

# **The desire of parenting: new scenarios in an Assisted Reproductive Technology (ART) clinic and psychological reflections on heterologous fertilization**

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*Abstract.* The purpose of this article is to explore, in line with Italian legislation on heterologous fertilization, a series of psychological factors that are involved in this technique and its impact on the couple relationship, on the fears connected to it and on the future relationship with the child. Furthermore, clinical reflections concerning the differences between man and woman in heterologous fertilization and the aspects concerning the choice to conceal or reveal the child's biological origin have been addressed. The conclusions presented here contribute to the discussion by launching ideas for reflection of future clinical research in relation to the development of the relationship between the child, the donor and the parents and the motivation behind offering the gametes.

*Keywords:* Assisted Reproductive Technology (ART); Gamete Donation; Parent/Child Relationship; Parenthood; Couple Relationship.

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## Introduction

Assisted Reproductive Technology (ART) has risen to become one of the new scenarios of parenting, and varying techniques over the years have evolved, accompanied by questions that go beyond biological-technical aspects, to include social, legal and ethical issues as well. Over the last two decades in Italy, ART techniques have undergone significant legislative changes. In fact, as of 2004, a very restrictive law was passed on medically assisted reproduction (Law 40/2004) that placed Italy at the most conservative end of the European spectrum. The law forbade some techniques such as cloning, commercialization of embryos, surrogate mothers, and the production of embryos for the purpose of research or experimentation. Furthermore, as of 2002, the export of embryos and gametes abroad was forbidden as well.

Heterologous fertilization was permitted only in private centers, and only non-married couples could apply for them. The Professional Order of Physicians also reiterated these prohibitions and bound the members to comply with ethical standards aimed at safeguarding the welfare of the unborn child.

On 19 February 2004, Law 40 regulated, in a restrictive sense, the techniques of ART, prohibiting the use of heterologous fertilization in both public and private centers. This legislation sparked strong debate because the law itself was considered limiting compared to scientific evidence. In 2005, with a referendum consultation, an attempt was made to repeal the articles concerning the prohibition of heterologous fertilization. The referendum result saw a prevalence of 'yes' votes, but it was thwarted by the failure to reach the quorum; turnout was only 25.9%<sup>1</sup>.

Italy saw the development of a social phenomenon that was defined with the term "reproductive tourism"<sup>2</sup>: Italian couples went abroad to undergo assisted reproduction that was prohibited by Law 40/2004. Specifically, in 2005, the Observatory on Procreative Tourism was published, which reported data of this phenomenon as well as scientific literature showing interest in health emigration for infertility probes<sup>3</sup>.

In 2010, a study by the European Society of Human Reproduction and Embryology (ESHRE) Task Force on Cross Border Reproductive Care compared six European countries to this phenomenon, showing how Italian couples are the most numerous in traveling to other countries to tackle treatments against infertility not allowed in Italy. This showed how much the

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<sup>1</sup>[https://it.wikipedia.org/wiki/Referendum\\_abrogativi\\_del\\_2005\\_in\\_Italia](https://it.wikipedia.org/wiki/Referendum_abrogativi_del_2005_in_Italia)

<sup>2</sup><http://www.treccani.it/vocabolario/turismo-riproduttivo>

<sup>3</sup><http://www.osservatorioturismoprocreativo.it>

Italian legislation regarding ART was inadequate compared to the procreative needs of infertile couples. This trend has remained constant since the first report of the Observatory on Procreational Tourism (Shenfield et al., 2010).

After 2004, Law 40 has undergone significant changes due to rulings by the Italian Ordinary Courts and the Constitutional Court. Ruling n.162 on 9 April 2014 of the Constitutional Court definitively declared the illegitimacy of the prohibition of heterologous fertilization, significantly modifying the regulatory framework of ART in Italy (Constitutional Court, 2014).

From the repeal of prohibition on heterologous fertilization, the first data transmitted by the National Center for Rare Diseases (CNRM)<sup>4</sup>, the body responsible for the control, inspection and monitoring of the centers of reproductive medicine, showed that in 2015, from 2800 heterologous fertilization treatment cycles, 601 children were born, equal to 4.7% of the total born by ART techniques (11° Report 2015)<sup>5</sup>.

Relevant data from this report, highlighted that the age of woman is older if the donation is of oocytes (41.5 years) compared to seed donation (35.3 years). This would seem to indicate that the donation of female gamete is connected more to the physiological infertility of the woman, rather than one of pathology.

Finally, the first year of applying heterologous fertilization techniques in Italy highlighted the problem of finding the donation of gametes. In fact, most of the cycles of heterologous fertilization have used imported gametes with fertilization procedures that took place abroad: the formation of the embryo took place through the exportation of seed from Italy with oocytes in foreign centers. Later, the embryos formed were imported into Italy for transfer to the uterus of the recipient.

The socio-normative perspective of the illustrated PMA produces significant repercussions on a psychological and emotional level.

## **Psychological Factors**

Infertility is generally defined as the inability to conceive after one year of unprotected intercourse. It is estimated that 10% of the global population suffers from infertility and is viewed worldwide by couples as “*a tragedy that carries social, economic and psychological consequences*” (p.339, Gupta, 2000).

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<sup>4</sup> <http://www.iss.it/cnmr/>

<sup>5</sup> <http://www.iss.it/rpma/>

In the 2008, guidelines were published in the Official Gazette concerning Law 40/2004. It was reported that to ensure adequate psychological support of couples, each ART center must offer the availability of advice from a psychologist with ample training in the sector. In addition, such counseling is to be made accessible at all stages of the infertility, during the therapeutic diagnostic process and possibly even after the treatment has been completed.

In accordance with the European Society of Human Reproduction and Embryology (ESHRE), infertility care is important for several reasons (ESHRE Psychology and Counselling Guideline, March 2015):

1. “First, it is important to clarify that the standard fertility treatment does not cure the cause of infertility, but only assists patients in achieving parenthood; therefore, most individuals will find themselves having to deal with the psychosocial consequence of it in their family” (p.5).
2. “Second, many infertile patients find it difficult to manage the lengthy diagnostic process and the uncertainty of achieving parenthood” (Klonoff-Cohen et al., 2007)” (p.5).
3. “Third, most patients experience some level of emotional distress during treatment (Verhaak et al., 2007; Knoll et al., 2009; Karatas et al., 2001)” (p.5).

For all reasons, providing high-quality fertility health care implies both creating the optimal treatment condition for patients to achieve parenthood as well as supporting them while managing the various implications of infertility and its treatment.

Therefore, in 2004, ESHRE reported in the Guideline for Counselling in Infertility that psychological support concerns all the aspects related to the fertility center, which can be divided into three specific moments:

- Decision-making: providing, prior to the start of treatment, information on all emotional and relational aspects surrounding the decision to undertake assisted fertilization.
- Support: accompanying the couple through times of difficulty during each stage of the process.
- Therapeutic: supporting the couple or the individual to cope with the negative consequences of being diagnosed with infertility and the possible failure of the treatment.

About one-third of patients will end the treatment without having achieved pregnancy or live birth (Pinborg et al., 2009) and many of them will experience difficulties adjusting to their unfulfilled parenthood goals (Verhaak et al., 2007c; Johansson et al, 2010; Wishmann et al., 2012).

Heterologous fertilization, or assisted fertilization of a woman's ova with donor sperm, raises new issues to be addressed, as accessing 'something' that comes from outside of the couple itself could require an elaboration of the 'foreign' element. From the literature on the subject, the following psychological factors emerge:

- How the relationship between couples change, differences emerge between couples who conceive naturally, and couples who conceive with assisted technology (Gameiro et al., 2011).
- Gender differences, such as how women and men live the acceptance of an external oocyte/sperm (Berg et al., 1991).
- The parent/child relationship when the child was conceived with assisted technology (Gibson et al., 2000; Hjelmstedt et al., 2004; McMahon et al., 1997).
- Levels of anxiety before, during, and after childbirth (Sydsjö et al., 2002).
- The problem of anonymity (Shehab et al., 2008)

### **The impact of infertility in the couple relationship**

Research has proved that, in terms of anxiety and depression, couples who conceive with Assisted Reproductive Technology (ART) as well as couples who conceive spontaneously, are similar (Hammarberg et al., 2008).

Despite this, when a more exhaustive approach to analyzing well-being was considered, couples undergoing ART reported having higher levels of anxiety regarding pregnancy and the survival of the fetus, as well as having less confidence during the following post-partum year. These results could lead towards the idea that ART couples may idealize their future pregnancy and parenthood, making them more vulnerable to normative stressors related to the experience. However, research in the field notes that for many couples, the experience of infertility and its treatment reinforced their marriage and brought them closer together. This phenomenon is called marital benefit; even if ART couples tend to have an overall lower agreement in their perception of the marital relationship, which is not experienced by couples that conceive spontaneously. All of this could be connected to their capacity to deal with the severity of the stressor, in this case, the birth of their child and his/her quality of life (Gameiro et al., 2011).

In the literature, there was a study conducted in Denmark (Martins et al., 2017) that examined the impact of ART on the possible breakup of the marriage. The authors' conclusions seem to highlight that ART treatment has

no effect on the marital future, but rather the risk of separation seems to be attributed to the lack of children regardless of whether the couple had undergone ART treatment. Kjaer (2014) suggests that having children in common would actually be a protective factor of marriage, as couples who had planned to have children would be more likely to have a stable union (Lawrence et al., 2008; Hart et al., 2017).

Gameiro (2012) and Gameiro (2017) also pointed out the importance of psychosocial support for couples who have gone through treatment failure and suggested that support be centered on the marital relationship and reproductive life of the couple. According to the authors, such a counselling process would allow the couple to work on the joint decisional process towards parenting or on the transition to a child-free life. In addition, psychosocial support after a failure of treatment could prevent marital dissolution.

### **Gender differences in heterologous fertilization**

Moreover, it has emerged that the psychological impact on the acceptance of the infertility, and on the decision to receive an external gamete, is different between men and women. Women report more serious psychological repercussions, both socially and medically, while men require more information and further involvement in decision-making (ESHRE Psychology and Counselling Guideline Development Group, March 2015). Specifically, women have reported experiencing more marital difficulties that include sexual relations (Abbey et al., 1991; Daniluk, 1997; Raval et al., 1987). Instead, men reported experiencing many of the same feelings, thoughts, and beliefs that women have, but with variable levels of intensity and frequency (Berg et al., 1991.; Jones et al., 1996.; Keystone et al., 1992).

#### *Clinical case no.1: Sperm donation*

In the following case, a couple is presented; a 36-year-old female and a 40-year-old male. During genetic counseling, the man is diagnosed with primary genetic infertility. At this point, the medical team proposes heterologous fertilization with the donation of spermatozoa. During the first counseling interview, the first interview with the couple to reflect together on whether to undertake this path, he stated that he had never asked questions about his fertility, as the focus was more about preventing too early conception.

*“The hardest part was deciding to become a father, meaning taking that decision ... not in the making of a child!”*

Specifically, on the choice of heterologous fertilization, the literature reports that the psychological impact on the choice to receive an external gamete concerns different aspects in both women and in men. Regarding the donation of sperm (Petok, 2000; Levinson, 1978), literature talks about a narcissistic wound that concerns subtle areas such as impotence, virility, and masculinity. Paternity fosters a sense of importance, gratification and acceptance. Regarding impotence, as far as literature is concerned, there are no cases that bind it to infertility, but more to feelings of a lack of power. The impossibility to make a woman pregnant leads men to feel less of a man, with the consequence of living all of this as an insult to that portion of the psyche that defines one's self.

Him: *"Honey, what do you think? What do you want to do?"*

Her: *"The only other way is adoption, but neither I nor you want it, so we can do the heterologous fertilization ... at least 50% of the baby is ours! And then with pregnancy ... everything is more ... NORMAL!"*

M. Manson (1993) describes these dynamics well, highlighting that men accept the advantages of heterologous fertilization as it offers the ability to give their partner a child who is connected to her and create a family that can be perceived as normal. Therefore, the donor becomes an instrument that contributes to conception, without interfering in the marriage, thus avoiding a conjugal crisis. One can therefore speak of a conjugal pact.

Studies have shown that in terms of coping strategies, men report a more frequent use of distancing, self-controlling and planful problem-solving, whereas women use more proportionally confrontive coping, accepting reasonability, and seeking social-support strategies (Peterson et al., 2006).

Nevertheless, one study found that the overall quality of relationships is stable in couples receiving donated sperm and does not differ from couples undergoing treatment with own gametes (Sydsjö et al., 2014).

#### *Clinical Case n.2: The Oocyte donation*

In the following clinical case, a woman who receives an external gamete is presented. Here, the woman is 42 years old and the man 44. This time, the woman was presented with a medical diagnosis of primary infertility with a lack of an ovary following complications during a surgery when she was an adolescent. After several failed attempts with in vitro fertilization, the couple decided to go to a center in Valencia, Spain to try the heterologous road with egg donation. On the second attempt, she got pregnant and a baby girl was born. Within the first days from birth, the baby

had difficulties breastfeeding that continued until weaning at 3 years old when the child was diagnosed with early food disorder.

*"I felt incomplete, I was always nervous, and I jumped up for nothing ... I could only think of that ... a child ... my husband indulged me ... and in the end, I did it ... at first, I was disillusioned ... then the joy ... in pregnancy, I held my breath and crossed my fingers and then there was immense joy, but that didn't last long ... immediately she looked at me a little ... and now it seems that she does it on purpose ... maybe she cannot stand me ... and after all I did to have her ... she's ruining my life ... and I love her so much ... (cries)"*

Regarding oocyte or egg donation, many women see this as an opportunity to realize the dream of becoming a mother, even if receiving eggs from a donor is a difficult and painful option. Here, there is a strong physiological component, as not only do women initially feel a sense of mourning as a result of the infertility diagnosis, their psychic structure is a representation of how she will live the egg donation, which is worsened by knowing their own genetic code will never be given/transferred to the child. This is typically expressed through self-imposed questions such as: "will I accept this child?", "will it look like me?", "will I develop an attachment to this child?" (Bracewell-Milnes et al., 2017).

### **Worries about the relationship with the child**

On one hand, some studies suggest mothers undergoing assisted conception have lower self-esteem and self-efficacy, experience higher levels of anxiety, and report having more difficult babies and more problems in their relationships (Gibson et al., 2000; Hjelmstedt et al., 2004; McMahon et al., 1997).

On the other, some studies found no correlation or difference in adjusting to parenting between conception methods (Cox et al., 2006; Greenfeld et al., 2001). In fact, some studies actually saw an increase in positive mothering experiences and higher levels of satisfaction with parenthood when having gone through assisted conception (Repokari et al., 2006; Ulrich et al., 2004).

Nevertheless, recent studies have started to show that the genetic heritage of the unborn child can be affected, even when there is no biological link between the future mother and the fertilized egg based on the relationship between the mother and embryo. This finding was documented in the study conducted by the Interchangeable Virtual Instruments (IVI) Foundation (Vilella et al., 2015) titled *"Hsa-miR-30-d, secreted by the*



*human endometrium, is taken up by the pre-implantation embryo and might modify its transcriptome*". The research was published in the scientific journal *Development*, which showed how the communication between mother and embryo can change the genetic information of the newborn even in the case of egg donation. Some conditions can be found where women are able to modify their cells, even those of endometrium. This causes a change such that, in its secretion, the genetic information of the mother is released, then absorbed by the embryo. This communication can cause specific functions to be expressed or inhibited in the embryo, thus giving rise to the changes. This discovery confirms the long-hypothesized existence of an information exchange between the endometrium and the embryo (Vilella et al., 2015).

### **Anxiety before, during, and after childbirth**

As mentioned, women who go through ART could experience very high levels of anxiety and would be more worried about the health and well-being of their child (Cwikel et al., 2004; Repokari et al., 2006; Hammarberg et al., 2008). Even childbirth is considered a very anxiety-provoking experience and is more prone to a medicalized birth or intervention during labor such as a cesarean (Mannarini et al., 2013).

A comparative study conducted in Australia (Hammarberg et al., 2008) found that women who had assisted conception and then cesarean surgery, reported lower feelings of involvement in decision making over women who had cesarean surgery following natural conception and were less likely to hold their baby immediately after giving birth and more likely to feel disappointment with their birth experience (Barnes et al., 2012). A further aspect was found during the postpartum experience that seems to be associated with the mother's fear of not being able to establish a strong bond of attachment with the child (Sydsjö et al., 2002).

Further studies (Agostini et al., 2009) reported that women with assisted conception have a higher threshold of pain and cope with longer durations of labor than in spontaneous birth. This is likely a result of an increased need to normalize their pregnancy and associate the experience as being a mother like any other.

#### *Clinical Case n.3: Feelings about the oocyte donation*

The final clinical case to be presented is a 38-year-old woman suspected of Polycystic Ovarian Syndrome (PCOS). For two years, she had been trying to get pregnant, but to no avail, until she decided try heterologous fertilization with success on the first try. During the pregnancy,

she did not want to meet anyone, she did not want to be contacted by email, or to pay with bank transfers, only cash. She wanted to be called by her first name and not by her surname. Phone calls were only from her and her tone was almost a whisper. At the end of the phone calls, she used to say that she no longer knew if she really wanted the child. “Distressed: ‘Will she look like me?’ ‘After giving birth, she was asking everyone: does she look like me?’”

### **Anonymity issues**

The last aspect taken from the literature and analyzed in this article regards the questions and consequences of deciding to tell or not the truth to the child who was conceived through assisted fertilization, such as: “what could be the psychological impact on the child?”, “what are the fears of the parent?”. From literature, it can be deduced that although most couples initially agreed on disclosure, for many, the decision ended up being a more complex and negotiated process. Discussions comprised a wide range of influences and contexts from socio-political environments, professional opinions, ethical and psychological beliefs, and family and personal relationships (Shehab et al., 2008).

Regarding the last point in particular, the concern of the future parents centered on the fact that as the majority of relatives and friends were aware of the mode of conception, there was a consequent fear that, by mistake, someone would reveal it to the future child. From this, it could be inferred that the more were the parties involved in the secret, the higher the risk of involuntary disclosure that could have an impact the child was.

There are particular reasons behind the choice of telling the child the nature of his/her conception or not. Among the mothers willing to reveal the truth, the following rationales were provided: "the child has the right to know"; "wanted to be honest"; "avoid external disclosure"; "no reason not to". On the other hand, the reasons that emerged among mothers choosing not to disclose were: "no need to tell"; "to protect their child, because their child would not feel normal"; "see it as a personal matter". It is not easy to understand exactly what lies behind the choice to tell the truth to their own child or not, however, a common denominator seems to emerge that, whatever the choice, it has more of an impact on the parents' relationship with the child, especially in the development of attachment (Readings et al., 2011).

Current practice within UK fertility centers encourages disclosure to offspring and it is discussed in the mandatory counseling before the oocyte donation. This philosophy is supported by the conviction: first, that children

benefit from the knowledge of their biological origins (McWhinnie, 2001; Montuschi, 2002; Wray et al., 2002); and second, to avoid the offspring to have an emotional crisis by suddenly discovering the truth of their conception through unforeseen circumstances. What would be necessary to explore further is in which moment should couples be advised and what specific information and guidelines should couples receive in order to be more confident in the process of dissemination of information to the offspring donor (Visser et al., 2012).

## **Conclusion**

This article intended to make some clinical reflections in relation to what has emerged from international literature, compared to the socio-normative framework regarding the legitimacy of heterologous fertilization in Italy. In fact, the aim was to reflect on topics such as the impact of infertility in the couple relationship, gender differences in heterologous fertilization, worries about the relationship with the child, anxiety before, during and after childbirth and the issues of anonymity.

Through this analysis, it emerged that the research is still not complete today and that there could be further research concerning the role of children born by ART in respect to their relational structure with the parents and to the donor figure and the possible consequent emotional experience of the child who learns that he/she was born through heterologous fertilization.

Another interesting point to examine, through clinical investigations and follow-up, could be related to the relationship and everything that may be connected, between the now adult person who was conceived through donation and the donor. With respect to this, it would be interesting to examine the motivation of the donor and the psychological experiences with respect to the decision and the possible future relationship with the child born from their own donation of the gamete.

Moreover, from the reported clinical cases, and from the studies carried out at an international level, the issue of anonymity would seem to emerge strongly, understood as a psychologically involved factor both regarding the donor side and as well as the receiving party. Future research could shed light on how much can ART affect the psycho-evolutionary well-being of the child and when could it be the right time to communicate it to him (Golombok et al., 2011).

## Notes

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