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The Legal and Ethical Dilemmas in Keeping Abreast with Innovations in Medical Sciences

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Abstract

Medical sciences have been advancing rapidly with the invention of various technologies such as xenotransplantation, ectogenesis and womb transplant. These technologies bring with them several ethical and moral issues that need to be carefully scrutinised in order to protect the interests of individuals and society. Although these techniques have yet to make their way into Malaysia, research and evaluation on their potential benefits and harms is pertinent to ensure that sufficient legal mechanism is put in place when these techniques are eventually introduced in this country. This paper thus aims to identify the legal, moral and ethical dilemmas brought by the advent of these technologies in the context of Malaysia as a multi-racial country with Islam declared as the official religion.

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1. Introduction

Medical sciences are advancing rapidly with the introduction of new medical technologies such as xenotransplantation, ectogenesis and womb transplant. The advent of these technologies is generally welcomed for the benefit of human kind. Nonetheless, medical advancement is usually surrounded with legal, moral and ethical dilemmas. In addition, in a jurisdiction where religion plays a vital role in shaping the values of society such as Malaysia, every new medical technology is not free from scrutiny from the religious perspective. This paper thus aims to identify the legal, moral and/or ethical dilemmas brought by the advent of these technologies namely xenotransplantation, ectogenesis and womb transplant, in the context of Malaysia where Islam is declared as the official religion.

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2. Xenotransplantation

Xenotransplantation involves “…the transplantation of tissue and organs between different species, and in particular the transplantation of animal tissue into humans.” (http://www.dh.gov/ab/Archive/UKXIRA/DH_087869). The technology is being developed with the hope of providing a solution to the shortage of human organs for transplantation. However, several concerns have been put forward on the ethics, morality and safety of the technique. For example, it has been suggested that organs transplantation may raise “emotional, personal identity issues” for some people and this ‘feeling’ might be heightened when non-human organs are transplanted into human beings (Sykes et. al., 2003). Having animal organs or tissue in a human body is likely to raise “physiological and psychological issues.” (Hagelin, 2004). More importantly, the ethics of rearing animals with the sole purpose of harvesting their organs for transplantation needs to be examined (Sykes et. al., 2003). This issue must be further ascertained from the Islamic perspective particularly when pigs are involved due to Islamic prohibition on the consumption of the animal.

The use of non-human organs further raises concerns on the interests of society at large. The transplantation of non-human organs into human beings exposes the recipient and society to the risks of virus transmission (Sykes et. al., 2003). This may occur when the organ harvested from the animal contains an infectious virus and is transmitted to the human recipient who may then spread the virus to others (Hagelin, 2004). It has been argued that:

“Everyone in society is placed at risk of a pandemic by allowing xenotransplantation to proceed. As a consequence, society’s infrastructure might collapse; indeed, we have been living with this possibility since early 2009 with regard to the global swine flu pandemic.” (Fovargue and Ost, 2010)

The issues highlighted above represent the possible ramifications of xenotransplantation which must be carefully evaluated before the technique can be offered to public.

3. Ectogenesis

For women who have difficulties in carrying a fetus to term inside their wombs, a technique called ectogenesis is currently being developed. Ectogenesis is an artificial womb, created to replace a woman’s uterus in sustaining a fetus during pregnancy. This technique is said to bring several benefits to women because they no longer have to bear the risks and burdens of a normal pregnancy (Smajdor, 2007). Since women are relieved from the task of pregnancy, they may then focus on other aspects of life such as career advancement (Smajdor, 2007). More importantly, having an artificial womb provides hope to couples who cannot procreate naturally as it may be seen as an alternative to surrogacy or other assisted reproductive technologies such as In Vitro Fertilisation (IVF) (Wells and Singer, 1984). Ectogenesis is also said to benefit pre-mature babies by providing a chance for these babies to develop in another ‘womb’ (Alghrani, 2007).

The advent of ectogenesis or an artificial womb is nonetheless, surrounded with moral and ethical dilemmas and safety concerns. For example, it has been argued that this technique may have adverse implications on the child born from it. In a normal pregnancy, there is a ‘physical bond’ between the mother and child since the mother is carrying the child inside her womb. This element is, however, lacking in pregnancy using ectogenesis or an artificial womb because the fetus is gestated outside the mother’s body, thereby diminishing the ‘bond’ between them (Wells and Singer, 1984). Alghrani raises the following questions:

“Will the severance of maternal-foetal bond during gestation adversely affect the child later on in life? Increasing knowledge has evolved on the maternal foetal bond during the nine months gestation, and the effects of the maternal environment on the foetus, and how it responds to the mothers voice, moods etc. How would being gestated in an ectogenetic incubator affect the welfare of the child emotionally? Will the absence of listening to a mothers heart beat and having that mother-child bond result in detriment to the child? (Alghrani, 2007)

Research on the potential implications of gestation using an artificial womb to the child’s emotional development is, therefore, pertinent. In addition, gestating a fetus outside a natural womb raises concerns on the physical health of the fetus. It has been questioned whether an artificial womb can sufficiently provide nutrients to the fetus as with natural pregnancy (Wells and Singer, 1984).
While the technique may be seen as an alternative to abortion, its implications on the child born and society are apparent. Using ectogenesis, fetuses conceived naturally need not be aborted but may now be carried to term by transferring them to this artificial womb (Alghrani, 2007). Nonetheless, to conclusively applaud ectogenesis as a ‘saviour’ to abortion is far-fetched for its consequences to the child and society are undeniable. If all ‘unwanted’ fetuses are transferred to an artificial womb and are safely born, society might have to face the surplus of ‘unwanted’ children. This will impact on public expenditure by the need to increase welfare homes to care for these children (Alghrani, 2007). For these children, they may feel a sense of ‘rejection’ knowing the fact that they were abandoned at the embryonic level by their biological parents to develop in an artificial womb. This consequently may lead to severe psychological effects on them. These concerns should therefore be carefully examined before the technique can be offered to public. In the context of Malaysia, reference should be further made to Islam as the official religion of the country. Hence, the permissibility of ‘pregnancy’ using an artificial womb needs to be ascertained from the Islamic perspective for the technique to be legally accepted in Malaysia.

4. Womb Transplant

A woman’s ability to sustain a fetus inside her womb may be affected by several reasons. At present, a woman who cannot bear a normal pregnancy may resort to surrogacy in order to have a biological child. This option, however, may not be suitable for all as some may not find surrogacy a possible option due to various factors such as religious prohibitions. Islam, for example, prohibits the use of other woman’s womb to sustain a pregnancy, even using the couple’s own gametes (Schenker, 2000). In this situation, womb transplant may be seen as a viable option for women with uterus impairment. In this way, the womb obtained from a donor is transplanted to replace the impaired womb to enable pregnancy to occur (Alghrani, 2009).

Critics have, however, raised concerns on the safety of the procedure on women and the fetus. Women who resort to this procedure are likely required to undergo IVF to start a pregnancy. Further, they will also be exposed to the risks of a caesarean section because the transplanted womb will not be able to withstand a normal birth (DM, 2011). The burdens of womb transplant on women are worsened with the need to take immune-suppressant drugs that is required to avoid rejection of the new womb (DM, 2011).

Womb transplant further raises concerns on the fetus should the need for the transplanted womb to be removed arises. The risks of complications following the transplant are undeniable, following which there is a possibility that the transplanted womb needs to be removed. In such a scenario, a question arises on the fate of the fetus gestated in the transplanted womb (Caplan et. al., 2007). Josephine Quintavalle, for example, was quoted as saying: “It is going to be hard to prove that this is safe, and the experiment is not so much on the woman having the transplant but on the baby she is carrying.” (See DM, 2011).

Religious concerns, particular Islamic principles, should also be addressed for the procedure to be accepted in Malaysia. Since Islam prohibits surrogacy (see Schenker, 2000), it must be ascertained whether carrying a fetus inside another woman’s womb through transplantation is equivalent to surrogacy and thus is prohibited.

5. Conclusion

Scientific endeavours in inventing new technologies are applauded for the benefits of human kind. Nevertheless, the advents of new medical breakthroughs are usually accompanied with ethical, moral and religious concerns that need to be sufficiently addressed. Appropriate legal mechanisms should therefore be put in place in order to keep abreast with medical innovations. Legal intervention is not intended to impede advances in medical science, but such a mechanism is pertinent in order to protect the interests of individuals and society.

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