

Re-imagine the Role of Assisted Reproductive Technology in the Context of Low Fertility in China: Qualitative Interviews with Multi-disciplinary Experts

Introduction

Targeting at preserving fertility, oocyte cryopreservation emerged as a new type of assisted reproductive technology (ART) procedure. It involved stimulated ovulation, egg retrieval, and freezing, and has the potential to prolong the fertility window for women. In the context of low fertility, ART services were also seen as the cure for declined fecundability due to postponed childbearing. Egg freezing was categorized by previous researchers into medical egg freezing and social egg freezing (i.e., elective egg freezing)[1]. Albeit heated debate among the public, rarely had ART experts shared their perspectives on its regulation and potential role in China's fertility future.

As the feminism discourse becomes fervent among Chinese women, some argued that fertility and fertility treatment, including ART services, should not be confined to married couples. Among ART services, social egg freezing was seen as an aspect of women's reproductive autonomy and drew heated debate on Chinese social media. Previous studies have suggested declining fecundity among women as they age[2]. This decline is due in part to the aging of ovaries and eggs, which increases the risk of miscarriage and genetic abnormalities[3]. Meanwhile, the postponement of marriage and childbearing is common, reflecting a structural dilemma in women's pursuit of career versus motherhood. In this study, we aim to engage ART experts from various related fields, such as legality and bioethics of ART, reproductive epidemiology, and population health for a thorough discussion. Topics explored included experts' opinions on ART regulation and access in China.

Our research objectives included:

- 1) To investigate the consensus and divergences among experts on the role of egg freezing in extending the reproductive life span for women, and its potential to mitigate the low fertility rates.
- 2) To provide a basis for policymakers by exploring experts' perspectives on how ART can be integrated into China's broader population strategies.

Methods

We conducted semi-structured, in-depth interviews with 10 experts with established

studies/projects on ART, presenting relevant fields including demography, law/bioethics, reproductive medicine, and epidemiology. Interviews were conducted face-to-face (N=8) or via phone call (N=2) from February to March 2024 and lasted 60-90 minutes each. Interviews were conducted face-to-face (N=8) or via phone call (N=2) from February to March 2024 and lasted 60-90 minutes each. The interview guide included questions focusing on key issues and controversies of ART, conditions supporting or hindering ART, consensus needed for optimizing egg freezing services, and additional considerations or suggestions. All but one interviews were recorded with the consent of the participants. The thematic analysis approach was used to analyze the data, allowing for the identification of common themes and divergences in the participants' perspectives. Two researchers critically reviewed the transcripts and identified major categories within the data. The study was approved by the Institutional Review Board of Peking University.

Results

The thematic analysis of the interviews revealed the consensus and divergences regarding the use and regulation of ART in the context of China's low fertility rates.

Consensus

1) ART as a tool for women to postpone childbearing

Experts largely agreed that ART, including egg freezing, offered women greater control over their reproductive timeline, particularly those postponing childbearing due to financial constraints, time, and career development. The cultural concept of reproduction has transformed from traditional views rooted in utilitarianism and familism to a more individualistic perspective that emphasizes the pursuit of personal fulfillment and life enrichment. Many experts highlighted that access to ART could play a critical role in preventing fertility loss among women of advanced maternal age.

2) The broader access to ART

Access to ART should be increased, particularly for women facing infertility due to medical reasons. However, experts emphasized that this expansion of access should concur with a strict regulatory framework to ensure safety and ethical use.

3) Importance of fertility education

The experts agreed on the need for public education to promote the understanding of ART. Many indicated that the public often has unrealistic expectations regarding success rates. Precautions

about the limitations and risks associated with ART should be communicated to the larger public as part of fertility education, in order to ensure informed decisions.

Divergences

1) The access to ART for single women

One major point of contention among experts was the access to ART for single women. Several experts expressed concerns that granting single women unrestricted access to ART might lead to their further delays in marriage and childbearing, potentially reducing the overall birth rates and worsening the already low fertility rate in the long term. In contrast, other experts strongly supported reproductive autonomy, asserting that ART should be available to all women, regardless of marital status.

2) The long-term demographic impact of ART

Stark differences emerged in experts' views on the long-term demographic effects of ART. Some believed that ART could contribute to stabilizing fertility rates by offering reproductive options as a "safety net" to women who might otherwise become childless. However, others argued that the availability of ART could inadvertently reinforce societal trends towards delayed childbearing, which could further depress fertility rates in the future.

3) Extent of government regulation

There were differing views on how much government regulation should be applied to ART. Several experts pointed out that strict regulation was necessary to prevent illegal egg/embryo transactions. They argued that policies should prioritize access to ART for couples or women who are infertile. On the other hand, other experts advocated for a more liberal regulatory approach, emphasizing that ART should not be overly restricted and should remain a personal choice, free from heavy government intervention.

4) ART's role in promoting social equity

Several experts viewed ART as a means to enhance social equity by providing reproductive options for women facing infertility, while others felt that without addressing the high costs and limited access to ART services, its benefits would remain confined to the privileged, thereby exacerbating social inequalities.

Conclusion

This study has revealed that ART, particularly egg freezing, presents both opportunities and

intense debates in addressing China's low fertility rate. The consensus among experts underscored the importance of ART as a tool for extending reproductive options, particularly for women delaying childbearing due to different reasons. Expanding access to ART might be a potential solution for the decline of the fertility rate and offer more flexibility to women. Public education on the realistic expectations for and risks associated with ART would be crucial for ensuring that individuals make informed reproductive choices. However, divergences remained regarding the accessibility of ART for single women and its long-term demographic impact. While some experts advocated for reproductive autonomy for individuals, others contended that granting single women access to ART would further delay marriage and childbirth, exacerbating the low fertility in China.

In summary, while ART was seen as a remedy for demographic pressures caused by delayed childbearing, careful consideration must be given to its broader social implications and formulating adaptive policies that align individual reproductive rights with national demographic goals.

Reference

1. Baldwin K, Culley L, Hudson N, Mitchell H. Reproductive technology and the life course: Current debates and research in social egg freezing. *Human Fertility*. 2014;17(3):170-179.
2. Delbaere I, Verbiest S, Tydén T. Knowledge about the impact of age on fertility: a brief review. *Ups J Med Sci*. 2020;125(2):167-174.
3. Goold I, Savulescu J. In favour of freezing eggs for non-medical reasons. *Bioethics*. 2009;23(1):47-58.