

CORPORATIZATION OF MOTHERHOOD (SOCIAL EGG FREEZING): READING THROUGH THE LENS OF ISLAMIC LEGAL MAXIMS AND MAQASID-E-SHARIAH APPROACH

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ABSTRACT

Egg freezing is a practice that has recently gained popularity, particularly in corporate settings where employers offer it as a benefit. This paper examines the concept of "corporate egg freezing" from an Islamic perspective, using the Maqasid e Shari'ah approach.

Recent advances in assisted reproductive technologies have opened up a wide range of reproductive options. Most are essentially regulated in secular, atheistic, liberal unilateralistic paradigm.

However, reproduction and family life are highly valued in Islamic tradition, and they are guided by values that prioritize the well-being of individuals, families, and society at large. The practice of egg freezing in a corporate setting raises serious moral and theological concerns that must be carefully considered.

Furthermore, this paper also investigates the effects of corporate egg freezing on women's roles and responsibilities in society, taking into account concepts such as gender equality and addressing familial obligations. It examines the potential challenges and opportunities presented by corporate egg freezing in context with Islamic legal frameworks and ethical principles.

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INTRODUCTION

Over the last few decades, reproductive technology has advanced dramatically, impacting women, family structures and society as a whole. Although, throughout history, various methods of assisted reproduction have existed (Kamel, 2013). the introduction of modern reproductive technologies in the form of artificial

insemination, in vitro fertilization (IVF), surrogacy, egg freezing and the concept of designer babies using gene editing technique (CRISPR- cas9) or the development of artificial wombs or creation of embryo in the laboratory side-stepping natural process of fertilization; using embryonic stem cells (synthetic embryo) have significantly transformed the reproduction landscape, paving ways for deeper questions about reproductive ethics and collective morality

In 1986, there was news of the first human being born from a frozen egg; egg freezing was still regarded as an experimental method (Chen, 1986). However, as time goes on, technology gets more sophisticated, and in January 2013, the American Society of Reproductive Medicine (ASRM) recognized egg freezing as a legitimate clinical procedure.

The process of harvesting eggs or oocytes from the ovaries and freezing them at extremely low temperatures is known as egg-freezing. Another term for it is "mature oocyte cryopreservation." later on, these stored eggs can be used for artificial insemination, resulting in an embryo that can be implanted into the intended or commissioned women for gestation

It is worth noting that this procedure of egg freezing is recommended when the woman will be in her most fertile period i.e. 20-30 years old (<https://www.acog.org/womens-health/faqs>). Initially, egg freezing carries the purpose of medical indications however over a period of time it is use for non-medical reason also hence called as “Social Egg Freezing”. The inherent notion in social egg freezing is a greater control of reproductive choice in the realm of career and stability, particularly when a woman chooses to delay her marriage or pregnancy and opt for egg freezing just to satisfy social demands such as finishing education, or just not mentally prepared for “motherhood” or having trouble finding the right partner, or experiencing marital problems (Inhorn, & Patrizio., 2015).

In this context, an in-depth analysis of how these technologies permeate and transform the societal perception of reproduction and reproductive autonomy, is necessary. A careful scrutiny of the concept of social egg freezing reveals that it has evolved from a more enthusiastic "Sociable Women Friendly Treatment" for infertile couples to a more aggressive and fancying approach for women who intend to prioritize their careers and wish to hold off pregnancy and responsibilities of childrearing, particularly in the early stages of their careers.

Scientists and feminist organizations argue that these technologies actually lighten up women of reproductive responsibilities while giving them greater control over procreation or childrearing decisions. In fact, this proactive approach of treatment has helped boost its popularity beyond the frame of infertility remedy, attracting a diverse range of clients, including same-sex couples and single parents. Furthermore, this shift reflects a growing recognition among women and girls that their right to equality, privacy, and bodily integrity is inextricably linked to what it means to be in control of their own bodies and how and when they decide to reproduce (Lockwood, & Johnson, 2015). As a result, these technologies— especially egg freezing for fertility preservation, surrogacy for gestational assistance, and the relatively newer concept of an artificial womb—are becoming increasingly popular. A lot of research has also been conducted to prove, support, and popularize these technologies under the premise that women who use them will be able to "have it both ways"— (Inhorn

2013) that is, overcome biological limitations while also enjoying the reproductive freedom they provide. (McDonald 2022, Richards 2013, Harwood 2009, Urist 2013) With this backdrop, the main fancied message now is that if we use technological advancements such as egg freezing or surrogacy, we will no longer have to choose between pursuing our professional goals and having biological children. In fact, intellectuals with a pro-feminist mindset encourage young women to devote their full attention to their careers. They argue that these obligations (pregnancy and childbearing) were completely incompatible, at least until women reached the tenure track.

CORPORATE SWEET TALK

Instead of spreading positive messages about implementing or strengthening diverse family structures and increasing child care funding, corporations continue to promote risky biomedical interventions to extend women's fertile years. Currently, several private companies are corporatizing womanhood by encouraging and supporting the use of egg freezing to delay pregnancy or surrogacy as an alternative path to motherhood. (Lahoti, et al., 2023) They entice women by providing lucrative healthcare packages and early promotions. (Zoll, et al., 2015) By doing so, they establish themselves as progressive and supportive of women's professional advancement or empowerment. However, in reality its merely a professional productivity trap. We introduce the term corporatization of motherhood for this phenomenon

The aforementioned strategy is gradually promoting a change in attitude towards delaying pregnancy and its associated responsibilities in favour of a variety of compelling factors such as pursuing education, hunting for best life-partner, career goals, financial stability, and changing socio-cultural norms (Hodes-Wertz, et al., 2013). However, it is important to remember that, while ART can provide reproductive autonomy, it is not without risks and can be financially burdensome for those without employer-sponsored coverage.

Critics argue that the corporatization of motherhood / womanhood will exacerbate inequalities by putting the burden of reproductive planning solely on women. It may also reinforce workplace cultures which prioritize productivity over personal fulfilment and family life. Currently, "Egg freezing" is becoming a more popular option for women, regardless of their socio-religio-cultural background, to maintain their fertility and stay up to date with so called "evolving cultural standards" and "career goals". In fact, this practice bears a striking resemblance to surrogacy, which has become popular among women because it provides an alternative path to parenthood not only for those who are facing infertility or other health issues as well as for those who want to have more controlled reproductive choices, believe in far-right approaches of feminism or maintain svelte figure. Therefore, despite religious and cultural difference across the globe, the increasing acceptance of egg freezing and surrogacy, reflects a broader shift towards accepting contemporary solutions to centuries-old challenges. Worldwide people's interest in this trend is gaining momentum under few catchphrases such as

1. "Having it both ways": this concept give the message that by these methodologies women can manage both professional obligation and can plan family accordingly (Petropanagos, et al., 2015).
2. "Just in case to avoid risk": Women should consider freezing their eggs or using surrogacy. Because of our inability to control the future, we may suffer negative consequences.

3. "Time never stops!": Another metaphor that encourages women to use these technologies is the gradual decline in ovarian reserve after the age of 35, the deterioration of egg quality, and the increased risk of genetic defects when it comes to age-related infertility or difficulty in finding the right partner. Therefore, they support the idea that women can outlive their ever-ticking biological clock by choosing to undergo these cutting-edge medical procedures.

We argue that the rhetoric of "game changer" and "having it both ways" oversimplifies the real challenges that women face in retaining or maintaining their health, upholding the integrity of their families, and advancing their careers in an environment that is becoming more and more competitive. Women must be aware, though, that while egg freezing has many positive aspects, there are numerous respective drawbacks as well:

Health Risk Factors: In addition to the potential health risks associated with delaying pregnancy, such as gestational diabetes, hypertension (preeclampsia), and placental challenges, the process of freezing eggs is a laborious one that can result in a number of health problems due to hormone-mediated ovarian hyperstimulation and the general anaesthesia used during the procedure. Moreover, there are still worries about the success rate of pregnancy and the potential for chromosomal abnormalities if egg cryopreservation is done for a long period of time (Okun, & Sierras, 2014).

Potential risks to offspring:

There are evidence of "a slight increase in the risk of congenital structural abnormalities" with IVF, in addition to the risks associated with low birth weight and premature birth. Some research also points to a possible small but increased risk of cancer and structural cardiac abnormalities for these children (<https://doi.org/10.1016/j.fertnstert.2012.09.028>.)

Relationship Dynamics: The decision to freeze eggs can cause individuals with committed relationships to reflect on their future togetherness and family planning. It may also raise questions about what each partner expects of the other in terms of reproductive choices and fertility preservation. Although, the data is still, scanty on this aspect but a deeper understating and research in this realm may open new avenues to look at the whole concept afresh

Ethical Considerations: Ethical concerns may arise particularly in contexts where egg freezing is marketed as a lifestyle choice rather than a medical necessity.

Emotional Impact of Fertility Preservation: While egg freezing has the potential to increase fertility, it can also be stressful. The process may cause feelings of anxiety, uncertainty, or grief, especially for people with medical conditions that threaten their fertility or who are freezing eggs due to age-related concerns.

Financial Implications: The freezing of eggs is a costly procedure. People from lower socioeconomic backgrounds might therefore not be able to afford these treatments, which could exacerbate already-existing inequalities in having access to reproductive healthcare.

Few benefits of availing egg freezing facilities are;

1. It can serve as a source of hope and an achievable goal for women who are receiving specific medical treatments for endometriosis or cancer. (chemotherapy, radiation or ovarian surgery).

2. Women with busy schedules who anticipate to be more socially, psychologically, and financially stable before having children but haven't had time to marry at a productive age.

HOW SUNNI ISLAM LOOKS AT AVAILING EGG FREEZING FACILITIES FOR SOCIAL REASON

In the secular world, “Egg freezing” is uprightly encouraged because conceptually, western values or secular ethics are largely inspired by utilitarianism (the morally right action is the action that produces the most good), deontology (the morality of an action should be based on whether that action itself is right or wrong under a series of rules and principles, rather than based on the consequences of the action), and virtue ethics (virtue and character as the primary subjects of ethics) Furthermore, their ethical frameworks are frequently based on philosophical traditions which consistently emphasize on greatest individual autonomy, unlimited individual rights, and individual morality over collective moral implications. As a result, they have greatly influenced both the acceptance of reproductive technologies in clinical settings and their development and advancement. They described availing egg freezing facility as a medical preventive measure and advocated its usage as part of the reproductive autonomy agenda and fancied it with concepts of greater reproductive autonomy for females in the eyes of feminists and adherents of secular ethics (Okun, & Sierras 2014) by empirically demonstrating that women who opt these methods or technologies are better educated, more successful professionally and have greater financial independence. The growing popularity of this concept is attracting or tempting an increasing number of women to follow in their footsteps, desiring to maintain their svelte figures and youthful heartiness for a longer period of time for the sake of social standing whilst achieving their intended objective of becoming financially independent and professionally stable (Borovecki, et al., 2018). As a consequence, the average age when a woman decides to have her first child has risen to over thirty years of age in recent years (Martins 2010).

Contrary to this, Islamic bioethics is primarily based on the Qur'an and the Sunnah. These resources offer comprehensive guidance on all aspects of life, such as family integrity and structure, procreation, personal morality, social interactions, and so on. Islamic scholars apply the Qur'anic and Sunnah principles, as well as Qawayid Fiqhiyyah principles (the five maxims of Islamic jurisprudence) based on Intention (Qasd), Certainty (Yaqin), Injury (Darar), Necessity (Darura), and Custom ('Urf), to resolve any contemporary issue including medical procedure.

To make it easier to analyze the issue, Islamic jurists divided all of Shariah's objectives into three categories: essentials (daruriyyat). complementary (hajiyyat) and embellishments (tahsiniyyat), in descending order of significance. The term daruriyyat refers to the objectives that are necessary and unavoidable for living an effective life both on earth as well as success in the afterlife. Hajiyyat describes ideologies that seek to liberate people from suffering and adversity. Tahsiniyyat refers to the goals that aim to perfect and refine individual conduct and customs (Cohns 2013). So, the use of any advanced reproductive technologies is also judged by their goals and purposes in light of these primary principles and five Maxims whether to allow or prohibit. If a procedure meets a valid medical need and does not result in unnecessary harm, it is typically approved.

ISLAM PRIORITIZE FAMILY INTEGRITY AND PROCREATION

Islam fervently supports marriage as an institution necessary for the establishment of a family. It is viewed as fulfilling half of one's religious obligations (al-zawaj niş al-iman) and fostering peace, love, and companionship within the family and society. So, Islam places a high value not only on selecting a virtuous spouse, but also on assigning duties and obligations based on a person's gender and standing within the family, they can be perceived in the contexts of legitimate sexual gratification, procreation and instituting a family.

Thus, procreation is also a sacred right and children are considered as a great and blessed gift of Allah SWT "الْمَالُ وَالْبَنُونَ زِينَةُ الْحَيَاةِ الدُّنْيَا" Wealth and children are an ornament of life in the world. (Surah Al-Kahf :46) and the term زِينَةُ in reference to wealth and children indicates that they not only serve to add value to the life a person in this world but if used in accordance with the guidance of Quran and sunnah they serve to heighten and embellish one's rewards in the afterlife.

Considering all the aforementioned principles, using freezing-egg technology solely for medical purposes by married and unmarried women does not fundamentally violate Islamic law; however, using it entirely for social purposes is a contentious issue for a variety of reasons.

Firstly, Islam regards progenies as well as wealth or any other worldly possessions as a transitory fallalery that are basically destined to be used (if provided) as a resource to attain ultimate success in afterlife. So, the following part of the same verse emphasizes this purpose.

"وَالْبَقِيَّةُ الصَّالِحَاتُ خَيْرٌ عِنْدَ رَبِّكَ ثَوَابًا وَخَيْرٌ أَمَلًا"

“But the deeds of lasting righteousness are the best in the sight of your Lord in reward, and far better a source of hope” (Surah Al-Kahf:46).

More precisely, the need for protecting life (hifz-al-nafs) and the progeny (hifz-al-nasl) is incompatible with the intention (Qasd) of social egg freezing. Future generations of health-conscious, career-driven women might use this technology in conjunction with artificial womb technology to circumvent the psychological and physical challenges associated with pregnancy and childbirth. They might argue that by doing so, they won't need to take time off for maternity leave and can devote all of their attention to their careers (Cavaliere 2020). From an Islamic jurisprudence perspective, these could be interpreted as misguided intentions and improper prioritization, because Islam regards motherhood and all of its challenges as extremely meritorious acts and that demand immense gratitude and confer rights from their children. The Quran states, "We have commanded people to honour their parents." It takes them two years to wean themselves off the hardships that their mothers faced. Thus, thank your parents and Me (Allah SWT) (Surah Luqman: 14).

It would also call into question the traditional understanding of motherhood if someone chose to become a parent (with Allah SWT's blessing) but does not choose to face challenges of gestational phase, and that would contravene Qur'anic teachings. "None can be their mother except those who gave them birth," (Surah Al-Mujadillah:2-3).

Secondly, because marriage is at the heart of the Islamic legal framework, it represents a firm commitment to upholding the sacredness of familial bonds as well as unwavering protection of familial descent through marriage. Aside from these, Islam advocates following the natural cycles of reproduction and repels unwarranted intervention in the laws of creation.

"وَأَضَلَّتْهُمْ وَآمَنَتْهُمْ وَآمَرْتَهُمْ فَلْيَبْتِكُنْ أَدَانَ الْأَنْعَامِ وَآمَرْتَهُمْ فَلْيَعْتِرْنَ خَلْقَ اللَّهِ وَمَنْ يَتَّخِذِ الشَّيْطَانَ وَلِيًّا مِّنْ دُونِ اللَّهِ فَقَدْ خَسِرَ خُسْرًا مُّبِينًا"

“And shall lead them astray, and shall engross them in vain desires, and I shall command them and they will cut off the ears of the cattle, and I shall command them and they will disfigure Allah's creation.' He who took Satan rather than Allah for his guardian has indeed suffered a manifest loss” (Surah An-Nisa:119).

One of the prominent scholars of contemporary Islam; Maulana Maududi elegantly describes in his book “Tafheem ul Quran” what does it mean to disfigure or alter the Allah’s Creation.

“To alter God's creation in some respect does not mean changing its original form. If that was meant, human civilization would have to be considered Satanic in its entirety. For civilization consists essentially of man's putting to use the resources endowed by God. Hence the alteration of God's creation, which is characterized as Satanic, consists in using a thing not for the purpose for which it was created by God. In other words, all acts performed in violation either of one's true nature or of the intrinsic nature of other things are the result of the misleading promptings of Satan.”

Thirdly, Islam does not put financial responsibilities on women it is completely optional for a woman to opt for a job, search for a stable career, look and strive for financial stability and hence egg freezing for all the above stated purposes is something which is not warranted by Islam for someone who opt Islam as a belief system.

الرِّجَالُ قَوَّامُونَ عَلَى النِّسَاءِ بِمَا فَضَّلَ اللَّهُ بَعْضَهُمْ عَلَى بَعْضٍ وَبِمَا أَنْفَقُوا مِنْ أَمْوَالِهِمْ.

“Men are the protectors and maintainers of women because Allah has made one of them excel over the other, and because they spend out of their possessions (to support them). Thus righteous women are obedient and guard the rights of men in their absence under Allah's protection.”

Fourth, the Maqasid e Sharia includes a prominent aspect of Darar (Harm) in its most advanced form, because egg harvesting relies on artificial hormone induction and other invasive procedures that are perilous to women's health. So, unless there is a medical or other compelling reason where the Darar (harm) outweighs the benefits, Islamic legal maxims prohibit such a procedure, even if it is based on hypothetical scenarios such as social and financial stability, decrease in fertility and so on (Table -1).

Fifth, in Islamic jurisprudence, the intention behind actions can often serve as a deciding factor in their permissibility. Egg freezing during a delayed marriage may not be consistent with the principles of prioritizing family and fulfilling marital obligations. However, it is critical to recognize that

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circumstances vary and that intentions differ between individuals. If the delay in marriage is solely due to difficulty finding a suitable partner, scholars may take a more nuanced approach. In such cases, egg freezing may be viewed favourably (Tahsiniyat), as the goal is to preserve fertility in order to facilitate marriage and fulfill familial responsibilities in the future (Hajjiyat).

Table-1

Amenableness of egg freezing technology with qawa'id fiqhiyyah (five maxims of islamic jurisprudence) and maqasid-al-shari'ah (objective of islamic law).

Objective	Maqasid-al Shari'ah	Intention (Qasd)	Certainty (Yaqin)	Injury (Darar)	Necessity (Darura)	Custom ('Urf)
Medical treatment	Protection of progeny/lineage (hifz al-nasl)	Preserve fertility due to medical reason	Safety and efficacy of egg storage is not fully warranted in terms of ensuring 100% pregnancy and healthy child	Involve Health risk Due to hormone therapy and anaesthesia	Needed (Dharuriyat)	In line with the universal principle of beneficial effects in medical treatment
Social reasons (professional stability, delaying marriage purpose, marital issues, completing education etc)	Does not align with the Maqasid al-Shari'ah's imperative to protect life (hifz-al-nafs) and progeny (hifz-al-nasl).	To advocate gender parity	Safety and efficacy of egg storage is not fully warranted in terms of ensuring 100% pregnancy and healthy child	Does not align with the Maqasid al-Shari'ah's imperative to protect life (hifz-al-nafs) and progeny (hifz-al-nasl). 1) Involve Health risk Due to hormone therapy and anaesthesia 2) Not consistent with Islamic precepts on the role of women in family and society	Objectionable	Non-compliance with the Islamic principle of prioritizing family structure, fulfilling marital obligations, and adhering to Muslim cultural standards
Unintentional delay in marriage	Not mentioned	To preserve fertility	Safety and efficacy of egg storage is not fully warranted in terms of ensuring 100% pregnancy and healthy child	Involve Health risk Due to hormone therapy and anaesthesia	Hajjiyat	In compliance with the Islamic Principle of Tahsiniyat

ETHICAL CONTOURS OF EGG FREEZING FROM ISLAMIC JURISTS PERSPECTIVES

Islamic scholars have examined egg freezing from a range of perspectives, including the preservation of lineage, the sacred value of marriage, the rationale behind the act, and the more general goals of Islamic law, which include promoting wellbeing and preserving life. Egg freezing has been deemed halal, or acceptable, by Dar Al-Ifta as long as certain requirements are satisfied (Khaleel 2005, Alawi 2019). First and foremost, the eggs cannot be used for reproduction following a divorce or death; they can only be fertilized during a legally binding marriage contract. Moreover, the eggs can only be fertilized with her husband's sperm and implanted in the donor woman.

Stated alternatively, the act of preserving gametes—eggs and sperm—with the purpose of using them following a spouse's death or divorce is prohibited. Last but not least, strict and safe storage protocols are needed to guarantee that eggs are not inadvertently or intentionally mixed up (causing lineage confusion), and evidence that freezing, even for extended periods of time at extremely low temperatures, has no adverse effects on the foetus (mental retardation or birth defects).

This directive is suggested for women who have specific medical needs or are having difficulty finding a suitable partner despite their best efforts, but it is not expected to be used arbitrarily as permission for career advancement. because jurists have made it very clear that single women who purposefully delay getting married or starting a family are misusing this.

1) Quite recently In August 2022, Islamic jurists in Malaysia issued a new fatwa that explicitly prohibits single Muslim women from freezing their eggs for social reasons prior to marriage (https://www.egyptindependent.com/egg-freezing-is-permissible-in-islam-egypts-dar-al-ifta/?fbclid=IwAR1vPknAPfKMiEyH7Js3hL9eQJVxhpaCFLUi9CQOXNID80cfE1CxZHdavZE#gooogle_vignette.; Chin, 2023). It has been argued that single individuals (both male and female) are not permitted to purposefully release their gametes externally (Istimna), regardless of the fact that the procedure for collecting the egg is not pleasurable and is performed under anaesthesia. Jurists argue that women who want to marry later in life and use egg freezing to avoid fertility problems or menopause are breaking Sharia law, that necessitates empirical evidence rather than speculation.

SOCIAL EGG FREEZING WITHIN THE BASIC FRAMEWORK OF ISLAMIC JURISPRUDENCE.

CONCLUSION

Marriage and procreation have a sacred place in Islam and thus, children are considered as a great and blessed gift of Allah. There is no religious objection in the Islamic codes of ethics to an infertile couple pursuing medical treatment for infertility as long as it doesn't violate the primary principles stated in Islamic jurisprudence.

However Social egg freezing is a contentious issue in Islam; the corporatization of egg freezing demonstrates a complex intersection of modern scientific advances and traditional ethical frameworks, as

evidenced by Islamic jurisprudence. Although the technology supports reproductive autonomy and fertility preservation, its commercialization raises ethical, social, and religious concerns. Because of its emphasis on protecting life, the family, and moral principles, Islamic jurisprudence responds to these developments, attempting to find a way to uphold both individual freedoms and social norms. As this conversation progresses, it will be critical to encourage inclusive dialogues that include a variety of perspectives, ensuring that moral standards remain rooted in the timeless ideals of justice and compassion while also being sensitive to the complexities of contemporary life.

REFERENCES

- Kamel, R.M (2013). Assisted reproductive technology after the birth of louise brown. *Journal of Reproduction Infertility*. 14(3):96-109. PMID: 24163793; PMCID: PMC3799275.
- Chen, C (1986). Pregnancy after human oocyte cryopreservation. *Lancet*, 1(8486):884-886.
- ACOG Having a Baby After Age 35: How Aging Affects Fertility and Pregnancy <https://www.acog.org/womens-health/faqs/having-a-baby-after-age-35-how-aging-affects-fertility-and-pregnancy>
- Inhorn, M.C, Patrizio, P. (2015). Infertility around the globe: new thinking on gender, reproductive technologies and global movements in the 21st century. *Hum Reprod Update*, 21:411–426.
- Lockwood, G., Johnson, M.H (2015). Having it all? Where are we with “social” egg freezing today? *Reprod Biomed Online*, 31:126-12.
- Inhorn, M.C. (2013). Why me? Male infertility and responsibility in the Middle East. *Men Masc*, 16:49–70.
- McDonald, E. (2022). Moral Agency in the Reproductive Marketplace: Social Egg Freezing in the United States, *Journal of Religious Ethics*, 2022. 10.1111/jore.12412, 50, 4, (696-716).
- Richards, S.E. (June-2013). Freezing your eggs—is this what we’re all doing now, cosmopolitan, <http://www.cosmopolitan.com/advice/tips/fertility-fears>.
- Harwood, K. (2009). Egg freezing: a breakthrough for reproductive autonomy?. *bioethics*, 23: 39-46. <https://doi.org/10.1111/j.1467-8519.2008.00680.x>.
- Urist, J. (2013). There’s More to Life Than Freezing Your Eggs, *The Atlantic*, <http://www.theatlantic.com/health/archive/2013/05/theres-more-to-life-than-freezingyour-eggs/275812/>.
- Lahoti, U., Pajai, S., Shegekar, T., Juganavar, A. (2023). Exploring the Landscape of Social Egg Freezing: Navigating Medical Advancements, *Ethical Dilemmas, and Societal Impacts*. *Cureus*, 30;15(10):e47956. doi: 10.7759/cureus.47956. PMID: 38034211; PMCID: PMC10685323.
- Zoll, M., Mertes, H., & Gupta, J. (2015). Corporate giants provide fertility benefits: have they got it wrong?. *European journal of obstetrics, gynecology, and reproductive biology*, 195, A1–A2. <https://doi.org/10.1016/j.ejogrb.2015.10.018ref>.

Hodes-Wertz, B., Druckenmiller, S., Smith, M., Noyes, N. (2013). What do reproductive-age women who undergo oocyte cryopreservation think about the process as a means to preserve fertility? *Fertil Steril*, 100:1343–1349).

Petropanagos, A., Cattapan, A., Baylis, F., Leader, A. (2015). Social egg freezing: risk, benefits and other considerations. *CMAJ*, 16;187(9):666-669. doi: 10.1503/cmaj.141605. Epub 2015 Apr 13. PMID: 25869870; PMCID: PMC4467930.

Okun, N., Sierra, S. (2014) SOGC clinical practice guidelines: pregnancy outcomes after assisted human reproduction. *J Obstet Gynaecol Can*, 36:64–83.

Practice Committees of American Society for Reproductive Medicine, Society for Assisted Reproductive Technology. Mature oocyte cryopreservation: a guideline. *Fertil Steril* (2013); 99:37–43. <https://doi.org/10.1016/j.fertnstert.2012.09.028>.

Borovecki, A., Tozzo, P., Cerri, N., Caenazzo, L. (2018) Social egg freezing under public health perspective: Just a medical reality or a women's right? An ethical case analysis. *J. Public Health Res*, 7:1484.

Martin, L. J. (2010) Anticipating infertility: Egg freezing, genetic preservation and risk. *Gend. Soc*, 4:526–545.

Average Age of First-Time Mothers up to 29.9 Years. Available online: <https://www.cbs.nl/en-gb/news/2019/19/average-age-of-first-time-mothers-up-to-29-9-years>.

Cohn, D. (10 July 2013). In Canada, most babies now born to women 30 and older. *Pew Research Center*. Accessed 27 September 2016. www.pewresearch.org/fact-tank/2013/07/10/in-canada-most-babies-now-born-....

Cavaliere, G. (2020) Gestation, equality and freedom: ectogenesis as a political perspective. *Journal of medical ethics*, 46 (2):76–82.

Khaleel, M. (2005) The Islamic Law Maxims. *Islamic Studies*, 44: 191–207. <http://www.jstor.org/stable/20838961>.

Alawi, S. (2019) Egg freezing permissible in Islam, according to Egypt's Dar Al-Ifta. Bill of Health, 23 September 2019.

<https://blog.petrieflom.law.harvard.edu/2019/09/23/egg-freezing-permissi...>

https://www.egyptindependent.com/egg-freezing-is-permissible-in-islam-egypts-dar-al-ifta/?fbclid=IwAR1vPknAPfKMiEyH7Js3hL9eQJVxhpaCFLUi9CQOXNID80cfE1CxZHdavZE#google_vignette.

Chin, A. H. B., Muhsin, S. M., & Ahmad, M. F. (2023) Islamic Perspectives on Elective Ovarian Tissue Freezing by Single Women for Non-medical or Social Reasons. *Asian bioethics review*, 15(3):335–349. <https://doi.org/10.1007/s41649-022-00236-z>