muslims together (Engelhardt 2000).

Against this background, we can easily find that most of bioethics discussions tend to incorporate Western culture. Hence, we believe that Muslims need to shape their own bioethics, in order to create guidance for Muslims. A discussion of ethics in Islam will be a valuable undertaking considering that one fifth of the world's inhabitants is Muslim (Salim 2001). Islamic communities are also so diverse. Ranging from the Arab countries to Indonesia, Europe, and North America, Islam is one of the most influential religions that shapes the world's values and virtues (Peek 2005). Thus, developing Islamic ethics and values will be very useful for sustaining the moral development of almost 20% of the world's inhabitants.

Unlike Western ethics whose values move towards modernization and secularization, Islamic teachings in ethics (adab or akhlaq) can be considered to be the most "preserved" one (Brockopp 2003). Islamic ethics always relies on three major sources. The first source is the Qur'an that serves as the major source of all inquiries. The Qur'an itself does not contain ethical theories at all, although it is the basis of Islamic ethos (Fakhry 1991). The Qur'an conveys three fundamental principles of ethics, namely, (1) the nature of right and wrong, (2) divine justice and power, (3) moral freedom and responsibility (Fakhry 1997). The second source in Islamic ethics is the hadith or the collection of Prophet's stories. Like the Qur'an, the hadith contains no ethical theories in a strict sense. Rather, the hadith illustrates the life of Muhammad and the life of the early Muslim community (Fakhry 1991). Lastly, because the Qur'an and the hadith only serve as major sources that provide general principles of ethical inquiries, Islamic ethics in a given case will depend mainly on various books, commentaries, and opinions (fatwās) written by Muslims thinkers (ulama) or religious authorities (Brockopp 2003). Uniquely, fatwas are not a sole ground for Islamic ethics, hence it also determines the diversity of Islamic ethics itself. For example, fatwas from Sunni's scholars may totally different to Syiah's ulamas.

Islam puts God as the ultimate truth and the source of all knowledge. Ulamas value rationality as the tool of ethical inquiries, yet posit that ethical knowledge is "in the mind of God" (Brockopp 2003). It is stated that "God's command alone establishes an act as right or wrong quite independently of any human judgment about resulting benefit or harm" (Brockopp 2003). In another vein, ulama exercise their moral reasoning and rationality, while continuously referring to the Koran as the ultimate source of God's commands. Unlike Catholicism that has a pope and priests but similar to many branches of Protestantism, there is no person or council allowed to establish ethical norms in Islam. As a result, many significant ethical acts are left up to individuals' conscience within the communities where they live (Brockopp 2003). Hence, ethical norms of Arab Muslims may differ from those of non - Arab Muslims, such as Indonesians (Salim 2001).

Because of Islam's openness towards interpretation and rational inquiries, Muslims are not prohibited from consulting many ethical sources, not just Islamic sources. Muslims can even gather ethical guidance from Aristotelian philosophical opinions, local customs, and Western values, in addition to the Qur'an and the hadith (Brockopp 2003). In the heart of Islamic ethics is the balance between  $d\bar{i}n$  (religious) and  $duny\bar{a}$  (secular) elements (Sajoo 2004). Thus, Islamic ethics comes from a rich interweaving of human rationality and scripture (Sajoo 2004). Islamic law (*sharī'ah*) functions as guidance, principle, and moral guides for individual Muslims and Islamic communities in general (Esposito 2008).

#### Infertility from an Islamic Perspective

The principal purposes in marriage is procreation and preservation of human race. In Islam, specifically, having a lot of children is encouraged to bring forward Islamic teachings and propagate the religion, as indicated by the Prophet Muhammad in several hadiths.

"Marry the one who is fertile and affectionate, as with more of you I will be proud before the other Prophets on the Day of Judgment". (HR. Akhmad).

Get married with a woman who loves you and who is able to give birth. Indeed, I will be proud of you on the Day of Judgment in front of (all) the people (HR. Abu Dawud).

Marry each other and have the children, for verily I will be proud of your great number before (other) nations on the Day of Judgment (HR. Abdur Razak and Baihaqi).

Islam does not see infertility as a constraint for conception. Any attempts to cure infertility is allowed as long as they are within the boundaries of what is permissible by Allah. Therefore, many Muslim communities in Muslim - majority countries such as Egypt, Jordan and Arab Saudi believe that technological advances should be implemented to help cure infertility among married couples.

Egypt as a Sunni-Muslim majority country accepted assisted reproduction in 1986. Egypt's decision to accept assisted reproduction was an important stand point that would extend to other Muslim countries. Soon, Jordan and Saudi Arabia followed Egypt's path (Inhorn and Tremayne 2015). The beginning of IVF history in Egypt could be traced back to a fatwa by the Grand Shaykhof Egypt's renowned religious university Al-Azhar. He issued the first fatwa of IVF on March 23, 1980. Later, this fatwa was reissued by religious authorities in other Sunni majority countries such as Morroco and Indonesia (Inhorn & Treymayne 2015). The major fatwas regarding ARTs, as copied from Inhorn and Treymayne (2015), include the list of permitted treatments for infertiliy:

- 1. Artificial insemination with a husband's sperm;
- 2. In vitro fertilization of an egg from a wife with the sperm of her husband;
- 3. Intracytoplasmic sperm injection (ICSI), in which the sperm of a husband is injected into the egg of his wife;
- 4. Cryopreservation, or freezing, of any excess embryos, as well as sperm and eggs to be used later by a married couple;
- 5. Postmenopausal pregnancy using a wife's own cryopreserved embryos or oocytes, in combination with the sperm of her husband;
- 6. Preimplantation genetic diagnosis for couples at high risk of genetic disorders in their off spring;
- 7. Multifetal pregnancy reduction, a form of selective abortion, which eliminates one or more fetuses in a high risk IVF pregnancy with triplets, quadruplets, or beyond. In general, Islam is permissive when it comes to therapeutic abortion, since it does not consider life to begin at the moment of conception;
- 8. Embryo research on excess embryos that are donated by couples for the advancement of scientific knowledge and the benefit of humanity; and
- 9. Uterine transplantation, a newly emergent technique in which a healthy uterus is transplanted from a willing donor to another woman who is lacking a competent uterus.

Meanwhile, the Shia tradition in Lebanon, Iran, Iraq, and Bahrain initially supported Sunni fatwas regarding ART, especially in prohibiting the involvement of a third party in reproductive assistance (in the form of sperm/ovum donor or surrogate mother). But in 1990, the Shia community in Iran issued fatwas that allowing egg/sperm donation and the involvement of a third party in ART. Ayatollah Khamene'i of Iran sees ART as a 'marriage savior' (Abbasi-Shavazi et al. 2008)who are expected to produce children early within marriage. With its estimated 1.5 million infertile couples, Iran is the only Muslim country in which assisted reproductive technologies (ARTs. Further, this called for the "Iranian ART Revolution" which led to all forms of sperm donation, egg donation, embryo donation, gestational surrogacy, and stemcell industry in Iran (Abbasi-Shavazi et al. 2008)who are expected to produce children early within marriage. With its estimated 1.5 million infertile couples, Iran is the only Muslim country in which assisted reproductive technologies (ARTs.

It is interesting to note that Shia scholars, unlike their Sunni counter parts, mostly rely on independent thinking. Hence, individual practices on *ijtihād* are accepted. As a result, the Shia in Iran is more flexible in accepting ART. Initially, the use of third party's gametes were prohibited, but then *ijtihād* among Shia scholars allowed the use of a third party's gametes after extending the concept of marriage. By this new concept, the definition of a marriage includes *mut'ah* (temporary marriage). Hence, a gamete donor (other than husband and wife) is considered legal, as long as the parties involved are engaged in *mut'ah*. However, little is known about Shia's view in Indonesia, since this community has been subject to a major dispute among Muslims in Indonesia.

The proper perspective for Muslims to deal with infertility has been exemplified in the Qur'an from the story of Prophet Ibrahim AS and Prophet Zakariya. After years of marriage, Prophet Ibrahim and his wife Sarah did not have children as Sarah was considered barren, hence Prophet Ibrahim married her maid Hagar to have progeny. However, the angels then gave good news that they would have a child. It was so surprising for Sarah who did not believe the news because she viewed herself as infertile and elderly. This is revealed in the Qur'an in al-Dhāriyāt [51]: 28-30:

[28] Then he conceived a fear of them. They said: Fear not! And gave him tidings of (the birth of) a wise son.

[29] Then his wife came forward, making moan, and smote her face and cried: a barren old women

[30] They said, Even so saith thy Lord. Lo! He is the Wise, the Knower.

It was similar with what happened to Prophet Zakariya. Like Prophet Ibrahim, he always remained faithful to support her wife and well prayed (*khushū*) (al-Anbiyā' [21]: 89-90):

[89] And Zakariya, when he cried unto his Lord: "my Lord, leave me not childless, though thou art the Best of inheritors".

[90] Then We heard his prayer, and bestowed upon him John, and adjusted his wife (to bear a child) for him.

The stories of Prophet Ibrahim and Prophet Zakariya provide a lesson that being humble and do not loose heart to always seek guidance and help from Allah are the keys for whatever problem Muslim have and whatever difficulty they find theirselves in, including do not be easily discourage to keep seeking medical treatment for infertility. Also, it should be remembered that in Islam, the ends do not always justify the means, and this principle should be readily apparent in the case of infertility to determine the treatment method that permisible in Islam. If the medical intervention does not work, Muslims are taught to bear with patience and place their trust in Allah for all decisions and affairs so that they have less frustration and anxiety. As defined in Q.S al-Shūrā [42]: 49-50

[49] "Unto Allah belongs the Sovereignty of the heavens and the earth. He creates what He wills. He creates female (offspring) upon whom He will, and bestows male (offspring) upon whom He will;

[50] or He bestows both males and females, and He leaves barren whom He will. Lo! He is knower, powerful".

#### Assisted Reproductive Technology and Islamic Bioethics in Indonesia

The miracle of human reproduction as in Qur'an had also been supported by scientific evidence, such as researched by Bucaille (1997). The scientific evidence is important for Muslims to enhance their belief in Allah and Islamic law. Muslim scholars in Indonesia have discussed the technology behind ART, especially how Islamic law sees the practice. In Islam, human creation is seen as an important issue that will determine how genes and traits are inherited from one generation to another. In addition, inheritance is an important element of Islamic law. Such existence of mingled sperm allows the sperm to be able to live inside a woman's body approximately 48 hours; whereas, ovulation of a woman's ovum only takes 12 hours in each cycle of menstruation (once in a month). This condition also allows the occurrence of conception (pregnancy) to be attached to the uterus wall.

The Qur'an says that mankind is created out of clay, which is interpreted by Maurice Bucaile (1993) as a kind of clay components or chemical elements in the human body whose composition resembles the chemical elements of the soil. It indicates that the starting materials of human creation come from the soil which is then combined with other composition in balance according to His will (Q.S. Al-Infițăr [82]: 7-8). Furthermore, man is planned in the best of stature (Q.S. At-Tin [95]: 4), and is also created in stages (Q.S. Nūḥ [71]: 14) namely *nutfah, 'alaqah, mudghah, 'iẓāmah*, and *laḥman* (Q.S. al-Mu'minūn [23]: 12-14)

Infertility is also become serious problem for some married couples in Indonesia, since having offsprings is culturally desirable. Based on the current situation, there are about 39.8 million women in Indonesia who are at their reproductive age (Bennett et al. 2012). If it is assumed that 1% of these women are infertile, then over 300,000 women require reproductive assistance Bennett et al. (2012) further calculated that, with this situation, Indonesia needs more than 200,000 cycles of in vitro fertilization (IVF).

However, a restraining factor occurs in Indonesia. Infertility in Indonesia is not only seen as a disease but is culturally stigmatized as a 'curse' for a married couple (Bennett et al. 2012). The consequences of infertility may range from psychological crisis, social isolation, and violence. *Therefore, infertility* delivers a great deal of disappointment and stress for many couples, especially for women, because similar to other developing countries, women are more often blamed and stigmatized for being unable to have a child than man (van Balen and Gerrits 2001).

As a consequent, talking about infertility itself is embarasing for them, hence the major factor that hinder couples to undergo fertility treatment. Therefore, the implementation of ART, especially the widely known IVF, is still widely unpopular among the society. Indonesia has only 20 fertility clinics under the government's supervision. The services offered include diagnostic procedures, IVF and intra cytoplasmic sperm injection (ICSI), all provided only for married couples. In addition, the number of patients using the services is relatively low compared to Indonesia's population. Only 2627 cycles of IVF, for example, were carried out in 2010, relatively low compared to the 2500 cycles in Singapore in the same year. This number is also surprisingly lower than our neighboring country, Vietnam, with 6000 cycles of IVF performed in 2010. Therefore, social awareness regarding infertility care systems is an important factor to reduce society's anxiety toward infertility (Bennet et al. 2012).

As a Muslim - majority country, guidances for any technological advances based on Islamic teachings should be developed in Indonesia. *Ijtihād* has allowed Islamic scholars to exercise the utmost effort to

interpret Islamic law regarding IVF. *Ijtihād* also allow Islamic scholars to develop their own ethics, so that the Muslim community does not depend on Western ethics. In Indonesia, *ijtihād* has been conducted by Majelis Ulama Indonesia (MUI), Muhammadiyah, Nahdlatul Ulama (NU) and other Islamic scholars.

Those three Islamic organizations above are the largest organizations in Indonesia that were instrumental in the country's development of social, economic, cultural and other aspects. In general, each organization has differences and similarities. For instance, in terms of determining the legality of ART, they have the same views and use similar methods. The fatwas or istinbat undertaken by the three organizations are not much different from any other fatwa decision: they are based on the Qur'an and Hadith, aim to benefit the people, are not tied to one particular school (Hanafi, Maliki, Shafi'i, or Hanbali), and consider the experts' views of the issues (Bruinessen 1999; Mahfudh 2007; Mudzhar 1998). Although NU prefers using social fiqh, which is based on Imam Shafi'i, (but when needed, they also refer to other schools), in determining its istinbat (decision making), NU still uses qiyās (analogy) while Muhammadiyah does not use it. However, both use *ijmā*' (consensus). MUI puts forth classic *usūl* (jurisprudence) school experts as a historical example (Bruinessen 1999; Mahfudh 2007; Mudzhar 1998).

Although they have similarities, in terms of istinbat, MUI, Muhammadiyah and NU have different method in formulating fatwa. The MUI is an institution covering various existing elements or organizations in Indonesia that gives fatwas and advice on religious and social issues to the government and Muslims in general. In formulating laws and fatwas, MUI refers mainly to the Qur'an and Hadith. They relate to the Qur'an dan Hadith using ijtihad methods with the aim of articulating Sharia that consider the concept of welfare as the benchmark in formulating law. Theoretically, MUI uses basic Qur'an, Sunnah and ijmā'. MUI's excellence in istinbāț is not bound by a single *madhhab*, but rather it should be able to unite the opinion of NU, who firmly holds the classical intellectual tradition of schools of jurisprudence, and Muhammadiyah scholars, who uphold the Quran and Hadith regardless the school boundaries. However, the benefit of those methods is nonexistance/nulled since the fatwas formulated by MUI are mostly designated for political purpose (Mudzhar 1998).

*Fatwā* or *istinbāț* produced by Muhammadiyah is determined by the organization's Majlis Tarjih (Legal Affairs Committee), known as a very prestigious *ijtihād* institution that produce rulings. Muhammadiyah is well known for their *ijtihād* because they believe that the door of *ijtihād* is still widely open. There are three methods of *ijtihād* pointed out by Muhammadiyah, namely *ijtihād bay*ānī (argument), *ijtihād qiyāṣī* (interpretation), and *ijtihād istişlāhī* (research) (Abdurahman 2012). In the case of IVF they apply *ijtihād istişlāhī* to seek legal provisions, since the provision related to IVF is not written in *naṣ*, by referring to the *sharī'ah*'s objectives and the principle of *maṣlaḥah* (the *seeking* of *benefit* and the repelling of harm).

The propriety of formulated *istinbāț* is firstly measured by its reliant and harmony with the Qur'an and Hadith, and thus "ignoring" the judicial opinions of generations who were not in direct contact with the Prophet, as it could be mixed by superstition, heresy and myth. If the problem is not written in the Qur'an and Hadith, the next reference is *ijtihād* with *istinbāț* of *naṣ* (text) by equalizing its *'illah* (legal reasons). *Qiyāṣ* is not immediately recognized by Muhammadiyah, but then it continues to be developed in practice, while the only *ijmā*.' to be developed is *ijmā ' al-shaḥābah*. Although Muhammadiyah has proclaimed that they do not refer to certain Islamic schools, in reality they could not escape from the thought of four Islamic schools even though only in the terms of method (*madhhab manhaj*).

The Majlis Tarjih is very careful in carrying out *ijtihād* because they realize that granting fatwas may contains serious legal liabilities. Therefore, rules derived from ijtihad requires discussions of people who are entitled to use *ijtihād jamā'ī* since individuals' opinions are not considered reliable. The people involved in discussion is the member of Lajnah Tarjih (Tarjih Commission). The agreement should be reached based on the main principles (i.e., Qur'an and Sunnah), and the outcomes will be presented in front of the Majelis Tarjih (Legal Affairs Committee) in the National Conference of Tarjih (*Muktamar Nasional Tarjih*) (Bruinessen 1999).

On the other side, the *fatwa* among the Nahdlatul Ulama (NU) is conducted through a forum known as the *Baḥth al-Masā'il* coordinated by the *Syuriah* institutions. This institution serves to respond and provide solutions to the actual problems in people's lives. Through this forum, the NU scholars are scheduled to have a discussion on the actual problems by optimally trying to unwind the deadlock of Islamic law as a result of dynamic social development and technological development. When there are no textual references in the Qur'an and Hadith, to deal with new cases, the fiqh experts are invited to convey their opinions, and their answer or fatwa is regarded as an authoritative answer, although not compulsory (Bruinessen 1999). *Baḥth al-masā'il* Forum consists of *Syuriah* and NU ulama outside the organizational structure including the boarding school caretakers. This forum is known to be dynamic, democratic and broad-minded, oriented to the Shafi'i school of opinion without rejecting the other schools. In determining *istinbāț*, NU refers mainly to the Qur'an and *Sunnah* and uses *qiyāṣ* as complementary to dynamically enforce the *fiqh* texts sought in the context of legal issues. NU fatwas are mostly following the Shafi'i school, but they do not reject the opinion of other schools.

Although the methods implemented by MUI, NU, and Muhammadiyah are different, the Fatwas regarding to ART is the same, that is rejecting the presence of a third party in the form of sperm, ovum, or uterus. This shows that the opinion of Indonesian scholars has the same principle with the results of the International Conference on "Bioethics human reproduction in the Muslim world" in Cairo on December 10 - 13, 1991, which was attended by representatives of *fiqh* scholars from various countries. Such rejection is based on the high concern of Islam towards the purity of heredity (genes) and the aversion to mixed genes, thus the clarity of lineage. In addition, rejection to the presence of third parties is also based on the idea of marriage as a contract between a husband and wife throughout the span of the marriage, which considers bearing and raising children as family commitments, so that the functions of husband and wife not only biological but also social (Al-Bar 1991).

*Majelis Ulama Indonesia* (MUI). Based on a fatwa of 13 June 1974 composed by the Islamic Ruling Committee of MUI (Zuhdi 1988), the Executive Board of the Majelis Ulama Indonesia set the following guidelines 1) When sperm and ovum used in the in vivo fertilization are derived from legal spouses, then the process is religiously neutral (*mubāḥ*: neither forbidden nor recommended); 2) In vitro fertilization involving surrogate, as in the case of a surrogate mother, is not permitted (*haram:* sinful), because it will bring serious implications to the law of inheritance; 3) In vitro fertilization that using the sperm from deceased

husband, is considered to be *haram*, because it will implicate the inheritance. 4) In vitro fertilization involving sperm and ovum derived from illegal spouses/unmarried individuals is *haram* and considered as illegal sexual intercourse.

The *fatwa* above, interestingly, are different from the scholars of Saudi Arabia. In their opinion, all IVF practices are not permitted, due to the possibility that women's *'awrah* (genitalia and other parts of the body to be clothed as required by Islam) would be exposed, regardless the origin of the sperm. This decision is based on Qur'an: "Or He makes them [both] males and females, and He renders whom He wills barren. Indeed, He is Knowing and Competent" (Q.S. al-Shūrā [42]: 50).

In general, all Muslim scholars agree that women's 'awrah should be protected, and thus this is the main factor for objecting to IVF. If women's 'awrah can be protected, then, most of them allow IVF. Another concern arises when IVF is conducted only to increase publicity of the doctor or hospital wherein the IVF is performed (Mahfudh 2007). The main reason for passing negative judgment on IVF is because of the illegal status of the fetus, mixing lineage, and as a part of zinā' (adultery). In this regard most scholars state their view according to Qur'an (Q.S. al-Tin [95]: 4)" Surely We created man of the best stature", and hadith recorded by HR. Abū Dawūd al-Tirmidhī seen as sahīh (authentic) by Ibn Hibbān: "It is ill-gotten for a man faithful to Allah and judgment day to squirt his water [sperm] to other person's plants [vagina of other person's wife]" (Zuhdi 1988). Another scholar, Shaykh Nașir al-Dīn al-Albānī, said: "In-vitro fertilization technology is not allowed for humans as the process of taking sperm or ovum has a consequence. At least, that the doctor (male) will see the genitals of a woman who is not his wife". Clearly, in the perspective of Shariah, it is illegitimate to see the genitals of a woman who is not one's wife unless there is an emergency (Zuhdi 1991).

Majelis Tarjih Muhammadiyah. The Muktamar Muhammadiyah in 1980, as it appeared in the headline of No 514, on 1 September 1986, has given a judgment regarding IVF with sperm donor (Zuhdi 1988). This is in accordance with the decision of the Islamic Fiqh Board of the *Organization of the Islamic Conference (OIC)* in Amman in 1986, which concluded that IVF using sperm or ovum donors is haram, but it is halal when both sperm and ovum are erived from legal spouses. Muhammadiyah and the OIC generally agree with IVF under the following conditions: 1) Sperm is taken from a man, and is injected to his legal wife; 2) A husband's sperm is injected directly to the wife's uterine tube (fallopian tube) or uterus. All these procedures are allowed only when husband and wife face exigent circumstances that do not allow them to have children by any other means. In the perspective of Muhammadiyah, the determination of IVF was carried out using a method commonly performed by Majelis Tarjih Muhammadiyah, As the technology of IVF is a new issue (not found in the era of Prophet and his friends), the Majelis Tarjih Muhammadiyah puts this issue in the category of *ijtihādīyah* that must carefully be studied and examined to determine and establish the law.

Through the determination of law regarding IVF, the Majelis Tarjih Muhammadiyah has produced two statutes: allowing and not allowing. Each of statute has a number of specific requirements (Suhaimie 1995). The statute that allows the practice of IVF is based on the consideration that humans in the perspective and instinct have a desire to have children. It becomes a point of pride when one's children become famous or become leaders that play a key role in society. This is in accordance with what stated in the Qur'an (Q.S. al-Naḥl [16]: 72), stating:

"And Allah hath given you wives of your own kind. And hath given you, you're your wives, sons and grandsons, and hath made provision of good thing for you. Is it then in vanity that they believe and in the grace of Allah that they disbelieve?"

In contrast, when a wife and husband are unable to have children they will become restless, especially when they have attempted some fertility treatments permissible by the *shari'ah* (law). Then, it has been stated in another verse (Q.S. al-Ra'd [13]: 11): "Allah changeth not condition of a folk until they (first) change that which is in their hearts". Based on this verse and its understanding, this group allows couples who want to have children using IVF technology" with the following requirements: 1) the sperm and ovum are from a legitimate couple and given in the womb of a legitimate wife; 2) there must be consent of both parties; 3) there are some reasonable reasons why the couple is not able to have the offspring normally, and these reasons are strongly proven; 4) the technique in taking the semen (sperm) is done in accordance with Islamic law; 5) the placement of the zygote is pursued by a female doctor; 6) the recipient is the wife. The infant must be born through IVF of the sperm and ovum of the legitimate husband and wife, then the infant is the legitimate child of the couple concerned. If the formed fetus is implanted in a woman other than his wife, then it is classified as "forbidden" (*haram*), as it is considered a crime that can degrade woman's dignity as well as undermine the law fostered in society (Suhaimie 1995).

If a problem is found in which the wife owns the ovum but her uterus cannot possibly sustain the growth of the fetus, and yet the husband still wishes to continue the IVF program by entrusting the fertilization to another legitimate wife, then as stated by the Majelis Tarjih Muhammadiyah, it is permissible ( $mub\bar{a}h$ ) as long as it meets the following requirements: 1) sperm and ovum are derived from the legitimate married couple; 2) the wife owns the ovum, but based on the doctor's examination, her womb cannot sustaining the fetus until parturition; 3) the wife entrusted with the fetus is not able to be naturally pregnant, but her womb is eligible for fetal growth until birth; 4) there is an agreement between the couple about the care of the baby after the birth.

Conversely, when the fetus from in vitro fertilization is not implanted in legitimate wife due to certain problems in her womb and is instead entrusted to an illegitimate wife, it is considered forbidden (haram) by the Majelis Tarjih. It is because in Islamic teaching, placing the offspring in another woman's womb is not allowed. It is based on one of the hadiths as narrated by Ibn 'Abbās: the Prophet said: "There is no greater sin after *shirk* [association of other beings with the Divine] in the sight of Allah compared to any actions of a man who put his sperm (fornicate) in the uterus of women who are not legitimate for him".

The determination stating that IVF is not allowed is based upon the purpose of Islamic law regarding marriage that is, to keep away from fornication and to obtain offspring in a good manner. It is not against human nature to purposefully bring a child into the world, really it is a gift that brings goodness in life. The issue of child bearing is the will of Allah, so that if Allah so wills, He will give child to the husband and wife. This opinion is based on the Qur'anic verse (Q.S. al-Shūrā [42]: 49-50.

In addition to that verse, the "IVF is not allowed" group has an understanding that there is no guidance from the Prophet about IVF.

Moreover, it also requires a high cost considered as a waste (*tabdhīr*) not complying with the spirit of Islam (Suhaimie 1995). As a matter of fact, Majelis Tarjih Muhammadiyah has stated that Islam highly appreciates the advance of science as long as its implementation does not conflict with the religious norms. IVF is viewed as one of the problems of *ijtihādīyah*, which always has changing principles according to the Majelis Tarjih Muhammadiyah.

Regarding the status of a child born through IVF, the Majelis Tarjih Muhammadiyah in its verdict stated that the status includes 1) when the sperm and ovum are derived from legitimate couples, then the child born is automatically attributed to his or her parents and viewed as a legitimate child based upon the Islamic teachings; 2) if one part of the genetic material does not belong to the couple, then based on Islamic law the child is not belong to the couple. The child's status can only be associated with those to whom he or she has a bloodline. If this occurs, then the child is simply connected to the mother alone; 3) If the sperm and ovum are from legitimate husband and wife but it was not possible to be placed into the wife's womb, and was thus placed in the womb of another woman, legally the child belongs to the mother who gave birth to it and the status is equated with a suckling (Suhaimie 1995).

*Nahdlatul Ulama* (NU). Based on the Decision of the National Congress of NU in Yogyakarta on 30 Shawwal 1401 AH or 30 August 1981, NU gave the following opinions: 1) If sperm is taken from a man and injected into illegal spouse, then it is not permissible (*haram*); 2) If sperm is taken from a husband (and thus a legal spouse), but the sperm is not extracted properly and respectably according to Islamic teachings, then it is also *haram*; 3) When the ovum and sperm are extracted in a respectable way (*muhtaram*), then the process is permissible. The scholars of NU believe that the technique of sperm extraction determines the judgment. When sperm is extracted by means that against Islamic law, IVF procedures are considered to be *haram*. This opinion is supported by some hadiths, including one as told by Ibn 'Abbās: The Prophet said: "There is no greater sin after Shirk [association of other beings with the Divine] in the sight of Allah compared to any actions of a man who put his sperm (fornicate) in the uterus of women who are not legitimate for him".

Beside the above major opinions from two largest Indonesian Islamic-based organizations, other opinions refer to fatwas of the *Majlīs al-Majma al-Fiqh al-Islāmī* (Islamic Fiqih Academy) in Makkah. The fatwas define seven kinds of artificial insemination, but only two of these scenarios are deemed permissible: 1) A husband's sperm is taken and is injected to the fallopian tube. The process is followed by fertilization in the fallopian tube, allowing the zygote to attach on endometrium. This technique is performed when the husband's sperm could not reach fallopian tube due to abnormal sperm morphology and motility. Based on sharia, this technique is permissible, but needs to follow strict general guidance, rooted in the Qur'an and Hadith. This process, too, could only occur by recommendation from physicians. 2) A husband's sperm and a wife's egg are taken, and then they are fertilized in a test tube. In this case the fertilization occurs in vitro. The formed zygote is then attached to the wife's endometrium, allowing the zygote to grow normally in the uterus. This process is recommended for a woman who has problems in her fallopian tubes or uterine tracts. The majority considers that this process is permissible, as long as it refers to strict guidance of the Qur'an and Hadith. These two techniques suggest that lineage (nasab) of the child follows the lineage of parents. It means that the child has rights and consequences as a legal offspring (Muslim 2010).

The remaining scenarios outlined in the rulings find that in vitro and in vivo fertilization are haram when the zygote is transplanted into a surrogate mother. In this case, the woman who acts as a surrogate mother is considered an illegal spouse (ajnabīyah). This category includes several scenarios: 1) A man's sperm is extracted and then is injected in to the uterus of another man's wife. This case occurs particularly because of the husband is infertile. 2) In vitro fertilization between a husband's sperm and eggs derived from a woman other than his wife. The formed zygote is then attached to the wife's uterus. In this case, the wife's eggs were probably infertile, yet her uterus is normal. 3) In vitro fertilization of a man's sperm and a woman's egg generates a zygote. Then, the zygote is attached to the uterus of a woman who has a legal status of a wife in a legal marriage. This procedure is performed when a legal spouse could not achieve pregnancy by their own reproductive gamete. 4) In vitro fertilization between gametes of a legal couple. After the zygote is formed, the zygote is implanted into another woman's uterus who acts as a surrogate. In this regard, the wife's uterus is abnormal hence could not support fetal development. Alternatively, this procedure could be applied for a wife who could not afford to get pregnant. 5) Both the sperm and ovum are taken from a legal couple, fertilized in vitro, and

the zygote is then implanted into another wife's womb (in a polygamous marriage). In this case, the other wife has agreed to conceive an embryo from the wife who has trouble in conceiving.

Laws and regulations related to ART vary from one country to another. American law for example, put an emphasis on individual choice and autonomy, hence patients' rights to conducting the affairs are considered to be private. In Canada and Great Britain, whose laws are more conservative than the USA, take more regulatory approach to ART practices. In these countries, several methods of ART are clearly prohibited. Finally, in general, Muslim countries such as Indonesia have adopted religious legal system, hence some ART methods such as sperm or ovum donation are banned (Meirow and Schenker 1997).

In 2009, the government of Indonesia also released a law on ART (Law No. 36 of 2009 about Health), which put an emphasis on the point that this technology could only be used for legal couples. Some conditions also apply: 1) zygote resulted from IVF should be implanted to a legal wife who owned the ovum; 2) ART should be performed by professionals; and 3) ART should be performed in a certified clinic as described by the Ministry of Health. Normal conception and fertilization is a preferred method in Islam. However, when there is abnormality in sperm, ovum, or reproductive organs, then ART is allowed with several strict conditions according to Islamic law. In Islam, ART is considered as a medical treatment for a married couple who could not achieve pregnancy by any natural means (Regulation of the Minister of Health No.039 / Menkes / SK / I / 2010 on Implementation Assisted Reproductive Technology Services)

The above discussion shows that the actual resolutions of Majelis Ulama Indonesia, Muhammadiyah, Nahdlatul Ulama, and the government of Indonesia have some similarities in facing advanced technology in which the two organizations in Indonesia do not reject the technology of IVF technology with a number of conditions that a) IVF is conducted when the donors are still in the status of husband and wife; b) it has the agreement of both husband and wife; c) in superior force, it is to be pregnant; d) with a prediction of a doctor about the probability through this method; e) the sensitive parts of women should be opened only in emergency state (no more than emergencies); f) the method is conducted by a female doctor (Muslim) if possible. If not, it is performed by non - Muslim female doctor. If not, it is be done by a reliable male doctor Muslim. If not, it is conducted by a non-Muslim male doctor.

In vitro fertilization as the last solution and an attempt to have an offspring, when a common or normal fertilization is not possible, currently is in a very rapid progress, with the continuously increasing rate of success (Devolder 2005).

A number of big cities in Indonesia already have a hospital or clinic specifically to organize special programs to address infertility, from simple to advanced technologies, one of which is Technology In Vitro Maturation (TIM), frozen storage embryos including Pre-implantation Genetic Screening (PGS). The chance of getting pregnant by means of IVF is determined by various factors with various conditions, some of which are highly reliant upon the woman's age, ovum reserves, the length of fertility problems suffered by the spouse, a history of previous pregnancies, the degree of abnormality, the facilities of laboratory technology, knowledge and experience of medical personnel (specialists) in the IVF clinic. An IVF program will provide an opportunity to achieve a pregnancy in the range of 10 to 45 percent (Devolder 2005).

Although IVF has been widely applied in Indonesia, its implementation in fact still requires precision with an obvious reason to make IVF well - implemented. There are some indications for IVF techniques, including namely: 1) an infertile wife caused by the oviduct. One of the infertility causes is the clogged or injured oviduct (Fallopian tubes), as a result of scar tissues due to endometriosis, infection or surgery; 2) unexplained infertility. Approximately 15 percent of infertility cases are unexplained or (unexplainable). This means that there are no abnormalities found from the couples, but they still cannot achieve a pregnancy; 3) Production of spermatozoa is low; Infertility in men can occur when the spermatozoa are very low or in abnormal form shape or low motility (movement). An abnormal form can make the sperm unable to penetrate into the egg hindering the occurrence of fertilization; 4) anatomical abnormalities anything that prevents the release of spermatozoa can cause infertility. Anatomical abnormalities in the testes of male can be caused by surgical scars or other infections; 5) antibodies on the sperm cells some of men are able to produce antibodies against their own sperm. Antibodies attached to sperm and weakening the movement make the sperm unable to penetrate the egg and makes fertilization not possible (Devolder 2005).

Currently, IVF technology possesses two methods: (1) conventional in vitro fertilization techniques: fertilization performed when the husband's sperm is quite good in both quality and quantity and (2) Intra Technique of ICSI (Intra cytoplasmic sperm injection): a technique of micro-injection by injecting a single sperm directly to one egg to allow fertilization to occur. With the latest advanced technology, infertility could be reduced and marriage failure could be prevented.

#### Conclusion

Infertility has been a major health problem for couples around the world. It also posits some challenges regarding ethical consensus. While Western bioethics put emphasis on some values such as autonomy, maleficence, and non-maleficence, these values do not necessarily apply in the Islamic world such as Indonesia. Sunni and Shia traditions also have their own point of view about this matter. Our discussion regarding ART, Islamic law and ethical considerations, concluded the following: Normal fertilization and conception are preferable according to Islamic law. ART could be applied for a couple, only if the couple owned the sperm and ovum. Futher, the formed zygote should be implanted to a legal wife who owned the ovum. ART should only be performed as a final solution for achieving pregnancy, in order to prevent divorce among the couples. The discussion above concludes that:

- 1. A normal pregnancy is the best program, but in a superior force it can be done through IVF, advanced technology to answer the desire of couples who normally cannot or find it difficult to produce offspring. This technology is the process of sperm fertilization of the egg outside the woman's body and then put back into the woman's uterus to grow of fetus until the period of birth;
- 2. IVF Technology is currently growing very rapidly along with other advanced technology and has helped millions of children be born and made many parents happy, as well as in contrast causing the emergence of some controversy among various religious groups.
- 3. Various controversies that arose concerning IVF law based on Islamic values have been responded to by several Islamic organizations from 1970s forward, including the Indonesian Ulama Council (MUI) on 13 June 1974, Muhammadiyah

in 1980, and Nahdlatul Ulama (NU) on August 30 1983. In addition, the Indonesian government also addressed the existence of IVF technology through the Act of 1979-1981;

4. The decisions of MUI, Muhammadiyah, and Nahdlatul Ulama (NU) have similarities in facing the advanced technology of IVF stating that IVF is only allowed in superior force when the normal means will not allow for conception or pregnancy to occur and the couple has made other attempts. In addition, IVF (in vitro fertilization) must be the last option to be able to get descendents after trying various attempts. The conditions are as follows: a) Conducted by the legitimate married couples; b) IVF is conducted with the consent of the husband and wife; c) It is carried out in an emergency state to bring about fertilization; d) doctors estimate a high probability of success; e) the genital parts of the woman will only be opened in superior force; f) it is carried out by experts skilled in the process, and: treatment is by female Muslim doctor if possible. If not, it is performed by non-Muslim female doctor. If this is also not possible, then it is done by a reliable Muslim male doctor and, if not, it can be done by a non-Muslim male doctor.

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Southeast Asian Islamic studies in general. The aim is to provide readers with a better understanding of Indonesia and Southeast Asia's Muslim history and present developments through the publication of articles, research reports, and book reviews.

The journal invites scholars and experts working in all disciplines in the humanities and social sciences pertaining to Islam or Muslim societies. Articles should be original, research-based, unpublished and not under review for possible publication in other journals. All submitted papers are subject to review of the editors, editorial board, and blind reviewers. Submissions that violate our guidelines on formatting or length will be rejected without review.

Articles should be written in American English between approximately 10.000-15.000 words including text, all tables and figures, notes, references, and appendices intended for publication. All submission must include 150 words abstract and 5 keywords. Quotations, passages, and words in local or foreign languages should be translated into English. *Studia Islamika* accepts only electronic submissions. All manuscripts should be sent in Ms. Word to: http://journal.uinjkt.ac.id/index.php/studia-islamika.

All notes must appear in the text as citations. A citation usually requires only the last name of the author(s), year of publication, and (sometimes) page numbers. For example: (Hefner 2009a, 45; Geertz 1966, 114). Explanatory footnotes may be included but should not be used for simple citations. All works cited must appear in the reference list at the end of the article. In matter of bibliographical style, *Studia Islamika* follows the American Political Science Association (APSA) manual style, such as below:

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- Booth, Anne. 1988. "Living Standards and the Distribution of Income in Colonial Indonesia: A Review of the Evidence." *Journal of Southeast Asian Studies* 19(2): 310–34.
- 3. Feener, Michael R., and Mark E. Cammack, eds. 2007. Islamic Law in Contemporary Indonesia: Ideas and Institutions. Cambridge: Islamic Legal Studies Program.
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- 5. Utriza, Ayang. 2008. "Mencari Model Kerukunan Antaragama." *Kompas*. March 19: 59.
- 6. Ms. Undhang-Undhang Banten, L.Or.5598, Leiden University.
- Interview with K.H. Sahal Mahfudz, Kajen, Pati, June 11<sup>th</sup>, 2007.

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Letters: ', b, t, th, j, h, kh, d, dh, r, z, s, sh, s, d, t, z, ', gh, f, q, l, m, n, h, w, y. Short vowels: a, i, u. long vowels:  $\bar{a}$ ,  $\bar{i}$ ,  $\bar{u}$ . Diphthongs: aw, ay.  $T\bar{a}$  marbūțā: t. Article: al-. For detail information on Arabic Romanization, please refer the transliteration system of the Library of Congress (LC) Guidelines.

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# ستوديا اسراسكا



## صور المضانة بعد الطلاق في أتشيه الوسطى فوزي

شخصية سوزان كاليي جانما في تقاليد ماتارام الإسلامية حامد نصوحي