

Delaying Motherhood: The Ethics of Social Egg Freezing

Etika Proses Pembekuan Ovum Untuk Melewatkan Kehamilan

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ABSTRACT

Pregnancy and childbirth play a significant part in a woman's life. Nonetheless, for some women, the dream of having a child needs to be postponed or forgotten due to medical and non-medical reasons. A woman's ability to carry a child to term may be compromised due to health issues such as the need to undergo medical treatment that may affect their fertility. In addition to health issues, non-medical factors such as the inability to find a suitable partner or spouse or a career commitment can also impact a woman's chances of having a child. Now, with the help of technologies, women may opt to postpone pregnancy by choosing to freeze their eggs for future use. While the practice of egg freezing on medical grounds may be tolerable and less problematic, its use for social reasons invites further scrutiny. Therefore, it is necessary to carefully discuss the potential risks and harms of social egg freezing for women, newborns, and society as a whole. This paper aims to identify the ethical, legal, and Islamic concerns surrounding social egg freezing by analysing this practice from a Malaysian perspective. In addition, the law and policy on social egg freezing in some jurisdictions are also examined and considered as a benchmark in proposing a suitable law in Malaysia. To achieve this objective, this paper adopts legal doctrinal and qualitative method analysis where primary and secondary literatures are critically analysed.

Keywords: Bioethics; Autonomy; Social egg freezing; Malaysia; Aging population

ABSTRAK

Kehamilan dan kelahiran memainkan peranan penting dalam kehidupan seorang wanita. Namun, atas sebab-sebab tertentu, samada sebab sebab kesihatan atau sosial, impian seorang wanita untuk mengandung dan melahirkan anak terpaksa dikuburkan atau ditangguhkan. Kemampuan seorang wanita untuk mengandung dan melahirkan anak boleh terjejas atas sebab kesihatan seperti keperluan menjalani rawatan perubatan yang boleh menjejaskan kesuburan mereka. Disamping itu, sebab-sebab seperti kesukaran mendapatkan pasangan sesuai atau ingin memfokus kepada kerjaya juga turut menyumbang kepada kelewatan wanita untuk mendapatkan anak. Dizaman ini, terdapat teknik pembekuan ovum yang boleh membantu wanita melewati proses kehamilan. Penggunaan teknik pembekuan ovum atas sebab-sebab kesihatan tidak menimbulkan banyak perdebatan. Namun, perbincangan khusus diperlukan sekiranya teknik ini ingin digunakan atas sebab-sebab sosial yang tidak berpunca dari isu kesihatan. Oleh itu, penulisan ini akan mengkaji isu-isu etika, undang-undang dan agama mengenai penggunaan teknik pembekuan ovum atas sebab-sebab sosial. Juga, undang-undang dan polisi yang digunapakai dinegara lain turut dirujuk sebagai penanda aras dalam mencadangkan mekanisme perundangan yang boleh diaplikasi di Malaysia. Untuk mencapai objektif ini, penulisan ini menggunakan metod analisis doktrinal dan kualitatif Dimana sumber-sumber rujukan sediada dirujuk dengan kritis.

Katakunci: Bioetika; Autonomi; Pembekuan ovum; Malaysia; Populasi tua

INTRODUCTION

A woman's ability to carry a child to term may be compromised due to health issues such as the need to undergo medical treatment like chemotherapy. In addition, non-medical or social reasons such as the inability to find a partner or a spouse, as well as career commitment may also influence a woman's decision and opportunity of having her own biological child. Now, with the help of technology, women may opt to postpone pregnancy by choosing to freeze their eggs for future use. (Alpha IVF & Women Specialists n.d). Egg freezing is possible and legally recognised in many countries around the world. The United Kingdom (UK) for example, has legally permitted egg freezing since the year 2000 with the practice governed by the Human Fertilisation and Embryology Act 2008 (Nuffield Council on Bioethics 2020). In 2023, Singapore legally permitted egg freezing under the Healthcare Services (Assisted Reproduction Service) Regulations 2023 created under the Healthcare Services Act 2020. According to Indonesian law, only their legal spouse, regardless of their marital status at the time of the egg freezing procedure, can fertilise the preserved eggs (Suparman, 2022). Article 127 of Indonesian's Health Law No. 36/2009 (UU Kesehatan no. 36 Tahun 2009) stipulates that only married couples using their own gametes can use artificial means of reproduction (Undang-Undang Republik Indonesia Nomor 36 Tahun 2009 Tentang Kesehatan 2009). It can be argued that under the said law, single women who freeze their eggs may only use them for conception if they are legally married.

Egg freezing is currently available in many private healthcare facilities in Malaysia (Sunfert n.d.). Despite the lack of a specific law governing the practice, the Medical Division Malaysia Ministry of Health Malaysia 2021 reports that a law on assisted reproductive technologies (ART) is currently in progress. In 2021, the Ministry of Health Malaysia has introduced the National Assisted Reproductive Technology (ART) Policy ("The 2021 Policy") which serves as an interim guideline on the practice of ART in this country pending the enactment of the law on ART (Medical Development Division Malaysia Ministry of Health Malaysia 2021). The Malaysian Medical Council Guideline on Assisted Reproduction 2006, also known as "the MMC Guideline 2006", served as the primary guidance on ART practices in Malaysia prior to the introduction of the 2021 Policy. In what follows, both of these guidelines and policy are examined in detail particularly in the context of egg freezing.

A CLOSE REVIEW OF THE AVAILABLE EGG FREEZING GUIDELINES IN MALAYSIA

The MMC Guideline 2006 does not contain any specific provision for egg freezing. However, the aforementioned guideline provides a section dedicated on "Sperm freezing/Sperm banking" as follows:

"Cryo-preservation can be used to store sperm. The sperm can be thawed and used for artificial insemination or in-vitro fertilisation. The sperm can be stored for future use especially in patients about to undergo chemotherapy. Sperm can also be retrieved from the epididymis or testes in those with blockage of the vas deferens. Proper procedures must be in place for the identification of sperm specimens. The use of donor semen should be guided primarily by medical needs and the religious sensitivities of the couple and the medical practitioner involved."

(section 13) (Malaysian Medical Council 2006).

The MMC Guideline 2006 further acknowledges the widely held belief in Malaysia on the importance and sanctity of marriage as a pre-requisite to reproduction. Based on this premise, Section 2 of the said Guideline stipulates that ART should only be offered to married couples (Malaysian Medical Council 2006). The use of ART for unmarried couples also constitutes one of the “Prohibited/Unacceptable Practices” under the 2006 Guideline.

On the contrary, Section 1.3. of the 2021 Policy states that:

*“The ART should only be offered and performed on heterosexual couples, who are legally married. **Gamete and reproductive tissues are not included in this definition**”*

(Medical Division Malaysia Ministry of Health Malaysia 2021). (emphasis added)

The definition of ‘gametes’ is provided in the 2021 Policy as follows:

“4.1.1 Gametes are the cells used during sexual reproduction to produce a new individual organism or zygote. The male gamete, sperm is a smaller, mobile cell that meets up with the much larger and less mobile female gamete, egg or ova.”

Hence, it is apparent from the above definition that the female egg does not fall within the definition of ART that is strictly confined to married couples under the 2021 Policy. Furthermore, Section 10 of the said 2021 Policy contains provisions on the storage of gametes including reproductive eggs, as follows:

“10.1.1 Gametes and reproductive tissues can be stored for non-medical and medical reasons for fertility preservation such as patients with malignancy undergoing surgery and/or chemotherapy/radiotherapy.

10.1.2 Stored gametes and embryos is only allowed for own personal use, and not for donation or commercialization.”

Section 10.2 of the same policy then proceeded to set out the period of storage allowed for the gametes, embryos and reproductive tissues. In summary, the 2021 Policy permits “storage of gametes, embryos and reproductive tissues” for a period of five years and this can be further extended to 10 years with the couple’s mandatory written request (section 10.2.1). Section 10.2.2 further provides that, *“Storage of gametes and reproductive tissues for fertility preservation may be extended beyond ten (10) years with a mandatory written request by the patient.”* As a safeguard measure against unauthorised use of the stored eggs, Section 10.3.2 of the 2021 Policy requires the stored gametes to be disposed when the patient dies (Medical Division Malaysia Ministry of Health Malaysia 2021). The stored gamete must also be disposed upon the expiry of the permitted period for storage and stated in Section 9.2.3 of the 2021 Policy.

A literal interpretation of the above provisions implies that egg freezing is permitted for both medical and social reasons. This interpretation further suggests that all women, regardless of their marital status, are eligible for egg freezing procedures in Malaysia but can only use their frozen eggs when they are legally married. This understanding is based on Sections 2 and 15 of the MMC Guideline 2006 and Section 1.3 of the 2021 Policy, which only permit the use of ART for legally married couples. It is thus understood that only legally married couples can use the ART method of in vitro fertilisation (IVF) to conceive from frozen eggs.

While egg freezing on medical grounds is less problematic, its use for social reasons invite further scrutiny. This paper focuses on identifying and scrutinising the concerns surrounding social egg freezing for women, newborns, and society as a whole. Concentrating on the Malaysian

landscape, the Islamic perspective on social egg freezing is further explored alongside other ethical and legal issues. First, the process of egg freezing is explained.

WHAT IS EGG FREEZING?

Egg freezing is a technique that allows women to preserve their fertility so that they can start a family at a later age or time. As women age, their fertility declines, and their chances of conceiving naturally drops. Thus, egg freezing provides a solution by taking and freezing women's eggs while they are at their most fertile age and stored for future use (Human Fertilisation & Embryology Authority n.d.). Women who could benefit from this technique include women undergoing chemotherapy and single women wishing to conceive at a later age (KL Fertility Centre n.d.). Scientifically known as "oocyte cryopreservation", this technique begins by retrieving the woman's eggs, which will then be frozen and kept for later use (Alpha IVF & Women Specialists n.d.). The eggs are frozen using the method called "vitrification" which offers better chances for the eggs to survive (Alpha IVF & Women Specialists n.d.). Overall, the egg freezing process involves four essential steps:

- (1) The woman is screened for infectious diseases;
- (2) The woman is given injections to stimulate the production of the eggs to be collected;
- (3) The eggs are then kept in incubators to stimulate egg growth; and
- (4) Finally, the eggs are vitrified and kept until they are needed (Alpha IVF & Women Specialists n.d.).

Egg freezing is recommended for women in their 20s or under 35 years of age (Alpha IVF & Women Specialists n.d.). It offers several benefits to women. For example, women who must undergo treatments that may compromise their fertility such as chemotherapy, endometriosis, or women having autoimmune diseases, may opt to have their eggs frozen to allow pregnancy later (Cross n.d.). Egg freezing provides women with the option to prioritise their professional development or delay childbearing for non-medical or social reasons, such as not having found a suitable partner, while still preserving their strong desire and potential to have children at a later stage in life (Cross n.d.). Nonetheless, the technique also raises several concerns warrant examination, especially when used for non-medical or social purposes. Concerns or issues surrounding egg freezing can be divided into medical and ethical concerns, which are identified and elaborated below.

MEDICAL CONCERNS

The process of egg freezing poses risks to the woman's health. These risks occur from the process of ovarian stimulation, the retrieval of the eggs, and the risks associated with IVF (Petropanagas, Cattapan, & Baylis 2015). As explained above, the process of egg freezing begins with the woman being given medications to stimulate her ovaries to produce eggs. This procedure exposes the woman to the risk of ovarian hyperstimulation syndrome, which causes ovaries to enlarge and fluid accumulation in the abdomen (Loi Shen-Yi Kelly 2023). Other side effects of ovarian hyperstimulation syndrome include nausea and abdominal bloating. More severe effects, such as

breathing difficulties and abdominal pain may also occur (Mohd. Nasir Tak b Abdullah 2014). Furthermore, the risks of IVF are also prevalent when women undergo egg freezing, including multiple gestations, premature birth, and high blood pressure (Petropanagas, Cattapan, & Baylis 2015). Advanced-age pregnancy also raises medical and ethical concerns with egg freezing. This is particularly relevant when women deliberately keep their eggs to achieve pregnancy at a later age or even after menopause due to non-medical reasons such as career priority or waiting to find a suitable spouse.

EGG FREEZING AND POST-MENOPAUSAL PREGNANCY

Women who choose to freeze their eggs while waiting for the right partner or waiting for the right time to conceive may end up getting pregnant at an advanced age or even after reaching menopause. The MMC Guideline 2006 acknowledges the issue of post-menopausal pregnancy but nevertheless, provides in Section 1 that:

*“For examples, a 60-year-old woman may request to have assisted reproduction in order to achieve a pregnancy. A lesbian couple may want to have a child. **Although these rights may be viewed differently in different societies and communities, it is important for the medical community to consider these issues in the context of individual rights, societal concerns, the norms of the community and the legal framework of the country.**”*

(emphasis added)

The 2021 Policy is silent on the issue of post-menopausal or advanced age pregnancy, even though it impliedly endorses such a practice by allowing the storage of gametes for a maximum of 10 years. This period may be further extended upon the patient’s mandatory written request (Sections 10.2.1 and 10.2.2). Post-menopausal or late pregnancy leads to a multitude of medical, ethical, as well as religious hurdles (Haniwarda Yaakob 2020). From a medical point of view, having children over the age of 35 is considered risky to both the woman and the baby she is carrying (Mayo Clinic Staff 2022). Pregnancy over the age of 35 is also medically known as “geriatric pregnancy” (Begum 2023). These risks include the risks of multiple gestations, particularly when IVF is used. Multiple pregnancies increase the chances of having an early birth or preterm labour, hypertension in the pregnant woman, anaemia, birth defects, and potential miscarriage (John Hopkins Medicine n.d.). Other medical concerns associated with late pregnancy include the potential risks to the unborn child. Children born from an older mother have a higher chance of having chromosomal abnormalities, which may result in conditions such as Down’s Syndrome (Mayo Clinic Staff 2022). While these risks can be mitigated with advancements in medicines such as the use of preimplantation genetic diagnosis to select healthy embryos (Haniwarda Yaakob 2018), the ethical and religious apprehension over advanced-age pregnancy still needs to be evaluated.

The author has addressed the ethical concerns surrounding post-menopausal pregnancy elsewhere (Haniwarda Yaakob 2020). Critics label the ethical acceptability of procreating beyond the natural age of reproduction as “unnatural and immoral”. In addition, critics have perceived pregnancy at a later age as a “selfish act,” where women purposefully postpone pregnancy and expose themselves and their child to “unnecessary risks and harms of post-menopausal pregnancy” in order to pursue other life goals (Haniwarda Yaakob 2020). Furthermore, post-menopausal pregnancy further raises concerns over the welfare of the child born. Critics argue that children born to older parent(s) may face the challenges or disadvantages of growing up with an older

parent. These hindrances include the possibility of losing a mother at a young age, needing to cope with decreasing health of the mother due to increasing age, and even generation gap (Fisseha & Clark 2014). The author has critically analysed these criticisms and concluded that additional evidence and data are necessary, given that these concerns are "argumentative" and "speculative" (Haniwarda Yaakob 2020). However, the influence of religion in Malaysia's bioethical discourse may hinder the legal recognition of the Islamic stance on post-menopausal pregnancy (Haniwarda Yaakob 2020). The present discussion on the acceptability of egg freezing in Malaysia reiterates the same argument, highlighting the significant role of religion, particularly Islam, in law and policy making on ART (Haniwarda Yaakob 2022). The Islamic viewpoint of egg freezing is explored later in this paper. In the meantime, the analysis on the issues arising from the practice of egg freezing continues.

PRESSURE ON CHILDLESS WOMEN

As argued elsewhere, pregnancy and childbirth are significant aspects of a woman's life in certain cultures and origins, including Malaysia (Haniwarda Yaakob 2022). On this ground, the application of medical technologies, including egg freezing, can assist women in fulfilling the roles of pregnancy and motherhood. However, a counterargument posed by Harrison et al. (2017) appears to be equally appealing. Arguing in the context of IVF for post-menopausal women, Harrison et al. (2017) argue that extending women's chances of getting pregnant would result in more burden and further pressurise women into becoming pregnant. Women who are otherwise reluctant to have children, would be indirectly 'compelled' to consider pregnancy as they can now opt to use ART such as IVF (Harrison, Riviere, Raphael N Riviere, Deonandan, & Walker 2017). This argument can be further associated with egg freezing. The advent and availability of egg freezing may entice women to freeze their eggs, hoping to conceive when the timing is right. More so when there is numerous information on egg freezing options offered by healthcare or fertility centres that inadvertently leads women into thinking that they must have their eggs frozen; not to do so, would be a great loss for them. This situation leads to the next crucial question on the potential benefits of egg freezing to women.

DOES EGG FREEZING REALLY BENEFIT *ALL* WOMEN?

Social egg freezing perpetuates the notion that all women must have a genetically related child. With the availability of egg freezing, women may be attracted into thinking that they can now focus on their career and later decide to have their own genetic children (Petropanagas, Cattapan, & Baylis 2015). While this perception may at first glance be seen as a viable option for women, it may, on the other hand, undermine women's reproductive autonomy in the sense that they are 'forced' into having their own child as there is a technology that enables this at any age. Hence, Petropanagas et al (2015) caution healthcare providers not to put extensive pressure on women to opt for egg freezing by giving the impression that women who do not opt to have their eggs frozen may look back and regret this decision later. 'Pressuring' women to resort to egg freezing leads to another issue, which is the cost of the procedure. In Malaysia, the cost of egg freezing is estimated to be around RM10,800 (TMC Fertility 2024). Due to the financial costs involved, egg freezing

may not be accessible for all women, and therefore, this procedure cannot be hailed as ‘useful to all women’ (Petropanagas, Cattapan, & Baylis 2015).

Furthermore, it is uncertain whether all women who resorted to egg freezing will eventually return use their stored eggs to conceive. In Malaysia, particularly, the MMC Guideline 2006 and the 2021 Policy discussed above, explicitly stipulate that ART should only be offered to married couples. Hence, single women who freeze their eggs for fertility preservation can use their frozen eggs only when they are legally married. A question thus arises: what if they are not able to find the right man in time to use their stored eggs? If this situation arises, then these women will be subject to unnecessary and fruitless medical procedures required in the egg freezing process (Anderson, Davies, & Lavery 2020).

Even when these women return to use their eggs, the success rate of egg freezing is often ignored or not given sufficient emphasis by providers of the service. In the UK, it was reported that women are misinformed on the success rate of the egg freezing method by some clinics that offer the procedure (Collinson, Ahmed, & McShane 2024). The UK’s Human Fertilisation and Embryology Authority (HFEA) reported that:

“Few patients in the UK have come back to use their frozen eggs, but for those who do, the success rates are slightly lower than IVF using fresh eggs - which is about 20-30% per round depending on age. It could be as low as 5% for people in their 40s”

(Collinson, Ahmed & McShane 2024)

Therefore, it is pertinent that fertility centres and healthcare professionals involved in offering the egg freezing treatment provide sufficient and accurate information on the process to women before they agree or consent to proceed with the procedure, as informed consent is the cornerstone of all medical treatments.

INFORMED CONSENT

Obtaining informed consent is one of healthcare professionals' fundamental legal and ethical obligations in all medical practice, including providing ART and egg freezing procedures. In *Re T (Adult: Refusal of Treatment)* [1992] All ER 649, Lord Donaldson held that:

“An adult patient who...suffers from no mental incapacity has an absolute right to choose whether to consent to medical treatment, to refuse it or to choose one rather than other treatments being offered.”

The duty to obtain a patient’s consent includes the duty to provide sufficient explanation to the patient about the proposed treatment, where failure to do so would expose healthcare professionals to a civil claim for negligence (Haniwarda Yaakob 2023). Acknowledging this duty, the MMC Guideline 2006 and the 2021 Policy have clearly enunciated specific provisions on consent. A quick examination of the consent provisions in both documents reveals that the former contains a more detailed provision than the latter. The said provisions are reproduced below:

“4. CONSENT

The patients generally have the right to give or withhold consent to examination and treatment. No ART treatment should be given to any couple without their written consent to that particular treatment which must be clearly explained to them, including success rates and complications.

In the course of the discussion, the following aspects must also be brought up, considered and, where appropriate, consent obtained.

Consent must be obtained from couples for the use of genetic material for treatment as well as possibly for research; the latter, however, is still not permitted in Malaysia.

The decision and consent whether couples who have had successful assisted reproduction would like either disposal or further storage of genetic material should also be obtained.

While couples have the right to determine the period of storage of the genetic material, they must be made aware of the period of maximum statutory period of five (5) years, which may be extended to ten (10) years if approved by the relevant authority, at the present this being the Ministry of Health.”

(Malaysian Medical Council 2006)

On the contrary, the 2021 Policy merely encompasses the following provision on consent in Section 11:

“11.1.1 ART treatment should only be performed on couples with their written consent to that particular treatment, which must be clearly explained to them, including success rates and risks.”

Nevertheless, both documents clearly require healthcare providers offering ART to inform the patient on the nature of the treatment, success rates and potential risks and complications. Adhering to this requirement is crucial to enhance patient autonomy. Moreover, providing sufficient information to patients would also protect healthcare providers from civil claims for negligence for failure to inform patients of the “material risks” associated with the treatment. The legal obligation to inform patients of all “material risks” was discussed in the Australian case of *Rogers v Whitaker* [1993] 4 Med LR 79 which is now adopted by the Malaysian Federal Court in *Zulhasnimar bt Hasan Basri v Dr. Kuppu Velumani P & Ors* [2017] 5 MLJ 461. In the context of ART, the suggestion by the Ethics Committee of the American Society for Reproductive Medicine (ASRM) (2023) on the issue of consent should also be incorporated and adopted in Malaysia. According to ASRM:

“At times, information may be lacking, particularly about long-term outcomes or when there is a dearth or absence of studies regarding a particular treatment. In such circumstances, care must be taken to explain uncertainties to patients. The failure to discuss the absence of evidence with patients may be erroneously understood by them to mean that there is evidence that is reassuring. It is important to guard against this misunderstanding and to be fully candid about what is known and what is not known.”

(Ethics Committee of the American Society for Reproductive Medicine 2023)

In summary, fertility centres offering egg freezing procedures in Malaysia must advise patients on the success rates and the possible risks and implications. If there is any uncertainty about the procedure due to a lack of scientific evidence, this fact must also be communicated to the patient. Without transparent communication on the unavailability of data on the procedure, patients could be enticed into thinking that such a procedure is almost 100% safe and can guarantee a favourable outcome. ‘False’ or ‘uncertain’ hope to patients should be always avoided. In addition, eggs storage also raises other legal issues on the access, ownership and potential claim for negligence which are elaborated below.

ACCESS, STORAGE AND POTENTIAL NEGLIGENCE CLAIM

Under the 2021 Policy, women's eggs can be stored beyond the maximum period of 10 years if the woman requests to preserve their fertility (section 10.2.2) (Medical Division Malaysia Ministry of Health Malaysia 2021). In implementing this provision, extreme measures must be taken by the relevant authorities to ensure that the stored eggs are safe and not accessible to other parties. The 2021 Policy strictly allows ART for married couples only (Section 1.3), necessitating the introduction of safety measures to ensure that the woman can only use the stored eggs for fertilization with her legal husband. The difficulty in ensuring access of ART to married couples was only acknowledged in the 2006 MMC Guideline, which Section 2 states that:

"The sanctity of marriage and the importance of marriage prior to having children is a widely held belief by society in Malaysia. The difficulty of forcing potential patients to prove their marital status and maintaining constant checks on the same must be realized as a practical difficulty for medical practitioners. Be that as it may, in this country, assisted reproduction techniques must only be offered to married couples."

In any event, if the provisions in the said 2021 Policy were to be incorporated in the upcoming law on ART, detailed regulations and standard operating procedures must be introduced to uphold the principle of allowing ART to married couples only. Other than that, the long-term storage of eggs raises the risk of a "mix-up" or confusion. In other jurisdictions, there have been instances where the wrong sperm was used in an ART treatment that resulted in the birth of a child not genetically related to the woman's husband. In a Singaporean case, *ACB v Thomson Medical Pte Ltd and Others [2017] 1 SLR 918*, a couple had sought fertility treatment at a fertility centre, but the woman's eggs were fertilised with the sperm of an unknown man who was not her husband. The fertility centre admitted liability, but the issue of damages was contested. A similar incident occurred earlier in the UK in *Leeds Teaching Hospitals NHS Trust v A [2003] 1 FLR 1091*. Here, Mr. and Mrs. A attended a clinic to undergo sperm injection treatment. At the same time, there was another couple, Mr. and Mrs. B who also visited the clinic for treatment. However, Mrs. A's eggs were injected with the sperm of Mr. B instead of her husband, Mr. A. The mistake was only discovered when Mrs. A gave birth of mixed-race twin. These incidences illustrate the possibility of negligence when the wrong gametes are used for fertilisation. This concern is arguably, more alarming when eggs are stored for a long period of time that is 5-10 years, or even more than 10 years under the 2021 Policy. The consequences of a 'mix-up' in ART are grave as it leads to the issue of parentage. This is particularly important in Islamic teachings that place great emphasis on safeguarding *nasab* or lineage, which is one the considerations in the egg freezing procedure explored later. Other than concerns to the woman, egg freezing particularly for non-medical reasons also raises the question of its potential implication to society. This concern is evident when more and more young women choose to delay pregnancy at a later age, and this is analysed below.

EGG FREEZING AND ITS IMPLICATIONS ON SOCIETY

As previously stated, social egg freezing allows women to delay starting a family for personal reasons such as to focus on a career or to find the right spouse. It has been reported that there were employers who offered financing aid and perks to encourage their female staff to freeze their eggs (Tran 2014). Critics have argued that a policy like this inspires women to focus more on careers than having children (Alteri, Pisaturo, Nogueira, & D'Angelo 2019). Pregnancy may also be

delayed when the woman has difficulties finding her ‘Mr. Right’. In Malaysia, although the 2021 Policy and the MMC Guideline 2006 arguably permit social egg freezing, women may only return to use their stored eggs to conceive after they are legally married. Whatever the reason, the implication of egg freezing remains the same; the postponement of pregnancy and starting a family. When pregnancy and childbirth are largely postponed, a society may face a decline in fertility rates, which may then turn a society into an aging population, as the situation now in Malaysia. If this situation materialises, several potential consequences on society at large must be considered.

THE CHALLENGES OF BECOMING AN AGEING POPULATION

An ageing society or population is said to occur when the number of citizens over the age of 60 increases while the number of younger citizens, age 15 and below decreases (Zainab Ismail et.al 2021). It is estimated that by the year 2030, 1 in 6 individuals will be over 60 years of age worldwide (World Health Organisation 2022). Malaysia is not exceptional as the country is also heading towards becoming an aging nation by 2030 where 15.3% of the Malaysian population are expected to reach the age 60 and above (Balkish Awang 2023). As of 2022, the percentage of Malaysians aged 65 and above was recorded at 7.2% (Statista Research Department 2023). In April 2024, it was reported that about 11.1% of the Malaysian population have attained the age 60 and above (Malaymail 2024), thus making an ageing society a reality for Malaysia. At the same time, Malaysians’ fertility rate continues to drop (Essa Abu Yamin 2024). In 2010, total fertility rate in Malaysia was reported at 2.1 children for every female but this number has decreased to 1.6 children per female in 2022 (Bernama 2024).

Ageing population has its own challenges and implications. Zainab Ismail et. al. (2021) identifies the potential impact of an ageing population include changes in family structure, youth migration, the increasing need for care and support, health issues, financial security, and problems with accommodation. However, it is feared that Malaysia is not ready to deal with the challenges associated with an ageing population. Dr Mohammad Mujaheed Hassan, the Head of the Laboratory of Social Gerontology at the Malaysian Research Institute on Ageing (MyAgeing) at Universiti Putra Malaysia, was reported as saying:

“In order to be ready for this (ageing nation) phase, various measures have to be put in place with the main focus being the well-being of the elderly population. These measures include increasing investments in the development of healthcare infrastructure for the elderly. This will involve constructing hospitals, clinics and aged care facilities that are equipped to provide specialised care for older adults. The infrastructure must not only be concentrated in urban areas but also extended to rural areas to ensure equitable access to healthcare services.”

(Balkish Awang 2023)

It is not within the scope of this paper to fully explore the effects and challenges of reaching an ageing population for Malaysia. The emphasis here is on how egg freezing can lead to this issue and the consequences that follows. Hence, in considering for a policy or law for social egg freezing in Malaysia, detailed considerations on the long effects of ageing are imperative. Given the declining fertility rate in Malaysia and the growing number of older populations, there is a legitimate concern that egg freezing, particularly for non-medical purposes, could significantly impact society by reducing overall fertility rates, potentially leading to an ageing population.

Therefore, legalising social egg freezing in this country necessitates concurrent efforts to boost fertility rates and address the ageing population. Other than the potential implications for society, another important aspect to consider is the legitimacy of egg freezing from an Islamic perspective.

ISLAM AND EGG FREEZING

Contemporary international Muslim scholars such as Firzza Shafira Rizkiyana (2023) suggests that egg freezing may be permissible in Islam so long as the procedure is conducted in a manner that does not violate Islamic injunctions. For instance, fertilisation of frozen eggs must not involve any third party, be it by using a borrowed womb or by using donated sperm not belonging to the woman's husband. In addition, the fertilisation process must be done during the validity of a valid marriage. These conditions are necessary to '*nasab*' or lineage which is one of the objectives of Shariah laws.

In Malaysia, a fatwa has been issued in 2022 by the Mufti of the Federal Territory's Office (Mufti of the Federal Territory's Office 2022) which strictly forbids single women to freeze their eggs. According to the fatwa, it is forbidden to extract gametes, be it the sperm or the egg for unmarried man and woman, even if it is intended to be fertilised after marriage. This ruling is based on the prohibition on '*istimna*' (extraction of semen for men and women) prior to marriage. Similarly, extracting eggs before marriage is also prohibited. Therefore, it is '*haram*' or forbidden for Muslims to fertilise eggs and sperms that were extracted before marriage (Mufti of the Federal Territory's Office 2022). Another ground of prohibition is to protect '*nasab*' or lineage which is part of the objectives of Shariah laws. According to the fatwa, one of the ways to protect '*nasab*' or lineage is by having children through sexual intercourse during a valid marriage (Mufti of the Federal Territory's Office 2022). In addition, the fatwa continues to state that it is even prohibited for single women to freeze their eggs fearing that they would be less fertile at an older age or reaching menopause as such matters are not within the knowledge of human beings (Mufti of the Federal Territory's Office 2022).

Earlier, two fatwas have been released in Malaysia concerning the human gametes, namely the sperm and the egg, which were reproduced in the 2022 fatwa. These fatwas were issued by the *Muzakarah Jawatankuasa Majlis Fatwa Kebangsaan bagi Hal Ehwal Ugama Islam Malaysia* in 1981 and 2003 (Jabatan Kemajuan Islam Malaysia 2015). The fatwa issued in 1981 expressly prohibits the establishment of sperm banks while the 2003 fatwa provides that it is unlawful to fertilise eggs and sperm that were extracted before the existence of a valid marriage (Jabatan Kemajuan Islam Malaysia 2015). The issuance of these fatwas, particularly the 2022 fatwa, according to Heng and Che Mohamad, is well-timed as it is necessary to educate Malaysian Muslim women that egg freezing is unacceptable in Islam. This may, in turn, deter them from going abroad especially to Singapore that has legally allowed egg freezing for single women in 2023 (Heng Boon Chin & Che Anuar Che Mohamad 2022).

CONCLUSION AND THE WAY FORWARD FOR MALAYSIA

Medical technologies arrive with their own benefits and potential adverse implications. Egg freezing is of no exception. Although generally welcomed for offering women the chance to preserve their fertility, the possible consequences of egg freezing, particularly when used for non-medical reasons, must not be ignored. This paper has undertaken the task of identifying and analysing the potential concerns of egg freezing from the legal, medical, and ethical perspectives. In addition, when discussing the possible legal approach to medical technologies in this country, it is argued that the Islamic standpoint must not be set aside.

Overall, it is concluded that egg freezing raises several legal, medical, and ethical issues for the woman, the child born and society. Furthermore, freezing eggs for unmarried women is strictly prohibited in Islam which is evident by the fatwa issued in 2022. Nonetheless, the 2021 policy issued by the Ministry of Health seems to permit medical and social egg freezing including for single woman although ART is only confined to married couples. If the provisions in the 2021 policy are to be later incorporated into a formal law on ART in Malaysia, it is suggested that stringent measures must be put in place to mitigate the potential ramifications that follow from egg freezing treatment. Nonetheless, the most crucial challenge in allowing egg freezing in Malaysia, arguably, remains with the Islamic prohibition of this technique. Hence, it is suggested that the Islamic stance on egg freezing should be equally emphasised and harmonised with the proposed law on ART and egg freezing in Malaysia.

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