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## Infertility in China: Culture, society and a need for fertility counselling

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### ABSTRACT

With a high rate of infertility, it is important to understand the context of fertility and family planning in China, to inform the necessity of supportive care. A literature review was undertaken to explore the societal constructs informing perspectives of childbearing, family planning and infertility, alongside Chinese considerations of fertility treatments, including assisted reproductive technologies and fertility counselling. In China, childbearing attitudes and behaviours are shaped by tensions between traditional cultural values of the filial piety originating from Confucianism, the history of strict family planning policy, the recent termination of one-child policy and the socioeconomic circumstance. For infertile Chinese individuals, the inability to meet these childbearing expectations gives rise to significant pressure and consequent psychological distress, particularly depressive symptoms. Demographic factors such as gender, education, income and geographical location have been found to influence prevalence and degree of depression in infertile Chinese men and women. These difficulties are compounded by barriers of cultural acceptance, legislative restrictions and availability of resources for alternative options such as adoption and surrogacy. It is important that these fertility sociocultural factors are taken into consideration when assisting Chinese patients to access and utilise fertility treatment services.

## 1. Introduction

Infertility, the inability to achieve a pregnancy within 12 months of unprotected sexual intercourse, is estimated to affect 48.5 million couples globally[1,2]. In China, the rate of infertility has been estimated to be as great as 15%-20% (40-50 million) in women and 10%-12% (45 million) of men within reproductive age (aged

15-45 years)[3]. Progress in assisted reproductive technologies (ARTs), such as *in-vitro* fertilisation (IVF) and intracytoplasmic sperm injection (ICSI), have contributed to the medicalisation of infertility as it comes to be understood as a medical condition, subject to diagnosis, treatment and prevention[4,5]. However,

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across different cultures childbearing is interwoven into social institutions of marriage and family, and constructions of femininity and masculinity[4,5]. It is therefore important to understand the sociological context of infertility, in order to assess the emotional and psychological impact, and to facilitate appropriate support for patients accessing medical fertility care[4–7].

With a history of government-mandated family planning policy[8], China offers a unique perspective on the interplay between social institutions of marriage and family, economic upheaval and government policy in shaping expectations of fertility. A literature review of the unique childbearing pressures faced by Chinese men and women is critical to understand how the concept of the family unit may continue to evolve moving forward. A systematic search of the literature was consequently undertaken to explore the societal constructs informing perspectives of childbearing, family planning and infertility, alongside Chinese considerations of fertility treatments, including ARTs and fertility counselling. A consideration of these sociocultural constructs is beneficial, in understanding how to best support Chinese patients needing assistance with their family planning or accessing fertility treatments moving forward.

## 2. Societal constructs of fertility and child bearing in China

Traditional Chinese childbearing attitudes and behaviours draw heavily from the philosophy of Confucianism through the pronatal ideologies of reproduction and ancestor worship[9–14]. Reproduction (sheng) symbolises the unification of the dualistic forces of femininity (yin) and masculinity (yang), serving as the impetus for continuous change within the universe[9,10,15]. A significant reason for having children under Chinese tradition lies in fulfilling filial piety (xiao), comprising of three primary duties: supporting one's parents, respecting one's parents and continuing the family lineage[9,16], with the last of these considered the most important[10,16].

Under Chinese tradition, having children out of personal choice is considered secondary to satisfying the intergenerational obligation of continuing the family lineage[17]. For many Chinese couples, childbearing serves as a way of demonstrating gratitude and appreciation for the support provided by their families[13]. With the continued significance of these traditional values in contemporary China, infertility threatens the balance of familial relationships[18]. Pressure from family to conceive continues to remain a significant source of stress for women, designated with responsibility of childbearing over their male partners[6,17,19].

As Confucianism underwent revision throughout the West Han Dynasty, yin, embodied in the roles of wife and son, came to be

considered inferior to yang, embodied in the roles of husband and father[9]. Under this gender stratified social hierarchy, wives were expected to be subservient to their husbands and sons were expected to be subservient to their fathers[9,11,12]. Within traditional Chinese childbearing attitudes and behaviours, this manifested as a preference for sons over daughters because it was believed that sons represent the real continuous family lineage[9,10]. In feudal China, childbearing was also economically incentivised as a source of agricultural labour, with a greater number of children coming to be associated with greater prosperity, with this utilitarian perspective further strengthening the preference for sons over daughters[12,13].

With China entering a period of rapid industrialisation from the mid to late 1900s, these traditional childbearing views began to intersect with government-imposed population control strategies[20,21]. In a midst of an overpopulation crisis, with an increasing aging population, coupled with declining fertility rates[22,23], the one-child policy was introduced to China in 1979[20–22]. Couples residing in urban areas were strictly limited to one child per couple, whereas couples residing in rural areas could have a second child at least five years following their first child (although such rule was only occasionally applied if the first child was a daughter)[21,24,].

Since its introduction, the one-child policy in China has undergone several revisions in response to demographic changes. The emergence of families composed of 4 grandparents, 2 parents and 1 child generated enormous pressure on single individuals to fulfil filial piety through ensuring economic security and continuing the family lineage[25]. Subsequently, in November 2011 all Chinese provinces instituted a two-child rule for couples who were both only children. This was revised by the China's State Council in December 2013, allowing a couple where only one parent was an only child, to bear a second child; however, original restrictions still applied for couples who were both only children[26]. In a continued effort to combat an aging population, the one-child policy was fully relaxed in 2015 into the two-child policy that remains in place today, which allows all couples to have two children[27].

Although the one-child policy is no longer in legislation, there remains a clear preference in China for a small family unit, with 35% of women preferring one child, 57% preferring two children and only 5.8% preferring more than two[10,28]. Such preferences may be driven by economic and geographic factors, such as work or housing pressures. For couples residing in urban areas, socioeconomic development brought on by industrialisation has empowered women through increased educational attainment and employment opportunities, resulting in a more egalitarian relationship dynamic between men and women[11]. However, for couples residing in rural areas, a regression towards traditional gender roles has been observed, with women lacking adequate convenient health and social support services[11,12,29].

### 3. Personal and social identity in the context of fertility

For Chinese women, having children remains one of the core components of the respected female identity, forming a significant milestone in personal development by which interchangeable notions of womanhood and motherhood are achieved[13]. Infertility deprives women of the opportunity to fulfil expectations of femininity, resulting in feelings of inadequacy and incompleteness, as women are confronted with a loss of personal and social identity[13,17]. The great importance placed on childbearing, seen as a Chinese woman fulfilling her ‘heavenly duty’, can thus lead Chinese women to perceive childlessness as a life with no meaning[17,30].

Similarly for Chinese men, achieving fatherhood is an affirming experience to the respected male identity[13]. Infertility threatens the self-esteem and dignity of men through the intimate connection between reproductive capacity and the masculine ego[13,31]. Historically within Chinese society, traditional gender responsibilities of male breadwinners and female homemakers were reinforced in the patriarchal notion that childlessness was always the woman’s fault[32]. This disproportionate accountability seemingly remains evident in the experiences of infertile Chinese couples today, where wives may choose to bear the blame for the infertility of their husbands, prioritising the reputation of their partners over their own[13].

In Chinese culture, childbearing functions as a means of cultivating interpersonal relationships, as well as maintaining social integrity and cohesion[13,17,33]. A tendency within collectivist Chinese culture to adhere to mainstream social norms can result in childless couples being susceptible to exclusion from their social network[13,17,26]. A survey of infertile rural Chinese couples reported that 19.8% of husbands and 36.5% of wives regarded infertility to be a humiliating experience[34]. Such fear of social stigma aligns with the experiences of infertile women within other patriarchal countries such as Iran and Ghana[35,36]. Under the cultural phenomenon of not wanting to ‘lose face’[13], infertile Chinese couples often choose to keep infertility private, or may choose to withdraw from social participation to avoid possible psychological distress, shame or embarrassment at infertility[17], or feelings of frustration and jealousy at seeing pregnant women or children[13,37].

Similarly, infertility is seen as a threat to marital stability, with failure to produce a child historically being considered grounds for divorce[17,38]. Such sentiment, to some extent, continues to echo throughout contemporary Chinese society, reflected in higher divorce rates in childless couples compared to couples with children[16,39,40], although such phenomenon is not geographically exclusive to China[41,42]. In instances of childless marriages, Chinese husbands may also seek new partners through extramarital affairs, resulting in marital conflict[17,37]. Conscious of the disgrace and disrespect associated with infertility and the potential consequence of divorce or abandonment, infertile Chinese women may also conceal their infertility from their husband’s family[17,43,44].

### 4. Perceptions of adoption and ART fertility treatment

Given the cultural expectation to continue the family lineage, alongside societal, familial and personal pressures to conceive, infertile Chinese couples may turn to fertility treatment, such as ARTs, to fulfil their desire to bear a biological child. ARTs refer to *in-vitro* procedures involving human oocytes and/or sperm or embryos, such as IVF and ICSI, used to establish a pregnancy at the time of family planning[1]. Fertility preservation, whereby cryopreservation of oocytes, embryos or sperm is undertaken to preserve biological gametes, is also recommended internationally for individuals whose fertility potential may be impacted by medical conditions or treatments, such as cancer patients undergoing oncological treatment[45].

Since its introduction to Mainland China during the mid-1980s, only 358 organisations as of 2012 have been officially authorised by China’s Ministry of Health to perform ARTs[3]. Although procedure outcomes are not subject to mandatory reporting, a 2014 survey documenting the number of cycles performed for each ART procedure from 1981-2004 and 2005-2011 showed a five-fold increase in the utilisation of frozen embryo transfer, ICSI and IVF procedures[3]. However, despite an increased utilisation and high demand for ART procedures in China, there are ongoing barriers for patients that impact equity and access of fertility care. Although a fertility preservation guideline for China is currently being formulated, the lack of a current national guideline has resulted in Chinese medical practitioners’ low knowledge in fertility preservation practices and poor availability of appropriate referral pathways to fertility specialists[46,47].

ART is an entirely out-of-pocket expense in China, costing an average of 30 000 Yuan (RMB) per cycle and 100 000 per live birth[3]. Subsequently, the financial stress associated with the cost of ART is greater than in Western societies where ART may be partially subsidised under public healthcare[3,16,48]. ART also imposes secondary costs through lost work time, travel and accommodation expenses for those in areas where ART is not readily available, which disproportionately stress lower income, rural populations. The relative scarcity of ART in China (one ART centre for every 7.5 million people in China compared to one ART centre for every 700 000 people in the United States) only compounds these difficulties[3].

There is currently restrictive legislation surrounding the use of fertility treatments in China[19,49], including the inability for an unmarried woman to cryopreserve her oocytes, or utilisation of surrogacy[50]. In 2001 the China’s Ministry of Health declared the purchase and sale of gametes, zygotes and embryos illegal, including embryo transfer for gestational surrogacy[3]. Many families seek to circumvent such restrictions through unauthorised organisations or travelling overseas to areas where commercial surrogacy is legal[3]. Over the span of the past 30 years, more than 25 000 children have been born through gestational carriers in the Chinese ‘black surrogacy market’[3].

The preservation of genetic connection may be a primary concern for infertile Chinese couples utilising ART, with barriers towards sociocultural acceptance arising in instances where couples are unable to use their own oocytes and/or sperm[49]. For example, use of donor sperm may conflict with the Chinese concept whereby men are expected to produce biological offspring in order to carry on the family name and allow the family tree to continue[49]. For Chinese women, the notion of motherhood is intimately connected to the experience of pregnancy and the parent-child relationship seen to be biological rather than socially constructed[13,17,49].

Due to this embodiment of motherhood, depriving the experience of pregnancy through surrogacy can also be seen to degrade the emotional connection between biological mother and child[49]. Similarly, Chinese couples often do not perceive adoption as a viable alternative to having their own child[17,34,51] given the strong preference for genetic lineage. In situations where Chinese couples do choose to adopt, there is a strong preference to adopt from their own siblings, maintaining a genetic link while ensuring the child's health through a known family history[49,52,53].

## 5. Psychological burden of infertility

For Chinese couples and individuals in need of fertility treatment, the enormous sociocultural emphasis of childbearing within marital and family dynamics leaves them particularly susceptible to psychological distress. Infertile Chinese men and women are at an increased risk of depression, with the prevalence of depressive symptoms ranging between 14%-50%[6,16,54–58], compared to a prevalence of 2.4% in the general Chinese population[59]. In numerous studies examining psychological distress in infertile Chinese women and men, demographic factors of income, education and geographical location were identified as potentially significant influences on the prevalence and degree of depression[16,48,56–58,60]. It is likely that the interplays of these demographic factors are pivotal in both the acceptability, access, and utilisation of fertility treatments, and distress associated with infertility.

For example, for those in rural areas, who are also more likely to report lower levels of income and education, there is both an increased likelihood and severity of depressive symptoms, as well as a longer duration to commencing ART[16,48,56–58,60]. Level of education may shape the extent to which individuals are informed by traditional gender and family roles[16,48,56,60], alongside awareness of reproductive health and ART procedures[56]. Men of low socioeconomic status may correlate fertility with masculinity and dignity, be more likely to suppress psychological distress and avoid seeking psychological support regarding infertility[16,56,60]. Additionally, those with lower income may be reluctant to commence ART due to the significant financial burden it presents[16,48,56,60].

Conversely, those with higher levels of income and education residing in urban areas are better equipped to process the

psychological distress associated with infertility, perhaps attributed to improved access to social welfare and social support, an increased sense of self-worth (related to income) and social status (related to education)[60]. Chinese women with higher socioeconomic status and education tend to exercise greater self-sufficiency, assume a more egalitarian role within the family unit[48,56], and may demonstrate better adaptability and self-regulation of negative emotion, or process stress in an optimistic rather than depressive manner[48,60].

## 6. Fertility counselling

The traditional societal importance for childbearing in China, coupled with privacy and discretion surrounding infertile status, and low access to infertility treatments, highlight the importance of fertility support. It is clear that social, relational, financial and psychological costs may be present, in managing infertility or engaging with fertility treatments. Fertility counsellors have a role in supporting patients in coming to terms with infertility and assisting to alleviate the psychological distress associated with infertility. However, it is important that psychological support takes into consideration sociocultural factors that may influence the acceptability, openness to communication, and suitability of any therapeutic interventions.

Infertility is experienced not only as an individual, but exists as a component of a couple's relationship. Therefore, counselling that involves both parties in a relationship provides a means of enhancing, sharing, supporting and communicating the burden of infertility, and flexibility towards childbearing uncertainty[19,51]. Assisting couples to manage both the internal interactions (of their relationship), and external interactions (with the broader social network)[4,51], may allow couples to better navigate their social and familial relationships, relieving feelings of burden or embarrassment. Given the shame associated with infertility it is likely most appropriate to complete counselling with individual couples; however, there is merit to the idea that group counselling with multiple couples could assist in normalising the experience of infertility, minimise feelings of isolation and facilitate information-sharing[19,33].

Fertility counselling is currently not well integrated or available within fertility treatment centres in China. Few agencies provide a psychological counselling service, perhaps due to both a lack of professional knowledge and limited resources for obstetric and gynaecological specialists. However, fertility counselling that considers Chinese traditional values and is integrated into a Chinese medical model may assist fertility patients to come to terms with and gain acceptance of their inability to conceive a child. For example, in Chinese tradition infertility may also serve as a force for positive meaning reconstruction[19], as individuals accept their infertility, seek to learn from it and embrace a new future[18,33]. Therefore, when fertility counselling is offered to those who have come to the end of their fertility journey, not only those actively trying for a child, it

may provide a useful platform for patients to gain acceptance and closure.

## 7. Conclusion

It is important that fertility clinicians consider sociocultural forces that are influencing the psychological experience of infertility for their patients. Chinese childbearing attitudes influence engagements with fertility care and consequent levels of distress. Effectively managing psychological distress in infertile Chinese patients involves culturally-specific considerations. Fertility clinicians should consider the utilisation of supportive care, such as fertility counselling, to assist patients in managing these processes.

## Conflict of interest statement

The authors declare that they have no conflict of interest.

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