

Human Embryonic Stem Cell Research: Ethical Views of Buddhist, Hindu and Catholic Leaders in Malaysia

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Abstract Embryonic Stem Cell Research (ESCR) raises ethical issues. In the process of research, embryos may be destroyed and, to some, such an act entails the ‘killing of human life’. Past studies have sought the views of scientists and the general public on the ethics of ESCR. This study, however, explores multi-faith ethical viewpoints, in particular, those of Buddhists, Hindus and Catholics in Malaysia, on ESCR. Responses were gathered via semi-structured, face-to-face interviews. Three main ethical quandaries emerged from the data: (1) sanctity of life, (2) do no harm, and (3) ‘intention’ of the research. Concerns regarding the sanctity of life are directed at particular research protocols which interfere with religious notions of human ensoulment and early consciousness. The principle of ‘do no harm’ which is closely related to *ahimsa* prohibits all acts of violence. Responses obtained indicate that respondents either discourage research that inflicts harm on living entities or allow ESCR with reservations. ‘Intention’ of the research seems to be an interesting and viable rationale that would permit ESCR for the Buddhists and Hindus. Research that is intended for the purpose of alleviating human suffering is seen as being ethical. This study also notes that Catholics oppose ESCR on the basis of the inviolability of human life.

Keywords Do no harm · Embryo · Ethics · Intention · Sanctity of life · Stem cell research

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Introduction

Stem cell research (SCR) is progressing in Malaysia. Most of the SCR work has involved hematopoietic stem cells such as bone marrow, peripheral blood, and cord blood, and propagation and expansion of human embryonic stem cell (hESC) lines (Ministry of Health Malaysia 2012).

Stem cell therapy services in Malaysia are reportedly offered by Stempeutics Research, Nichi-Asia Centre for Stem Cells and Regenerative Medicine, Cytopeutics, CryoCord, CellSafe International Group, Stem Life, EmCell, and StemTech International (Academy of Sciences Malaysia 2013). Stempeutics Research is known to collaborate with scientists from Manipal Institute of Regenerative Medicine and Manipal Hospital in India, a multi-national project which also involves the National Population and Family Development Board of Malaysia, the University of Sheffield (United Kingdom) and the Ferdowsi University of Mashhad (Iran) (Harun et al. 2006). Stempeutics Research Malaysia also conducts research on the propensity of hESC lines (Pal et al. 2009).

Stem cell research in Malaysia is regulated by the *Guidelines for Stem Cell Research and Therapy* (Ministry of Health Malaysia 2009). The *Guidelines* state that:

- Surplus embryos from *In Vitro Fertilization* (IVF) trials are allowed to be used for research if parents provide consent;
- The creation of human embryos solely for research [referred to as research embryos] by any means including Assisted Reproductive Technology or through somatic cell nuclear transfer is prohibited

The use of human embryos in SCR raises ethical issues. The process of extracting stem cells from 4 to 5 day old embryos often results in embryos being destroyed (de Wert and Mummery 2003).

A frequent argument is that a human embryo is worthy of protection only after day 14 of fertilization. This is because the end of possible twinning around day 14 marks the onset of individualization. Besides that, the formation of a nervous system around day 14 marks the possibility of a first sensation (Fischbach and Fischbach 2004). The United States President's Council on Bioethics (2002) also notes that there are 'sound moral reasons' not to regard the early 14-day old embryo as the 'moral equivalent' of a human person, and justifies its use in life-saving research.

Proponents of life, who believe that life begins from the moment of conception argue that a 5-day old embryo is a nascent life and warrants the same moral status as that accorded to a human person. Supporters of the developmental view believe that moral status increases simultaneously as the embryo gradually ages. This may be taken to mean that a 5-day old embryo, which comprises a mass of superficially indistinguishable cells, lacks moral status.

We recently studied religious opinions on the morality of using research embryos as opposed to surplus embryos in Malaysia (Sivaraman and Noor 2014). The Hindu respondents believe there is less moral weight attached to the use of surplus

embryos compared to a research embryo, which is specifically created for the sole purpose of research and not as part of an infertility treatment. The Buddhist respondents, however, do not see any ethical difference between the use of either source of embryos and allows ESCR provided it is done with care and caution. The Catholic respondents, however, oppose the use of embryos, whether surplus or research embryos. This is consistent with past literature, including Doerflinger (1999) who reflected that Catholic teaching documents had called for laws protecting all human embryos from experimentation.

The Islamic position in Malaysia on ESCR is based on a *fatwa* ruling, that ESCR is allowed only if conducted on surplus embryos, however, the use of research embryos is prohibited (Department of Islamic Development Malaysia 2005). Since Malaysian Muslims belonging to the Sunni–Shafie school of thought have already adopted a consensus on ESCR through the formulation of the national *fatwa*, the views of local Islamic leaders were not gathered through active inquiry. A review of the literature comprising both local and international works was highlighted in our previous paper (Sivaraman and Noor 2014), and these included Islamic reflections on ESCR which were put forward by a number of prominent scholars (Sachedina 2000; Siddiqi 2002; Aksoy 2005). Accordingly, ESCR is allowed for the purpose of maintaining health, and if it can relieve people's suffering, it is then regarded as obligatory. From the Islamic notion of ensoulment, using early embryos in ESCR is ethically permissible because the soul is believed to enter an embryo between the 40th and 120th day of post-fertilization (Ilkilic and Ertin 2010; Fadel 2012).

At the international level, there seems to be a lack of resources on the formal positions of Buddhism and Hinduism on the ethics of ESCR.

ESCR appears to be in accordance with the Buddhist tenet of seeking knowledge and alleviating human suffering. A renowned writer on Buddhist ethics, Keown (2004), points out that Buddhism does not support research on human embryos that entails the destruction of human life. Meanwhile, Promta (2004) highlighted the notion of 'enforced donation' found in Buddhist social ethics, in which a rape victim has the right to abort the child as the child is perceived as an enforced donation. In the same manner, destruction of a 5-day old embryo in ESCR can be justified if it is for the sake of mankind. The fundamental precept of Buddhism against harm and killing is also recognized by the Singapore Buddhist Federation (G-3-33). However, the organization supports the use of 'non-sentient' pre-implantation embryos in ESCR if it has the intention of helping the human race (Singapore Bioethics Advisory Committee 2002). The 5-day old embryo is referred to as a 'non-sentient' entity, because the sentience of embryonic life is recognized at a later stage of development i.e. when the consciousness of the embryo is evident. It is worthy of note that Buddhism does not believe in the notion of an eternal soul (Dhammananda 2002). As such, Buddhist scholars define the presence of life in embryos based on the concept of sentience and consciousness.

Hindu deliberations focus on the concept of *karma*. In Hinduism, conception is the beginning of the soul's rebirth from a previous life (Knowles 2009). Hindus believe the soul (*atman*) transmigrates from one life to another and thus the [present] life is a transition between the previous one and the next (Firth 2005). Hindu deliberations on ESCR are rather limited. Destruction of life is held to be bad

karma unless the act is unavoidable and carried out for the ‘greater good’ of humanity (Tyagananda 2002). The Singapore Hindu Endowments Board (G-3-2) cautiously allows the use of stem cells from 5-day old embryos to establish stem cell lines in culture. It accepts the use of embryonic stem cells aimed at protecting life and finding cures for diseases, while making it clear that killing a fetus is a sinful act (Singapore Bioethics Advisory Committee 2002).

For the Catholic community, there is a univocal voice among the churches worldwide adopting the stand taken by Vatican—the central official teaching authority. Catholicism emphasizes the inviolability of early embryonic life, thus opposing ESCR. Catholics believe that the embryo is a human life from the moment of conception and hence deserves protection and respect. The Catholics also believe that the soul which denotes the presence of life, comes into existence at the point of fertilization. The Pontifical Academy for Life (2000) in its “Declaration on the Production and the Scientific and Therapeutic Use of Human Embryonic Stem Cells” ponders the issue of whether it is moral to produce living human embryos to obtain stem cells. The Declaration noted that ‘a *human embryo from the moment of the union of sperm and egg is a well defined identity...and thus cannot be considered as [simply] a mass of cells*’. Pope John Paul II further opined that “...insofar as they involve the manipulation and destruction of human embryos, are not morally acceptable, even when their proposed goal is good in itself...but rather make use of stem cells from adults...in order to respect the dignity of every human being even at the embryonic stage” (John Paul 2000). It is however noted that some liberal Catholics appear to support ESCR. Farley, a renowned ethicist, argues that ESCR may be carried out to promote human well-being (Farley 2000). She additionally notes that official religious documents do not indicate the exact moment when the soul is infused and no biblical verses seem to support the occurrence of ensoulment (Farley 2004).

Malaysia is a melting pot of diverse ethnicities, religions and cultures. The population in Malaysia comprises 61.3 % Muslims, while the rest is made up of 19.8 % Buddhists, 9.2 % Christians and 6.3 % Hindus (Department of Statistics Malaysia 2010). In a country of multiple cultures and religions, whose citizens have a firm belief in God and/or a superior power, and who constantly seek guidance from sacred texts on issues concerning life and death, how is the contentious issue of human embryos being inexorably destroyed in SCR addressed?

The report issued by the International Bioethics Committee of the UN Educational, Scientific, and Cultural Organization (UNESCO) in 2001 on “The use of embryonic stem cells in therapeutic research” recognizes the multitude of opinions on matters concerning ESCR, and the diverse positions adopted by different nations. This is where ethical debate facilitating a resolution at the national and international level is paramount (UNESCO IBC 2001). It is noteworthy that Malaysia’s neighbour, Singapore, has initiated a study which involves consultations with various stakeholders, including religious authorities, in order to gauge their moral standpoint on ESCR. In Malaysia, apart from the Islamic view in the form of the *fatwa* ruling on ESCR, the input from other religions has yet to be documented. The importance of multi-religious participation in bioethical discourses in Malaysia to advance public understanding on a multitude of sensitive yet pertinent issues has

also been addressed by scholars such as Fujiki and Macer (1998). It is therefore germane that Malaysia, which has a similar cultural, demographic and religious make-up as Singapore, produces at the very least, a report comprising the views of all religious councils on ESCR. Hence, our present study on the ethics of ESCR in Malaysia from the perspectives of Buddhist, Hindu and Catholic leaders aims to provide a significant contribution towards that report.

This study will explore three themes that represent the pertinent theoretical framework from which we wish to emphasize, all the religious ethical deliberations must be launched. The themes 'sanctity of life' and 'do no harm' form the basis of many moral dilemmas concerning human reproduction. In addition, there is a third theme—'intention of the research'—a notion that is rarely explored. In our work, we extract these themes based on the deliberations of the respondents.

To the best of our knowledge, no study has explored multi-religious viewpoints on the ethics of ESCR using these themes. A recent study that essentially captured the opinions of religious leaders on the moral status of the embryo in Malaysia (Foong 2011), differs on a large scale from our study as it does not employ the theoretical framework developed in our study.

Method

Qualitative data offer detailed descriptions, and direct quotations capture the perspectives of people (Patton 1990). In this study on the ethics of ESCR, semi-structured, in-depth, and face-to-face interviews were conducted with religious leaders from the Buddhist, Hindu and Catholic communities.

Ethical concerns, knowledge and attitudes among medical students and graduate doctors with regard to ESCR have already been investigated (Manzar et al. 2013). The ethical perspectives of scientists on SCR gathered via focus group interviews have also been addressed (Longstaff et al. 2009). It is beyond the scope of this study to look into scientists' perspectives on ESCR in Malaysia given the constraints to engaging with scientists in a bioethical discussion. This study also does not deal with layman perspectives on ESCR, which would require a large sampling survey. Moreover, public engagement on issues like ESCR is still in its infancy in Malaysia.

There are many denominations within the Christian faith in Malaysia such as Roman Catholic, Methodist, Anglican, Lutheran, and Presbyterian. This paper has elected to explore the Catholic perspective, being the major denomination in Malaysia. There are more than a million Catholics, representing 40 % of the 2.2 million Christians in Malaysia (Herald Malaysia 2012).

There is no strict criterion for sample size as it depends very much on the purpose of inquiry, what the researcher wants to know, and what can be gathered with available resources (Patton 1990). To the question of how many interviews are enough, Baker and Edwards (2012) surmised that 'it depends' because of the need to take into account not only the methodological and epistemological considerations, but also other 'outside factors' like difficulty in accessing the participants.

For every faith, leaders from the highest authority/echelon were identified by their respective religious councils. The availability of religious leaders who also had

a good understanding of 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 were interviewed; four Buddhist monks and leaders, four Hindu leaders and three Catholic priests.

Religious leaders holding positions of high office within the clergy and priesthood were selected as participants in this study, in view of their vast experience, and knowledge, and their significant contributions to ethics committees, inter-faith council meetings and dialogues. These leaders represented their respective religious bodies, all of which participate in the Malaysian Consultative Council of Buddhism, Christianity, Hinduism, Sikhism and Taoism (MCCBCHST)—the national authority and umbrella body for all the faiths in Malaysia, except Islam. The perspectives of Sikhism and Taoism are not covered in this study.

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 authorities representing their respective religious communities, whose views are often sought in public review meetings and inter-faith dialogues on various ethical issues such as abortion, IVF and organ donation.

For the purpose of analysis, the Buddhist respondents are labeled BR, Hindu respondents HR and Catholic respondents CR. All Buddhist respondents are from the Theravada school of thought, the major branch of Buddhism. The profiles of the respondents are given in brief:

BR1 President of the Malaysian Buddhist Research Society, Advisor to the Buddhist Missionary Society Malaysia, Consultant to the Young Buddhist Association of Malaysia (YBAM), Vice Chairman of *Yayasan Belia* Buddhist Malaysia (YBBM), *Dhamma* speaker, and author of several Buddhist books.

BR2 Buddhist nun at Maha Vihara Buddhist Temple—the oldest Buddhist shrine in Kuala Lumpur; and she actively participates in inter-faith dialogues worldwide.

BR3 President of the Buddhist Society at University Putra Malaysia, volunteer at the *Sentul* Buddhist Temple Free Medical Clinic, founder and chairman of the Malaysian Buddhist Mental Health Association, and *Dhamma* speaker.

BR4 Chief Monk of the Sri Lanka Buddhist Temple in Kuala Lumpur, the second oldest Buddhist shrine in Malaysia. Spiritual Advisor to the following Buddhist organizations: *Siri Jayanti* Association, *Siri Jayanti* Welfare Organization, *Maha Karuna* Buddhist Society, Metta Buddhist Society, Young Buddhists Association of Malaysia (YBAM), *Yayasan Belia* Buddhist Malaysia (YBBM) and many more.

HR1 Executive Council Member of MCCBCHST. Former Deputy President and current central council member of the Malaysia Hindu Sangam (MHS)—the official body for Hindu affairs in Malaysia.

HR2 Active in MHS for over 28 years. General Secretary of MHS in 2008 and was given the task of propagating religious knowledge to the public through workshops, seminars, camps, and lectures at temples and universities.

HR3 President of the Malaysian *Arulneri Thirukkootam*, Vice President of century-old Sri Kandaswamy Temple in Kuala Lumpur, and member of the Religious Advisory Board of the MHS. Columnist in the four Tamil local dailies on the Hindu *Dharma* of forty *samskaras*.

HR4 Former President of MHS from 1996 to 2009, and its current advisor. Former Vice President of the World Hindu Congress, and former President of MCCBCHST.

CR1 Assistant Parish Priest from 2009 to 2012, and installed as Parish Priest in January 2012 at St. Francis Xavier Church.

CR2 Catholic Priest of *Archdiocese* of Kuala Lumpur, the Director of Archdiocesan Pastoral Institute, Director of Catholic Research Centre, Editor of Catholic Asian News, and Member of the Office of Theological Concerns of the Federation of Asian Bishops Conference. Spiritual advisor to the Catholic Doctors Association of Malaysia and authority for Church teachings in medical ethics. Appointed by the Holy See as 'consultor' to the Pontifical Council for inter-religious dialogue in 2014.

CR3 Started ministry in 1998. Has served as 'Diaconate-in-action' from May 1998 to May 1999, Assistant Parish Priest, Parish administrator, and Head of Diocesan Bible Ministry from June 1999 to June 2002. Appointed as the Executive Secretary of Regional Bishop's Conference in 2010. Priest at Malacca-Johor Diocese (MAJODI) and in-residence priest at the Church of St. Joseph, both located in the south of Peninsular Malaysia.

Informed consent was obtained in writing from the respondents prior to the interviews. Care was taken to exclude any personal moral reasoning. As such, the respondents expressed their views on the ethics of ESCR with the support of various sacred texts. Prior to the interviews, the researcher made it very clear to the respondents, that human embryos are inevitably destroyed in ESCR in order to harvest stem cells. In other words, a brief explanation on the scientific background of ESCR was given to respondents so as to prevent respondents from being misguided or misinformed.

The interviews were conducted with the help of an interview guide which had a list of key questions, but which did not restrict the flow of conversation. This allowed space to seek clarifications and explanation as the respondents freely relayed their religious perspectives with regards to the ethics of ESCR. All the interviews were in English. The audio-recorded interviews were then transcribed in full.

Thematic analysis, which captures the views, emotions, experiences and concerns of the participants, was employed in this study. For the purpose of analysis, the researcher numbered the lines of the transcripts, and examined them by marking and highlighting segments of the conversations, and searching for individual ideas. Then, the key ideas were grouped and clustered into conceptually similar categories, called themes.

Presenting verbatim quotes allows readers to understand why respondents have particular views or perspectives through their choice of words (Corden and

Sainsbury 2006). In this study, the ethical perspectives on ESCR are presented in verbatim and reported as precisely as they were voiced by the respondents.

Results

Three major ethical concerns or values were identified from the interview sessions. To ensure a structured, in depth and critical discussion, the responses were grouped according to the following three values, henceforth denoted as ‘themes’. The first theme is the value of the sanctity of life. The second is the religious principle of ‘do no harm’, and finally, ‘intention of the research’.

Theme 1: Sanctity of Life

Respondents generally argued on the sanctity of life based on either one of the two positions:

- Argument (1) Life begins from the point of fertilization. Thus, utilizing 5-day old embryos in ESCR is destruction of life.
- Argument (2) There is no sign of life in a 5-day old embryo. Thus, utilizing 5-day old embryos in ESCR does not constitute killing.

(a) Response from Buddhist Leaders

The responses from the Buddhist leaders on the value of sanctity of life can be framed according to the concept of early consciousness and process of fertilization.

BR1 differed from the other respondents on when life begins. He framed his views on the sanctity of life from the perspective of fertilization, promoting the argument (1) that life begins from the moment of fertilization. As such, he regarded the early embryo as a living entity and it should not be destroyed. Reasons such as the ‘*preciousness of human life*’ and the belief that it is ‘*rare to be born as a human being*’ were forwarded, asserting the need to respect human life at all stages. In addition, killing is still viewed as killing regardless of its purpose.

In contrast, BR2, BR3 and BR4 did not view ESCR as tampering with the notion of sanctity of life, promoting the argument (2) that there is no sign of life in a 5-day old embryo. They framed their views on the sanctity of life from the perspective of consciousness. For instance, BR2 stated that life only begins when there is a consciousness or when there is a reaction to stimuli and argued that “*It doesn’t get classified as killing because it is not a life yet, it is only a bunch of cells [undergoing] physical division.*” Another respondent, BR3, asserted that life is defined when the physical part, that is the sperm and ovum co-exist with the mind part, that is the consciousness. “*The definition of life is when the mind [consciousness] and body come together.*” The consciousness component is not present in a 5-day embryo, and therefore it is argued that life is yet to be formed. Adding to this, BR4 stated that according to Buddhism, the idea of killing is largely associated with an act that is pre-meditated by anger and bad motives. None of this

applies to ESCR. He said, "...here all these thoughts are not [present],...only cells [present]...[it] is not considered life."

Discussions on the value of sanctity of life also led the Buddhist respondents to examine this issue from the perspective of rebirth. BR1 stated that, "*all life forms in the process of samsara*". Buddhism views karmic energy as the non-material energy that travels from one being to another forming the cycle of birth and death known as *samsara*, resulting in a causal relationship. BR2 said, "*For us everything is impermanence...There is a causal relation, continuous relationship... Buddhism is about non-self, or annata*". Similarly, BR3 stated, "*We don't call it soul because the word soul implies there is a permanent self...here is continuation of entity. Buddhism is about non-self, non-permanent.*" BR4 also shared a similar view that sperm, ovum and consciousness need to be present for rebirth to take place. As such, BR4 said that "*it is the particular life energy that moves, there is no soul involvement from a Buddhist point of view*".

Buddhism refers to life energy (consciousness) as non-material self or '*annata*'. It is interesting to note that, although all the respondents addressed rebirth in a similar manner, it was the moral interpretation of the leaders that led to the point of contention, where BR2, BR3 and BR4 argued that a 5-day old embryo lacks consciousness and thus has no sign of life, voicing approval for ESCR, whereas BR1 asserted that life begins from the moment of fertilization, providing a basis for objection to ESCR.

(b) Response from Hindu Leaders

The response from the Hindu leaders on the value of sanctity of life can also be framed according to the concepts of early consciousness and process of fertilization.

Two Hindu respondents, HR1 and HR2 did not view ESCR as tampering with the notion of sanctity of life promoting the argument (2), that there is no sign of life in a 5-day old embryo. According to them, a 5-day old embryo is still in a vegetative state. Meanwhile, the third respondent, HR3, promoted argument (1) that life begins from the point of fertilization. The fourth respondent, HR4, was rather cautious in not promoting either argument. Since the issue pertaining to ESCR was relatively new to the local Hindu leaders, they were very careful when making their stand so as not to appear to be giving full-fledged support to ESCR.

HR1 permitted ESCR as long as it abides by the Law of Karma, the Law of Dharma and the principle of *ahimsa*. HR1 presented his views on the sanctity of life from the perspective of consciousness and ensoulment. He regarded a 5-day old embryo as still being in a vegetative state, a living cell without the presence of a soul. "*At the cellular level, we believe that it is just a vegetation process. It is a living cell, with no soul... For the soul to dwell, a full purpose of the body with its functionality must be there. Usually, this will take some time, maybe around three months. So, at the 5-day [old] embryo stage, we believe [it] is more of a vegetation process.*"

Ensoulment takes place around 90 days after fertilization, according to Hindu scriptures like *Thevaram* and *Thirumanthiram*. As such, extracting stem cells from a 5-day old embryo is not considered killing because the embryo is still in its

vegetative state and the soul is not present yet, says HR1. Another respondent, HR2, also presented his views on sanctity of life from the perspective of consciousness and ensoulment. He argued that “*in five days, it [embryo] has not found the soul yet*”. In addition, HR2 said, “*The soul is purposeless when the body is not there. That’s why in a 5-day [embryo], the soul won’t feel the pain because the body is not formed yet*”. According to HR2, there is no doubt that human life is precious right from the beginning, but the question is whether the soul is present in a 5-day old embryo, which lacks a structured body.

In contrast to the rest, HR3 firmly established her views on the sanctity of life from the perspective of fertilization. HR3 was protective of human embryonic life. She recalled the South Indian Hindu tradition which regards the egg as being non-vegetative for the reason that it has the potential to develop into a living being. The fertilized ovum or embryo should, therefore, be recognized as being at a more advanced stage in human life and hence worthy of protection. According to her, human life has already begun when the male sperm fertilizes the egg. HR3 gave due reverence to the male and female gametes. According to HR3, “*The sperm is a life...and ovum also, already the potential is there. So, the two, already when they meet each other [at point of fertilization], they have the potency of developing into a human or a life.*” As such, HR3 did not favour ESCR.

On the other hand, HR4 was rather cautious in making his stand. HR4 presented his views based on the potentiality of the embryo to become a human being. “*... it [a 5-day embryo] has potential for life. Once the soul gets into the fertilized egg, the life starts, it may take about a few days,*” said HR4. On the perspective of ensoulment, HR4 stressed the belief that “*when a body dies, the soul doesn’t die*” but moves on to another body, suggesting that a 5-day old embryo has the potential for life.

The Hindu tradition is that ensoulment is the concept underscoring the value of sanctity of life, where the presence of a soul in a body is a sign of life. When a body dies, the soul transmigrates to another body resulting in continuity according to respondents HR3 and HR4. However, in a 5-day old embryo which is not yet fully developed, the soul is not present, according to respondents HR1 and HR2. On the whole, the Hindu respondents deliberated on the sanctity of life from various perspectives, but they all arrived at a similar standpoint, that is to have reservations about allowing full-fledged research on human embryos.

(c) Response from Catholic Leaders

Unlike the Buddhist and Hindu leaders, all three Catholic priests were well-versed on the ethical issues regarding ESCR. All the Catholic respondents, CR1, CR2 and CR3, unequivocally held to the argument (1) that life begins from the point of fertilization, thus objecting to any form of ESCR.

All of them unambiguously held the official position declared by the Vatican. They presented their ethical views on sanctity of life from the perspective of fertilization only. All the respondents reiterated their belief that human life begins from the moment of conception, is held sacred from thence onwards and must be accorded protection, respect and dignity. CR1 explained, “*The church always held*

that human life from moment of conception must be accorded protection and dignity.” The Vatican encyclicals, and Book of Genesis verse 1:26–28 and verse 9:6, citing that human persons are created in God’s image and likeness, and hence respect ought to be given to human life, were referred to. CR1 declared, “...they [embryos] are created in God’s image and likeness [Genesis 1:26–28]. Therefore, must give dignity and respect [in] accordance to a human person.”

Although there is no divine revelation about when ensoulment actually takes place, the respondents took the position that the soul is present from the moment of fertilization. As CR2 put it, “Our position is that at the moment of conception when the sperm and egg is fused, life begins and there is a soul already in it”. CR2 highlighted the view that life is sacred and, since an embryo is a life, the embryo is also sacred from the beginning. As such, the embryo should not be treated as a research subject. CR2 further added, “God breathing life [means] God is giving a soul into a human person and for us God gives a soul at the moment of conception at the very first day itself.” CR3 concurred that, “Since we do not know exactly when human life begins, [it is] best to provide protection of embryos from earliest stage of conception, when ensoulment occurs.”

Regardless of the motivations, CR3 asserted that killing is killing, and this applies to ESCR. CR2 put it concisely, whether it is about discarding surplus embryos, or destroying embryos for research, the end product is terminating lives, and hence both are to be treated as being equally evil. CR2 added that destroying life at any stage is prohibited. CR2 said that there is no question of “life impotency” or as to “when ensoulment takes place”. In other words, the Catholic respondents were consistent in holding on to the principle of respect for life at all stages. To the argument that a 5-day old embryo has not developed a nervous system, and therefore it is not able to sense pain and lacks consciousness, respondent CR3 alluded to the Biblical verse that human beings are made in the image and likeness of God, and not determined by any motor or neural functions. Thus, CR3 stressed that such an argument should not be used to justify research on human embryos.

On the whole, the Catholic respondents explicitly expressed a consistent view underscoring the value of sanctity of life, emphasizing that life begins from the point of fertilization. The Catholic respondents emphasized the inviolability of embryonic life, and gave priority to according protection to human embryos.

Theme 2: Do no Harm

In this section, the concept of non-maleficence embodied by the phrase, “first, do no harm”—is extended to human embryos. The responses obtained from the religious leaders either showed that utilizing 5-day old embryos in research violates the principle of ‘do no harm’ or that it did not. The Buddhist and Hindu respondents guided by the principle of *ahimsa* were against inflicting suffering on embryos. The Hindus and Catholics, who believe in ensoulment, also shared their concerns about not harming a soul, and avoiding hurting living entities. It is interesting to note that generally, the Buddhist and Hindu respondents arrived at a similar standpoint, which was to support ESCR, while also maintaining the principle of ‘do no harm’.

Contrary to the rest, the Catholic respondents held the view that ESCR does inflict harm on the embryo's soul, and thus cannot be justified in the name of public good.

(a) Response from Buddhist Leaders

Respondents BR2, BR3 and BR4 explained why utilizing a 5-day old embryo in ESCR does not violate the principle of 'do no harm'. Their view was that life only begins when there is a consciousness or when there is a reaction to stimuli. As such, they argued that utilizing 5-day old embryos for ESCR does not violate the first precept in Buddhism, which discourages acts that inflict harm.

For instance, since a 5-day old embryo is not regarded as a sentient being, BR2 stressed that '*as long as this [research] is based on non-violence and not hurting another being*' it is allowed. She further stressed that "*there's no damage or harm being done here [ESCR] by using these [embryonic stem] cells.*"

Similarly, BR3 asserted that the first precept in Buddhism, 'do no harm', is not violated in ESCR. BR3 stressed that, generally, there are no concerns about harming embryonic life since a life 'has not formed' yet in a 5-day old embryo.

BR4 reiterated the argument about not inflicting harm, however, he pointed out that a 5-day old embryo is not sentient, and thus there is no pain inflicted on the embryo if it is utilized for research. In his words: "*We can say [for] a 5-day [embryo], there are no senses... Pain definitely won't be there.*"

On the other hand, BR1 emphasized that harvesting stem cells from a 5-day old embryo does inflict harm to the entity. BR1, who held the belief that a 5-day old embryo has life, explained that according to Buddhism, what is considered wrong or '*akusala*' cannot be justified for its outcome or better good. Thus, BR1 argued that research should be done in a way that does not inflict suffering on others, and recommended finding alternatives to using embryos for research. In his words: *They can find many other ways to solve the problems. They should try do their research in such a way as not to incur suffering to other lives.*

(b) Response from Hindu Leaders

HR1 said that Hindus are guided by the principle of *ahimsa*, which means you cannot do harm to any living being or soul. HR1 particularly asserted that harming a soul is bad *karma*. However, HR1 pinpointed that a 5-day old embryo does not have a soul. "*As a 5-day embryo, [it] still has no soul in it, no conscience in it...there is only a vegetation process of a cellular activity, and a soul cannot dwell, because for a soul to dwell, a comprehensive body structure hasn't developed yet.*" This means, according to HR1, a 5-day old embryo which is comprised of cells has not developed a structured body in which the soul may dwell. As such, harvesting stem cells from a 5-day old embryo does not harm a soul, according to Hindu tenets.

While maintaining the stand of not harming a soul, HR2 stated that research on a 5-day old embryo is encouraged because "*the soul has not gone through a process of happiness and bitterness. It has not gone through the process of karma, the process of pain, and all the experiences of a soul yet. The soul is purposeless when the body is not there.*" He added that this is the reason a 5-day old embryo does not

experience pain, because the body is not formed for the soul to dwell in yet. In other words, according to Hinduism, it is the soul that experiences the pain and pleasures of life. Since a 5-day old embryo does not have a soul, it is allowed to be used for ESCR.

HR3 did not comment on this aspect. HR4 disclosed that decisions on contentious issues affecting Malaysian Hindus are often made in consultation with rulings made by the government of India. The main emphasis, he says is *ahimsa*, which is to avoid harming others. In his view, a 5-day old embryo is on the verge of becoming a life. HR4 referred to *Siva Puranam* on the 'evolution of consciousness', describing plants sitting at the lowest level, followed by animals and human beings at the highest due to their possession of an intellect. Referring to ESCR, he said "*You cannot be completely harmless, but avoid [inflicting] harm intentionally.*" While not disapproving ESCR, H4 asked that 'less destruction' be demonstrated when conducting such research. This would be in sync with the concept of *ahimsa*.

(c) Response from Catholic Leaders

The Catholic respondents were of the view that ESCR, which involves the destruction of embryos, inflicts harm on embryos and their souls. Therefore, ESCR is not justified.

Respondents CR1 and CR2 rejected the argument that ESCR promotes a better quality of life, based on the principle that the 'end does not justify the means'. CR1 said, "*the argument that greater good overweighs the evil means cannot be tolerated*". CR2 concurred. Another respondent, CR3 alluded to a clause in the Bible i.e. the Book of Mark verse 8:36 and Book of Matthew verse 16:26 that states "*What does it profit a Man if he wins the whole world but suffer the loss of his own soul?*", stressing that the common good should not be at the disproportionate expense of other living entities.

Commenting on the notion of harming a soul, CR2 argued that a soul is present from the moment of conception, according to Catholic belief. Thus, the destruction of an embryo harms a soul. Adding to that, CR1 said that the embryo should be protected from any harm, to allow it to fulfill its potential of becoming a human being. He added that the creation of embryos disrupts the flow of Nature and is not in accordance with God's plan. All of the respondents asserted that they were not against SCR per se but only against ESCR, as it involves the destruction of human embryos which they regard as living entities right from the beginning.

Theme 3: Intention of the Research

Intention is an intrinsic element of Buddhism and Hinduism, and is referred to as *sankalpa*, is beyond mere goals. In Buddhism, right intention is the basis for right view, right thought and right action. Similarly, right intention is the basis of good *karma* in Hinduism. The 'intention of the research' is a very important factor among the Buddhist and Hindu respondents. Accordingly, they referred to the benefits of ESCR, such as research for a good cause, for betterment of life, for the benefit of all, and to end the suffering of mankind. Other positive values such as encouraging

donation, and not wasting resources were also emphasized. The strong views on the intention of the research given by Buddhist and Hindu respondents set them apart from the Catholic leaders who objected to ESCR. None of the Catholic leaders deliberated the issue from the point of view of the ‘intention of the research’.

(a) Response from Buddhist Leaders

In general, all the Buddhist respondents agreed that ESCR should be promoted based on the intention of the research itself, which seeks to help mankind. In view of the benefits of the research, BR1 cautiously agreed on the use of surplus embryos from IVF trials in research, on the grounds of not wasting resources.

BR2 argued that the use of embryonic stem cells in research to help mankind to have a better quality of life should be allowed. In her words: “...*here you are trying to actually help a life by using some cells, to live a better life, to have a better quality of life*”. BR2 pointed out that the aim of every Buddhist is to be free from suffering. “*For us our main aim is to bring suffering to an end, to be free from suffering*”. This means that if the aim of ESCR is to alleviate the suffering of people, it is encouraged. In addition, the motive or intention of the research is what determines good *karma*, said BR2.

Similarly, BR3 noted that Buddhism allows ESCR but with conditions. The conditions are based on the intention of the research and the end result. BR3 added that Buddhism does not look into other aspects, such as playing God, but rather believes in intentions. As such, if ESCR is based on good intentions, then it is encouraged. In addition, BR3 said that moral interpretation is important in making decisions. Even though the destruction of embryos in ESCR is inevitable, the intention behind the research is deemed to be important. BR3 added, “*the intention to help the public suffering from diseases is [regarded as] a higher purpose.*”

BR4 was driven by the motivation and intention to do good, through the concept of donation. ESCR is in line with the notion of *Dana* (donation) and empathy, said BR4. “*Buddhism totally supports scientific development [in] doing some sort of research as well as helping people, where we call it Dana or donation.*” Thus, donating embryos for research to save human lives represents a good intention and symbolizes empathy towards society. The overall objectives of research which benefits people are also considered noble by BR4.

(b) Response from Hindu Leaders

The Hindus were also motivated by the intention to do good. HR1 cited verses such as ‘*Inbame sullege ellorum vaalga*’ and “*Ellorum inbutrirukka ninaipadhuve-allamal veronrariyom Paraparam*” which basically means let everybody live in harmony, promoting benefit for all. He also referred to scriptures which call for the ending of people’s suffering from various diseases.

HR2 referred to Hindu scriptures and texts like *Vedas*, *Manudharmashastra*, *Thirumanthiram* and *Periya Puranam*, and presented his argument through the concept of donating. Donating embryos for research is in alignment with scriptural teachings which state that excess materials ought to be donated for a good cause.

Sacrificing for the betterment of others and for the benefit of humankind is encouraged in Hinduism, said HR2. He cited a verse from the *Thiruvassagam* text that says, “*You are the classical people and at the same time you are most advanced people*”—which means promoting scientific advancement while maintaining cultural values. He further added that it is important to look at the end result. According to him, if the intention of ESCR is geared towards helping mankind, then it is regarded as good *karma* even though it may involve the destruction of embryos.

From a different perspective, HR3 pointed out that there is leeway to carry out research on embryos in accordance with the tenets. Hindu teachings related to *Dhayai* or *parivu*, which means compassion and caring, are respected when greater consideration is given to the mother’s life. Accordingly, Hindu scriptures allow abortion if the mother’s life is in danger. In the same vein, this analogy could be applied to endorse the use of surplus embryos in ESCR to find promising cures for people suffering from illness.

Given its intention to save lives, HR4 did not object to ESCR but called for ‘less destruction’. He cautioned that ‘random killing’ should be avoided, citing Hindu teachings about nature—carnivores are given the necessary teeth to kill their prey, but it is rather for the purpose of fulfilling their need for survival and not, essentially, for the purpose of killing. Likewise, HR4 said research on embryos to improve the health conditions of the people can be viewed in the same manner, as long as the research is carried out with good intentions and wastage is minimized.

Discussion

This study advances three value concerns underlying the ethical reasoning of Buddhist, Hindu and Catholic respondents which subsequently shape their respective moral standings regarding ESCR. These are the ‘sanctity of life’, the principle of ‘do no harm’ and the notion of ‘intention of the research’. A conflict of interest or ethical dilemma develops in many religious deliberations when attempting to balance the value of the sanctity of human life with the need to alleviate human suffering, especially when the use of biomedical interventions and related scientific research seem to involve the sacrifice of ‘human entities’. ESCR, in particular, poses a rather acute problem. The destruction of human embryos during research still remains the primary concern of religious authorities with regards to ESCR.

The ethical discussions have always revolved around the moral status of the embryo (George and Gómez-Lobo 2005; Hug 2006; DeGrazia 2007). However, in a multi-religious context, the morality of ESCR varies considerably according to religious interpretation (Jafari et al. 2008). Accordingly, the Roman Catholics hold the belief that the embryo acquires full moral status from the moment of conception. The Buddhists and Hindus are more concerned about ‘ramifications to spiritual life’, taking into account the karmic considerations, thus making ESCR possible.

Walters (2004) has observed that the presence of a “centralized authority” in Catholicism may be responsible for adjudicating ethical disagreements, unlike Hinduism and Buddhism where there is no central authority, resulting in a diversity

of views. The Buddhist and Hindu leaders in this study have embraced this advantage, which encourages individuals to seek personal understanding from the scriptures (Sivaraman and Noor 2014).

All of the respondents, regardless of their religious background, underscore their views from the vantage point of sanctity of life. Respondents also deliberated on the principle of 'do no harm'. They either discourage research that inflicts harm to living entities or allow ESCR with reservations. The Buddhists and Hindus give priority to the intention and potential of the research itself, thus ESCR is encouraged for a good cause. In contrast, none of the Catholic respondents view intention of the research as a motivational factor in approving ESCR. The strong view on intention of the research among Buddhists and Hindus differentiates them from the Catholics who emphasize the sanctity and inviolability of life.

1. Sanctity of life

The central point of the argument for the Catholics revolves around the principle of sanctity of life. The Vatican is the official teaching authority of the Roman Catholic Church, and due to its thoroughly developed views, the Vatican has become the 'unappointed voice of global Christianity' (Jafari et al. 2008). In general, it is taken as Gospel truth by Roman Catholics that an embryo is a human life from the moment of conception and deserves protection and respect (though they recognize the fact that the embryo is not a human person yet). Catholics also hold the belief that the soul, which is the sign of life, is present from the point of fertilization, thus a 5-day old embryo is a living soul. They have established a consistent standpoint in their objections to ESCR.

2. Do no harm

All of the respondents proposed that the principle of 'do no harm' needs to be considered when dealing with human embryos. The Buddhists and Hindus emphasize the principle of *ahimsa*. *Ahimsa*, loosely translated as non-violence and non-hurting, is similar to the clause 'do no harm' (Jafari et al. 2008). The notion 'do no harm' embodies the medical ethics principle of 'non-maleficence', that is to refrain from doing harm first, before doing any good. The question is whether the destruction of a 5-day old embryo inflicts harm on the embryo. This was evaluated by the Hindu respondents from the perspective of ensoulment. The Hindu respondents generally argued that, for a 5-day old embryo, the soul is not present and functional, thus there is no necessity to object to ESCR.

This is where the Buddhists tend to differ, as they do not believe in the concept of an eternal soul. The Buddhists believe in non-self material, which is the karmic energy (consciousness) that travels from one life to another. The basic precept in Buddhism is not to harm a life. Generally, the Buddhist respondents presented their argument from the perspective of consciousness. The life energy (consciousness) is not present in a 5-day old embryo, hence eliminating any moral qualms with respect to ESCR.

3. Intention of the research

An action is deemed as good *karma* because of its intentions. Debates about embryo research tend to focus on the doctrine of *karma*, a view shared by both Hindus and Buddhists (Jafari et al. 2008). Both Hinduism and Buddhism are guided by the Law of Karma, which stresses that every act can be deemed good or bad depending on its consequences. Thus, the primary focus of the Hindu and Buddhist respondents is on the intention of the research. If the 'intention of the research' is to help humankind, then it is considered ethical by Buddhists and Hindus (Hug 2006). Discussions pertaining to ESCR, according to Buddhist and Hindu thinking, centre on the intentions of the scientists involved and the potential cures, ensuring a compassionate course for all (Jafari et al. 2008).

On the whole, Buddhists and Hindus allow ESCR as long as the cardinal virtue of *ahimsa* is upheld. Research must also proceed from good intentions. Meanwhile, Catholics are concerned about the inviolability of embryonic life. Catholics believe that ensoulment which marks the presence of life, begins at the point of conception. As such, Catholicism explicitly opposes research on human embryos.

Conclusion

Our findings show that three value-laden themes dominate the moral reasoning of the religious leaders in our study, namely: sanctity of life, do no harm and intention of the research. This paper has also shifted the focus of ethical debate from the moral status of the embryo to other ethical concerns such as intention of the research, thus giving recognition to the benefits of the research itself.

There is no intrinsic unanimity in the justifications offered by each religious group, except for the Catholics. All respondents agree that embryonic life must generally be respected, but differ in their exegesis regarding the moral status of a 5-day old embryo when used in SCR.

A constructive discussion between the realms of religion and science among leaders of various faiths in Malaysia is crucial to facilitate policies in research and development in the biomedical sciences. While the goal of research is to relieve human suffering, the sacredness of human life is held highly by religious communities and must be taken as an ethical challenge to be addressed in future academic discourses. This paper has illustrated the multi-faith character of ethics in the Malaysian setting, which the global bioethics community may want to explore further.

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Conflict of interest None.

Ethical standard This study conforms to the standard ethical recommendations. This study does not involve clinical intervention using human or animal subjects. As far as this study is concerned, informed consent was obtained in writing prior to interviews from all the religious leaders (respondents of this study).

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