

Chapter 20

Bioethics and Oncofertility: Arguments and Insights from Religious Traditions

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Introduction

This chapter seeks to explain our preliminary reflections on how different religious communities might use their texts and traditions to respond to and assess the ethics of oncofertility research and technologies. Specifically, this chapter will briefly explore the Catholic, Evangelical Christian, Muslim, Jewish, Hindu, and Buddhist traditions and their anticipated or potential contributions to the ethical discourse surrounding oncofertility. The chapter will sketch a few characteristic principles and describe some preliminary responses from practitioners that may guide each religion's traditional stances toward reproductive technologies and procreation. The material presented herein builds upon exploratory research by two classes of undergraduate students at Northwestern University. The author's additional research sought out additional sources and considered additional religious traditions. The students' research included interviews with local ministers, rabbis, faith communities, including campus ministers, and also student participants in various religious traditions. The clergy, intrigued by the questions raised by the research, suggested some of the preliminary sources and general directions pursued in this chapter.

Scholars speculate about the anticipated acceptance of or difficulty with particular aspects of oncofertility technologies in each tradition. Many traditions employ case-based reasoning to address ethical questions. Because oncofertility science is still largely theoretical, as yet affecting only a handful of first cases, most religious communities have not yet deliberated upon the ethics of oncofertility. We anticipate far more responses will result should the technology, if successful, become widely desired or available. We wish to add a final caveat: because religious communities exist in cultural and historical contexts, in general, while principles and stances derived from religious sources often emerge from formal documents, these may not represent the fullness of the actual practices of many individuals who identify with a particular religion. Additionally, each of the traditions we sampled is part of a much larger religious tradition containing multiple denominational, congregational and geographic subgroups with varied relationships to the more general positions outlined in this chapter. The core of the chapter outlines suggestions for considering possible contributions of each religious perspective to broader ethical discussions about oncofertility. Any scientific enterprise, but especially one concerned with the creation of families, will benefit from the broadest consideration of the arguments made by multiple traditions and viewpoints, particularly

when these varied insights are brought into dialogue with one another. We contend that bioethics is a reflective and reflexive conversation and operates best when the discourse is enriched by arguments that extend beyond the considerations of the market or the curiosity of research scientists.

Why Religion?

Since the early 1990s, American scientists have been asked to incorporate ELSI (Ethical, Legal, and Social Implications) research into their projects. Ethical and social implications are deeply intertwined with religious traditions and communities. Religious perspectives and the arguments derived from religious texts and communities may contribute to public and scholarly bioethics discourse in a variety of ways – both practical and theoretical – depending upon the discussion’s goals. Physicians and clinical researchers, who will encounter families with a diverse set of norms and customs, will benefit practically from basic knowledge of and familiarity with religious perspectives in at least two ways. First, familiarity with even the most rudimentary religious beliefs may help clinicians better understand and negotiate the dynamics of each physician–patient relationship. At the clinical level, medicine requires beneficence. But this requires a shared sense of “the good,” a task that is impossible without a frank discussion of essential notions of morality. Understanding a patient’s religious commitments is one critical part of this task, so that physicians and family members may better communicate with a patient who draws upon religion to cope with an illness or make decisions about medical care. Patients may consult, invoke, or defer to religious beliefs, sources, or leaders when making decisions about their own medical treatment or treatment for a surrogate (e.g., a child or incompetent parent or partner), including decisions about whether to seek access to oncofertility research protocols or technologies and determining which types of research protocols or technologies they wish to pursue.

Second, knowledge about religious perspectives may prove relevant when shaping a research agenda. Researchers may be influenced by their own religious, ethical, and moral backgrounds when thinking about the types of illnesses they will study and the methods by which they are willing to study them. For example, researchers may turn to their religions for guidance when deciding whether or not to use embryos or fetal tissue as research materials. Additionally, knowledge that a particular religious community lacks an ethically acceptable treatment for an illness may motivate researchers to focus on developing alternative treatments that could be utilized by patients in that particular community. For instance, researchers may be moved to develop an artificial blood replacement that might be acceptable to Jehovah’s Witnesses who would otherwise refuse blood transfusions. Finally, information about religious perspectives may guide researchers to design studies that are less likely to cause controversy in public policy; for example, by developing novel fertility preservation technologies that will appeal to a broader cross section of the public by avoiding embryo freezing.

Religious perspectives also facilitate theoretical conceptualizations of the ethical questions that ought to be considered as researchers, physicians, and patients move forward in the field of oncofertility. By fusing cancer treatment and fertility, oncofertility

challenges us to ask questions about our conceptions of, and the meanings we ascribe to, illness, healing, mortality, family, and suffering. Different religions may identify different questions raised by a new technology as the most ethically pressing. These questions may further differ from the questions that dominate secular ethical discourse. Thus, religious perspectives may direct our attention to questions we might otherwise overlook; they may also sufficiently shift a conversation's focal point to move discussion beyond a particular, ethically entrenched gridlock. For example, Benjamin Freedman argued that Judaism's duty-based ethical framework might help dislodge disputes, so common in Western, secular, rights-based ethics, over who has the right to make medical decisions for an incompetent patient. A duty based perspective, Freedman suggested, would shift the competing parties' attention away from their personal interests in being declared the decision maker back toward the patient and what he/she is owed as a human being. Implicit in this suggestion is the claim that once the parties realize their shared concern for the patient's best interest and well-being, they may be able to stop fighting about *who* makes the decision long enough to collaborate to determine *what* decision is in the patient's best interest [1].

Religious voices may claim different types of authority in a particular discussion: for example, over the decision-making processes of members of a congregation, denomination, or entire religious tradition; citizens of a country; or all human beings. Nonetheless, religious traditions and their varied sources can enrich and inform ethical discourse, with each religious tradition contributing multiple and complex points of view. It may even be that a particular argument from a religious tradition offers the most persuasive reason for proceeding in a particular way. To visit the arguments of religion is far more than an interesting tour of exotic communities. It is to understand some of the arguments that have shaped civilizations over the last 2000 years, arguments that have been morally persuasive over strong arguments from the market or other external social pressures. It is to these varied religious perspectives that we now turn.

Catholicism

Vatican documents convey the Catholic Church's official teachings on a variety of issues, including reproductive technologies and bioethics. Although no Vatican documents discuss the ethics of oncofertility explicitly, they provide a framework for thinking about oncofertility technologies and offer a promising resource for attempting to anticipate the ways in which the Vatican might officially assess the ethics of oncofertility in the future.

In 2008, the Vatican issued "Instruction *Dignitas Personae* on Certain Bioethical Questions." *Dignitas Personae* not only builds upon earlier Vatican documents, most notably "Instruction *Donum Vitae* on Respect for Human Life at its Origins and for the Dignity of Procreation" (1987), but also upon the Encyclical Letters *Humanae Vitae* (1968) and *Evangelium Vitae* (1995). *Dignitas Personae* acknowledged the suffering felt by infertile couples who desire children, recommending encouragement not only of adoption but also of "research and investment directed at the *prevention of sterility*" [2]. The Catholic Church may, therefore, be interested in the fertility *preservation* elements of oncofertility. *Dignitas Personae* lists three "fundamental goods" which act as guiding

principles that must be respected when treating infertility: First, from the moment a sperm and an egg unite to form an embryo, that embryo is entitled to the same rights to life and physical integrity granted to all human beings. Second, partners in a marriage may only procreate with one another. Third, procreation must result from sexual union between husband and wife [2].

These guidelines place many restrictions upon procreation and the use of assisted reproductive technologies (ART), ruling out procreation by non-married heterosexual couples, all homosexual couples, and single women, as well as the use of donor sperm, donor eggs, and gestational surrogates, even by married heterosexual couples. These guidelines also prohibit in vitro fertilization or artificial insemination – even when it uses a wife’s eggs and a husband’s sperm. However, hormonal treatments and surgical interventions to remedy a blocked fallopian tube are permitted [2]. Catholic theologians remain divided over whether Gamete Intra-Fallopian Transfer (GIFT), a procedure by which a woman’s eggs and a man’s sperm are transferred to the fallopian tube, to facilitate fertilization in vivo, is morally licit; the Vatican has not issued an official teaching on this subject. According to John Haas, President of the National Catholic Bioethics Center in Boston, Catholic theologians are divided over whether GIFT replaces or assists the marital act [3]. At a minimum, special care must be taken to ensure that the husband’s sperm is not collected via masturbation. Some theologians argue that if the sperm collected from the husband was emitted during sexual relations with his wife, and because the egg and sperm combine in vivo, GIFT assists the procreative aspect of the marital act. On the other hand, some theologians worry that because egg and sperm are placed in the wife’s fallopian tube by a physician, GIFT entails intervention by a third party into an act that should only involve husband and wife; additionally, because not all of the husband’s sperm is permitted to enter the wife’s vaginal canal, GIFT may be understood as limiting the procreative aspect of the marital act, even as it aims to assist it. If a couple does choose to utilize GIFT, Vatican teachings against abortion, and the risks associated with multiple-birth pregnancies, necessitate serious consideration of how many eggs to implant for each GIFT cycle.

The first fundamental good, concerning an embryo’s right to life and physical integrity, precludes embryo cryopreservation, especially since cryopreservation “presupposes their production in vitro” [2]. Research involving embryos, particularly research that destroys embryos, is also illicit. *Dignitas Personae* further cautions that oocyte cryopreservation is illicit if its intended purpose is use in artificial procreation [2]. Yet oncofertility research on oocyte cryopreservation and in vitro follicle maturation does not necessarily presume the oocytes will be used in ART that violate Vatican guidelines. Although some individuals or couples may use these eggs for IVF, Catholic couples may be able to use cryopreserved or in vitro matured eggs for GIFT. A modified version of GIFT, whereby only the eggs are transferred to the woman’s fallopian tube, at which point she and her husband may try to conceive through sexual intercourse, might be facilitated by successful oocyte cryopreservation techniques and may be more acceptable to some Catholic theologians who currently oppose GIFT.¹ Oocyte cryopreservation would

¹ Special thanks are owed to Rachel Katz, one of the undergraduate students in Laurie Zoloth’s winter 2008 Religion and Bioethics class, for this suggestion.

provide unmarried female cancer patients who abide by Vatican teachings with a fertility preservation option, enabling them to preserve their own reproductive capability so that if they get married in the future, they may procreate. Additionally, techniques in cryopreserving and then retransplanting a woman's ovarian tissue into her own body after cancer treatment, so that she might get pregnant with her husband through sexual intercourse, also seems likely to meet with Vatican approval.

Perhaps the greatest contribution that the Catholic Church can make to discussions about ethics and oncofertility is its emphasis on the importance of thinking about the context of procreation – even if not everyone agrees with the Vatican about what that context ought to be. Research in new reproductive technologies, informed by the Catholic Church, may take a greater interest in increasing an individual's or couple's ability to decide how, when, and with whom to procreate, rather than focusing primarily on an individual's or couple's decision *whether* to procreate.

Evangelical Christianity

When exploring Evangelical Christian insights into the ethics of oncofertility, it is important to bear in mind Allen Verhey's observation that "there is no unanimity about what an 'evangelical' is, not among those who apply the term derisively nor among those who accept the label happily" [4, p. 77]. However, Verhey *did* identify three characteristics that apply to evangelical groups, whichever way they are defined: "the primacy of the Bible and its authority, the importance of a personal relationship to Jesus the Christ as Savior and Lord, and the necessity of living one's whole life in the light and power of the good news, the evangel" [4]. Alternatively, David Bebbington applied the following four characteristics to Evangelical Christianity: "conversionism, the belief that lives need to be changed; activism, the expression of the gospel in effort; biblicism, a particular regard for the Bible; and crucicentrism, a stress on the sacrifice of Christ on the cross" [5]. The National Association of Evangelicals (NAE) boasts 60 denominations as members [6]. Consequently, Evangelical Christian interpretations and assessments of oncofertility research and technologies may vary among denominations and even among congregations within a single denomination. Drawing upon perspectives from within the Assemblies of God and the Southern Baptist Convention as two communities within the Protestant traditions will help demonstrate the effect of this diversity on Evangelical Christian assessments of oncofertility.

The Assemblies of God and the Southern Baptist Convention share three guiding values that are particularly relevant to discussions about bioethics, oncofertility, and ART. First, both denominations emphasize the literal or plain meaning of Scripture, which includes the Old Testament and the New Testament. Second, both denominations uphold the belief that human life begins at the moment of conception – the moment sperm and egg unite to form an embryo. Finally, both denominations teach that reproduction and procreation should only occur in the context of a marriage between one man and one woman. Yet despite these common principles, Assemblies of God and the Southern Baptist Convention sometimes reach different conclusions about the ethics of ART.

Although it has not issued an official stance on whether and how it is appropriate to attempt to overcome infertility, the General Council of the Assemblies of God has expressed “concern that procedures tampering with the human embryo. . . have the potential to circumvent the sovereign will of God.” Recourse to medical solutions is not prohibited; however, medical interventions should only be utilized after prayerful determination that it is God’s will that the couple turn to reproductive medicine. Couples facing infertility are encouraged to ask “church leaders. . . to pray over and with them” that they will naturally conceive; persistent infertility should occasion further prayer, to determine whether God’s plan for the couple involves a mission or task they could not accomplish with children. If no higher purpose for the infertility is determined, “surgical repair of blocked or damaged fallopian tubes or the careful administration of drugs to stimulate ovulation (when physical problems can be corrected by these means) would seem acceptable.” ART must only be used to initiate a pregnancy within the context of marriage; technologies that involve a third party in the procreative process, such as artificial insemination by donor or the use of a gestational surrogate, are considered violations of the marital bond [7].

Christina H. M. Powell, an Assemblies of God pastor and trained research scientist, identified three principles that should guide decisions about the use of reproductive medicine: “respect for the beginning of human life,” “respect for the marital bond,” and “respect for the needs of the next generation” [8]. Powell expressed ethical concerns about in vitro fertilization not only because it separates the moment of conception from the loving sex act of a married couple, but also because it makes pre-implantation genetic diagnosis (PGD) possible; PGD does not adequately respect new life as a gift from God [8]. Using donor eggs, donor sperm, or gestational surrogates is also morally suspect, because it introduces third-party involvement in an act that is supposed to occur between – and *only* between – husband and wife. Assemblies of God churches interpret the biblical story of Abraham, Sarah, and Hagar as a cautionary tale about the relational stress and dangers that can result from surrogacy [7, 8]. Posthumous reproduction, which removes procreation from the marital sex act *and* deprives the child of one of his or her genetic parents, is also ethically problematic because it violates the principles of respecting the marital bond and respecting the needs of the next generation. Powell cited Romans 7:2,

For example, by law a married woman is bound to her husband as long as he is alive, but if her husband dies, she is released from the law of marriage,

as “clear [proof] that the marital bond dissolves at the death of one’s spouse” [8]. She also noted that although a child’s birth after the father’s death has always been a possibility, posthumous *conception* is comparatively novel and especially problematic [8]. Thus, patients belonging to an Assemblies of God Church may be particularly concerned about ensuring that their cryopreserved gametes are not used to create a child after they or their partner die, and the Church or its members might advocate universally banning the use of cryopreserved gametes or tissue samples for posthumous reproduction.

However, Powell also listed up-and-coming oncofertility techniques – egg freezing and especially cryopreservation and later re-implantation of ovarian tissue – as potentially permissible techniques by which women, including and notably cancer patients, may preserve their fertility, since these technologies make it possible for a married couple to attempt procreation through sexual intercourse [8]. Couples or individuals who adhere to the beliefs of the Assemblies of God may turn to prayer before utilizing cryopreserved tissue or oocytes in order to ensure God has not assigned them a mission they could not fulfill with children.

Southern Baptist discussions about ART, in contrast, do not express much concern about separating procreation from a married couple's sex act. While the use of donor sperm, donor eggs, or gestational surrogates may be ethically problematic, using donated embryos does not appear to be prohibited. Information about "embryo adoption" – whereby one couple adopts and gives life to another couple's "leftover" embryo – is available on the Southern Baptist Convention's official website [9]. Southern Baptist concerns about IVF center upon the destruction of excess embryos. This moral apprehension is highest with regard to couples who turn to IVF *despite* knowledge that each IVF cycle usually involves creating more embryos than will be implanted [10, 11]. The Southern Baptist Convention, like the Assemblies of God, may be expected to approve of ovarian tissue cryopreservation and re-implantation. But the Southern Baptist convention may also embrace oocyte cryopreservation or in vitro follicle maturation insofar as these technologies, if successful, might allow fertility specialists to fertilize only as many oocytes as will be implanted in a particular IVF cycle. However, the large numbers of frozen embryos already in existence may prompt the Southern Baptist Convention to encourage members to adopt embryos otherwise destined for destruction, rather than pursuing oncofertility technologies to ensure their own genetically related progeny.

One contribution to discussions of oncofertility that comes from within Evangelical Christianity is the Assemblies of God's notion that reproduction and procreation are not necessary for living fulfilling, purposeful lives. In particular, the notion that God may assign couples tasks that they cannot accomplish unless they do not have children introduces an interesting alternative to two divergent attitudes, both of which may make the communal or societal lives of childless couples difficult: (1) that infertile couples remain childless because God is punishing them and (2) that couples who choose not to have children, especially despite technological advances that might provide reproductive success, are necessarily selfish or self-absorbed.

Islam

Islam can be divided, at a minimum, into two main schools of thought: Sunni and Shi'ite. In his testimony before the United States' National Bioethics Advisory Council, Abdulaziz Sachedina cautioned that the Sunni majority and Shi'ite minority "do not represent an Orthodox/Reform divide" [12, p. G-3]. Sachedina suggested thinking of both Sunni and Shi'ite Islam as "'orthodox' in the sense that both base their arguments on the same set of texts that are recognized as authoritative by all of their scholars" [12, p. G-3].

These texts include the Qur'an, understood as the direct word of Allah (God), and the Sunnah, examples from the Prophet Muhammad's life included in scripture [13]. "Nonbinding but authoritative Islamic religious proclamations called *fatwas*" [14, p. 431], issued by Islamic legal scholars, also belong to the textual milieu of Muslim bioethics.

It is difficult to identify monolithic opinions even within Sunni or Shi'ite Islam. Differences in opinion or practice may result from a particular religious community's geographic location or local custom. Community opinions and customs may also be influenced by whether the community is situated in a state that governs by Islamic law. *Ijtihad*, understood as "the law of deductive logic" [13, p. 73] or "a form of individual religious reasoning," has led to a great diversity of opinion among Shi'ite Muslims in particular [14, p. 435].

Marcia Inhorn identified three main concerns driving ethical analysis and use of ART in Muslim communities in Egypt and Lebanon: (1) marriage; (2) incest; and (3) kinship and family life [14]. Reproduction must occur within the context of a marriage, traditionally defined between a man and a woman. While artificial insemination using sperm from a woman's husband and IVF utilizing the egg and sperm of husband and wife to create embryos that will be implanted into the wife are both permitted, the use of donor eggs, donor sperm, donor embryos, or surrogates is considered adulterous according to Islamic law [13–15]. A 1980 *fatwa* issued by The Grand Shaikh of Al Azhar University in Egypt, still used as a guideline in much of the Sunni and Shi'ite Muslim world, is understood to permit embryo cryopreservation; however, neither partner may use the embryos after the marriage comes to an end, whether by divorce or by the death of a husband or a wife [14]. Thus, technological advance in oocyte cryopreservation and in vitro follicle maturation may be of particular interest to unmarried Muslim women who, due to religious commitments, will not use donor sperm to ensure their own fertility preservation.

Abul Fadl Moshin Ebrahim argued that if infertility is considered a "defect" or "disease," then the statement attributed to the Prophet Muhammad, "for every disease there is a cure," would allow Muslims to turn to medicine to overcome infertility [15, p. 100], particularly oncofertility patients whose infertility results from cancer or cancer treatment. Oocyte cryopreservation and in vitro follicle maturation technologies may be especially appreciated in Muslim communities abiding by the Qur'an's prohibition of "legal adoption as it is known in the West, whereby a child takes its adoptive parents' surname and is treated as one's own child" [14, p. 441]. Inhorn observed that in the Muslim world, even when adoption is legal, it is often discouraged [14]. The prohibition of adoption is tied to Qur'anic passages that teach the importance of knowing one's personal familial lineage. As A. R. Gatrud and A. Sheikh succinctly stated, "Children have the right to be born through a valid union (marriage) and to know their parentage fully" [13, p. 73]. Inhorn noted that "preserving the 'origins' of each child – meaning its relationship to a known biological mother and father – is considered. . . a moral imperative" [14, p. 440]. Without knowledge of one's lineage there is "potential for incest among the offspring of unknown donors," which is of great concern in many Muslim communities [14, p. 440]. Another concern, particularly in communities or states

governed by Islamic law, is that children may only inherit from their biological parents. Because oncofertility technologies would enable Muslim couples to create children who are the genetic offspring of both partners, and particularly because these technologies open procreative opportunities for individuals who might otherwise lack a viable procreative option – particularly unmarried Muslim women – it is possible that Muslim patients and Muslims in general may embrace oncofertility technologies for fertility preservation, as long as reproduction occurs in the context of marriage and without the involvement of a third-party donor.

Islam's proscription of adoption invites reflection about the significance of genetics in the relationship between parent and child – reflection that may deepen discussions about the ethics of oncofertility, and the ways these technologies may change interpersonal relationships in different societies. Additionally, Muslim concerns about inheritance provide an important reminder of the challenges that new reproductive technologies may pose to our legal systems.

The scholars of Islam in this volume offer still another perspective. New receptions and interpretations of the Qur'an allow new reflection on families and children, economic relationships, and the role of women in the faith communities of Islam.

Judaism

Anticipating or formulating Jewish responses to oncofertility research and technologies is complicated by Judaism's canonical inclusion of multiple, often conflicting legal and interpretive positions. There are several distinct branches of Judaism: Reform, Conservative, Orthodox (including Modern Orthodox and Haredi/Ultra-Orthodox varieties), and reconstructionist, each with their own rabbinic training programs and councils which offer arguments and policies to their respective congregations. Even within each of the branches of Judaism, a plurality of interpretations and stances is preserved as legitimate, though communal norms may affect which interpretations a particular community, congregation, or individual embraces.

Although each branch of Judaism ascribes different degrees of authority to Judaism's canonical texts – the Torah, Midrash, Mishnah, and Talmud – these texts form a common foundation of Jewish ethical discourse. Aaron Mackler delineated four guiding values in Jewish reproductive ethics: (1) “respect for persons,” (2) “procreation,” (3) “human stewardship,” and (4) “healing,” each of which can be traced to canonical texts [16, p. 321]. For instance, respect for persons derives from Genesis 1:28 – which states that human beings were created in the image of God – as well as later rabbinic interpretations and applications of this concept [16, 17]. The value of procreation also derives from Genesis 1:28 – the first command God gives to human beings is to “be fruitful and multiply.” Rabbinic sources thus interpreted procreation as a duty, albeit a duty for men, not for women [18]. Many female scholars of Judaism have noted the complex history surrounding women and reproductive duties, in which women are enjoined to respond to the crisis of infertility throughout the Torah narrative, but whose choices to do so are not necessarily considered normative. The halakhah preserves commentary about the need

for limits on reproduction, on alternate ways of fostering children, and on the permissibility of non-reproductive sexuality (see Zoloth in this volume). Dena Davis has written extensively about the need for feminist considerations of actual practices of clinical care to be considered when we relate the Jewish positions on fertility [19]. Additionally, Elliot Dorff asserts that “the commandment to procreate only applies to having children through sexual intercourse” [17, p. 399]. The duty to reproduce does not apply to infertile couples; Jewish law cannot obligate anyone to utilize ART [17]. However, some Jewish commentators and communities place an especially high value on procreation because 6 million Jews were murdered in the Holocaust, and thus some infertile Jewish couples may feel social or familial pressure to reproduce, even if they are not obligated by *halakhah*, Jewish law, to do so. Mackler describes human stewardship as “reverent but active partnership with God in completing the works of creation and improving the world,” which is closely connected to the fourth value, healing, frequently understood as “[restoring] that which has been lost” and “not [standing] idly by the blood of one’s neighbor” [16, p. 321]. Thus, oncofertility, insofar as it aims to restore patients’ lost fertility – especially fertility lost prematurely because of cancer or other medical treatment – might easily be assimilated into Jewish notions of the duty to heal.

Embryos, fetuses, and fully developed human beings possess different – and increasing – moral statuses according to *halakhah*. Rabbinic literature describes a fetus less than 40 days old as “merely water,” while a fetus more than 40 days old is treated “like the thigh of its mother” [20, p. 313]. Dorff explains that the prohibition against self injury prohibits a human being from amputating his or her healthy leg, but “if one’s thigh had become gangrenous, and if the person were likely to die if the leg were not cut off, then amputation of the leg would not only be permitted, but required, for we have the duty to preserve our life and God’s body” [20, p. 313]. Thus, he concludes, “abortion is generally prohibited according to Jewish law, not as an act of murder (the fetus is not a full-fledged person), but as an act of self-injury” [20, p. 313]. Contemporary halakhic interpretations do not ascribe moral status or rights to an extracorporeal embryo – which enables widespread Jewish acceptance of ART, including IVF and embryo cryopreservation [20].

Anxieties within Jewish scholarship center not on concerns about technology, but about the creation of families in a way that validates other norms. An important caveat to widespread *halakhic* and practical acceptance of ART is that reproduction and procreation are intended to occur within the context of marriage. Within Orthodoxy, marriage only refers to relationships between a man and a woman. The Conservative and Reform movements possess a variety of stances on same-sex marriage, ranging from rejection, to approval of civil but not *Jewish* same-sex marriages, to acceptance of same-sex marriages as Jewish. This generally means that ART should only be utilized by married couples, however defined. Some Orthodox authorities require couples to use only their own gametes, which precludes AID [17, 21]. The use of donor eggs is *halakhically* less problematic, since the mother is *halakhically* defined as the woman who physically gives birth to the child, but the father is defined as the source of the sperm [21]. The Conservative and Reform movements are more lenient regarding the use of donor sperm, since, as Dorff explains, “the biblical ban on adultery is violated only when there is contact of the genital organs of the two people having the affair” [17, p. 394]. However,

some Conservative rabbis require the husband's consent before donor sperm is used [21]. Depending upon the particular rabbi or Jewish community in question, oncofertility technologies may be used to assist procreative efforts of same sex couples.

Jewish sources are unlikely to raise any objections to oncofertility technologies, though Jewish scholars and rabbis may favor restricting the use of cryopreserved oocytes or in vitro matured follicles to the procreative efforts of married couples. The approval of so many ART by such a wide variety of rabbis makes the need for oocyte cryopreservation or in vitro follicle maturation less urgent, but these technologies may be particularly welcome within Jewish communities whose religious authorities prohibit the use of donor gametes, since these techniques offer an unmarried individual the opportunity to preserve their fertility so they may procreate with their future spouse.

The context of oncofertility is important; while the technologies may be used for a variety of women facing infertility for a variety of reasons, the loss of fertility from cancer or cancer treatment resonates strongly with Jewish ethical imperatives to restore or preserve lost property. One *halakhic* definition of healing – restoring that which someone has lost – can direct conversations about oncofertility to considerations of the field's reason for being: not only do some patients become infertile because of cancer, but many patients also become infertile because of the treatments used to cure the cancer. It may be useful to conceptualize reproductive assistance to these patients as an extension of the healing responsibilities assumed from the moment cancer treatment is prescribed. This notion also offers a thought-provoking model for thinking about the ethics of medical side effects. The second definition of healing – not standing idly by the blood of one's neighbor – may help highlight the preventive aspect of oncofertility research. Oocyte cryopreservation, in vitro follicle maturation, and ovarian tissue cryopreservation and re-implantation are designed to *prevent* a crisis of infertility which might occur for some patients once they learn they cannot reproduce with their own gametes.

Hinduism

The colonial construction or “invention” of Hinduism as a unified religion makes it particularly difficult to talk about Hindu bioethics. Swasti Bhattacharyya, who has written about Hindu bioethics, cautions that “the term ‘Hindu’ . . . is a foreign label for a rough collection of related, yet quite diverse, social, religious, cultural, and philosophical traditions originating from within India” [22, p. 5]. Nevertheless, because the term's introduction has shaped the self-identification of adherents to the many traditions that fall under the umbrella of Hinduism, and because these traditions share a textual canon and some common history, it may be possible to sketch a few principles and interpretations that, taken together, suggest the outlines of Hindu bioethics and demonstrate some common touchstones for Hindu bioethical discourse. Hinduism's sacred texts are of two varieties, revealed and traditional. Revealed texts include the *Vedas* and the *Upanisads*; among the traditional texts are the *Law Book of Manu* and two epic literary narratives, the *Ramayana* and the *Mahābhārata* (which includes the *Bhagavad Gītā*) [22]. In her exploration of Hindu bioethics, Bhattacharyya suggested an ethical framework grounded in the traditional literature, especially the *Mahābhārata*, for thinking about ART [22]. In

particular, she drew upon three “birth narratives” which describe the efforts by which Kunti, Mādri, and Gāndhārī, three queens, ensure that they will have children and that the Bharata family lineage will continue. Bhattacharyya argued that

the epic. . . reflect[s] a shared experience in the struggle against infertility and a shared attitude of openness and creativity towards procreation. Trying to fulfill their desires to have children, the narrative depicts how the three queens overcome major obstacles by utilizing creative and magical means. Today, the creativity is expressed through various forms of reproductive technology [22, p. 3]

Within these narratives, Bhattacharyya identified practices of sperm donation, including post-mortem sperm donation; gene selection; adoption, including adoption by which one wife becomes the mother of another wife’s children; artificial wombs; and “paternal surrogacy,” a phrase she uses to describe acts in which a married woman has sex with another man or a god in order to provide that union’s offspring as an heir for her husband [22].

Bhattacharyya identified six characteristics that pervade Hindu thought: “(1) an emphasis on the centrality of societal good; (2) a firm belief in the underlying unity of all life; (3) the expectations and requirements of *dharma*; (4) the multivalent nature of Hindu traditions; (5) a theory of *karma*; and (6) a commitment to *ahisā* (no harm)” [22, p. 63]. From these characteristics, it is possible to derive principles and concepts that shape a Hindu bioethic. These include but are not limited to (1) the importance of having children, including the importance of having a son; (2) a broad notion of family; (3) the value of family planning; and (4) that ethical considerations should focus on the specific details of individual cases. Hindu tradition divides the human life into four stages: student, householder, “forest-dweller,” and renouncer. The *Law Book of Manu* identifies the householder stage, which entails “establishin one’s economic stability, getting married and having children,” as the most important, because the householders support society’s students, “forest-dwellers,” and renouncers [22, p. 64]. Traditionally, individuals may not pass from the householder stage to the “forest-dweller” stage until they have had grandchildren – more specifically, grandsons [22]. Hindu tradition places great importance on childbearing. However, it would be inappropriate, according to this framework, to attempt to give birth to and raise children while one is not only in the student stage but also in the “forest-dweller” or renouncer stages. This notion – that childbearing and rearing should be limited to a particular, proper stage in the human life span – contributes a thought-provoking backdrop for discussing teen pregnancy, as well as men and women past normal reproductive age who want to use ART to have a child.

There may be interpretations from within the Hindu tradition that not only permit but strongly encourage using ART to have a child, particularly when a couple has had difficulty conceiving, and especially to have a son. However, traditional Hindu conceptions of family extend beyond the nuclear family of parents and children to include aunts, uncles, and in-laws; adoptive relatives; grandparents; close friends – even all the members of the town in which an individual was raised [22]. Additionally, because children need not be genetically related to their fathers to count as heirs, and because

children may be considered sons (or daughters) even if they are not eligible to be heirs, members of some Hindu communities may be less likely to pursue the technological interventions at their disposal, since lineage does not depend upon a genetic tie between parents and children. Despite the fluid notions of family present in Hindu texts, however, anthropological studies suggest that childless women in India experience social stigma and decreased stability in household relationships [23]. Thus, women who can afford to utilize ART may feel social or familial pressure to do so.

Hindu thought, with its focus on individual cases and circumstances, can contribute to the ethical discourse surrounding oncofertility by shifting attention away from the technologies themselves and onto the individuals considering whether or not to use them. It may not be ethically responsible for every individual with frozen tissue, gametes, or embryos at their disposal to use them for reproduction *even if* ovarian tissue cryopreservation or in vitro follicle maturation is *prima facie* unproblematic. This proposition – that access to “licit” ART need not translate into actually using them – has an important role to play in helping to change the experiences of many individuals and couples for whom the mere possibility of utilizing ART may be felt as a coercive or oppressive expectation – by society, family, or fertility specialists – that these technologies *will* be used. Additionally, the varied and complex families presented in the *Mahābhārata* narratives challenge us to more seriously consider non-genetic and genetic children as morally and meaningfully equivalent, and to question whether society has become overly fixated on genetics as the glue that bonds family members together.

Buddhism

Buddhism “is characterized by a devotion to ‘the Buddha,’ ‘Buddhas,’ or ‘Buddhahood,’” where Buddha not only refers to the historical Buddha but also operates as “a descriptive title meaning ‘Awakened One’ or ‘Enlightened One’” [24, p. 3]. There are two main “styles” of Buddhism – Theravāda and Mahāyāna; Mahāyāna Buddhism includes multiple schools of Buddhism, such as Zen, Pure Land, and Tibetan Buddhism [25, 26]. The variety of schools, coupled with their development in so many different socio-cultural settings, makes it difficult to speak about a singular Buddhist bioethic. Nonetheless, Peter Harvey suggested that the Four Noble Truths form part of a common ground for the many varieties of Buddhist ethics [24]. The Four Noble Truths teach that

(1) life is ultimately unsatisfactory (*dukkha*); (2) life’s unsatisfactoriness stems from desire (*taḥā*); (3) enlightenment or nirvāa (*nibbāna*), what the Buddha himself had attained, is the elimination of desire and unsatisfactoriness; and (4) nirvāa is cultivated by following the Eightfold Path [26, p. 63]

Another important concept is *samsara*, or the cycle of rebirth, which Buddhists believe all living beings endure until they achieve enlightenment and break free from this cycle. The law of *kamma* (*karma*) determines the life into which any being is reborn: “beings are reborn according to the nature and quality of their actions” in their previous life [24, pp. 14–15]. The effects of the law of *kamma* may also be felt in one’s current life [24]. Shoyo Taniguchi described *kamma* as a natural law of “cause and effect, of action and

reaction” [27, p. 77]. Buddhist concern for suffering and its alleviation is connected to the concept of *kamma*. Actions which harm oneself and/or others are “unskillful” actions; actions which either benefit or do not harm oneself and/or others are “skillful” actions [27]. Buddhists are encouraged to act skillfully and avoid unskillful (i.e., harmful) actions [27].

Buddhist ethics can be divided into two strands: monastic ethics and householder ethics [26]. According to Harvey, “Buddhism has traditionally held celibate monasticism in the highest regard, but it has also seen marriage and family life as highly suitable for those who cannot commit themselves to celibacy,” although he noted at least one strain of Western Buddhism that is sharply critical of the householder lifestyle [24, p. 103]. The *Sigālovāda Sutta*, “a key text for lay Buddhist ethics, including sexual ethics” [26, p. 68], may be particularly relevant to Buddhist reproductive ethics and reflections upon ART.

Some Buddhist schools or scholars might encourage, or at least accept, oncofertility research because it aims to alleviate the additional suffering that patients may feel when they learn not only that they have cancer but also that the cancer and/or its treatment may prevent them from reproducing in the future. ART, including the techniques under development by the Oncofertility Consortium, may alleviate the suffering some couples or individuals experience as a result of their infertility. Shoyo Taniguchi suggests that “as long as technology brings benefits to the couple who wishes to have a child, and as long as it does not bring pain or suffering to any parties involved, Buddhism would find no conflict in applying and using modern technology” [27, p. 80]. But some Buddhist schools or scholars might criticize oncofertility and ART for perpetuating the disillusioned attachment to this life which sometimes motivates human beings’ reproductive desires. Although ART may remove the physical and bodily desires of sex from the reproductive process, the mental or emotional desire for a child can be equally problematic. Some monastic texts, such as the *Vinaya Ptaka*, equate the desire for a child with the desire for wealth and economic security – desires which lead humans astray from the path to Enlightenment [26]. Additionally, “the *Dhammapada* declares that delusion makes one say that one’s body belongs to oneself or one’s child belongs to oneself” [27, p. 78]. A genetically related child can no more belong to a parent than a non-genetically related child. Some Buddhist thinkers may, therefore, eschew ART for exacerbating disillusioned notions about the parent–child relationship (which might, arguably, be harmful to both parent and child). This criticism is especially relevant regarding the techniques central to oncofertility research, which aims to ensure that infertile men and women may have genetically related offspring.

Even Buddhist arguments supporting oncofertility research and the use of ART are unlikely to approve of *all* reproductive technologies. According to the *Mahātaḥāsakhaya Sutta*, human life begins at conception, understood today as the fusing of sperm and egg *and* the embryo’s animation by a soul that was awaiting rebirth [25, 27]. Since it is impossible for humans to determine whether a soul is present in a particular embryo, concerns about avoiding unskillful actions might encourage erring on the side of caution and treating all embryos as though they contain a soul; embryos thus have a right not to be harmed [27]. Disposing of leftover embryos at the conclusion of an IVF cycle is,

therefore, ethically problematic; additionally, Damien Keown has suggested that embryo research would be unacceptable because it subjects embryos to harm and/or destruction without their consent [25]. Keown also argued that freezing embryos is problematic since so many embryos do not “survive” the thawing process [25, p. 137]. Buddhist principles would seem to require fertilizing only as many eggs as will be implanted in a particular IVF cycle.

However, Tanigushi noted that even in early Buddhism, sperm and unfertilized eggs were not granted the moral status of living human beings themselves [27]. Thus, oncofertility research into oocyte cryopreservation and in vitro follicle maturation may be characterized as the development of “skillful” ART, though the aforementioned limitations on fertilizing eggs would still apply. Oocyte cryopreservation or in vitro follicle maturation might actually be among the most ethically responsible forms of fertility preservation, from a Buddhist perspective.

Buddhism can contribute to larger discussions about oncofertility and ethics by challenging the tendency, so prevalent in the West and latent in the drive to develop new infertility treatments, to privilege biological over non-biological offspring. Additionally, Buddhist ethics emphasize harm as the yardstick against which an action’s morality is measured. The relevance of motivation to determining whether an act is harmful – for instance, procreation as an attempt to “possess” offspring or satisfy the physical desire to experience pregnancy would likely be considered harmful – may refocus discussions about fertility preservation in an important way. Rather than focusing solely on the fact that there are patients who have expressed interest in fertility preservation, Buddhism may encourage exploring and reflecting upon the motivating factors that drive patients to pursue fertility preservation, as well as the effect these motivating factors may have on society as a whole.

Conclusion

This chapter provides an overview and a brief introduction to six religious traditions and their potential contributions to discussions about the ethical issues surrounding the new field of oncofertility. More research, including ongoing research on how clergy respond to actual cases should oncofertility research prove fruitful, is needed. Far from the final word on the matter, these outlines are intended to provide the beginnings of multivocal contributions from religion to the exploration of ethics and oncofertility. Each religious tradition discussed herein – Catholicism, Evangelical Christianity, Islam, Judaism, Hinduism, and Buddhism – contains multiple and distinct perspectives. These viewpoints can complement, converge with, or challenge the philosophical, psychological, anthropological, medical, and legal perspectives included in discussions of bioethics. We hope that the examples of how each tradition may alter the terrain of the discourse on ethics and oncofertility demonstrate not only why each tradition is worth considering on its own but also the more vibrant, complex, holistic picture of the oncofertility project that emerges when these and other religious traditions are all included as participants in the conversation. It is not enough to place these religious perspectives side by side – not enough to note, for example, that not only Islam and Hinduism but also Buddhism,

suggest dramatically different attitudes toward adoption. Rather, we might make this observation the epicenter of an inquiry into the different conceptions of family and parent– child relationships that inform these and other attitudes toward adoption, weighing these theories of family ties against anthropological and sociological studies of adoption – information that, together, allows more complex, nuanced assessments of how oncofertility may alter or be altered by conceptions of family and perspectives on adoption. Discussions are richer and the picture fuller when multiple perspectives from multiple religious traditions are brought into conversation with one another so that we may probe the roots and implications of agreements and disputes among them.

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While his 'Foundations of Bioethics' explored the sparse ethics binding moral strangers, this long-awaited volume addresses the morality at the foundations of Christian bioethics. The volume opens with an analysis of the marginalization of Christian bioethics in the 1970s and the irremedial shortcomings of secular ethics in general. Practices such as free and informed consent are relocated within a traditional Christian morality. Attention is also given to the allocation of scarce resources in health care, and to the challenge of maintaining the Christian identity of physicians, nurses, patients, and health care institutions in a culture that is now post-Christian.

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