

# Using Surplus Embryos and Research Embryos in Stem Cell Research: Ethical Viewpoints of Buddhist, Hindu and Catholic Leaders in Malaysia on the Permissibility of Research

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**Abstract** The sources of embryos for Embryonic Stem Cell Research (ESCR) include surplus embryos from infertility treatments, and research embryos which are created solely for an ESCR purpose. The latter raises more ethical concerns. In a multi-religious country like Malaysia, ethical discussions on the permissibility of ESCR with regard to the use surplus and research embryos are diversified. Malaysia has formulated guidelines influenced by the national *fatwa* ruling which allows the use of surplus embryos in ESCR. Input from other main religions is yet to be documented. In light of this, this study addresses (i) the ethical viewpoints of Buddhist, Hindu and Catholic leaders on the permissibility of using surplus and research embryos; and (ii) the moral standpoints of religious leaders towards attaining a consensus on the practice of ESCR in Malaysia. Responses from the religious leaders were obtained via semi-structured, face-to-face interviews. The findings show that generally the Buddhist and Hindu leaders approve the use of surplus embryos. Their responses on the creation of research embryos for ESCR are varied. Meanwhile, the Catholic leaders distinctively objected to ESCR regardless of the embryo sources, referring to it as the destruction of life. Taking into account the diverse views, this study explores the response of the religious leaders for a general consensus wherever possible. The ethical discourse surrounding ESCR in a multi-religious setting offers new perspective, which needs to be explored in a broader global community.

**Keywords** Consensus · Donate embryos · Permissibility · Research embryos · Stem cell research · Surplus embryos

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## Introduction

Embryonic Stem Cell Research (ESCR) is an evolving area of research with numerous scientific breakthroughs taking place around the world. Embryonic stem (ES) cells are said to provide a promising therapy for health conditions such as spinal cord injury, cancer, and juvenile-onset diabetes (United States National Institutes of Health 2009), though most researches on stem cell therapy are ongoing and being investigated at the clinical trial phase. The most intense controversy surrounding SCR has focused on the source of human embryonic stem (hES) cells (Hyun 2010). Ethical controversies arise because the process of extracting stem cells from a 4–5 day old embryo [blastocyst] eventually leads to its destruction (de Wert and Mummery 2003; Lo and Parham 2009). Those who believe that life begins at moment of conception oppose ESCR because the research is said to violate the principle that prohibits the destruction of human life, and that the research deprives the embryo's potential to develop into a human being (United States National Research Council Report 2001). Meanwhile, proponents of ESCR justify the research on the basis that a 5-day old embryo only consists a mass of around 100–200 cells, and therefore it cannot sense pain as it has yet to develop its nervous system; which means that it has not fully developed into a human life.

The definition of when life begins is rather fuzzy. The embryo is a living being when its major development is controlled and directed from within itself. However, Green (2002) argues that a human cell exists when the forty-six chromosomes work together, but this is not the case during the first few cell divisions whereby the earliest development structure is governed by the maternal chromosomes. Meanwhile, Lee and George (2006) refuted claims that human embryos are not living beings until implantation (when the embryo attaches to the uterus about 6 days after fertilization), and until the possibility of twinning ends and first primitive streak appears around 14 days post-fertilization. Lee and George further argued that embryonic cells from day-1 'work together to produce a single direction of growth', for a 'unitary development' toward maturation.

Then, there is another viewpoint that both the sperm and egg cells have to be living cells for an internal fertilization to take place, hence the embryo is a living being. However, the counter-argument is that a human sperm or an egg is haploid and each contains 23 chromosomes. It is only when a sperm fertilizes an egg, the fusion results in a diploid one-cell stage called the zygote, containing the necessary information for growth. The zygote undergoes division and the cells continue to proliferate to form a blastocyst of about hundred cells around day-5 of its development, differentiating into an outer layer separating from the inner cell mass [ICM] (Fischbach and Fischbach 2004). These ICM-derived cells are what we refer to as ES cells, which are extracted and cultured under laboratory conditions (Fischbach and Fischbach 2004).

The sources of hES cells include:

- (i) embryos created by In Vitro Fertilization (IVF) for infertility treatments which are no longer needed, denoted as 'surplus' embryos (Dickens and Cook 2007);

- (ii) embryos created via IVF solely for a research purpose (Lanzendorf et al. 2001), denoted as ‘research’ embryos.

It is worth noting that couples who undergo IVF may choose to freeze their surplus embryos for future use. However, some couples may decide not to freeze the surplus embryos for many reasons such as they are unlikely to use the frozen embryos in future IVF cycles, or they are concerned about the possible damaging effects of the freeze–thaw process on surplus embryos, and some also refrain from cryopreserving surplus fresh embryos for personal reasons, financial cost, or cultural grounds (Cohen et al. 2008; Dickens and Cook 2007; Choudhary et al. 2004; Svanberg et al. 2001). The ethical questions in regard to frozen embryos and using them for future IVF cycles are not explored in this study.

Couples who undergo IVF treatment end up with surplus embryos which are no longer needed and they can either opt to discard the embryos, or donate them to another couple or use them for research purposes (Braverman et al. 2009), given that the research facility is provided by the fertility clinics. Consent needs to be obtained from the couples who decide to donate the surplus embryos for research, and the consent process should inform donors of the nature of ES cell derivation (Braverman et al. 2009). When research cannot be carried out on surplus embryos alone, embryos are then created in the laboratory via IVF from gametes donated by volunteers who have no reproductive intent. Human gametes which are, oocyte (egg cell) and sperm donated by anonymous donors are allowed to fuse and cultured to form blastocyst, which is later extracted to produce human embryonic stem cell lines. These embryos created solely for SCR purposes are termed research embryos.

A question worth asking is whether it is ethical to conduct research on human embryos in order to extract stem cells for therapeutic purposes. With regards to surplus embryos, the argument is that rather than letting the embryos go to waste, using them to save lives, is a way of treating the embryos with respect. Thus, to use surplus embryos instead of discarding them for research that has the potential to benefit lives of human beings, is encouraged (Manninen 2007). According to the report by the International Bioethics Committee (IBC) of the United Nations Educational, Scientific, and Cultural Organization (UNESCO), taking into consideration that the therapeutic intention can ‘contribute to the ethical choice’ of employing the use of human embryos, it is ethically permissible to utilize the surplus embryos for therapeutic research purposes, as the only other option is their destruction [discarded as waste] (UNESCO IBC 2001).

Meanwhile, Steinbock (2000) argues that there is no moral difference between utilizing surplus embryos and research embryos for SCR. She concluded that the value of research (aimed at providing treatments and saving lives) is what determines whether it is in alignment with the principle of respect for embryos, and not the source of the embryos. According to Robertson (1999), only when research using surplus embryos is deemed acceptable, the question whether embryos can be created and destroyed for research arises. Robertson conclusively puts it that those who are against research using surplus embryos will also oppose using research embryos; but there are those who approve the use of surplus embryos who [might] disagree to the latter.

Among the factors that motivate couples to donate surplus embryos for research are, 'knowing the research purpose', 'couples are at the end of IVF treatment', and 'having non-viable embryos for reproductive treatment' (Hug 2008). A study in Victoria, Australia, reported that couples who opted to donate embryos for research were driven by the intention to help in the advancement of science and also did not want to waste the embryos (Hammarberg and Tinney 2006). In another study conducted in the United Kingdom, Switzerland and China, the empirical examination show that among the main reasons given by participants who chose to donate surplus embryos for research are, 'to avoid the waste of resources' and 'to give something back to research' that they benefited from in a hope that the research would benefit others in the future; whereas the reasons and reservations given by the participants in not donating surplus embryos include uneasiness and anxiety 'over what would happen to their embryos', and not knowing 'exactly what the embryos would be used for' (Scully et al. 2012).

It is noteworthy that using research embryos for ESCR generates more ethical concerns than using existing surplus embryos (Hug 2005). The 'discarded-created-distinction' (d-c-d) has been forwarded stating that there is a moral difference between doing research on surplus embryos originally created for a reproduction purpose with the research embryos created with the intention of only using them for research (Parens 2001). The latter however raises more ethical controversies. The United States National Bioethics Advisory Commission (NBAC) has highlighted the discarded-created distinction, on the moral difference between surplus and research embryos (NBAC 1999). Surplus embryos are created for reproduction purposes and when they are no longer needed in infertility treatments, these embryos are either discarded or become available for research; whereas research embryos are those that are solely created for research purposes. The latter raises concerns about 'instrumentalization' and treating embryos as mere objects. Macklin (2000) argues that the United States NBAC report relies on "ethical intuition" which motivates the distinction between the surplus and research embryos. Childress (2004) who also examined the report, concludes that due to the evolving nature of the field, it is too early to rule out 'any particular source of stem cells' or to adopt one source as the best.

Steinbock (2006) argues that as much as creation and destruction of surplus embryos which is a very much part of IVF is justified for reproduction purposes, so is the creation and destruction of research embryos aimed to improve people's health. Thus, Steinbock concludes that neither the creation and use of surplus embryos, nor research embryos 'contravene the respect for embryos as a form of human life'. Devolder (2005) argued that the 'discarded-created-distinction'(d-c-d) which allows research on surplus embryos but not on research embryos, is an inconsistent viewpoint and it is intuitive since the defenders of d-c-d grant a relative moral status to the human embryo. Devolder concluded that the approach to ESCR which accepts the use of research embryos is 'compatible with the feelings, attitudes and values' of the defenders of d-c-d, that is to allow ESCR to develop treatments for the well-being of humans.

According to a report by the Singapore Bioethics Advisory Committee (BAC), ES cells can be derived from surplus embryos rather than allowing those embryos to

perish, in view of the greater good. In addition, acknowledging the need to balance between respecting the embryo and the potential benefits of ESCR, the Singapore BAC stated that the creation of research embryos (solely for research purposes) can only be justified when there is strong scientific merit and potential medical benefits with no other alternatives and on a highly selective case-by-case basis approved by the statutory body (Singapore BAC 2002). Singapore has provided a model study in conducting extensive consultations with various research groups and religious authorities on their standpoints on ESCR. It is noteworthy that Malaysia, which has similar cultural, demographic and religious make-up, has not come out with a report comprising views of all religious councils on ESCR.

In a multi-religious and multi-cultural country like Malaysia, ethical discussions pertaining to the morality of ESCR has taken a different outlook given the diverse views within and among the religious traditions. The Malaysian population comprises 61.3% Muslims, 19.8% Buddhists, 9.2% Christians and 6.3% Hindus (Department of Statistics Malaysia 2010). The morality of ESCR varies considerably according to religious interpretations on the moral status of human embryo. The matter on the use embryos was referred to the decision of the Malaysian Fatwa Council dated 22nd February 2005, during its 67th sitting (Department of Islamic Development Malaysia 2005). Fatwa is an Islamic ruling on a certain issue given by recognized authority (Muslim scholars), basing on the four sources of Islam, that is Quran, Sunnah, Ijma (consensus) and Qiyas (reasoning), as to whether an action is obligatory, permissible or not permitted. In Malaysia, the matter was deliberated from the permissibility aspect, and not on the legal aspect and the funding means. Accordingly, frozen or leftover surplus embryos from IVF trials may be used for research if parents consent; however, the creation of human embryos solely for research is prohibited. The Islamic position based on the national *fatwa* ruling is adopted by the Malaysian Muslims, who belong to the Sunni-Shafie school of thought (one of the main schools in Islam).

Apart from the Islamic view, the input from religious leaders from the major faiths in Malaysia is yet to be documented. Hence, the purpose of this study is to explore the ethical viewpoints of the Buddhist, Hindu and Catholic leaders with regard to the use of surplus and research embryos in ESCR. At the very outset, it is to be noted that the religious leaders expressed their ethical viewpoints reflecting upon scriptures and religious texts. This is also in line with the report by the UNESCO IBC which acknowledges the diverse positions on ESCR and recognizes the importance of the ethical debate at the national and the global level (UNESCO IBC 2001). This is the first study which gives emphasis to gathering the views from the non-Muslim section of the Malaysian population with regard to the use of (i) surplus and (ii) research embryos in ESCR. At present, the 2009 *Malaysian Guidelines for Stem Cell Research and Therapy* is based on the aforementioned national *fatwa* ruling by the Islamic council which takes the middle-way approach to allow the use of surplus embryos for ESCR, but prohibits the generation of research embryos (Ministry of Health Malaysia 2009). The guidelines also spell out that the physician responsible for the infertility treatment and the investigator harvesting human embryonic stem (hES) cells should not be the same person, and

that informed consent is necessary for the donation of blastocysts (embryos) for ESCR.

To my best knowledge, no detailed study has been made pertaining to the ethics of ESCR in Malaysia, focusing on multi-faith insights with regard to the use of surplus and research embryos. Religious texts referring to stories of Abhimanyu in the Hindu epic Mahabharata, and John the Baptist in the Bible (Luke 1:41), who responded to external stimulus while in their mother's womb can only account for a developed embryo or fetus stage, and there is a gap in the agreement in recognizing whether a 5-day old embryo is a living being. Resources on the formal positions of Buddhism and Hinduism worldwide on the ethics of ESCR are also rather limited. A renowned Buddhist ethicist, Keown (2004) points out that research on human embryos entails destruction of human life. On the contrary, Promta (2004) highlights the notion of 'enforced donation' in Buddhist ethics, citing an example of a rape victim who has the right to abort a child where the child is perceived as an 'enforced donation' for the benefit of the mother. In the same manner, the destruction of a 5-day old embryo in ESCR can be justified for the sake of mankind to benefit from therapeutic practices. Meanwhile, the closest Hindu deliberation can be found in a paper by Tyagananda (2002), that destruction of life is bad karma unless it is carried out for the 'greater good' of humanity. For the Catholic community, a clear stand has been taken by the Vatican (the official teaching authority), and has released declaration that it is immoral to produce human embryos to obtain stem cells (Pontifical Academy for Life 2000).

The ethics of ESCR according to religious beliefs in Malaysia has been explored (Sivaraman and Noor 2014). Also, in this journal, three themes that represent the ethical concerns of the religious leaders on ESCR, namely, the 'sanctity of life', 'do no harm', and the 'intention of the research' have also been addressed (Sivaraman and Noor 2016). Accordingly, concerns for the 'sanctity of life' emphasizes the religious notion for respect of early embryonic life, and the principle of 'do no harm' revolves around religious concerns to discourage research that inflicts harm on living entities. The final theme, the 'intention of the research' represents the motivational factor among religious leaders to encourage research that has the potential to improve the lives of people.

This paper, however, intends to examine in detail the following two aspects:

- (i) the ethical viewpoints of religious leaders on the permissibility of using surplus and research embryos in SCR in Malaysia, and
- (ii) the moral standpoints towards attaining a consensus on the use of surplus and research embryos in SCR in Malaysia

Malaysia is one of the leading healthcare providers and is steadily progressing as a medical tourism hub in South East Asia, concentrating on stem cell therapies. As such, SCR has become increasingly important which would mean including ESCR as one form of research. To the best of my knowledge, a national record on the fate of surplus embryos produced in the IVF cycles nationwide is not available. This researcher also faced difficulty in accessing the national records about the source of human embryos used in SCR and how they are retrieved for research. In view of the

increasingly apparent growth of infertility treatment centers and medical centers producing surplus embryos from the expanding use of IVF trials in Malaysia, which otherwise would be discarded, it is vital to explore ethical viewpoints on the permissibility of using embryos for ESCR. At present, other than the 2009 guidelines on SCR, there is no enacted law governing the practice of ESCR in Malaysia. As such, the ethics of ESCR, from the two aforementioned aspects are pertinent to be addressed from the standpoint of the religious leaders, who are influential in shaping the country's policies and ethical discourses.

## Research Methodology

A qualitative study comprising face-to-face, semi-structured, and in-depth interviews with the religious leaders from the Buddhist, Hindu and Catholic groups was employed, to gain clear views and motivational reasoning from the respondents with regard to the use of surplus and research embryos. Semi-structured interviews enabled the researcher to explore the varying viewpoints of the religious leaders on ESCR. In semi-structured interviews, the questions only serve as a general guide, as the flow of the conversation with the respondents is not restricted. It gives the respondents the freedom to express their views in their own terms (Cohen and Crabtree 2006). Hence, it allows this researcher to seek clarifications and explanation as the respondents relay their religious perspectives with regard to ESCR in Malaysia. Each interview lasted for one hour to one and a half hours. All respondents expressed their views and understanding of various sacred texts and holy books with regard to ESCR, but care was taken to exclude any personal moral reasoning.

No attempt was made to conduct a survey among the lay public because it would require a large sampling survey, and it is beyond the scope of this study to seek the lay perspective. It is also beyond the scope of this study to look into scientists' perspectives on ESCR in Malaysia given the constraints to engage with them in a bioethical discussion. Moreover, the aim of this study was to examine to what extent religions influence the practice of ESCR in Malaysia, and to examine the ethical standpoints of the religious leaders from the Buddhist, Hindu and Catholic traditions.

For the purpose of this study, Buddhism and Hinduism are recognized as religions though some may view them as a way of life. For the record, Malaysia recognizes Buddhism and Hinduism as individual religions with respective values. According to Article 3 of the Constitution of Malaysia, Islam is the religion of the Federation but other religions may be practiced in peace and harmony. There is a convergence of values among the adherents of Buddhism and Hinduism in Malaysia, such as subscribing to the law of Karma, that is every action has its consequences. The Malaysian Consultative Council of Buddhism, Christianity, Hinduism, Sikhism and Taoism (MCCBCHST) is the inter-faith organization for the non-Muslims. This study also recognizes that the Catholic leaders fully adhere to the Vatican ruling.



Within Buddhism, the participants of this study are from Theravada school of thought, one of the major branches of Buddhism practiced in Malaysia. This study did not seek the perspectives of the religious leaders from other beliefs such as Sikhism and Taoism, so as not to broaden the scope of this study. This researcher acknowledges the existence of various denominations within Christianity, such as Roman Catholic, Methodist, Lutheran, Anglican and Presbyterian. However, my respondents are from the Catholic tradition only, being the major denomination, with a recognized and structured official authority in Malaysia. In 2010, the Catholics surpassed one million, covering 3% of the total population and 40% of the 2.2 million Christians in Malaysia (Herald Malaysia 2012). Interviews were not conducted with Muslim authorities because there is consensus on this issue in the form of the *fatwa*, as the Muslims in Malaysia formally belong to the Sunni-Shafie school of thought who have adopted the standpoint to allow the use of surplus embryos in SCR in Malaysia. As such, it is understood that Muslim authorities would abide by the *fatwa* ruling and would not project a differing viewpoint from the formulated *fatwa*, if they are approached for an opinion.

The respondents were identified through a 'purposive sampling'. This is because purposeful sampling allows selecting 'information-rich-cases' from which the researcher can learn issues of central importance for the purpose of research (Patton 1990). This researcher made arrangements with the respondents via email and telephone calls, either weeks or months in advance of the interviews. The respondents were also notified about the purpose of the interview and the background of the study through emails. Prior to the face-to-face interviews, informed consent was obtained from the respondents who directly agreed and endorsed their participation in the study and for subsequent publications. This study did not involve any clinical experimentation on human subjects, and it conforms to the ethical standards of conducting research interviews.

The religious leaders from the highest authority identified as valuable resources were selected as participants of this study. They were selected, in view of their vast experience and knowledge and their significant contributions within ethics committees, and inter-faith council meetings and dialogues. At present, there is no official institutional response or any indoctrination of values on the issue of ESCR in the Buddhist and Hindu communities. As such, the institutions are largely shaped by the views of the religious leaders. These leaders are the authorities representing their respective religious communities, whose views are often sought in the public review meetings, and inter-faith dialogues.

The sample size depends on various factors, such as the purpose of the inquiry, what the researcher wants to know, and what can be gathered with the available resources (Patton 1990), and external factors like the difficulty in accessing the participants (Baker and Edwards 2012). The availability of religious leaders who also had a good understanding on the science of ESCR was very limited. Due to exhaustion of resources upon reaching the highest authority, a large representative sampling was not possible. However, a total of 11 respondents representing their respective religious institutions were interviewed; four Buddhist monks and leaders, four Hindu leaders and three Catholic priests. It is worthy to note that the sample size was the maximum achievable number that this researcher obtained from the



highest echelon of the religious institutions, and that the size was not restricted for any other reasons. Since there is a consistent viewpoint among the Catholic leaders, three Catholic priests from the highest authority were reached for interviews, as compared to four respondents from the Buddhist and Hindu institutions. Although the sample size is modest, it effectively focuses on the high level leaders representing the Buddhist, Hindu and Catholic institutions, and has generated original empirical data. For the purpose of analysis, the Buddhist respondents are labeled BR, Hindu respondents as HR, and Catholic respondents as CR. The names of the respondents are kept anonymous.

The profiles of the respondents in brief as follows:

- BR1 Buddhist advisor, President and consultant of Buddhist associations, author, and *Dhamma* speaker
- BR2 Buddhist nun at Maha Vihara Buddhist Temple in Kuala Lumpur
- BR3 Buddhist advisor, chairman and President of Buddhist associations, author, and *Dhamma* speaker
- BR4 Chief monk of the Sri Lanka Buddhist Temple in Kuala Lumpur. Spiritual advisor to numerous Buddhist organizations
- HR1 Former Deputy President and current central council member of the Malaysia Hindu Sangam (MHS)—the official Hindu body
- HR2 Former General Secretary of MHS, active in religious seminars and workshops
- HR3 Active member of the religious Advisory Board of MHS, newspaper columnist on Hindu Dharma, and serves as a Temple board Vice President
- HR4 Former President of MHS and its current advisor. Former Vice President of the World Hindu Congress. Has served as a member of ethics committee for a medical centre
- CR1 former Assistant Parish Priest and current Parish Priest
- CR2 Catholic Priest of Archdiocese of Kuala Lumpur, Director of Archdiocesan Pastoral Institute, spiritual advisor and authority in Catholic medical ethics, appointed by Holy See as ‘consultor’ to the Pontifical Council for inter-religious dialogue
- CR3 Priest at Malacca-Johor Diocese (MAJODI). Has served as ‘Diaconate-in action’, Assistant Parish Priest, Parish administrator and Head of Diocesan Bible Ministry

The interviews with the respondents were voluntary in nature without any monetary compensation. As far as possible, the researcher has attempted to offset personal bias during interviews and analysis. Measures were taken to ensure the reliability of the data, such as ensuring the interview questions are open-ended to prevent pre-determined responses and to allow respondents respond in their own terms without restriction, and seeking clarifications whenever needed. The interviews were conducted in English, audio-recorded and transcribed verbatim. In qualitative studies, audio recording is accepted as a form of data collection, with the consent of the participants. On average, an hour of interview took about 6 h to be transcribed in full. Transcripts were then checked against audio recordings for accuracy. The interview transcripts were then analyzed by the researcher. The lines

of the transcripts were numbered and examined by marking and highlighting segments of the conversations, and searching for individual ideas and common issues. Then, the key ideas and linking phrases were identified and clustered according to the two aspects, (i) permissibility of using surplus and research embryos in SCR, and (ii) moral standpoints towards attaining a consensus on ESCR. The data were cross-checked with the interview notes to gain full insights.

## Analysis and Discussion

### Aspect (i): Permissibility of Using Surplus and Research Embryos

The ethical viewpoint of the religious leaders on the permissibility of ESCR in Malaysia with regard to the use of surplus and research embryos is varied. Specific arguments from the respondents with regard to the two embryo sources are examined in this section.

Generally all Buddhists representatives approve ESCR and do not see any moral difference between the use of either surplus or research embryos, except for one Buddhist leader who did not agree to the use of research embryos. Take note that Buddhist traditions are divided into three baskets of teachings called *Tripitaka* and given the massive collection of texts, it is impossible to encapsulate them entirely. One Buddhist respondent, BR1, referring to traditional teachings emphasized that ‘life begins after fertilization’ and regarded the early embryos as living entities. He stressed the sacredness of human life. In spite of this belief, taking into account the potentials of ESCR and if given a choice, he agreed to the use of surplus embryos for research on the grounds that ‘the embryo is going to die anyway’, and that it would be better to use the embryo for research rather than discard it as waste.

With regard to the use of research embryos in ESCR, he disapproves, stating that this act denotes disrespect for life. “Knowing right from beginning [that the] embryo will be destroyed, why then create it?” said BR1. “We respect life, and in the process half way you destroy it, [and] you know from the beginning you going to destroy it, you are not respecting life”, added BR1.

On the other hand, three Buddhist leaders, BR2, BR3 and BR4, approved the use of both surplus and research embryos. Their approval for ESCR is given based on the benefit of research to alleviate suffering of people with debilitating diseases. They further supported their argument, that a 5-day old embryo lacks consciousness and does not constitute life, and therefore, according to them, using early embryos in research is not seen as tampering with the Buddhist notion of not harming living beings. (Data from other global regions required to substantiate and reinforce this view).

Their support for the use of surplus embryos in research is driven by the good intention and good cause of the research. For instance, in line with the notion not to waste resources, BR2 asked, “why discard something that can be used for a good cause”. She stressed that a 5-day old embryo is not regarded as a sentient being. She further added that using stem cells from embryos for research to promote the

betterment of life and to bring the suffering of sick people to an end is encouraged in Buddhism.

Similarly, BR3 agreed that using surplus embryos in research for good intentions is encouraged and is viewed as a noble purpose, as long as there is consent from the reproductive couple to donate embryos, and the research observes good clinical practice. The argument that a 5-day old embryo has no sign of life or reaction to stimuli, further strengthened his approval towards utilizing surplus embryos in ESCR.

Meanwhile, driven by the Buddhist notion of *Dana* (donation), BR4 reasoned that it is a wonderful thing to use those surplus embryos which are slated to waste, to save lives of people instead. BR4 also based his argument that no pain is inflicted on 5-day old early embryos when they are used in research.

Apart from BR1, the three Buddhist leaders, BR2, BR3 and BR4, also did not see any difference in the moral connotation on the use of research embryos. For instance, BR2 said, “intentionally creating [embryos] to help another being” is allowed. BR2 argued that the research on stem cells harvested from research embryos is aimed towards helping mankind to lead a quality life, and therefore it needs to be encouraged.

Likewise, BR3 said using research embryos in ESCR is allowed, given the good intention. BR3 cautioned that the end result of the research in promoting betterment of people’s health has more bearing on the moral interpretation of using research embryos.

Similarly, BR4 said there is no restriction from the religious point of view in creating research embryos for ESCR on the grounds that there is no life in a 5-day old embryo, and it is encouraged for the purpose of saving lives.

The Hindu leaders, however, tend to be more cautious in stating their standpoints and did not want the permissibility given by them to be regarded as a blanket approval. All Hindu representatives approved ESCR but only surplus embryos are to be used. The use of research embryos is prohibited.

The Hindu leaders generally agreed that the use of surplus embryos is encouraged for various reasons and is guided by laws. The Law of *Karma* (law of cause and effect), is in accordance with our actions, whereby good action leads to good *karma* and vice versa. In Hindusim, *Dharma* is the code of living which upholds this universe and governs the society in terms of duty, morality and virtue. Meanwhile, *ahimsa* is a Hinduism ideal which emphasizes the non-violence act and the complete avoidance of harming any living being. HR1 was driven by the benefits and purpose of research, saying that it is better to put the surplus embryos to good use in researches instead of discarding them. In addition to that, HR1 approves the extraction of stem cells from human embryos only if the research is guided by Hindu Laws of *Karma*, *Dharma* and *ahimsa*. Accordingly, the argument is that a 5-day old embryo is still in its vegetative state and lacks the formation of a developed body structure. As such, the 5-day old embryo is non-functional due to the absence of a soul to dwell in it. This is in alignment with *Thevaram* and *Thirumanthiram*. At the very most, these two literary texts, widely separated by time, can be referred to as religious literature. Accordingly, research on 5-day old surplus embryos is not tantamount to killing. In the words of HR1: “...because even

if you don't do research on it, it will [be] discarded. Instead of discarding without any good purpose, if you use it for good purpose, is allowed, towards [achieving] the benefits."

Another leader, HR2 concurred. HR2 reflected on the concept of donation. According to HR2, "in Puranic stories when there's excess, they will donate, they share with the poor. In other words, rather than throwing [embryos] away, why not use them for research purposes for good cause."

Three Hindu leaders, namely HR2, HR3 and HR4 cited *Puranic* stories (*Periya Puranam*) and *Vedas*, to support the argument that donating for a good cause is encouraged, and so is the donation of surplus embryos for research if the intended research is noble.

On a different perspective, another leader, HR3 explained that using surplus embryos in research to help humanity is in line with the concept of *Dhayai* or compassion towards others. She gave an analogy where Hindu teachings allow abortion in special circumstances when the life of the mother is endangered. Similarly, HR3 argued that this line of teaching can be applied to allow the use of surplus embryos in ESCR in view of the many lives that can potentially be saved from the research outcomes.

Another leader, HR4 also agreed to the use of surplus embryos to 'avoid wastage'. However, HR4 called for minimum destruction of surplus embryos, in accordance to the concept of *ahimsa*, which is to refrain from harming any entity. He also based his argument on the observation of nature, whereby the carnivores have the teeth to catch its prey but the Hindu law of nature is that the killing of prey for survival is done in balance and not excessively. Hindus cite nature as the closest example to human conduct, and as such HR4 urged that research on surplus embryos should be carried out with the 'least destruction', adhering to research ethics.

All the Hindu respondents however, opposed the use of research embryos in SCR. For instance, HR1 objected to the act of intentionally cultivating embryos for research because according to him, creating the embryo and then destroying it in the name of research prevents the opportunity for the soul to fuse into the body. His clear objection expressed as following: "...the embryo has the opportunity to become the body later for the soul to come in. But, here, from the beginning [it] is very clear that you don't want these embryos to develop into a body. So, your purpose is very wrong, purposely creating the embryos not to allow its objective, [that is] the opportunity for a soul to come in". This is viewed as against the will of nature.

HR2 also did not forward his support as he is skeptical about the intention of scientists cultivating embryos in the laboratory solely for research. He questioned the need to create research embryos when the use of surplus embryos for ESCR is generally encouraged.

Meanwhile, HR3 claims the act only denotes the greed of human beings. HR3 said, "They don't have to become avaricious to create new ones. From the Hindu point of view they are incurring bad Karma."

HR4 concurred that creating embryos should be avoided to prevent acts of misuse. "Creating should be limited to needs, must not be misused", says HR4.

On the other hand, all Catholic representatives plainly disapproved ESCR. The Catholic respondents did not frame their arguments according to the sources of the embryo, as they had adopted a consistent standpoint against ESCR, regardless of whether it is a surplus or research embryo. All the respondents argued that the Church is against ESCR. CR1 viewed the use of surplus and research embryos as 'equally evil'. CR2 said there is no 'lesser evil' between the two options, and added that one 'cannot intentionally create life and then expose it to destruction'. Respondent CR3 gave an outright "no" for ESCR. The Catholic respondents were not against SCR per se, but they were against ESCR because of the nature of research which involves the 'destruction of human embryos' which they regard as living entities. Hence, from the Catholic perspective, the argument that the use of a surplus embryo in research is the 'lesser evil' is not defensible. The basis for their argument is that human life begins right from the point of fertilization, alluding to Biblical teachings. As such, the Catholic respondents emphasized that the act of discarding surplus embryos to waste, or destroying them in the name of research, or creating new embryos solely for research are all equivalent to termination of lives, and therefore ESCR is prohibited.

At this juncture, it is interesting to note that three out of the four Buddhist respondents did not see any moral difference between the use of surplus and research embryos, and they approved both. The Catholic respondents too did not see any moral difference between the two embryo sources, but gave an outright disapproval to ESCR because according to them research on both is equally destructive. This is where we find religious beliefs that shape the decision-making process. Given the same argument, the Buddhists and the Catholics arrive at opposing moral standpoints. Meanwhile, the findings show that though the Hindu respondents were motivated by different moral reasoning, they only supported the use of surplus embryos in research. The Buddhist and Hindu respondents stressed that they do not support scientific researches for the sake of advancement without taking into careful consideration of the impact of the research on their value system.

In summary, the official position of Islam in Malaysia on matters regarding ESCR is based on the national *fatwa*. Accordingly, the use of surplus embryos in research is allowed with the consent of the couple, but creation of research embryos solely for research purposes is prohibited. Other than the sole Buddhist respondent who disapproved the use of research embryos in ESCR, the rest of the respondents generally allow the use of both surplus and research embryos in ESCR, as they do not see any moral difference between both the sources. In addition, the Buddhists encourage ESCR as they are motivated by the moral desire to alleviate suffering of the people. The Hindus cautiously support ESCR, but limited it to the use of surplus embryos. They emphasized that donating surplus resources to the needy is in line with the religious concept of donation (*Dana*) and compassionate act (*Dhayai*). Thus, donating surplus embryos for research which benefits the society at large is viewed in the same vein. The Catholics gave outright disapproval to ESCR regardless of the embryo sources, because to them the end result is the same, which is the destruction of life.

## Analysis and Discussion

### Aspect (ii): Moral Standpoints Towards Attaining a Consensus on ESCR

The fundamental arguments and standpoints of the religious leaders from the Buddhist, Hindu and Catholic traditions pertaining to ESCR, with regard to attaining a consensus on matters concerning ESCR in Malaysia, are examined in this section. Generally, all the respondents from the three religious backgrounds, forwarded the view that they respect each other's faith and the provisions expressed by each faith pertaining to ESCR. However, they were of the view that obtaining a consensus concerning ESCR involving all the religious authorities is difficult as each religion has a different value-system.

Diverse views were observed within Buddhism and Hinduism. For instance, BR3 cautioned that even those who agree will have 'different reasons for agreement' and those who do not agree will also have 'different reasons for disagreement'. He suggested that the consensus need not be on points of agreement but could be on point of disagreement. Or else, BR3 said that each religious tradition could come out with its own guideline, which is within the Buddhist community, Catholic community and so forth.

Similarly, BR2 stressed that in line with Buddhists teaching not to react but to respond to changes, BR2 said that they do not challenge anyone's belief, but rather go with their own beliefs and understanding and give support where it is possible. BR2 also welcomed the ruling by the Islamic community which permits the use of surplus embryos for research, and she sees it as a good start.

BR4 stressed that in order to come up with a general consensus, all stakeholders must gather with an open mind and be willing to accept the views of others. He said that one can only speak on behalf of one's own belief and understanding of sacred texts. This is definitely a long-term goal, since pre-conceived notions of the religious authorities would hamper a fruitful deliberation on policies. Thus, according to BR4, it seems like the only way to go is to first accept the differences within and between every faith in a pluralistic society.

Meanwhile, according to BR1, one does not need a religious authority to indoctrinate the values in a person, but it comes with practicing fundamental beliefs. With time, knowledge and skills, he hopes that the religious communities will then come closer towards attaining a consensus.

On the other hand, HR1 agreed that every religion promotes good values and do not promote 'harm'. However, he cautioned that it is not possible to come up with a general consensus as each faith has its own set of doctrines. Perhaps, a basic guideline outlining the values would help but it cannot be generalized, says HR1. He added that certain aspects can be identified on the grounds that every religion promotes the 'common good'.

In line with this, HR2 stressed that to get a consensus would be difficult as there are different viewpoints. He instead suggested picking up the commonalities and common values of all major religions which can be shared among all races to derive

a guideline. If that is acceptable, then steps can be taken towards realizing a consensus, said HR2.

On the same point, HR4 asserted that value-systems of all religions must be respected and one should not override the other. HR4 also pointed out that the general consensus will be wide, to incorporate different viewpoints of what is allowed within every religion. As such, it would no longer be a general one, said HR4. He added that a national consensus needs to incorporate views respecting every religion.

The Catholic respondent, CR1 cautioned the danger of attempting a general consensus, as he sees that it would lead to a point of 'compromise' between the religious groups in order to come out with a guideline in black and white. He argued it would not be a 'unity of faiths', but rather a 'uniformity of views'. He asserted that each of them can only make moral judgments based on their religious ethos and should not be on 'cross-religious boundaries'. CR1 added that the respondents cannot evaluate the moral ethic code of another tradition, but they can only forward their recommendation based on their own teachings.

Meanwhile, Hindu respondent, HR3, expressed relief that the opposition from the Catholic community is a 'good sign to delay' any policies to ensure a check-and-balance regimen until the issues revolving around ESCR are explored thoroughly. She added that considerations should be given to all religious beliefs, and that the Hindus primarily count on good intentions.

Respondents CR2 and CR3 also said that it would be difficult to reach a consensus. CR2 acknowledged that each religious tradition promotes respect for life and disapproves destruction of lives. CR2 acknowledged that there is a challenge to come to a consensus, as he (representing the institution) is respectful of what others believe as much as he expects other religious communities to be respectful of what he believes. However, CR2 stressed that a consensus, to him, would simply mean prohibiting ESCR. Meanwhile, CR3 stressed that when it comes to a conflict of values between the right of embryos and freedom of scientific research, there is no other option other than to disallow ESCR.

Besides making known their standpoints for a consensus regarding ESCR, the religious leaders also gave their recommendations. Three Buddhist respondents, BR2, BR3 and BR4, recommended that ESCR should be continued for the benefit and progress of mankind, as long as it is done with good intention, promotes a non-harming principle, and for 'compassionate' reasons seeks to improve the health of mankind, and obeys the precepts in Buddhism.

Similarly, Hindu respondent, HR1 recommended that as long as ESCR is carried out in line with the Law of *Karma*, *Dharma* and *ahimsa*, it is encouraged for the betterment of society. He urged the religious leaders to weigh in the benefits and drawbacks before attempting for a consensus on ESCR for the betterment of mankind.

HR2 also expressed hope that the Hindu community will support and encourage ESCR which is aimed at benefiting mankind, if the subject matter is well understood by the religious communities. Thus, he encourages more studies to be undertaken on this issue.



HR3 did not move from her standpoint, that though surplus embryos can be used for research, but more importantly she stressed that ‘spiritual values’ need not be abandoned in pursuing ESCR.

Finally, HR4 reflected the need to look for alternatives, besides getting the scientists and medical representatives to sit together with the religious authorities to discuss about ESCR. According to HR4, ESCR can be carried on, but first, the Malaysian government needs to consult the concerned parties and stakeholders.

A Buddhist leader, BR1, who emphasised the sanctity of life, said that ESCR is not a matter of whether it ‘should or should not be allowed’, but whether it is ‘advisable’ or not. His recommendation is that if the research destroys lives or harm lives, then the research is not advisable and it is time to ‘search for other means’.

In a unanimous stand which is not surprising, all three Catholic priests, expressed their full support and recommendation towards exploring alternatives like Adult Stem (AS) cell research and called for a stop to all activities that result in the destruction of lives. The Catholics pointed out that AS cell research is the way out, and an alternative to ESCR.

The varying ethical viewpoints gathered in this study represent the fabric of a multi-religious society in Malaysia. The moral status assigned to a human embryo is based on one’s understanding of when human life begins, and it is very much influenced by religious beliefs or worldviews binding every country, making it difficult to attain a consensus (Isasi et al. 2004). In his paper “Is a consensus possible on stem cell research?”, Brock (2006) stated that the main obstacle to a consensus is the nature of ESCR which involves the destruction of human embryos. Brock argued that this moral obstacle does not survive scrutiny, and offered his arguments in support of ESCR. However, he also acknowledged that the arguments broadening support for ESCR will not change those who hold onto their religious belief that the human embryo warrants full moral status. Therefore, one cannot expect a full consensus on this issue. The varying ethical arguments on the status of human embryo and about the conception of life, make it hardly possible for a consensus between religions (Frazzetto 2004). The destruction of human embryos during research remains the primary concern of religious authorities with regard to ESCR.

UNESCO IBC (2001) recognizes the need to debate the subject on ESCR at the national level to enable expression of a broad range of views, and wherever possible to allow a consensus on the limits of permissibility of ESCR. In this study, the Buddhist and Hindu representatives taking into account the various value-systems in Malaysia, agreed that a consensus is difficult, but they believe that consultation and prolonged discussion over time among the different faiths will bring them closer towards achieving a unifying stand. The Catholic respondents, whilst respecting the various value-systems, firmly stressed that a consensus for them would mean none other than a rejection of ESCR.

The ethical concerns of the Catholic respondents are in accordance with the standpoint of the Vatican, the official teaching authority. The resources and declarations from Vatican concerning ESCR, include the ‘Declaration on the Production and the Scientific and Therapeutic Use of Human Embryonic Stem Cells’ (Pontifical Academy for Life 2000), address of the Holy Father at the 18th

International Congress of the Transplantation Society (John Paul II 2000) and the ‘Congregation for the Doctrine of Faith: *Instruction Dignitas Personae* on Certain Bioethical Questions’ approved by the former Pope (Benedict XVI 2008). All these documents, stress that the human embryo, from the moment of conception is a well-defined identity, and therefore manipulation and destruction of human embryos in research as ‘biological materials’ is unacceptable even if the goal is to find cures for diseases. This is congruent with the Vatican’s standpoint that emphasizes inviolability of life and objects to the practice of IVF itself.

The ethical concerns of the Buddhist respondents in this study differ from the paper by the renowned Buddhist scholar, Keown (2004), who pointed out that Buddhists oppose research on human embryos that entails the destruction of human life. Meanwhile, Promta’s (2004) views which give a fresh interpretation of Buddhist social ethics are reflected in the findings of this study.

The findings also concur with Walters (2004). Walters noted the pivotal role of a centralised authority in Catholicism, which is also evident in the stance of the respondents in this study. The absence of a single authoritative voice in Buddhism and Hinduism has led to varying interpretation of religious texts giving rise to a wide range of viewpoints. Nevertheless, the Buddhists and Hindu leaders (respondents) have embraced the absence of an authoritative voice as an advantage, urging religious holders to seek a personal understanding on the guiding principles.

As there are few writings on the Buddhist standpoint on ESCR, the findings of this study has provided new insights on the subject matter. Generally, the Buddhist respondents encourage ESCR if it is in accordance with the principle of ‘do no harm’, and if the intention of the research generates good *karma*. Likewise, the Hindu respondents in this study cautiously supported the use of surplus embryos in ESCR, as long as it is in accordance with *ahimsa*, and if the intention of the research is in line with law of *karma*. This has offered new perspectives and new dimension on the issue, which needs to be explored further in other multi-religious settings.

## Ethical Implications

With medical developments such as ESCR, there is a need to re-examine the religious texts. This is where the religious scholars and leaders offer their expertise in making moral interpretations of the sacred texts in light of today’s modern medical discovery. The voices of religions are influential in shaping a country’s policy, and ESCR is no exception. In a pluralistic society, a clash of ethical frameworks emanates from religious groups. There is limited space for common grounds and a comprehensive social consensus is unlikely to reveal as efforts to develop public policies are challenged from different ‘interlocutors’ (Brouillet and Turner 2005).

The absence of an authoritative voice in major religions (except the Catholic community) has led to diverse views. In a pluralistic society like Malaysia, diverse views exist between different faiths and within the same faith. The diverse views recorded in this study indicate a lack of consensus on matters concerning ESCR.

The lack of consensus ‘increases the complexity’ of ESCR (Jafari et al. 2008). In other words, lack of consensus makes it difficult to formulate public policies. According to Childress (2004), public policies should respect the diverse fundamental beliefs in a pluralistic society and not to be ‘held hostage to any single view of embryonic life’. This, however, is difficult to be fully realized in a multi-cultural setting when there are diametrically opposed views on the moral status of human embryo.

The neighbouring country, Singapore, has taken a lead among Asian countries to allow ESCR to be carried out on surplus embryos, and on research embryos when there is a strong scientific merit. This position was adopted after collecting the viewpoints of the religious authorities and various stakeholders on their moral acceptability on ESCR, which was then published as a report (Singapore BAC 2002). The Singapore BAC submitted its recommendations on ESCR assuring that it is not dominated by a single view. In Malaysia, thus far, the nation has formulated guidelines based on the national *fatwa* ruling that only allows the use of surplus embryos in SCR. It is hoped that the findings of this study offering the perspectives of the Buddhists, Hindus and Catholics will shed more light on matters concerning the permissibility of ESCR with regard to the use of surplus and research embryos.

The important news is that ongoing debates about the permissibility of ESCR reflect the concerns expressed by various groups, including the different religious traditions. On the other hand, ethical dilemmas continue to plague biomedical advancements such as ESCR. Thus, what is needed right now is open discussions on the matter without fear or prejudice. Generally, all the respondents expressed their respect to the various value-systems and teachings of different faiths in Malaysia. However, given the varying value systems, the respondents cautioned that a general consensus on ESCR involving all the religious groups is difficult or impossible to achieve at this point of time. The reason forwarded for the difficulty is the fear of overriding or having to compromise one’s doctrinal values to achieve a uniformity of views. However, the respondents generally proposed that inter-faith discussion would lead to the emergence of common values and common grounds to formulate a guideline. Nevertheless, this is fraught with difficulty, as for the Catholic leaders, the only option would be to disallow ESCR. Perhaps, for the time being, every religious group should come up with a general guideline, and with evolving knowledge and time, they may be able to get closer towards understanding ESCR which would also evolve over time.

Beyond the embryo debate, there are emerging issues in ensuring the translation of SCR into effective clinical applications (Hyun 2010). Hence, only time will tell us whether a common guideline is plausible for ESCR in near future or there is a need to shift to alternative solutions. In a nation that is culturally diverse, acknowledging and respecting each other’s perspective and celebrating the unique differences require tolerance and societal acceptance. For now, in the absence of a consensus on ESCR, accepting each other’s belief and not leaning towards a single viewpoint is the way forward.

## Conclusion

This study, being the first of its kind, has gathered the multi-faith insights on ethics of ESCR in Malaysia with regard to the use of surplus and research embryos, though there are many difficult grey areas to be explored. The findings of this study need to be communicated to the next level, which includes engagement with the public and various stakeholders. It is important that the religious leaders and representatives participate in open forums and inter-faith discussions to fully explore the issues pertaining to ESCR in the local context and propose recommendations to the government prior to the formulation of policies and framework. It is also recommended that the findings of this study be discussed in inter-faith forums alongside scientists and medical practitioners to encourage awareness of the principles that lie behind each faith which either prohibits or encourages ESCR. Inter-faith dialogues representing the non-Muslim population such as Malaysian Consultative Council of Buddhism, Christianity, Hinduism, Sikhism and Taoism (MCCBCHST), together with the Department of Islamic Development (JAKIM) would play a significant role in promoting healthy discussions. This study has examined the ethical discourse pertinent to the progress of ESCR, in a multi-religious context in Malaysia, which can be explored further in a broader global community.

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### Compliance with Ethical Standards

**Conflict of interest** The author declares that she has no conflict of interest.

**Human and Animal Rights** This study does not involve clinical intervention using human or animal subjects.

**Informed Consent** Informed consent was obtained in writing prior to interviews from all the religious leaders who participated in this study.

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