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When Failed Motherhood Threatens Womanhood: Using Donor-Assisted Conception (DAC) as the Last Resort*

Elaine Yin-Ling Tsui**
Hong Kong Baptist University, Hong Kong
Jo Oi-Yue Cheng
Hong Kong Baptist University, Hong Kong

Abstract

Historically, motherhood has long been the defining aspect of womanhood. Chinese traditional culture emphasized that continuation of the bloodline is the filial responsibility of sons and daughters-in-law. Thus, infertility is often socially stigmatized as the loss of ability of a woman as a whole. Assisted reproductive technology through the use of donated gametes provides an alternative option for women to reconfigure womanhood through the process of childbearing. In 2014, in-depth semi-structured interviews were conducted with eight women who have experienced donor-assisted conception (DAC) and successfully given birth to a child. Through interpretative phenomenological analysis, a unique framework of how DAC acculturates and protects compromised womanhood among Chinese females emerged. Findings presented in this paper shed light on how infertility affects womanhood, and the extent to which DAC affects women's social and self-identities.

Key words

motherhood, assisted reproductive technology, third-party reproductive technology

Introduction

Since the dawn of humanity, childbearing has dominated the lives of many women. Women with fertility difficulties frequently experience a measurable level of grief and depression (Lukse & Vacc, 1999). Infertility

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is widely defined as the inability to conceive after a year of regular unprotected intercourse. The number of years with infertility was associated with severity of depression (Ramezanzadeh et al., 2004). Interestingly, gender differences in encountering infertility were observed: it was found that women experienced comparatively higher levels of infertility-related stress than men, regardless of the infertility being caused by male or female factor (Nachtigall, Becker, & Wozny, 1992). Such gender differences may be a reflection of how infertility affects gender identity. Womanhood is a socio-cultural and psychological construct central to female identity, closely tied to physiological events and bodily experiences. In the case of infertility, the inability to conceive and to give birth to achieve motherhood seemingly forced women to cast doubts on their own womanhood (Ticinelli, 2012).

The connection between womanhood and motherhood may be explained by the concept of *doing gender*, a psychologically ingrained social construct that conditions and shapes behavior according to one's gender (Butler, 2006). It follows that behaviors are often assessed based on socially accepted conceptions and expectations of gender (West & Zimmerman, 2009). When women are unable to do gender by giving birth, this could threaten their sense of identity as normal women (Loftus & Andriot, 2012). In terms of conforming to gender roles, social expectations vary across cultures. In Chinese culture, producing a male heir to continue the patriarchal family line has been one of the most important filial responsibilities historically enforced upon women (Chan, Blyth, & Chan, 2006). A century ago, the inability to produce an offspring would constitute a legitimate reason for husbands to divorce or abandon their wives (Van Gulik, 1995). The status of women in a family, or even in the extended family, was determined by the quality and quantity of the male heir(s) she gave birth to. A Chinese proverb, *mu ping zi gui*, i.e., "a mother relied on her son to be precious", indicates that the value of a woman was determined by her sons (Wang & Tang, 2004). Now, the acceptance of childlessness in Chinese communities is at its highest in history, as reflected by the declining fertility rates from 2.35 in 1990 to 1.62 (births per women) in 2016 in China (World Bank Group, 2018). Notwithstanding these contemporary trends, social expectations of childbearing are still strongly imposed on women (Han, 2006). In the most recent available study examining the attitudes toward filial practices among Chinese undergraduates, despite their ambivalence or positive attitudes towards childlessness, participants still expressed

that they have to have a child to fulfill their parents' expectations (Deutsch, 2006).

Donor-assisted conception (DAC) has been used internationally for more than three decades since the inception of advanced technology in assisted reproduction, in-vitro fertilization (IVF), in 1978 (Lopata, Brown, Leeton, Talbot, & Wood, 1979). The implementation of sperm donation (SD) in the form of artificial insemination can be dated back to the 17th century (Hard & Minn, 1909). It was frequently used by couples when the male partner either did not respond to assisted reproductive treatments or refused to undergo other medical interventions (Horowitz, Galst, & Elster, 2010a). Oocyte donation (OD) is often utilized by women with medical conditions, like premature ovarian failure, as well as for those with other issues, like delaying childbearing age (Marcus & Brinsden, 1999). Likewise, embryo donation (ED) has been chosen by couples when both partners encounter difficulties in conception.

Infertility and childlessness are often seen as failure in accomplishing filial piety in Chinese philosophy. Consequently, the inability to fulfill the child-bearing duty may result in intense guilt (Chan et al., 2002) and identity crisis (Tsui, 2014). While Western studies suggest that individuals do not necessarily feel morally obliged to possess the ability that they do not hereditarily hold, Chinese individuals tend to experience higher levels of guilt over a responsibility they cannot accomplish even though the ability to fulfil such task is absent (Bedford & Hwang, 2003). For these individuals, the adoption of DAC could be an opportunity for them to achieve parenthood. More importantly, DAC may allow female recipients to fulfil their gendered role and to restore their social identity as women.

Previous researches on the application of DAC have focused on issues of disclosure—the controversy between the mother's right to conceal information regarding infertility and use of DAC, versus the child's right to know (e.g., Horowitz, Galst, & Elster, 2010b), or on the motivation to donate gametes (e.g., Massey et al., 2011). Existing studies on the social implications of DAC have been conducted in the West while little is known about the Asian experience. To shed light on the disclosure controversy, a Canadian study (Hershberger, Klock, & Barnes, 2007) analyzed the experience of women who conceived through OD. It was found that women's decisions to reveal or disclose their DAC experience were influenced by their social and cultural environment, such as social support and family cul-

ture, which shaped their values and beliefs regarding the right to know and the duty to protect. As connotations of childbirth and fertility vary greatly between different cultures, DAC-related research findings may not be generalizable. It is important to develop culturally contextualized studies on DAC before controversial issues such as disclosure can be discussed in non-Western countries.

In Hong Kong, approximately 70 cycles of DAC with IVF are performed annually (Council on Human Reproductive Technology, 2015). Only legally married heterosexual couples are allowed to employ assisted reproductive technologies. Although the use of DAC is gaining in popularity in Hong Kong, clinical guidelines or legislation on DAC disclosure have not been created. Adequate research and public consultation on the social implications of DAC are necessary to inform the creation of guidelines and legislation. At present, none of the existing studies have explored the impact of DAC on womanhood and identity, or how DAC relates to the traditional values of fertility and genetic continuity in Chinese communities. It is important to understand how Chinese women perceive infertility, what motivates them to choose DAC, and its impact on their psychosocial wellbeing. An in-depth understanding on the experience and perceptions of DAC recipients shall add to the knowledge base regarding its social implications.

The current study was conducted to examine the impact of infertility and the use of DAC on womanhood in the Chinese community. This study aims to examine the lived experiences of women who succeeded in giving birth through DAC by addressing the following research questions: In the case of female-factor infertility (i.e., OD), how do women make sense of their infertility in relation to their womanhood and motherhood? In the case of male-factor infertility (i.e., SD), how do women perceive their role in producing an offspring to continue the family bloodline? For those with male and/or female infertility (i.e., ED), how does the loss of genetic continuity between both parents and the child affect the way women perceive their womanhood?

Method

Study Population and Recruitment

This research study was carried out at the Centre of Assisted Reproduction

and Embryology (CARE), Queen Mary Hospital, Hong Kong. Based on medical records, individuals who are Chinese and who have undergone DAC at CARE and delivered offspring successfully between 2008 and 2013 were invited to participate in this study. It is crucial to ensure participant confidentiality, as the acceptance of DAC and the level of social stigmatization remains unknown in Chinese community. Disclosure of identifying information may result in damaging psychosocial impact on the resulting child, the recipient women and the families. Taking into account the policy on patient confidentiality in Institutional Research Board and Hospital Authority of Hong Kong, study invitations were only carried out by the gynaecologist who was the clinician-in-charge in CARE with authorized access to patient records. Invitation letters and participant information sheets were sent out three times to potential informants through emails between August 2013 and August 2014. Contact details were given to the researchers only when the potential informants responded to the invitation and indicated their consent to be contacted by the researchers. As patient information was considered highly sensitive, the number of women who declined the invitation and their demographic characteristics were not disclosed to the researchers.

Data Collection and Analysis

Based on components extracted from the *theory of planned behavior* (Ajzen, 2011) and elements from theories related to gender identity (West & Zimmerman, 2009), an interview guideline was developed assessing three domains: self (attitudes, perceived control, self-identity, guilt, loss of genetic link), family (parenthood, importance of childbearing, relationship with in-laws) and social (subjective norm and perceived stigmatization of being infertile and undergo infertility treatment). Each in-depth interview lasted for approximately 2 hours.

The interview audio recordings were transcribed verbatim into Cantonese, then translated into English for analysis. Interpretative Phenomenological Analysis (IPA), a widely-used qualitative method in health psychology research (Burbeck & Willig, 2014; Williams, McManus, Muse, & Williams, 2011) was employed. The present study aims to create an in-depth analysis of women who experienced conceiving a child through DAC. As required by the IPA methodology, a small sample is sufficient for this purpose

(Smith, 2011). The core of IPA places heavy emphasis on the relationship among informants' meaning-making, thoughts, beliefs and cognition (Flowers, Duncan, & Knussen, 2003). IPA essentially involves a *dual interpretation process*, in which the researcher makes sense of the participants' making sense of their experience (Smith & Osborn, 2008). First, the researcher went through the set of translated transcripts and attached short interpretative notes (or codes) to passages where participants recollected and explained their subjective experience. The researcher then categorizes these *codes* into *themes*, which have emerged from the individual interviews. When repetitions of themes are found across individual transcripts, it is an indication that these themes indeed reflect shared experience and perceptions among the participants. The recurrent themes were first extracted by the first author. After her supervisor critically reviewed the recurrent themes, minor amendments of the interpretations were made. The set of recurrent emerging themes were then developed into a theoretical framework with regard to the psycho-socio-cultural context relevant to the study participants. The final set of themes and the theoretical framework were approved by both the first author and her supervisor. NVivo 10 was used to facilitate the process of coding and aggregating themes.

Results

Demographic Characteristics

Between February and December 2014, eight Chinese mothers who had experienced DAC and had successfully given birth to a resulting child or children agreed to participate in in-depth semi-structured interviews, either in person or by video-conferencing. Of these eight participants, three are recipients of SD, four are recipients of OD and one is recipient of ED. The basic information of these informants is listed in Table 1. The average age of informants at the point of interview was 42.5 years old and the average age of the resultant offspring was 2.8 years old. Two out of eight informants had another child from natural conception either before or after the birth of the DAC-conceived child. All participants were married at the point when the interviews took place. Due to the relatively small sample pool, additional information that may identify the informants has been purposely omitted in order to guarantee confidentiality. The recurrent themes

are extracted and presented in Figure 1. Explanation of each component are described in detail with informants' quotes taken from interviews.

Infertility Predicament: The Impact on Chinese Womanhood and Social Identity

A strong desire to have children was observed in some informants. Remaining childless was not an option in their concepts of family formation. One informant displayed a strong sense of guilt towards herself and her marriage:

> (after knowing husband's infertility) I tried to adjust myself. I reckon if we cannot have a child of our own, I will just adopt a child. No matter what we have to have a child. (SD recipient)

> I want to have kids. I love children, that's why I choose this job (to be surrounded by children). (SD recipient)

> I am deeply sorry. We really need to have a child. (OD recipient)

Regardless of being diagnosed with a female or male infertility factor, these Chinese women expressed that infertility had adversely affected their marital relationships. Several informants articulated that due to their inability to have children and the stress that it induces, separation and divorce may be foreseeable in the future:

> more or less, men do mind (the infertility of their wives) [···] I told him, if you do mind and want to find another woman, just tell me. In fact there was once he considered leaving me, almost [···] his friends asked him to find another wife [···] if you use my infertility as an excuse, I cannot refute [···] after all it is not uncommon, my friend's husband filed for divorce because of her childlessness. (ED recipient)

> (after an argument) I asked him to leave. At that moment, I suddenly realize since you cannot give me what I need and we cannot have a complete family [···] I said to him since we are not

> compatible, maybe separation is an option. He said let's divorce. He was never that angry before and he really left. We didn't (divorce) but only resume contact after almost a year. (SD recipient)

> If not (having a child of our own), my husband and I may need to separate eventually. (OD recipient)

The traditional cultural association between women and fertility is deeply rooted. The experience of infertility is internalized by individuals and affects their identity and sense of self (Olshansky, 1987). Some women displayed a distorted sense of self solely based on their reproductive ability:

> I told my husband about my infertility way before our marriage. The reason for telling him is to give him a choice. If he cannot accept it, we break up. After all I am a defect. I worried he would blame me after getting married. (ED recipient)

> The IVF results came back negative, (due to the advanced age) I described myself as "high input, no outcome" [···] all these hurting me so much. (OD recipient)

To summarize, this section illustrated the impact of infertility on women's conceptualization of womanhood and their marital relationship. For these women, being infertile resulted in a distorted sense of self as a whole. The thought of being childless was unacceptable to the informants. The absence of a child means an incomplete family and intense guilt for the mother. A negative impact on marital relationships was also observed. It was evident that some women were wrestling with several predicaments resulting from childlessness, including marital instability, intense guilt, and a distorted sense of womanhood.

Infertility Predicament: Exhaustion of Other Assisted Reproductive Treatments

When women start to identify themselves as *infertile*, they also start to engage in the full range of reparative measures, i.e., taking on all sorts of in-

fertility treatments in hopes of pregnancy (Olshansky, 1987). Informants included in this study displayed reluctance in accepting childlessness and showed unwavering determination to find a solution to their infertility. Often, women proactively sought help from assisted reproductive technologies. Before employing DAC and accepting the loss of genetic connection with the child, some women experienced a lengthy and harrowing process of exhausting all other kinds of ARTs with the use of their own gametes.

> (after 5 rounds of IVF) We changed another doctor to try one more round, it failed again. At the point, I talked to my husband maybe we need to accept the fact that we need egg donation. (OD recipient)

> After a year of trying to get pregnant, we went to see a private doctor. He suggested we can try IUI first. After 2 rounds of unsuccessful IUI, we undertook one round of IVF […] then we changed another doctor because her clinic was closer to my workplace. Then she found out I had two chocolate cysts, but we did not do the removal surgery as the doctor worries the surgery may affect my chance of pregnancy. I tried 3 more rounds of IVF with her that lasted more than a year, but we were still unable to get pregnant […] Then we stopped and wondered if it was possible to increase our chance of success if we find another doctor […] We tried another 2 rounds of IVF with the third doctor but again it failed. (OD recipient)

Informants also reported experiencing physical pain while undergoing ART procedures. However, perhaps the more scarring effects of undergoing the lengthy ART process were the resultant psychological and emotional upheavals that couples experience. Some women reported deteriorating physical health while others described it as a physically painful process:

> I failed the first round of IVF with the first private doctor I visited […] the second one was also a private doctor but she asked me to be bed-bounded for 2 weeks […] I did exactly what the doctor asked but turns out it failed, what was worse was that

> I felt so unwell for the next couple of months, the world seemed like it was spinning all the time [···] I went to see another O&G doctor who recommended me to go for ICI, only then they realize the problem with my husband's sperm, and the embryo did not implant this round either [···] it was the fifth doctor we visited suggested we should consider egg donation [···] from the first doctor until the point we chose egg donation, it was around 7-8 years. (OD recipient)

> The whole process (of IVF) is hard. The needles were huge. So painful. It was a very hard period. (OD recipient)

Some informants had failed numerous IVF cycles before accepting the use of donated gametes to conceive. Informants were asked to retrospectively recall their initial emotions after the failed IVF cycles and miscarriage after IVF failures. Many expressed their disappointment and frustration, yet they displayed a sufficient level of resilience to manage the negative emotions afterwards:

> I went to visit many Westerner doctors as well we Traditional Chinese practitioners. Some doctors said I don't have any oocytes, some said the size (of the follicles) too small. I was depressed but I motivated myself to keep my hope. (OD recipient)

> We succeeded (to get pregnant) the first time, we were so excited yet nervous. But it lasted for two months only, its heart stopped. I was so shocked and upset [···] I could feel it inside me. He/she would be 10 years old if we didn't lose it [···] the more you hope for, the stronger the disappointment. Up till now, I still feel very sorry about it. (ED recipient)

> I failed three times of IVF cycles before. In between, I conceived naturally once. Quite excited, I was finally pregnant. But it's gone after 7 weeks. We checked with another gynecologist, he also said the fetus' heart stopped [···] of course I was so disappointed. But I kept telling myself not to put too much hope on it. Yes I was frustrated but I still managed to continue the following IVF

cycles. (OD recipient)

Except for one informant who previously had bilateral oophorectomy, this section describes how informants and their partners with fertility difficulties chose to engage in various treatments, including Traditional Chinese treatments and ARTs. Prior to their acceptance of the use of donated gametes, the exhaustion of these treatments had a strong impact on the women's physical and mental wellbeing.

DAC as Protection of Infertility Information from Disclosure

Loss of genetic connection is an inevitable result for those who chose DAC to conceive. The psychosocial impact of DAC is often compared with adoption. Recipients of DAC may have considered the possibility of adoption, but in the end opted for DAC due to the perceived externalities associated with adoption:

> I have given him (husband) the choice between sperm bank and adoption [···] adoption may create even more problems because adoption forced him to face the face his infertility directly. Alternatively, if we used sperm bank, we can have our own children in which the relationship and the feeling is natural. And we do not need to face the life-long problems like adoption does. (SD recipient)

> My husband and I did consider going for adoption but only if we fail the sperm donation. It is because there are so many things to explain if we chose adoption and we are uncertain if our families can accept this. I still have frozen embryos, we decide to use up all these first before going for adoption. (SD recipient)

These accounts reflect how informants view adoption as a confirmation for their infertility, and therefore opted for DAC instead. The use of DAC allows for a degree of secrecy whereas adoption does not.

DAC as Protection of Women's Self-identity through Motherhood

The process of being pregnant for ten months, as a rite of passage to motherhood, is absent in adoption. By going through the childbearing process, the parent-child relationship is perceived to be established regardless of the loss of genetic connection:

> Even though I do not have the genetic connection with the child (when using embryo donation), I did experience the pregnancy process, there must be some blood connection between us. By giving birth to him, it is to confirm our mother-child relationship, he (her son) cannot say I am not his mother. The main difference laid in the fact that I do not carry the baby for 10 months if we choose to adopt. Unless we are so lucky to adopt a good child, I will otherwise worry a lot and it cause distress to the parent-child relationship. (ED recipient)

> I reckon the actual 10-month of childbearing is so much more important than the genetic connection. Nothing is more important than this process of building the bonding with him [···] The bonding is strong, when I was carrying him, seeing him from the ultrasound, and when he is born, feeling him. (OD recipient)

DAC as Protection of Husbands' Dignity with Male Factor Infertility

Having a child is seen as an important element of family formation. In cases where the husands were diagnosed with infertility, women expressed a wide range of emotions, including anger, frustration and distress:

> I was angry, very angry. I was thinking what's wrong with him, he should go for body check before getting married. I want a family, and he cannot give it to me. (SD recipient)

> I was so upset. My disappointment even grew to despair I should say. (SD recipient)

On the other hand, disappointments were exhibited in the husbands who

suffered infertility. Unlike women, the coping strategies used by these husbands for their frustrations were to isolate themselves from anything that relates to reproduction. Given the avoidance coping strategies used by men, women who received SD indicated that it was they who initiated the idea of using donated gametes:

> He stayed in a very depressed stage for more than a month (after knowing his infertility). He instructed me not to mind his business, he will figure things out. But I know him well, he was not trying to find solution, just trying to run away from the problem. (SD recipient)

> In the whole process of choosing donor, he was not involve at all. I reckon he was just trying to avoid any scenarios that he needed to discuss anything he did not want to. So he left it all to me to decide […] when I showed him the donor I chose, he just 'um' to indicate okay. That is it. (SD recipient)

Women recipients acknowledged the negative impact of male infertility on men. Many recipients suggested infertility in men was often related to the damage of their dignity or manhood.

> I think men's ego are even stronger, feeling loss of face. It is hard to admit it is "not working". I am a woman, I felt bad when I was asked about my fertility. But if it is the man who face infertility, I can imagine he will be so much more painful than I do. (ED recipient)

> Men with infertility suffered a lot more than women, because it is their responsibility to carry on the family line. Women do not have such a huge responsibility thus female infertility is less serious. (SD recipient)

From the point of view of female recipients, the use of donated sperm is a good way to prevent husbands from *losing face* and the information related to his infertility can be concealed.

> Using anonymous sperm donor was our best choice. Otherwise, if anyone knows about it, it is a huge damage to my husband's dignity. It is like announce to the world that he has fertility problem. (SD recipient)

> Maybe men are more bounded by Traditional Chinese value. They perceive infertility as a failure of a whole person. Men themselves think others look down on them for their fertility difficulties [⋯] now he has a son and no longer think of his infertility anymore. (SD recipient)

DAC as Protection of Marriage through Guilt Alleviation

In those cases with the wives who were diagnosed with infertility, informants' husbands favored the use of donated oocytes. Informants often used the word *his own child* to emphasize the genetic connection between the father and the child. Informants showed their determination in preserving the right of their partners' to have their own children with the intention to alleviate their guilt in their inability to perform their roles as wives.

> The reason of accepting egg donation is that the child is genetically connected to my husband. My husband is so much happier to have his own child. (OD recipient)

> I have never considered (to go for adoption) as my husband would like to have his own child. The technology is so advanced now, it is such blessing to many families like us, why should we give up so early? (OD recipient)

> I am good with either having children or being childless, but my husband really wants a child. Then I suggested adoption, he firmly said no. He said he cannot accept to raise someone else's child. He said the child has to be genetically connected to him. (OD recipient)

Frequently, infertility per se did not cause the direct pressure on Chinese women. Rather, it was the social pressure from the families or extended

families that did. In many cases, the pressure to have children was exerted by parents-in-law. For relatively conservative Chinese families that view childbearing as something women must fulfil as wives, it was not uncommon to ascribe blame to the wife. Conceiving with DAC seemed to be the way to uphold the marriage.

> The use of oocyte donation is the best option we have […] my parent-in-law put so much pressure on me, in fact ever since they realized my infertility from my husband's dairy, they hindered our courtship. And my relationship with them went from bad to worse after we got married. We failed several cycles of IVF. That's why we reckon we cannot procrastinate anymore. (OD recipient)

> After failing the IVF for so many times, the motivation to continue was totally because of him (the husband). He really wants to have a child of his own, I should comply with his wishes […] with all the injections, the process was so painful. I was in the mentality that be ready to risk everything for it. He really wants it, so just let's keep doing it. (OD recipient)

In traditional Chinese culture, infertility brings shame and guilt not only to the women but also to the parents-in-law. Conceiving through DAC provides a protective shield for the parent-in-law as well:

> The pressure (from parent-in-law) subsided with my pregnancy […] They felt the birth of the child alleviated the shame among relatives and friends, and more importantly they dare to face the ancestors of the family. (OD recipient)

> The physical conditions of my parent-in-law were getting worse. But their situations are gradually improving when they have these two grandsons. That's why the old saying is right: family is the best medicine. (SD recipient)

This section describes how the employment of DAC provides a chance to alleviate guilt that is associated with infertility and serves as a protection

for their marriage. The traditional patrilineal family model of Chinese culture has clearly defined childbearing as one of the most important duties of daughters-in-law (Shih & Pyke, 2015). The social pressure of having children was evident within the Chinese community. Inability to fulfill the filial duties frequently resulted in intensive guilt. Interestingly, guilt was not simply triggered by women themselves, but also from husbands sand parents-in-law.

Compensating for the Loss of Genetic Continuity: Bonding through Parenting

Informants and their partners described the employment of donated gametes as the last resort after failing all other kinds of ART. This is due to the fact that the use of donated gametes threatens another traditional Chinese value: the concept of *qin shen*. *Qin Shen* refers to the blood connection between the parent and children and is highly valued. Even when motherhood could be materialized, genetic discontinuity is still an issue of concern for women who gave birth through DAC. One participant believed that the difference in childrearing between parents may be rooted in the genetic discontinuity with one parent:

> At a point during my pregnancy, I have this thought that since the baby is only related to my husband but not me, will there be a chance, when the son found out the truth, that he will decide to love me not as much [···] it is just a thought when I was carrying the baby. I have this thought that I have to protect myself too. (OD recipient)

> Both are not related to him. When the children were born, I was worried. I was not sure of the reasons, but he seemed to be quite distanced from the children. He didn't help much with the childrearing during their infancies. (SD recipient)

The distancing created by the genetic disconnection has been acknowledged by women who have experienced DAC. Some informants indicated their initiative to find ways to lessen such distancing:

> The nature (between naturally-conceived and DAC-conceived motherhood) has no difference. If there is any, it is me being more deliberate in building the relationship between the father and sons. I was worried, in the beginning, that their father may treat them differently. (SD recipient)

> In fact, my relationships with my two (DAC-conceived) children were even better than my eldest (natural-conceived) child. I took on the life as a full-time mother and spend so much quality time with the young ones. (OD recipient)

These testimonials illustrate how informants and their partners recognize the possible distancing originated from the loss of genetic connection. The behavioral outcome of such acknowledgement in women who utilized DAC was shown in their parenting choice. In a way, the purposeful action in building strong bonds between the DAC-conceived child and oneself or the infertile partner was carried out with the hope to compensate for the lack of genetic connection.

The Change: From Predicament to Protection of Womanhood

All of the informants were asked, "if you could turn back time, do you have any regret and would you do anything differently in terms of conceiving through DAC?" Not one of the informants have regretted their choice of using donated gametes.

> I regret I did not do it earlier. I am so contented to have my daughter. I am so happy. (SD recipient)

> No regret, only happiness. I am still thankful to see the information about donated gametes in the clinics. In fact I tried to pregnant with the remaining embryos in the past two years. (OD recipient)

> I knew you will ask me this question. I can firmly tell you that nothing is more important than my son right now. He is more important than anything. I can lose everything but not my son […]

I won't regret having him even I endured so much pain to bring him to the world. (SD recipient)

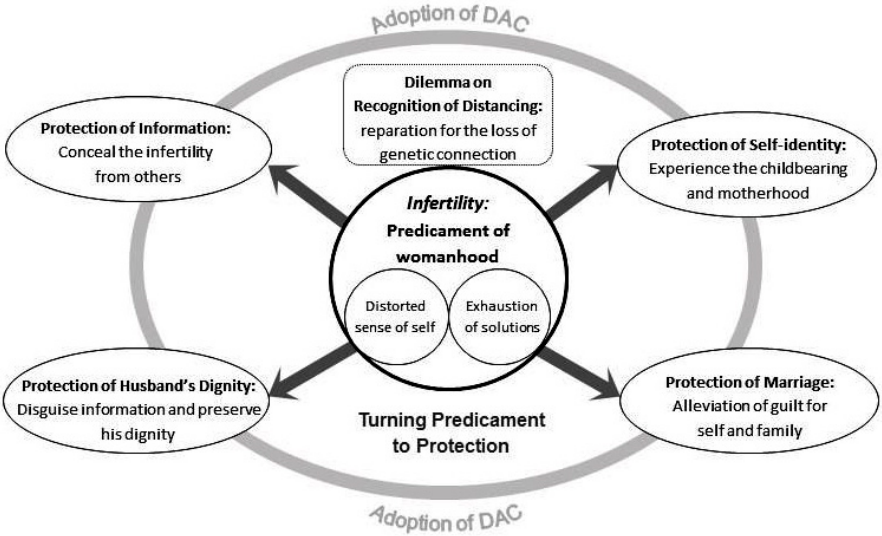

Figure 1. Adoption of DAC is seen as a protection among infertile couples

Discussion

While infertility has a negative impact on womanhood, multiple domains where the employment of DAC could function as a protective shield for women's social identity have been identified. For infertile Chinese women who had experienced DAC, the protective shield of DAC comprises of four elements: protection of self-identity, protection of marriage, protection of the husband's dignity and protection of information by concealing infertility. Despite the loss of genetic connection with the child, the process of childbearing allows women to turn the previously unfavorable circumstances into a form of protection of womanhood. Furthermore, they are mindful of their parenting practice and deliberately nurtured the emotional bonds between themselves and their husband and children. In retrospect, none of the women regrets the decision to use DAC.

Despite the fact that women now have more freedom to expand their social roles and life choices, findings from this study suggest that the social construct of fertility could still be a vital element of being a woman in

Chinese culture. Women who experienced DAC in this study found an utmost importance in childbearing, and the guilt and shame of infertility have made them feel necessary to conceal the infertility through DAC. Such tendencies for women to shoulder the responsibility of childbearing for the patriarchal family and to develop psychosocial stress from perceived stigma are also common in other male-dominated Asian societies such as Japan (Matsubayashi et al., 2004). Likewise, in Western societies, women still feel incomplete when they failed to fulfil motherhood (Greil, 2002) and blame themselves for the infertility (Péloquin, Brassard, Arpin, Sabourin, & Wright, 2017).

Guilt and shame, sense of isolation, and compromised marital relationship were also reported in another Hong Kong study (Loke, Yu, & Hayter, 2012). Our findings on infertility-related psychosocial distress in women have also found parallel cases in Western countries. For example, in Scotland, more than 25% of infertile women reported concerns in self-esteem and self-blame (Anderson, Sharpe, Rattray, & Irvine, 2003). Likewise in Denmark, women reported significantly higher infertility-related stress in the personal and social domain than men (Schmidt, 2006). Pro-natal values may be internalized in women, regardless of the level of modernization.

The experience of pressure from in-laws, however, may be unique to Asian countries. For example, in Taiwan, parents-in-law were reported to influence the marital satisfaction of infertile couples (Sun & Lee, 2000). In Japan, it was found that 52.7% of infertile women felt pressured primarily by their mother-in-law (Matsubayashi et al., 2004). Our findings suggest that while womanhood is threatened by failing the social expectations to *do gender* (Loftus & Andriot, 2012), this can be remedied by using DAC where women could experience pregnancy and perform the gendered work of labour.

This study demonstrates how women have used DAC as a means to restore their social identity, protect the family from societal pressure, and fulfill patriarchal family expectations. Due to the predominant focus of ART on women's bodies, it is often women who undergo physical, mental, and relational risks with infertility before finally resorting to DAC (Reis, Xavier, Coelho, & Montenegro, 2013). When DAC was successful, women felt rewarded by a new-found meaning upon acceptance and acknowledgement by their significant others, despite the fact that the child has no genetic linkage to the male or female side. They also felt able to protect the dignity of

their husband and maintain the harmony of the patrilineal family by continuing its legacy.

The Chinese society is a collectivist culture that values the ancient Confucian teachings of filial piety and natural obligation to family members. Confucian philosophy advocates that a virtuous woman should put family harmony as their ultimate goal, which could be achieved by respecting the elders, practicing filial piety, and practicing three kinds of obedience: obedience to the father before marriage (*zai jia cong fu*), obedience to the husband once married (*chu jia cong fu*), and obedience to the son when the husband has passed away (*fu si cong zi*) (Ding, 2002). One may argue that Confucianism has declined in the modern society with the rising socio-economic status of women. Yet, the philosophy is still reflected in our familial system and social policy (Leung, 2014). The perception of women who have undergone DAC is in accord with these traditional beliefs as they put the wishes of their husbands and the expectations of their in-laws over and above their own wishes (Fan, 1997). In doing so, their well-being is often compromised.

The suffering of infertile women may be attributed to the devaluation of oneself as a subservient member of the family, with a lack of awareness or resistance against patriarchal social expectations imposed upon them (Galhardo, Pinto-Gouveia, Cunha, & Matos, 2011). In clinical practice, health counsellors for women who contemplate or have underwent DAC should exercise cultural sensitivity and attend to issues faced by specific ethnic groups, for example the aforementioned pressure from parents-in-law on women from Asian ethnicities. Findings in this study may inform clinical practice and contribute to the drafting of guidelines in health counseling, especially amongst ethnic minorities who encounter more pronounced gender inequality, as well as inequality in accessing information and resources concerning infertility treatments (Goodwin, 2005). In Hong Kong, although infertile couples could obtain comprehensive information regarding the benefits and risks of treatment options, it is not commonplace for clinicians to discuss the relevant psychosocial issues that should be taken into consideration before making a decision.

It has been reported that physicians are more likely to provide information on treatment success and the direct risks of physical treatment, while often neglecting to mention the possibility of multiple unsuccessful pregnancies and its emotional consequences (Rauprich, Berns, & Vollmann,

2011). While couples contemplating DAC should be informed about the risks of medical complications, they should also be facilitated to reflect on their beliefs and motivation to undergo DAC, and assisted to balance the benefits of DAC against possible consequences on women's physical and psychological health. Amongst the successful cases reported in this study, DAC has presented numerous benefits for women's subjective well-being. It allows them to fulfil their dream of motherhood, achieve a sense of womanhood, and restore their marital harmony. Nevertheless, health professionals should empower women to contemplate the effects of culture and patriarchy on female identity, so that they can make informed choices regarding whether or not to undergo infertility treatments, and if it is necessarily to give birth (De Berardis et al., 2014).

Assisted reproductive technologies have been increasingly popular with the medicalization of infertility since the 1980s (Whiteford & Gonzalez, 1995), which has helped to perpetuate the pro-natalist belief that families should have children. Women who are voluntarily or involuntarily childless are considered deviant and stigmatized (Forsythe, 2009). It has been reported that 13% of women experienced suicidal ideation following a failed IVF treatment (Bringhenti, Martinelli, Ardenti, & Battista La Sala, 1997). In clinical practice, health counselors may assist these couples to explore alternatives other than pursuing further treatment (Boivin & Kentenich, 2002). Couples may benefit from support to overcome social pressure and consider non-biological family options such as adoption and fostering (Greil, Slauson-Blevins, & McQuillan, 2010). Health counselors may also assist infertile couples to normalize childlessness, by helping them construct a *child-free* identity, with freedom to pursue career aspirations and flexibility in time and money (Tanturri & Mencarini, 2008). Men and women have been reported to experience distress as a result of repeated failure in ART, particularly amongst those with a tendency to use self-blame and distancing coping strategies (Peterson, Newton, Rosen, & Schulman, 2006). Cognitive behavioral (Newton, 2006) and narrative approaches (Diamond, 1999) have shown to be effective in repairing relationship crises in infertile couples, eventually helping them adjust to the life of a childless family. With adequate help and support, couples have been found to experience enhanced marital relationship through weathering the emotional storm and making sense of the life experience of being infertile (Peterson, Pirritano, Block, & Schmidt, 2011; Schmidt, Holstein, Christensen, & Boivin, 2005).

Limitations

This is a phenomenological analysis that recruited only a small number of women who underwent successful DAC treatment. As an in-depth study of women's personal experience, it may be subjected to self-selection bias. Although the sample size is adequate for using IPA to explore the lived experience of individuals (Smith, 2011), it should not be seen as representative of women's general experience of DAC. Moreover, the male perspective was not included in this study although it is a domain worthy of further study. For example, it has been reported that male factor infertility affects sexual and personal quality of life and unknown-factor infertility brings about social stress in men (Smith et. al., 2009). It should be noted that the female-only perspective of couple dynamics described herein is not free of subjective bias.

Suggestions for Further Studies

One of the most controversial issues with DAC is the dilemma between the right of privacy among recipient parents and the right of the offspring to have full access to their genetic origins (Horowitz et al., 2010b). Future research may elaborate the protective functions of DAC with regard to infertility information concealment issues. In families that have used either oocyte or SD, only one of the parents is genetically connected with the resulting child. Disclosure of the child's genetic origin and social history largely depend upon the parent's decisions. Our current findings may serve as the foundation for further studies on the pattern of information concealment among Chinese women who experienced DAC. The present study offers a detailed account of the psychosocial impact of infertility on women under multiple sources of pressure, and their use of DAC to protect valued relational domains. These include a harmonious relationship with oneself as a woman and mother, the marital relationship, and the relationship with in-laws. Our study findings reveal how women used DAC to conceal the infertility in order to protect the husband's dignity and to maintain family relationships. Future studies may explore the reasons and ways in which women would conceal or disclose their DAC experience, and contribute towards substantiating women's perspective within the DAC disclosure

controversy.

Conclusion

Traditional Chinese culture values the continuity of the patrilineal line. Even in modern times, infertility is often seen as a woman's inability to fulfill family obligations, creating social stigmatization for the woman as *defective*. Ironically, advances in science have provided an ideal solution to perpetuate the age-old tradition of patriarchy. Women would go to great lengths to preserve the socially acceptable version of womanhood as a *mother*, as it has been internalized as a central domain of their female identity. Assisted reproductive technology with the use of donated gametes provides an option for infertile couples to fulfill their dream of parenthood, and for infertile women to restore their womanhood. By understanding the distinctive psychosocial profile of women who have undergone DAC, this study has paved the way for further research on counseling women regarding the experience of DAC and the information concealment controversy.

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Biographical Note: **Elaine Yin-Ling Tsui** is a lecturer at the Department of Social Work in the Hong Kong Baptist University. She has researched and published articles on behavioral health, reproductive health and gender studies. E-mail: elainetsui@hkbu.edu.hk

Biographical Note: **Jo Oi-Yue Cheng** (Corresponding author) is a researcher who has written previous articles on health psychology and end-of life care. E-mail: jo.chengoiyue@gmail.com