

Social Egg Freezing for Single Women in China: Legal and Ethical Controversies

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Abstract: Social egg freezing is an emerging topic in China, where single women currently face restrictions in accessing this service at medical facilities. Administrative regulations prohibit single women from accessing all forms of assisted reproductive technologies. Both the first lawsuit filed by a single woman seeking to freeze her eggs and a legislative proposal aiming to protect single women's rights to access assisted reproductive technologies were denied. This has sparked controversy and discussion about the reproductive rights of single women and the legitimacy of their access to medical and technical assistance. Laws and family planning policies related to women's reproductive rights in China have undergone dramatic changes in recent years, owing to shifts in population growth trends and societal attitudes toward marriage and childbirth, subsequently leading to a notable enhancement in women's reproductive autonomy. Meanwhile, factors such as marital status and career considerations have led to a delay in childbearing, triggering a growing need and advocacy for fertility preservation among single women. In China, the pursuit of social egg freezing by single women comes into conflict with the strict regulatory restrictions on assisted reproductive technologies. This study delves into the profound impacts of demographic changes, marital trends, fertility culture, and other social factors on female fertility in China. It also discusses the legislative issues and medical-social ethical concerns associated with the application of social egg freezing for single women. Additionally, this study offers regulatory suggestions aimed at enhancing women's reproductive health and autonomy, as well as the avoidance of potential ethical risks.

Keywords: social egg freezing, single women, assisted reproductive technology, reproductive ethics, women rights

Introduction

Currently in China, administrative regulations prohibit the implementation of all assisted reproductive technologies for single women. The issue of social or non-medical egg freezing, and particularly the availability of egg freezing services for single women, is currently a subject of widespread controversy in China. In recent years, there have been two significant events regarding this issue in China. The issue has been highlighted by two significant events: the first lawsuit filed by a single woman against a hospital for refusing to provide egg-freezing services,¹ and a legislative proposal submitted by a member of the National Committee of the Chinese People's Political Consultative Conference (CPPCC) to the National Health Commission (NHC), advocating for the protection of single women's reproductive rights and access to assisted reproductive technology (ART), which is currently unavailable to them.² In China, the Norms of Assisted Human Reproductive Technology define single women as those who are unmarried, distinguishing them from legally married women.

The first lawsuit for the single women's right to freeze eggs in China was filed in September 2019 to the Beijing Chaoyang District People's Court. In late 2018, the plaintiff applied to the hospital for egg-freezing services to delay childbirth and was denied because she was a single woman. The client then sued the hospital for infringing her general personality rights. On July 22, 2022, after two court sessions, the court rendered a judgment dismissing all of the plaintiff's claims. The court held that the defendant hospital had a legal basis for refusing to provide egg-freezing services to the plaintiff following the Measures for the Administration of Assisted Human Reproductive Technology and, therefore, did not constitute a violation of law and infringement.

In another issue, regarding the reproductive rights of single women, a member of the CPPCC put forward a legislative proposal to grant single women the right to access ART and equal protection of their reproductive rights. In July 2020, NHC responded to the proposal.³ In its response, the NHC denied the right of single women to freeze their eggs, citing several reasons: 1) There are health risks associated with applying egg-freezing technology. The risks involved in egg retrieval, egg freezing, egg thawing, and embryo transfer are due to the invasive nature of egg freezing and the risk of pregnancy complications and birth impairments in women over the age of 35. 2) Egg freezing to delay childbirth is controversial in academic circles. The NHC has suggested a need for more scientific validation of the safety and effectiveness of egg-freezing technology, especially for the offspring. The American Society for Reproductive Medicine and the European Society of Human Reproduction and Embryology believe that egg freezing should not be applied to delay childbearing. Moreover, this technique could potentially encourage women to postpone childbearing. Research has indicated that the success rate of egg freezing diminishes as a woman's age increases. 3) The prohibition of the commercialization of ARTs is a fundamental ethical principle. The use of ART beyond medical indications can lead to misuse of the technology. The exaggerated propaganda brought by commercialization can lead to the expanded use of technology in healthy populations, thus causing adverse social effects.

In addition, the NHC suggests that human reproduction involves not only the woman but also the health rights of the offspring. Therefore, policies and measures on ART should be formulated under the practical need to protect the rights of women and children. As of March 2023, the NHC has begun to seek public opinions on liberalizing egg freezing for single women. Recent surveys and studies indicate that while many people in mainland China and Hong Kong hold positive attitudes towards fertility preservation and egg freezing, there is a prevalent lack of knowledge about the relevant technologies.^{4,5} This study presents the current regulative restrictions on social egg freezing for single women in China and analyses their rights to access such medical services. We demonstrate the social causes of current fertility preservation needs under the demographic and fertility trends in the last two decades. By analyzing legal barriers and ethical concerns, we explore the possible ways for China to respond to the medical and rights protection needs of single women and avoidance of related health and ethical risks.

Current Legal Concerns and Controversies

Current Restrictions on Assisted Reproductive Technology and Ethical Rules

In mainland China, the regulations on ART, including egg freezing, are mainly departmental regulations of the Ministry of Health. As depicted in [Table 1](#), the former regulation mandates that assisted human reproductive technologies be utilized exclusively for medical purposes, in accordance with population and family planning policies, as well as ethical principles. Conversely, the latter two regulations categorically forbid the use of all assisted human reproductive technologies by single women and couples noncompliant with population and family planning policies. Additionally, the use of ART is also prohibited for single women in other contexts.

Meanwhile, as stated by the NHC, there is currently no stand-alone egg-freezing service in China. Unlike sperm freezing and sperm banking, egg freezing technology is currently used in China mainly for emergency freezing of sperm not available on the day of egg retrieval and preservation of remaining eggs in infertility treatment. As such, egg freezing is presently regarded as a component of ART, utilized for reproductive purposes rather than fertility preservation. The future use of thawed eggs, the synthesis of which into embryos requires the use of in vitro fertilization and embryo transfer techniques, also makes the discussion of open social egg freezing equally necessary to incorporate possible changes to current regulations on ART. Under current regulations, these medical technology services are only available to couples suffering from infertility. This implies that even if a single woman were permitted to freeze her eggs, the eventual utilization of those eggs for fertility purposes would hinge on her marital status and any fertility issues within the couple. Furthermore, couples that do not fulfill the fertility criteria stipulated in the National Population and Family Planning Law are also ineligible. Hence, as per the administrative regulations and the NHC's stance, single women's access to egg freezing and other ARTs is contingent upon three criteria: compliance with the Population and Family Planning Law, the presence of pathological indications of infertility, and being in a legally recognized couple.

Table I Restrictions on Assisted Reproductive Technologies for Single Women in China

Areas of China	Laws and Regulations	Restriction Type	Restrictions on Assisted Reproductive Technologies for Single Women
China Mainland	Administrative Measures for Assisted Human Reproductive Technology	General principles	The application of human assisted reproductive technology should be carried out in medical institutions for medical purposes and in accordance with national family planning policies, ethical principles and relevant legal provisions.
	Norms of Assisted Human Reproductive Technology	Code of conduct for technical staff	Prohibit the implementation of human assisted reproductive technology to couples who do not meet the provisions of national population and family planning laws and regulations and for single women.
	Ethical Principles of Assisted Human Reproductive Technology	Public welfare principle	Medical personnel must strictly implement national laws and regulations on population and family planning, and shall not implement human assisted reproductive technology for couples who do not meet the provisions of national population and family planning laws and regulations and for single women.
Hong Kong Special Administrative Region	Human Reproductive Technology Ordinance	Prohibitions	Prohibition on assisted reproduction: According to Article 15(5), subject to subsections (6), (7) and (8), no person shall provide a reproductive technology procedure to persons who are not the parties to a marriage. Exceptions for egg freezing: According to Article 15(8), Subsection (5) shall not apply in the case of the reproductive technology procedure referred to in paragraph (c) of the definition of reproductive technology procedure in section 2(1), which is the obtaining of gametes.
Taiwan Region	Law on Artificial Reproduction	General principles	Article 2: The surgical couple who is eligible for artificial reproduction refers to the husband and wife who have undergone artificial reproduction and are able to conceive and give birth to a fetus in their uterus.

The controversy over social egg freezing is a legislative discussion and controversy surrounding the ethical issues involved. Nevertheless, the escalating social demand and advocacy have prompted the NHC to start contemplating the liberalization of social egg freezing. Undoubtedly, amending regulations constitutes the most straightforward and conclusive measure to facilitate access to social egg freezing technology. Before this, there were two main areas of debate: medical technical ethics and social ethics. Of these, technical ethics refers mainly to the possible risks of applying the technology as it is developed. Social ethics include the public interest represented by the population and family planning policy,⁶ and the impact on children and women. Consequently, the ethical debate surrounding the provision of egg freezing services to single women in China encompasses not only the technical and ethical aspects of preserving fertility for single women, but also broader ethical considerations pertaining to women's reproductive rights, autonomy, and overall reproductive practices, beginning with the right to access such medical services.

Is Egg Freezing a Reproductive Right, Body Right or Right to Health

While current regulations forbid medical institutions from offering egg-freezing services, undergoing egg freezing is not deemed illegal for women.⁷ Nevertheless, the acknowledgment of social egg freezing as a right for women raises numerous questions within the context of China's reproductive rights legislation and family planning policies. China's Constitution establishes the obligation of couples to comply with population and family planning policies, but does not address women's reproductive rights. The Population and Family Planning Law, along with the Law on the Protection of Women's Rights and Interests, serve as the principal legal frameworks governing women's reproductive rights. In the

recent amendments to the Law on the Protection of Women's Rights and Interests, it is articulated that women's reproductive rights are derived "in accordance with the law", a reference to the Law on Population and Family Planning. In the latter law, citizens' reproductive rights and obligations coexist. Specifically, these obligations encompass adhering to a birth limit of no more than three children. While the law does not explicitly address the situations of single women and over-birth, deliveries that contravene the regulations are prohibited and subject to punitive administrative measures, such as the denial of birth permit certification and the imposition of social maintenance fees. Consequently, while single women may give birth, they do so without legal protection and are unequivocally denied access to assisted reproduction as a matter of reproductive rights.

Starting in 2016, the birth permit was replaced by the certificate of registration of fertility services, eliminating the birth approval system. The "Decision of the Central Committee of the Communist Party of China and the State Council on Optimizing Fertility Policy for Long-term Balanced Population Development" issued on June 26, 2021, eliminated all penalties under the Population and Family Planning Law for breaching family planning obligations, and de-linked individual settlement of household, schooling, and job entry that used to be associated with family planning implementation, and requiring enhanced safeguards for women in childbirth.⁸ The document de facto eliminates all penalties for unmarried births and has been gradually incorporated into local and provincial regulations. At the same time, promoting women's reproductive autonomy and greater reproductive security is critical objectives of China's population policy and reproductive health care services in the coming decades. Thus, removing fertility penalties and restrictions forms a new interpretation of women's reproductive rights and illustrates a change in legislators' attitudes. Changes in family planning laws and related administrative regulations have opened up the application of ARTs and the corresponding legislative changes. In addition, reproductive rights are an essential part of women's social status, and the right to reproduce independently of marriage is evidence of the respect and recognition of women's social status.⁹

However, single women's reproductive rights cannot necessarily be associated with social egg freezing and establish the so-called right to egg freezing. Many Chinese scholars believe that hospitals' refusal to provide egg-freezing services to single women constitutes an infringement of women's bodily autonomy and that the current Ministry of Health regulations on ARTs do not have the authority to restrict women's reproductive rights.¹⁰ From a jurisprudential perspective, the right to bodily freedom as a matter of domination only includes direct control over one's body. It does not include the right to request the assistance of a medical institution to control it. In other words, medical institutions provide services for health, not domination of the body. Furthermore, reproductive rights are essentially a right to liberty, entailing only the capacity to demand freedom from interference. But the protection and medical assistance for women's reproductive health help to expand their reproductive choices, including family planning, and thus enhance their reproductive autonomy. Therefore, the entitlement to egg freezing as a medical service can only be included through legislation as a health purpose for citizens to pursue. Social egg freezing aims to protect women's reproductive health, invoking the right to health, and not the right to procreate, reproductive freedom, or the right to the body and bodily freedom.

Social Causes of Medical Needs and Current Controversies

Demographic and Fertility Trends in China

As shown in [Figure 1](#), over the past two decades, the predominant age of childbearing among Chinese women has shifted significantly to beyond age 25, and a higher proportion of births occurs above age 30 than in the 20–24 age range. Combining this with [Figure 2](#), the significant drop in the first fertility rate of Chinese women indicates a decline in the total fertility rate and women's overall fertility intentions. Moreover, the number of second births and above is relatively high in the current period of population births. Thus, women are at a higher gestational age. Furthermore, there is a clear trend toward an overall delay in childbearing among young women in the coming period.¹¹ According to the National Bureau of Statistics, the age of first birth for Chinese women has gradually moved toward 30 and above over the past two decades, and delayed childbearing has become another important trend accompanying the declining marriage rate, fertility intentions, and fertility rates.¹²

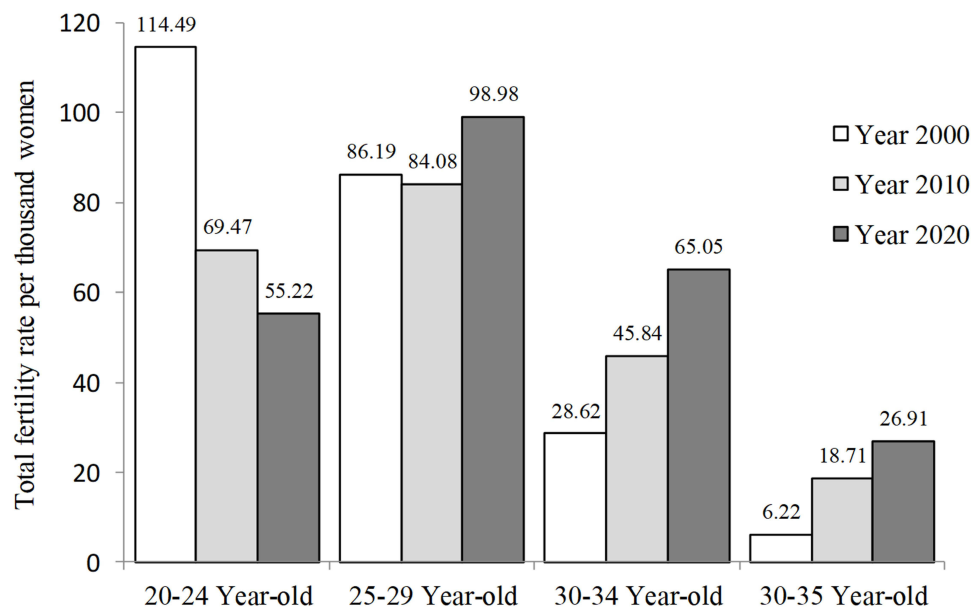


Figure 1 Women's total fertility rate by age in China in the year 2000, 2010 and 2020. Data collected from China Population Census Yearbooks of National Bureau of Statistics.

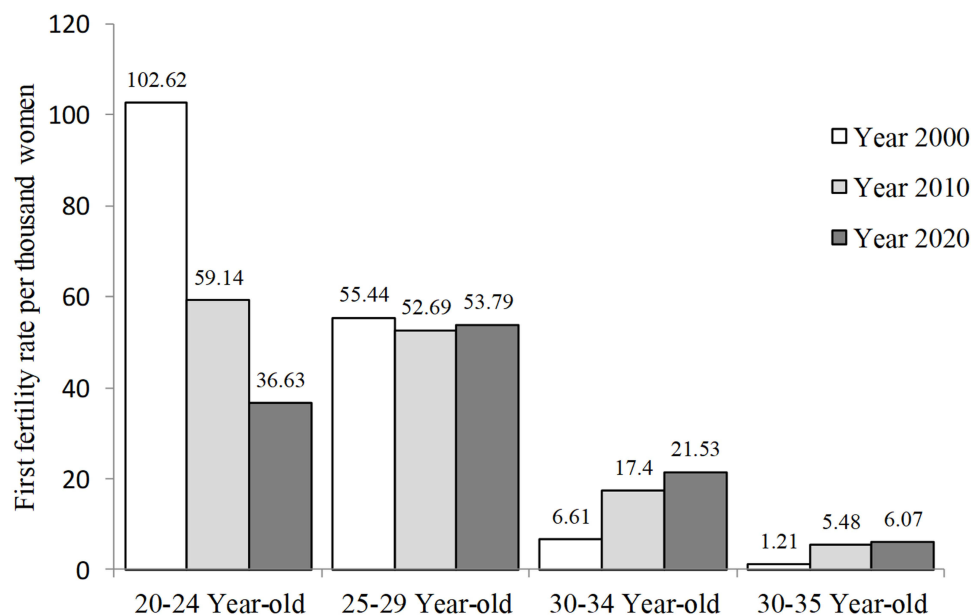


Figure 2 Women's first fertility rate by age in China in the year 2000, 2010 and 2020. Data collected from China Population Census Yearbooks of National Bureau of Statistics.

Social Influencing Factors

1. Delay of marriage. Over the past two decades, the marriage rate and the number of newborns in China have decreased, while the divorce rate has been increasing. There has been a second demographic shift as Chinese society urbanizes and industrializes.¹³ Accordingly, women's intentions on marriage and fertility continue to decline. This decline is reflected in the postponement of childbearing or the refusal to have children, with the former reflecting women's reluctance to have children and nurture offspring at an age that used to be considered the most appropriate.

It has been argued that among the women who are currently or will be for some time in the future having difficulty marrying and choosing to freeze their eggs, social egg freezing will not help to solve an external dilemma for women

who have universal difficulty marrying from a holistic social perspective, such as those with high education or income who face such difficulty due to sociocultural predispositions to find a partner.^{14,15} According to China's Ministry of Education, in 2021, 53.25% of higher education students are females at the general undergraduate level and 51.54% at the graduate level, which is higher than the number of males.¹⁶ The general undergraduate and graduate students are considered to be a well-educated group and represent a higher income group in China. However, although the age of first marriage for well-educated women is later, the marriage rate rises rapidly from 30 to 35, while the lifetime non-marriage rate for this group is the lowest among various educational groups.¹⁷ Therefore, this group of women who eventually choose to marry and have children will face advanced childbearing age. Egg freezing and fertility preservation will be of higher value to them.

2. Employment discrimination in the labor market or career development considerations. As one of the main reasons for delaying childbirth, the following factors influence women's reproductive plans in terms of employment: 1) the loss of financial income due to childbirth; 2) the implicit discrimination against women in employment, which leads women to sacrifice their reproductive autonomy in exchange for job opportunities or career success; 3) their own career planning and development needs, which also make women want to postpone childbirth. In addition, China's young urban population, particularly those who are married, face enormous financial pressures, including mortgage payments and raising children after childbirth, forcing young people to secure financial income as their primary goal.¹⁸ Unemployment or declining income is something they can hardly afford. The impact of employment on women's reproductive autonomy is a significant concern in discussion surrounding social egg freezing. This issue may be more severe or have a more significant impact in China, requiring special attention. Because China is a country with a culture of "unspoken rules", especially in social interactions like the labor market, where "unspoken rules" play a dominant role and often contradict the law, the rule of law has not yet been able to eliminate these rules that affect people more than the law.¹⁹ Specifically, discrimination against women in the labor market is manifested as the universal unspoken rules of extra demands for women only, including the prohibition of romantic relationships and childbirth.²⁰ Under these unspoken rules, women employees have to make promises to these demands and could be fired by other excuses otherwise.

Besides, other than fulfilling reproduction, providing better maintenance and education to the child in an increasingly competitive society is another serious concern of intended parents. Women may wish to give birth and raise their children in a better state, which may also lead to the delay of childbearing.²¹ Furthermore, the social economy has a profound impact on women's reproduction. For instance, the increasing house prices in China have significantly influenced women's reproductive intentions, including married and unmarried women. The relationship between these two manifests as 1% of increased house price may lead to 0.26 and 0.16 years of postponement in marriage among men and women, and cause 1.05 years of reproduction delay.^{22,23} Such impact is likely to persist, as the trend of increasing house prices in China is unlikely to stop.

Controversies Over Social Influences on Reproductive Autonomy

The reproductive autonomy the law can grant women may only be formal freedom. Social factors are entangled in women's reproductive autonomy; even the use of technology enriches and expands the range of reproductive options available to women, but women's ultimate reproductive decisions are influenced by social considerations or adaptations rather than on the arrangement of reproductive plans in the pursuit of a better life.²⁴

In a social sense, egg freezing can help women be free from the time constraints of natural reproduction.²⁵ Fertility preservation allows some women to plan their fertility according to their career and family plans, giving them the same competitiveness as men in their careers. Increasing women's fertility autonomy helps reduce childbirth's obligatory and compulsory nature. In addition to delaying childbirth, fertility preservation as insurance, allowing women and their spouses to conceive another child in the future under specific circumstances, such as the death of their only child and their physical conditions changing.²⁶ This role may be of particular value in China, where many Chinese couples choose to have only one child due to population and family planning policies or the pressure to raise children, creating the risk of "a loss in mid-life". Egg freezing allows women and their spouses to have another option to cope with expected events. Moreover, Chinese culture values the blood ties of parenthood, making egg freezing a more acceptable option than egg donation.²⁷

However, on the other hand, egg-freezing technology is not the cure for social problems.²⁸ For one thing, egg freezing does not help to address the health risks of delayed childbearing at an advanced maternal age, and even the implementation of assisted reproductive technologies can bring extra risks to women and newborns.²⁹ Due to these risks, the application of ART in the quest for achieve women's reproductive autonomy may entail health risks in the pursuit of combating social and gender injustice, which the solution should come from the social system rather than increasing the cost to the women themselves. Therefore, the social issues of advanced maternal age cannot and should not be addressed by individual medical solutions alone.³⁰ Second, in cases where technical regulations and related social systems are not adequately set up, it may perpetuate or deepen the gender injustice that women experience in the job market or at least not help to solve such problems.³¹ Third, the inadequacy of applying such technology as a medical care service for the whole gender group may create technical inequities and deepen social inequities and contradictions.³² In response to these concerns, the social significance of egg freezing as a medical technology and medical service needs to be clarified along with its opening up, which is that fertility preservation is a response to a medical need that already exists. Moreover, the medical response should be to an objective social need,³³ not created by medical technology. In other words, egg freezing should be independent of the social factors contributing to fertility delay. The principles of social egg-freezing application should all be included in the legislation governing the technology.

Recommendations for Rights Protection of Women and Possible Solutions to Ethical Risks

Strengthen Protection on Reproductive Rights and Autonomy of Single Women

The eligibility of single women to access social egg freezing and ARTs is part of the rights protection and reproductive autonomy of women as individuals irrespective of their marital status. However, although single women are legally eligible to claim access to social egg freezing as a health right, medical institutions are currently restrained from providing services due to administrative prohibitions. Furthermore, the administrative regulations related to women's reproductive rights should all be in compliance with the same superordinate law, which is the Population and Family Planning Law. Since the legislative attitude towards women's reproductive rights has changed, and all administrative penalties on reproductions have been removed, China needs to further revise the related administrative regulations to be consistent with the superior laws and affirm and protect the reproductive rights of single women.

In addition, to enhance single women's reproductive autonomy, the rights protection should be strengthened by providing social assistance and medical services to expand their reproductive choices and eliminate both legal and social restraints on it. For instance, social and economic factors significantly influence reproductive intentions, often leading to financial concerns for young couples considering raising children. To address this, the social security system should provide more comprehensive and effective assistance to alleviate these burdens.³⁴

Providing Social Egg Freezing Service with Specific Regulation

Based on the fertility trend and postponement of reproductive age, China should respond to medical needs by providing egg-freezing services for non-medical and healthcare purposes. According to Article 33 of the Law on the Protection of Women's Rights and Interests, medical and healthcare institutions are obligated to provide safe and effective medical and healthcare services to ensure women's reproductive safety and health. Meanwhile, all services should be provided equally to all women unless otherwise provided by law. Specifically, on the one hand, China should regulate social egg freezing with a distinction from other ARTs, including in vitro fertilization, embryo transfer, and artificial insemination.³⁵ Since egg freezing does not directly involve pregnancy or childbirth, and it is the application of different medical technologies and healthcare services, it requires specific regulative norms for technical details and storage conditions of medical institutions. Therefore, it should be distinguished in regulation and legislation from other ARTs. Also, the regulation on egg freezing should not only focus on how it is provided as a public health service but also on the legal and ethical issues involved, which need to be clarified in case the dispute arises. The legal and regulative arrangement should include the ownership of the frozen eggs or embryos and the issues arising from damage to frozen eggs.³⁶

On the other hand, China should ensure the equal access to social egg-freezing service as a right to protect women's reproductive health. In the debate over whether egg freezing should be offered to single women or only married couples, it has been argued that the latter can help avoid the commercialization and ethical risks associated with separating egg freezing from reproduction.³⁷ However, social egg freezing is for the future reproductive and offspring health, which is not necessarily associated with the current marriage relationship. Furthermore, fertility preservation is partially based on a medical need for women's changing age at marriage, and requiring marital status is a denial of the medical needs of these women.³⁸ Therefore, egg freezing should be equally provided to women regardless of their marital status.

Amendments to Assisted Reproductive Technology Regulations

One of the purposes of the current regulative restrictions on ARTs is to avoid the risks associated with reproductive ethics by limiting its application to medical purposes only and the applicant's own pregnancy. Meanwhile, civil legislation only sets rules on the legal parenthood of assisted reproduction that comply with regulations. However, the massive demand for such technologies in China has created an underground surrogacy market,³⁹ and the diverse regulatory frameworks around the globe inevitably lead this demand to cross-border reproductive travel.⁴⁰ As a result, on the one hand, the unregulated underground surrogacy transactions have brought significant risks of rights infringement to the women who surrogate. On the other hand, the gaps in and neglect of the current civil laws have created contradictions and difficulties in the legal determination of parenthood, leading to an ethical crisis and even abandonment of surrogate children.^{41,42} Therefore, the regulation of ARTs in China urgently needs to be adapted to the development of its society and respond to the social needs.³³

In the case of egg freezing, ARTs are indispensable for women who froze their eggs. However, single women face three restrictions when applying for ARTs using frozen eggs, including the number of births, legal marriage, and pathological indications for infertility. With the changing population and family planning laws and legislative attitudes toward protecting single women's reproductive rights, the administrative provisions on marital status as a condition of ART application have become unreasonable and even contrary to the superior law. Therefore, the current administrative regulations must be amended to decouple reproductive medical services from marital status and remove the related restrictions.

Furthermore, the application of ART needs to be expanded from medical purposes to the non-medical purposes. The purpose of ARTs is to help fulfill reproduction and promote reproductive health and autonomy, and not merely as a treatment of infertility. The non-medical purposes of application of ART as part of fertility preservation services for single women and spouses could also help to achieve its goals. In order to realize such transformation, according to the Health Industry Statistical Classification (2019), the application of ART for non-medical purposes must change from a type of medical treatment service to a public health service. Also, as a public health service, it may influence and shape new social policies related to fertility, child care, and the labor market, thus promoting gender equality and protecting women's reproductive and related rights.⁴³

However, although heterosexual women and their partners will benefit from fertility preservation and assisted reproduction, single women who aspire to give birth without a partner and the lesbian couples are not yet sure if they can be involved since they need male reproductive cells. Currently, sperm banks in China only provide anonymously donated sperms to infertile heterosexual couples with legal marriage. Whether the sperm from the sperm bank or non-anonymously donated sperm could be allowed to be provided for single women or lesbian couples has not been discussed in China yet. Therefore, the social and legislative attitudes toward different forms of family and reproduction need to be further studied and revealed.

Avoidance of Social and Technical Ethical Risks

Although legislation amendments are the direct way to liberalize social egg-freezing, the outcome of the legislation needs to be based on an ethical consensus.³⁵ The ethical risk of social egg freezing lies in two aspects: first, the technical risks to the health of those involved, including the physical and psychological influences. Second, the influence on people's marriage and reproductive choices beyond the medical technology and impact on women's happiness. The avoidance of social and technical risks needs to be achieved in terms of technology regulation, social culture, and individual awareness.

Social Egg Freezing is Not a Promise of Women

Fertility preservation should not be taken as a promise of the woman against her reproductive autonomy, such as a commitment to childbirth;¹⁵ nor is it a promise to waive her reproductive rights during the egg freezing period. The fundamental solution to the concern that egg freezing may shift the attention on inequities for women in the job market is to ensure that social egg freezing is a part of women's reproductive autonomy and not any kind of promise to others. Specifically, women who choose to freeze their eggs should be able to use them at any time during the freezing period freely or waive them due to a change of mind on reproduction. It should be a legal and de facto consensus and confirmed that egg freezing is not a promise from women to the family members or those who employ them.⁴⁴

Ensure Informed and Consent Principle

Before offering this healthcare service to the potential candidates, they should be fully guided and informed about the probability of success and accompanying risks of the procedure and confirm their consent to its operation. The priority of this principle is to help women balance the cost and benefits of using such technology and making family planning choices on their own rather than giving them false hope.⁴⁵ Based on this principle, social egg freezing is better utilized when the technology is used to expand women's coping options and choices in their marriage and reproductive planning,⁴⁶ while the whole social system should be helping to address the social reasons that restrict women's reproductive autonomy, but not just the reasons for the delay.⁴⁷

Prevent Possible Commercialization of Egg Donation

With the approval of social egg freezing and the establishment of egg banks, frozen eggs will no longer be needed for various reasons. These eggs abandoned by the freezers are at risk of being used for commercial donation, which should be avoided. After paying for the cost of freezing eggs, the freezers might wish to sell their abandoned frozen eggs in return. Meanwhile, there is currently a significant shortage of egg donations in China for the use of ART in treating infertility.³⁵ Under current regulations, egg donation is only allowed from women who have excess eggs after undergoing assisted reproductive treatment. Therefore, the ethical regulation of the disposal of abandoned frozen eggs is vital for the overall ethics of egg-freezing medical services.

Conclusion

The first litigation over social egg freezing for single women in China implies the urgent demand of women for fertility preservation. The purpose of social egg freezing is not only the reproduction itself but also the pursuit of individual autonomy and gender equality by realizing reproductive freedom,¹⁵ as well as the desire of women to be better mothers.⁴⁸ Since the delay of marriage and childbirth is already formed in China and around the globe, fertility preservation technology becomes a potential opportunity to reduce the impacts of aged fertility. Furthermore, it may help single women to be more prepared for motherhood, including accruing social resources and committed male partners.²¹ China should respond to such medical needs by providing social egg freezing for single women to protect their health rights. In addition, the regulations on ARTs need to be adapted to expand the eligibilities accordingly.

However, the success rates and the health risks of ART and advanced maternal age have made the social egg freezing a balancing and calculation of benefits and risks rather than a guaranteed hope. Therefore, ensuring the informed and consent of the implicants are indispensable ethical foundations of such technology. Meanwhile, medical technologies are not able to eliminate the social causes of the postponement of women's maternal age, including the difficulties in marriage and concerns in employment and careers. Eventually, the social systems and legal guarantees of women's equal rights and reproductive autonomy are fundamental to addressing the demographic and fertility trends in China today. Furthermore, protecting reproductive rights from both laws and administrative regulations and more comprehensive medical services are crucial to achieving this goal.

Approval Statement

The authors confirm that this article does not need institutional approval to be published.

Disclosure

The authors report no conflicts of interest in this work.

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