

The status of surrogacy in China

Qing Qi^{1,2,3,§}, Xiaolei Gu^{4,§}, Yangyang Zhao^{5,§}, Ziqin Chen⁴, Jing Zhou^{1,2,3}, Song Chen⁴,
Ling Wang^{1,2,3,*}

¹Laboratory for Reproductive Immunology, Obstetrics and Gynecology Hospital of Fudan University, Shanghai, China;

²The Academy of Integrative Medicine of Fudan University, Shanghai, China;

³Shanghai Key Laboratory of Female Reproductive Endocrine-related Diseases, Shanghai, China;

⁴College of Acupuncture and Orthopedics, Hubei University of Chinese Medicine, Wuhan, Hubei, China;

⁵Clinical Base of Qingpu Traditional Medicine Hospital, the Academy of Integrative Medicine of Fudan University, Shanghai, China.

SUMMARY China's birth rates hit a record low in 2021. The high demand for having children has spawned a massive market for surrogacy, which, however, is a dilemma in China involving a series of moral and legal issues under the current circumstances. First, special populations, including infertile patients, families who have lost their sole child, and homosexuals, wanted to have children, giving rise to surrogacy. Then, the development of and innovation in assisted reproductive technology allowed surrogacy to mature. A high return offsets a high risk, and consequently, an underground surrogacy market has emerged, causing various social issues for the Chinese Government, such as civil disputes, gender disproportion, crime, and the spread of disease. At the same time, surrogacy violates moral ethics, traditional Chinese culture, and the rights and interests of vulnerable groups.

Keywords surrogacy, law, ethics, dilemma, social stability

1. Introduction

Surrogacy is an arrangement where a fertile woman bears and delivers a child to intended parents or persons, and surrogacy is classified into partial surrogacy (using an egg from the surrogate mother) and full surrogacy (without an egg from the surrogate mother) based on the source of the egg. Different surrogacy policies have arisen due to differing legislation, religious views, and social systems in each country (1). There are two types of surrogacies in countries with legal surrogacy: Commercial surrogacy aimed at direct financial gain and volunteer surrogacy (altruistic surrogacy) without direct financial gain but with remuneration (2). Surrogacy is not legal in China, but its legality has been heatedly discussed over the last few years (3,4). As new technological innovations have occurred in assisted reproductive technology (ART), the high demand for surrogacy has spawned a massive underground market in light of strict domestic restrictions on surrogacy. What will surrogacy lead to? This review explores the current status of surrogacy in China from the aspects of demand, traditional Chinese culture, ethics, legal rules, and social harm.

2. The reasons why surrogacy exists

2.1. Demand for surrogacy

In China, there are four main groups seeking surrogacy: Infertile patients, families who have lost their sole child, homosexuals, and others. In recent years, the prevalence of infertility among couples of childbearing age increased to 25% in China (5,6). This number is growing yearly for various reasons, including decreased sperm quality, female infertility, and other health problems (7-9). According to the data, only 32-41% of women achieve live birth with the help of ART, which cannot solve all of their issues (10,11). What is more, people who suffer from severe illnesses, such as heart failure, are unable to bear the burden of pregnancy. Therefore, surrogacy may become the sole solution for those people.

Families who have lost their only child and who cannot have another child tend to choose surrogacy services. Since the implementation of the family planning policy in 1982, Chinese couples were limited to a single child. As of 2018, China has more than 1,247,000 families whose only child is disabled or deceased (12). Older mothers have little chance of having another baby after losing a child (13). And yet the wish is never quenched, especially after the Chinese mainland's implementation of the two-child

policy in 2015 and the three-child policy in 2021. Influenced by the traditional Chinese concept of "bloodline inheritance," surrogacy is seen as a better choice than adoption. This can help them alleviate the mental grief caused by the loss of a child (13,14). Even some elderly people are influenced by the traditional Chinese belief in "more children, more blessings" and choose surrogacy in hopes of having more children, even though they no longer have the ability to raise them.

As homosexuals have been gradually accepted, raising children is assumed to stabilize same-sex relationships. With the advancement of ART and related industries such as sperm banking, *in vitro* fertilization (IVF), and surrogacy, homosexuals can now achieve their fertility goals (15). Moreover, a surrogacy incident involving a Chinese actress has brought surrogacy into the spotlight and exposed a certain segment of the female population who desire a child and do not want to face the risks of pregnancy or changes in body shape (16). Demand from all of these people have resulted in a surrogacy market in China.

2.2. Advances in ART

The advancement of life science technology has promoted a flourishing surrogacy market. The development of ART in particular has provided hope

for people struggling with infertility, and the use of IVF has made surrogacy a reality (Figure 1). Before ART, conventional surrogacy would help wives who could not become pregnant. In 1978, the world's first test-tube baby was born at Cambridge University in England through the joint efforts of Professor Edwards and Dr. Steptoe, enabling a gestational surrogate to carry a child genetically unrelated to the surrogate mother but the intended parent. Then, the first successful gestational surrogacy took place in 1985 (17). ART procedures involve IVF, intracytoplasmic sperm injection (ICSI), cryopreservation of gametes or embryos, and fertility medication. For those with low sperm counts or poor-quality sperm, high-quality sperm can be combined with eggs through ICSI. Moreover, preimplantation genetic testing is often used to deal with a possible genetic disorder; preimplantation genetic diagnosis technology can help to select the sex and characteristics of surrogate children (18,19). The latter method may make surrogacy popular. In addition, reproductive freezing technology allows people to store gametes for long periods to have their children at any age and stage of life. For instance, human sperm banks provide cryopreservation of spermatozoa services for males needing to preserve fertility for an extended period. As of now, there are 27 Chinese regional sperm banks affiliated with the sperm banking network on the Chinese mainland (20).

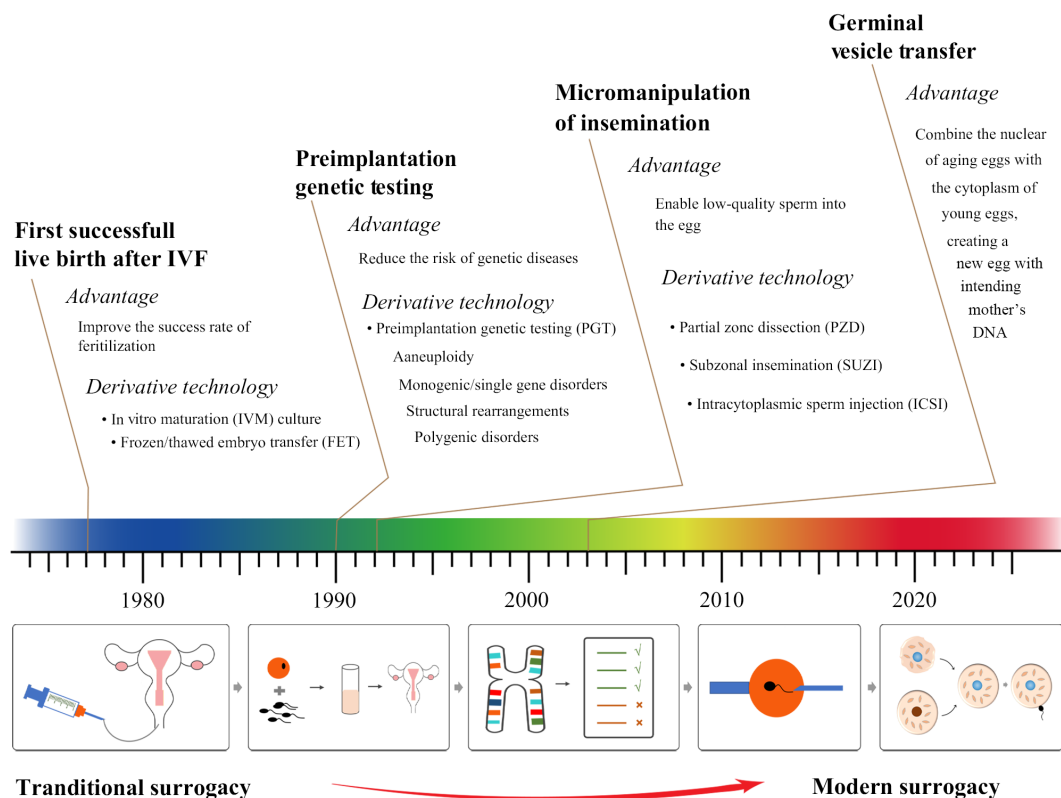


Figure 1. The maturation of surrogacy along with the development of IVF. IVF: *in vitro* fertilization.

2.3. The impetus of practical interests during surrogacy

The surrogacy industry is booming globally and is expected to grow at a compound annual growth rate of 24.5% from 2023 to 2032. In 2018, surrogacy was a \$6 billion business with an annual growth of 24.5%. The global surrogacy market was valued at over USD 14 billion in 2022 (21). In some countries like Mexico, surrogacy as an emerging economy is supposed to promote economic growth. Surrogacy has become a bottomless market, along with the flourishing of private surrogacy firms. The surrogacy agency is the central link responsible for coordinating multiple parties, including couples wanting to have children, egg donors, surrogate mothers, surrogate doctors, and hospitals that issue birth certificates. Chinese families tend to choose cross-border surrogacy in countries where commercial surrogacy is legal and has a complete industrial chain. The surrogacy fees are expensive for ordinary families, with legal surrogacy costs ranging from \$80,000 to \$120,000 in the US (22). About one-third of the profits are reaped by intermediaries; the rest is for clinics, drugs, surrogates, and attorney fees. The cost is relatively cheap in some economically underdeveloped regions, such as Ukraine, where prices are about one-fifth of those in the US. According to reports, Ukraine has about 2,000-4,000 children born through surrogacy every year, one-third of whom come from Chinese clients (23). Due to COVID-19 and the armed conflict in Ukraine, domestic surrogacy rapidly surpassed cross-border surrogacy in the surrogacy market after 2020 in China (23,24).

2.4. Rising awareness of human rights

With the economic development and improvement of women's status, respect and protection for females have been highlighted more than ever before. Some liberals uphold the view that women should be allowed to use their bodies and be paid as they wish and that voluntary surrogacy is an expression of bodily integrity, just like abortion rights (25-27). A poll in the Chinese city of Guangzhou found that people would accept the profession of surrogate mothers and it proposed greater compensation than the current market price for surrogacy (28).

A well-known fact is that most surrogate mothers from humble origins are motivated by payment; hence, surrogacy has been criticized for exploiting and commercializing women and children. Commercial surrogacy prices surrogate mothers based on their appearance, education, and health (29), commercializing women as a "surrogate uterus" (30). This commodification contradicts Kant's moral dictum to "Act to treat humanity, whether yourself or another, as an end-in-itself and never as a means" (31). Moreover, surrogacy forcibly removes the natural emotions

between a surrogate mother and her child, which is an inhuman act (32). Surrogacy also makes a "child" (or fertilized eggs) a business (33). It permits infants to be born based on the expectations of the intended parents, and especially the choice of genetics and sex, while children with physical flaws would be abandoned as "defective products" (29,34). That said, considering the right to control one's body and birthright, surrogacy seems to allow the intended parents to exercise their reproductive rights (35,36).

3. The drawbacks of the current chaotic surrogacy market

3.1. Surrogacy runs counter to moral ethics and traditional Chinese culture

Surrogacy challenges the values of family, traditionally defined as marriage, sex, and fertility. Surrogacy has broken those three elements apart and impacted the conventional views, including the ancient inheritance system that has been followed for thousands of years on the Chinese mainland (35). Chinese people consider ancestral inheritance to be the continuation of ancestral blood and genes, so "there are three kinds of unfilial behavior, and no offspring is the most serious" is a humanistic concept deeply rooted in their minds. Asset inheritance follows the same primogeniture rules as family inheritance (37). A child born through surrogacy is often turned away from inheriting the traits of their ancestors. Surrogate families and children are often discriminated against because surrogacy is condemned for undermining social customs and the family structure and violating dignity (38). In some countries, an immediate family member usually serves as the surrogate mother, such as a 51-year-old mother in the US who birthed a healthy girl through surrogacy for her daughter (39). Surrogacy poses problems for family ethics, as the Chinese have always placed a high value on relatives. Moreover, renting a uterus is regarded as a selfish, unfilial, and irresponsible act that draws strong condemnation in the traditional Chinese belief that "skin and hair are inherited from your parents." Therefore, surrogacy is an affront to human morality and traditional Chinese culture.

3.2. Surrogacy violates the rights and interests of vulnerable groups

3.2.1. Surrogate mothers

The lack of applicable laws often infringes surrogate mothers' lawful rights and interests. Since the employment relationship between surrogate mothers and surrogacy agencies or commissioning parents is not recognized by Chinese law, surrogate mothers' lawful rights and interests, including the right to

informed consent, personal freedom, and reasonable compensation, are often beyond the reach of legal protection. Underground surrogacy agencies conceal the truth from surrogate mothers during medical examinations. A surrogate mother can have several embryos implanted, have partial embryonic development terminated, or have labor induced without her permission (40). Several underground surrogacy agencies even restrict surrogate mothers' freedom and force them to work (29). On the Chinese mainland, surrogate mothers tend to be low-income women who need money (41). If the surrogate mother does not give birth to a healthy child as expected, all of her efforts will be in vain, and she will even have to return the relevant fees. Moreover, due to the prohibitive attitude of Chinese law, surrogate mothers have difficulty obtaining legal help regarding their rights or interests. Once intended parents breach the contract, the surrogate mother has to raise the child alone, which would undoubtedly increase the burden on her.

In addition, IVF complications should be taken into consideration, such as multiple pregnancy and ovarian hyperstimulation syndrome, a life-threatening iatrogenic issue (11). IVF-related medical malpractice may cause substantial emotional, physical, and financial expenses in fertility care (42). Since traditional Chinese social concepts are unsupportive of surrogacy, surrogate mothers' spiritual and material safety are often under pressure from public opinion. In short, surrogacy violates the surrogate mother's rights and interests.

3.2.2. Children born from surrogacy

The most prominent and controversial topic about surrogate children on the Chinese mainland is the inability to identify their parentage. Their custody, support, inheritance, and parental support obligations are legally unprotected (43). Although the laws of the Chinese mainland are not in favor of surrogacy, the existence of surrogate children is undeniable, and surrogate children should not pay for the mistakes made by their parents and imperfect laws. In Hong Kong, intended parents can obtain parental rights through parental orders in favor of gamete donors, but there is no similar provision on the mainland (44). Based on previous cases involving guardianship disputes, the legal mother is determined by the principle that "the one who gives birth is the mother" and the legal father is defined by "genetics." This situation increases the likelihood of surrogate children being born without a legal guardian. Regardless of who the legal parents are, the bifurcated identity of the "mother" can cause grievous emotional distress to the child (45). The problem becomes more complicated with transnational surrogacy. Due to the discrepancies in surrogacy attitudes and legal regulations in different countries, the surrogate child may not be legally recognized in other countries. India and a few

states in the US support surrogacy, stipulating that the legal parents of a surrogate child are the intended parents. At the same time, the fact that law on the Chinese mainland does not recognize surrogate children could prevent the child from obtaining citizenship in the country of birth or adoption (46,47).

In addition, whether surrogate children should have the right to know the truth and whether privacy should be protected is controversial. If the surrogate children are not informed that their genes are not inherited from the parents who raised them, this potentially increases the risk of "inbreeding" (48,49). However, the disclosure of surrogacy will undoubtedly have a great impact on surrogate children's physical and mental health in the current social context (48,50). More importantly, the law on the Chinese mainland rarely involves the lawful rights of surrogate children. Usually, judges protect the interests of the surrogate child as much as possible in accordance with the "best interests of the child" principle established by the United Nations. Nevertheless, the children are incapable of suing independently or hiring an attorney who can make reasonable recommendations to a judge. When their interests are violated, they cannot seek legal protection.

3.2.3. Families who choose surrogacy

As a result of the high demand for surrogacy, legal prohibition will force surrogacy into the shadows, and surrogacy agencies will raise the price of surrogacy when demand exceeds supply. The interests of surrogate families are likewise at risk due to the lack of legal protection. According to existing cases involving surrogate parental rights disputes in China (51), the principle of "the one who gives birth is the mother" often results in the intended parents' loss of money and the child. Some illegal actors even take advantage of intended parents' desire for a child to scam them. Due to the generally unsupportive attitude towards surrogacy, successful surrogate families usually bear a tremendous emotional burden. They tend to conceal the fact of surrogacy to avoid criticism based on traditional concepts.

3.3. Surrogacy induces social harms

Surrogacy may contribute to social problems such as civil disputes, gender disproportion, crime, and the spread of disease, resulting in social instability. First, surrogacy can lead to civil disputes and social disharmony. *i)* The number of lawsuits over child parentage and remuneration increases, and *ii)* Class issues became more acute, and wealthy people use money to hire poor people to bear their children (52,53). Second, since some surrogacy agencies offer parents the option of choosing a baby's sex, Chinese parents would be inclined to select boys in the traditional belief of

"valuing men over women," leading to an imbalance in the gender proportion in the long run and exacerbating conflicts of gender bias. Third, surrogacy would spur crimes such as prostitution, trafficking, and entrapment of women and children (48,54-56). Unscrupulous groups may rely on "scarce technology" to reap exorbitant profits. Women in poor areas, and especially female students and minors, can easily be exploited, oppressed, and cheated by an unregulated underground surrogacy market (29,57). Fourth, the unregulated underground surrogacy market lacks industry standards and technical regulations, resulting in a harsh medical environment and conditions, physical defects, and infectious diseases (24,58). Surrogate children who have congenital illnesses may be abandoned after birth (56). A rampant underground market in surrogacy will negatively affect the government's oversight of the medical sector (59).

All of the aforementioned issues are detrimental to family and social harmony (60).

4. The current legal system of surrogacy in China

Surrogacy usually involves IVF, in which the provider's egg and sperm are combined outside the body and then implanted into a surrogate mother's uterus to complete the pregnancy and delivery. Although the Chinese Government does not prohibit surrogacy in law, some clauses indirectly restrict access to eggs, embryos, and related technologies (Figure 2). According to the National Health Commission's 2001 approach to managing human ART, the sale of gametes, zygotes, and embryos was prohibited in any form (61). In 2003, the Ministry of Health issued measures to manage ART, which prohibited commercial embryo donation and

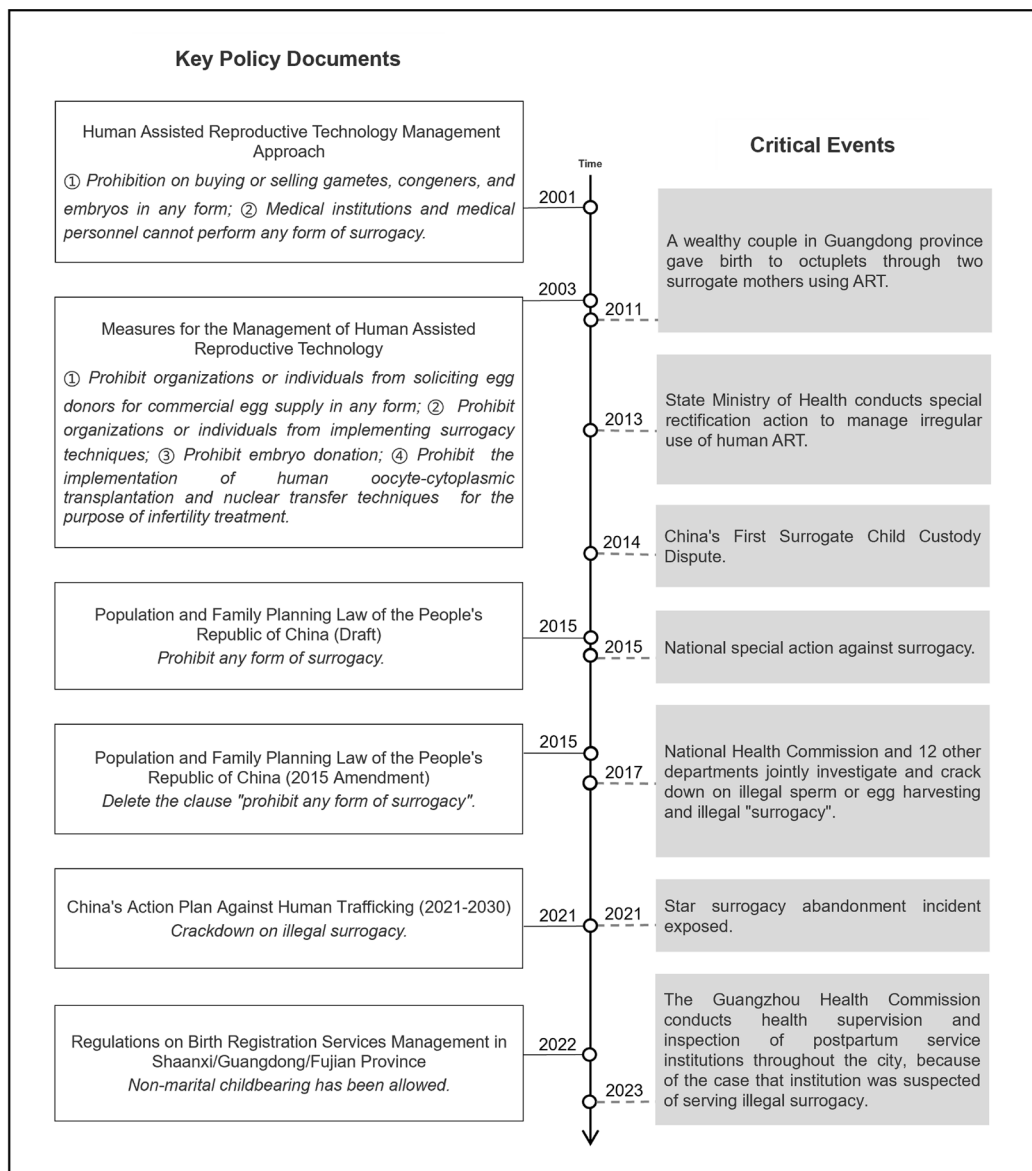


Figure 2. Brief timeline of key policy documents and critical events related to surrogacy on the Chinese mainland. Key policy documents are main policies related to surrogacy. Typical social cases and special state actions against surrogacy are cited as critical events.

surrogacy performed by medical facilities (62). Subject to these two laws, surrogacy cannot be performed by medical facilities or personnel, but the law does not cover ordinary citizens. Therefore, there is no unified or overall value judgment on the issue of surrogacy on the Chinese mainland. In contrast, the law of surrogacy in the Hong Kong Special Administrative Region is clear, allowing altruistic surrogacy and prohibiting commercial surrogacy; the Human Reproductive Technology Ordinance requires that the intended parents should be heterosexual couples and use their own sperm or eggs for surrogacy (63). In reality, intended parents inevitably pay the surrogate mother, and those couples with declining gamete quality have to use the gametes of others, which is illegal in Hong Kong.

Surrogacy is generally considered a violation of "public order and good customs" on the Chinese mainland. Due to the negative attitude toward surrogacy under the law on the mainland, the surrogacy agreements signed between intended parents and surrogate mothers often lead to awkward situations in court rulings. The surrogacy contract is deemed invalid, evidenced by the conclusions of most civil disputes in line with the Civil Code of the People's Republic of China (64). This has sparked a debate over surrogacy contracts. Most scholars believe that the judge's ruling on "public order and good customs" is unjust based on the judge's personal views (56). In Hong Kong, a surrogacy agreement is permitted and must be signed voluntarily, which can protect both parties' lawful rights and interests (63,65,66).

The Chinese Government has conducted several special campaigns against surrogacy over the past decade, but there has been little discernible improvement (67). Two factors may explain this. On the one hand, the Chinese mainland lacks universal legal restrictions and long-term administrative supervision over the complex market environment, and especially transnational surrogacy (56,68). That said, compared to the illegal benefits of surrogacy, the punishment imposed by the special campaigns is negligible, contributing to the lack of legal oversight on surrogacy agencies (29). The underground surrogacy market has gradually grown despite repeated prohibitions. In general, China explicitly prohibits surrogacy, but this ban can no longer be fully enforced for various reasons.

5. Conclusion

The demand for surrogacy is growing and coincides with the population's desire for children. This has led to the emergence of a Chinese underground market, which has flourished along with the development of ART. However, surrogacy involves many social issues, such as countering traditional Chinese concepts, infringing on the lawful rights of vulnerable groups, and impacting social harmony, so China's approach to surrogacy is still a long way from being finalized.

Acknowledgements

The authors wish to sincerely thank Peng Li and Suna Tian for their assistance in preparing the figures in this manuscript.

Funding: This work was supported by grants from a project under the Scientific and Technological Innovation Action Plan of the Shanghai Natural Science Fund (grant no. 20ZR1409100 to L Wang), a project of the Chinese Association of Integration of Traditional and Western Medicine special foundation for Obstetrics and Gynecology-PuZheng Pharmaceutical Foundation (grant no. FCK-PZ-08 to L Wang), a project for hospital management of the Shanghai Hospital Association (grant no. X2021046 to L Wang), a clinical trial project of the Special Foundation for Healthcare Research of the Shanghai Municipal Health Commission (grant no. 202150042 to L Wang), and a project of the National Natural Science Foundation of China (grant no. 82003762 to Q Qi).

Conflict of Interest: The authors have no conflicts of interest to disclose.

References

- Gunnarsson Payne J, Korolczuk E, Mezinska S. Surrogacy relationships: A critical interpretative review. *Ups J Med Sci.* 2020; 125:183-191.
- Jones BP, Ranaci-Zamani N, Vali S, Williams N, Saso S, Thum MY, Al-Memar M, Dixon N, Rose G, Testa G, Johannesson L, Yazbek J, Wilkinson S, Richard Smith J. Options for acquiring motherhood in absolute uterine factor infertility; adoption, surrogacy and uterine transplantation. *Obstet Gynaecol.* 2021; 23:138-147.
- Ding C. Surrogacy litigation in China and beyond. *J Law Biosci.* 2015; 2:33-55.
- Cui L, Li L, Adashi EY, Chen Z-J. Surrogacy: A family-building option in search of legitimacy. *BJOG.* 2016; 123:65-68.
- Zhou Z, Zheng D, Wu H, Li R, Xu S, Kang Y, Cao Y, Chen X, Zhu Y, Xu S, Chen Z-J, Mol B, Qiao J. Epidemiology of infertility in China: A population-based study. *BJOG.* 2018; 125:432-441.
- Liang S, Chen Y, Wang Q, Chen H, Cui C, Xu X, Zhang Q, Zhang C. Prevalence and associated factors of infertility among 20-49 year old women in Henan Province, China. *Reprod Health.* 2021; 18:254.
- Bellver J, Donnez J. Introduction: Infertility etiology and offspring health. *Fertil Steril.* 2019; 111:1033-1035.
- Farquhar CM, Bhattacharya S, Repping S, Mastenbroek S, Kamath MS, Marjoribanks J, Boivin J. Female subfertility. *Nat Rev Dis Primers.* 2019; 5:1-21.
- Gruber TM, Mechsner S. Pathogenesis of endometriosis: The origin of pain and subfertility. *Cells.* 2021; 10:1381.
- Glujovsky D, Quinteiro Retamar AM, Alvarez Sedo CR, Ciapponi A, Cornelisse S, Blake D. Cleavage-stage versus blastocyst-stage embryo transfer in assisted reproductive technology. *Cochrane Database Syst Rev.* 2022; 5:CD002118.

11. Farquhar C, Marjoribanks J. Assisted reproductive technology: An overview of Cochrane reviews. *Cochrane Database Syst Rev*. 2018; 8:CD010537.
12. National Health Commission of the People's Republic of China. 2018 China's health and health care development statistics bulletin. <http://www.nhc.gov.cn/guihuaxxs/s10748/201905/9b8d52727cf346049de8acce25ffcbbd0.shtml> (accessed April 01, 2023). (in Chinese)
13. Juan Wang P. Depression of the aging parents who lost their only child in China. *J Appl Psychol*. 2015; 4:83.
14. Wang N, Hu Q. "It is not simply the loss of a child": The challenges facing parents who have lost their only child in post-reproductive age in China. *Death Stud*. 2021; 45:209-218.
15. Di Nucci E. IVF, same-sex couples and the value of biological ties. *J Med Ethics*. 2016; 42:784-787.
16. Global Times. Chinese actress 'abandons' surrogate baby in U.S., sparking online outcry against surrogacy. <https://www.globaltimes.cn/page/202101/1213322.shtml> (accessed April 01, 2023).
17. Graham ME, Jelin A, Hoon AH, Jr., Wilms Floet AM, Levey E, Graham EM. Assisted reproductive technology: Short- and long-term outcomes. *Dev Med Child Neurol*. 2023; 65:38-49.
18. Greco E, Litwicka K, Minasi MG, Cursio E, Greco PF, Barillari P. Preimplantation genetic testing: Where we are today. *Int J Mol Sci*. 2020; 21:4381-4410.
19. Sullivan-Pyke C, Dokras A. Preimplantation genetic screening and preimplantation genetic diagnosis. *Obstet Gynecol Clin North Am*. 2018; 45:113-125.
20. Liu X, Wang Q, Zhu W, *et al*. Sperm cryopreservation in the human sperm bank: 11-year results of the Chinese mainland sperm banking network. *Chin Med J (Engl)*. 2022; 135:2770-2772.
21. Fenton-Glynn C. Surrogacy: Why the world needs rules for 'selling' babies. <https://www.bbc.com/news/health-47826356> (accessed April 06, 2023).
22. Taylor RB. Using a surrogate mother: What you need to know. <https://www.webmd.com/infertility-and-reproduction/guide/using-surrogate-mother> (accessed April 06, 2023).
23. Marinelli S, Del Rio A, Straccamore M, Negro F, Basile G. The armed conflict in Ukraine and the risks of inter-country surrogacy: The unsolved dilemma. *Eur Rev Med Pharmacol Sci*. 2022; 26:5646-5650.
24. Qin S, Zhang YF, Lu Y, Fan NJ. Investigation of the underground surrogacy market. https://www.thepaper.cn/newsDetail_forward_9080115 (accessed March 25, 2023). (in Chinese)
25. Wu HM. How to view the impact of surrogacy technology on social ethics-A multidimensional perspective of feminism and its historical materialist discernment. *J Univ Sci Tech (Social Sciences)*. 2021; 23:24-30. (in Chinese)
26. Sifris R. Commercial surrogacy and the human right to autonomy. *J Law Med*. 2015; 23:365-377.
27. Chen S, Gu X, Qi L, Qi Q, Zhou J, Wang L. Reflections on abortion rights: From policy to medicine. *Biosci Trends*. 2022; 16:455-458.
28. Piersanti V, Consalvo F, Signore F, Del Rio A, Zaami S. Surrogacy and "Procreative Tourism". What does the future hold from the ethical and legal perspectives? *Medicina (Kaunas)*. 2021; 57:1-16.
29. Zhang SZ. The criminalization on the organizational and forced surrogacy. *JLU*. 2019. (in Chinese w/ English abstract)
30. Aznar J, Martínez Peris M. Gestational surrogacy: Current view. *Linacre Q*. 2019; 86:56-67.
31. Dickenson D, van Beers B. Surrogacy: New challenges to law and ethics. *New Bioeth*. 2020; 26:293-297.
32. Cao Q. The ethical controversy of surrogacy. *Morality and Civilization*. 2012; 131-136. (in Chinese)
33. Watson C. Womb rentals and baby-selling: Does surrogacy undermine the human dignity and rights of the surrogate mother and child? *New Bioeth*. 2016; 22:212-228.
34. Parks JA, Murphy TF. So not mothers: Responsibility for surrogate orphans. *J Med Ethics*. 2018; 44:551-554.
35. Wang YM. A study of ethical issues and moral constraints of surrogacy. *KUST*. 2020. (in Chinese w/ English abstract)
36. Pan JS, Lin XX, Liang YY, LU JH, Zhao JL, Zheng WJ. The legal and ethical controversy of surrogacy and its reasonableness defense. *Legality vision*. 2016; 36:13-14. (in Chinese)
37. Tang Q. Surrogacy in China: Public opinion, litigations, and court rulings. *Medicina (Kaunas)*. 2019; 15:84-103.
38. Liang LZ. Discussion on ethical issues of the influence of surrogacy on infertile families. *Medicine & Philosophy*. 2016; 37:21-24. (in Chinese w/ English abstract)
39. O'Kane C. 51-year-old mom who carried daughter's baby as surrogate delivers healthy girl. <https://www.cbsnews.com/news/julie-loving-brianna-lockwood-51-year-old-mother-carries-daughter-baby/> (accessed April 06, 2023).
40. Jiang SL. Study on the legal protection of the rights and interests of surrogate women in China. *LNU*. 2020. (in Chinese w/ English abstract)
41. Chen XD. Surrogate motherhood is a family industry in poor Chinese villages. <https://www.scmp.com/news/china/society/article/2126286/surrogate-motherhood-becomes-family-industry-poor-chinese> (accessed April 01, 2023).
42. Applebaum J, Humphries LA, Nepps ME, Berger DS, O'Neill K. Malpractice litigation surrounding *in vitro* fertilization in the United States: A legal literature review. *Fertil Steril*. 2022 Dec 27;S0015-0282(22)02130-6.
43. Xiao Y, Li J, Zhu L. Surrogacy in China: A dilemma between public policy and the best interests of children. *Int J Law Policy Fam*. 2020; 34:1-19.
44. Hongkong legislation. Parent and child ordinance. https://www.elegislation.gov.hk/hk/cap429!en?INDEX_CS=N (accessed April 01, 2023).
45. Lv QR. On re-building the concept of mother from the legal view-View from surrogacy. *Hebei Law Science*. 2010; 28:19-24. (in Chinese w/ English abstract)
46. Zhuo J, J. Custody of surrogate children in the context of transnational surrogacy. *Legal System and Society*. 2017; 43-44.
47. Igareda Gonzalez N. Legal and ethical issues in cross-border gestational surrogacy. *Fertil Steril*. 2020; 113:916-919.
48. Wang Y. The crisis of children's rights under the "ban on generation" and the way to solve it. *Qinghai Social Sciences*. 2020; 156-163. (in Chinese)
49. C.C C. The research for donor springs' informed right of genes. *AHMU*. 2016. (in Chinese w/ English abstract)
50. Xi FX. A study of the child's right to know in surrogate motherhood. *GDUFE*. 2013. (in Chinese w/ English abstract)
51. China Judgements Online. a first instance civil judgment in the child support dispute involving the cohabitating Liu Wei and Jin Ming. <https://wenshu.court.gov.cn/website/>

- wenshu/181107ANFZ0BXS4/index.html?docId=0f3a747301a44fe489ab254092f239f1 (accessed April 01, 2023). (in Chinese)
52. Cavaliere G. Ectogenesis and gender-based oppression: Resisting the ideal of assimilation. *Bioethics*. 2020; 34:727-734.
 53. MacKay K. The 'tyranny of reproduction': Could ectogenesis further women's liberation? *Bioethics*. 2020; 34:346-353.
 54. Xu LSY, Jiang JP. Analysis of the causes of illegal surrogacy of minors and preventive measures. *Health Med Res & Prac*. 2021; 18:169-175. (in Chinese w/ English abstract)
 55. China Chang'an Network. An investigation of the "black market for eggs": Illegal actors target female students! <https://baijiahao.baidu.com/s?id=1655426915064405382&wfr=spider&for=pc> (accessed April 19, 2022). (in Chinese)
 56. Shanyun X. Uterus rental: Regulating surrogacy in China. *Med Leg J*. 2022; 90:41-44.
 57. Makinde OA, Olaleye O, Makinde OO, Huntley SS, Brown B. Baby factories in Nigeria: Starting the discussion toward a national prevention policy. *Trauma Violence Abuse*. 2017; 18:98-105.
 58. Wu JC. Exploring measures to deal with frozen embryos seized in the fight against surrogacy. *Chin J Health Inspect*. 2015; 22:492-494. (in Chinese)
 59. Tian HJ. Questions about the times and consequential choices in surrogacy legislation. *China J Applied Jurisprudence*. 2021; 97-115. (in Chinese)
 60. Chen XJ. Research on custody system of surrogate children. BHU. 2018. (in Chinese w/ English abstract)
 61. National Health Commission of the People's Republic of China. An approach to managing human assisted reproductive technology. <http://www.nhc.gov.cn/wjw/bmgz/200804/56c333396f3b4e2ab150491c33129f5a.shtml> (accessed April 01 2023). (in Chinese)
 62. National Health Commission of the People's Republic of China. Ministry of Health issues measures to manage human assisted reproductive technology. *Chin J Reprod Health*. 2004; 4-9. (in Chinese)
 63. Hongkong legislation. Human reproductive technology ordinance. <https://www.elegislation.gov.hk/hk/cap561> (accessed April 01, 2023).
 64. Kou XY, Cao WB. Validity of surrogacy agreements. *People's Judicature*. 2020; 68-71. (in Chinese)
 65. Zhang R. Study on the legal validity of surrogacy agreements. *Jiangnan Academic*. 2019; 38:40-48. (in Chinese)
 66. Shan GJ, Sui SL. On the validity of surrogacy agreement and suggestions on its legislation - A case study on the validity of surrogacy agreement. *China Health Law*. 2019; 27:1-6. (in Chinese w/ English abstract)
 67. Cui DH, Xiao JB. Investigation of the industrial chain of illegal surrogacy. <http://legal.people.com.cn/n1/2019/0716/c42510-31236382.html> (accessed April 25, 2022). (in Chinese)
 68. Song Y, Dou ZY, Pan DH, Zhao X. Law enforcement paths and reflections on health and family planning supervision in combating surrogacy. *Chin J Health Inspect*. 2016; 23:333-339. (in Chinese)
- Received June 15, 2022; Revised April 9, 2023; Accepted April 18, 2023.
- §These authors contributed equally to this work.
*Address correspondence to:
Ling Wang, Laboratory for Reproductive Immunology, Obstetrics and Gynecology Hospital of Fudan University, 419 Fangxie Road, Shanghai 200011, China.
E-mail: Dr.wangling@fudan.edu.cn
- Released online in J-STAGE as advance publication April 21, 2023.