AG AboutGender
International Journal of Gender Studies

Open Section

"Social Egg Freezing". A New Challenge for Human Reproduction and Gender Roles

AG AboutGender
2022, 11(22), 669-694

Lia Lombardi
Lumière University of Lyon, France

Abstract

This article analyzes ART (Assisted Reproductive Technology) practices through a sociological lens, with an eye to political and legal issues and to the medicalization of human reproduction, as well as to the changes in gender roles and parenthood. It focuses on one of the most recent challenges in this field: "Social Egg Freezing" (SEF). This is analyzed by looking at both the Italian and European contexts and highlighting differences regarding legal frameworks, social policies, and gender roles. The study also focuses on the social construction of SEF through media representation and the rhetoric of clinics.

Keywords: social egg freezing, gender, ART/MAP, sociology of health, human reproduction.

Corresponding Author:
Lia Lombardi
Centre Max Weber (UMR 5283)
Lumière University of Lyon 2,
France
Rosalia.lombardi@univ-lion2.fr

DOI: 10.15167/2279-5057/AG2022.11.22.1968

1. Introduction

Since the 1960s, human reproduction has become part of anthropological and sociological reflection, thanks to women'*s studies*, which in many countries of the world have valued women's knowledge in many disciplinary fields. In both industrialized and non-industrialized countries, for the first time several female anthropologists, including Margaret Mead (1972), have carried out research on the "birth scene", hitherto "forbidden" to male scholars. The reflection on human reproduction by female sociologists takes place in this framework, which includes research areas such as: the medicalization of birth and the reproductive body; assisted reproductive technologies; the social construction of the body. The most significant changes in the reproductive field have occurred since the Second World War, a period during which, as shown in many studies (Lombardi 2018a), the rates of maternal, neonatal, and infant mortality have decreased dramatically in industrialized countries, thanks to the improvements in healthcare and in living conditions.

In Europe, the medicalization of birth and of the female body dates to the 18th century, when the doctor appears on the birth scene, and is fully accomplished with the hospitalization of childbirth after the Second World War: it also coincides with the change in family structure and gender relations. With the medicalization of childbirth, medical intervention becomes the predominant practice: this affects the way it is dealt with and can determine the delegation of one's "act of giving birth to figures such as the doctor or midwife and to birth technologies. During the last century, a decisive change takes place regarding the possibility of intervening in the reproductive process right from conception, involving a complex interweaving of social, ethical, scientific, economic and legislative issues. Medically Assisted Procreation (MAP) is part of the broader field of reproductive technologies, thus determining the full biomedical control of reproduction, which encompasses conception, contraception, pregnancy, and childbirth (Lombardi 2018a).

2. Technology for human reproduction. Some theoretical approaches

Since the 1960s we have witnessed a process of progressive separation between sexuality and procreation: with the increased use of contraception sexuality has become independent from reproduction, while during the second half of the 1970s reproduction has generally become independent from sexuality. The existence of such techniques, by stirring imagination, encourages different ways of procreating, raising and taking care of children (for example single and homosexual parents). We can thus argue that the advent of ART highlights three issues:

I. personal and physical relationships aimed at "making" children become more and more obsolete;
II. there is a desire to bring to light what women's womb has hidden for years;
III. reproduction is separated from the body.

Bodies and relationships thus disappear and seem to become mere means of reproduction. The aim is the product of conception, the embryo, the foetus, the "child in your arms"[1]. The embryo/foetus/child is objectivised, and it paradoxically acquires corporeality and rights before it is born, since it is a product of science and therefore is separated and separable from the maternal body: the latter disappears in order to emerge as a mere container for the embryo/foetus. Along with this process comes the expropriation of reproduction from the body, represented by dissociation, objectivation and interchangeability (Lombardi 2018b).

[1] An expression which indicates what doctors promise to deliver to the couple (the customer), after a long and insecure period of ART.

Alongside the critical views on reproductive technologies, others provide a positive evaluation of the invasion and/or technological replacement of women's bodies, which is thus subtracted to social duties considered indefeasible. Donna Haraway (1995) introduces a new variation in the relationship between the body and the machine, which overcomes old divisions and identifications with regard to gender and other dimensions. According to her, the cyborg myth stems from the constructive encounter between body and machine: the word 'cyborg' is made up of 'cyber' and 'organism' and means cybernetic organism, indicating a mix of flesh and technology which characterises the body, modified by clutches of hardware, prostheses and other devices. (Haraway 1995, 11). According to Haraway, the various critiques of the political system and scientific culture, including the feminist ones, still depend on the idea of hierarchical dichotomies which have characterised Western thought since Aristotle. It is nonsense to think of our condition in dichotomic terms: we need to construct a world of relationships without identities, we need to propose a new vision of the self, and the cyborg is the self that needs to be elaborated. Communication technologies and biotechnologies are the main tools for the reconstruction of our bodies. These tools incorporate and impose new social relationships for women all over the world. The author here replaces a dichotomic vision with an image which is ideological and reticular and suggests the profusion of spaces and identities and the permeability of borders in the personal and in the political body (Lombardi 2018b).

With reference to women's relationship with technology, Rosy Braidotti maintains that:

> We need to understand that this dimension belongs to us and that starting from its implosion it is perhaps possible to draw different perspectives, by creatively contributing from within to the invention of new universes of signification and of other symbolic orders where technology is not an instrument of power but of satisfaction [of needs] (Braidotti 1996, 33).

Can we however really argue that the body-machine combination is a tool that can satisfy needs, freedom of choice and the construction of equalities precisely because it is neutral and abstract, free from bodily ties? We can find some answers to these questions by reflecting on one of the new challenges for human reproduction: "social egg freezing".

2.2. Human reproduction and gender bodies

MAP is part of the complex process of medicalization and expansion of the medical control of reproduction and reflects the rapid advancement of reproductive technologies. Research and reflection on these medical-technological practices are particularly important for their impact on reproduction, bodies and relationships, but also on their interconnection with medicine, politics and morality (Lombardi 2018a). In order to analyze assisted reproduction techniques, it is necessary to examine the way in which reproductive bodies, gender relationships, kinship and parenthood are conceived, constructed and represented in the scientific, legal, political and media debate. Gender perspective is without a doubt the "common thread" that allows us to analyze MAP and its social and cultural implications. Assisted procreation, in fact, produces a separation of the couple from bodily and sexual practices and from the usual relational strategies associated with procreation; the sexual act between a man and a woman is not only no longer necessary, but is also not encouraged by medical practices.

Socially constructed gender roles and identities, as well as inequalities of opportunities and resources, shape men's and women's lives and health in different ways. Gender differences do not only relate to states of health but also to approaches of care and health services: for example, while there is much concern about the effects of cancer therapies on female reproductive capacity, less attention is paid to the loss of male fertility and potential fatherhood.

On the subject of infertility and its causes, an analysis is necessary that takes into consideration the relational and psychological discomfort suffered by individuals and couples. Medically Assisted Reproduction Techniques (MAP/TRA)[2] focus mainly on women's body. The problem of infertility did not arise with the advent of ART and but has always affected humanity, like all issues related to procreation. Until recently, it has mainly affected the female body, seen as the only one "responsible" for the possible involuntary lack of offspring. The history of medicine and the history of women have a common background and the social space of women has always been mediated by a medicine created by men.

It is clear that women's fertility has always been subject to overt control by those in power, changing throughout history according to political and cultural tendencies/orientations, whether progressive or conservative. Societies and cultures have always found ways of overcoming the problem in order to guarantee the survival of the species and of social reproduction and to secure male offspring in patriarchal societies: ways of overcoming infertility were and still are numerous and include conception with a different partner, rejection of a wife considered to be infertile, "gifting" of children from one family to the other and adoption (Lombardi and Mambrini 2014).

Scientific literature, media representations, and even institutional communication illustrate MAP medical practices that are focused on women's bodies and their reproductive organs. Along with sexuality, the male figure is also removed, his body absent from the reproductive process; the semen is treated as a substance

[2] Since 1978, the year that marked the birth of Louise Brown and the beginning of the "reproductive technology adventure", the most commonly used definition has been "New Reproductive Technology" (NTR). Later the term "Assisted Reproductive Technologies" (ARTs) was introduced, and the two acronyms have remained largely in use in English-speaking countries, where "neutral" terms such as "technology" and "reproduction" are preferred. In Mediterranean countries, with Latin-rooted- languages, the term "Medically Assisted Procreation", is instead commonly used. As often happens, the terminology tends to hide some reality and to eliminate or assimilate a fundamental part of the identity of gender experience, such as the complexity of women's bodies. In this paper, ART and MAP are used.

alienated from the body and the male contribution to reproduction appears "irrelevant". On the contrary, the parental burden is all placed on the female/maternal: when she does not want children and when she desperately seeks them. We always and only talk about the desire for motherhood, and MAP, as it is acted out, nourishes this process, emphasizes the desire, and focuses attention on the "despair of sterile women". The reasons for these differences are to be found, at least in part, in role expectations, as Chiara Labadini (2013) argues. Gender roles are the social expression of gender identity, which reflects the social and cultural context in which people live, and not just their personal psychology: «Men's and women's different responses can therefore be attributed to the perception of the different procreative roles specific to the two genders» (Labadini 2013, 80).

MAP thus only raises and emphasizes the biological aspects of infertility/sterility. But this is first of all a socially and culturally constructed experience: an experience of the bodies and lives of people that only occasionally can be referred to disorders, deficiencies or diseases of the reproductive system. Many cases of infertility are not attributable to strictly biomedical factors: 38.1% of couples treated with simple insemination and 15.7% of those treated with fresh cycles in 2018 were "affected" by idiopathic infertility[3] (RNPMA 2020).

If we consider medicalization as "the transformation of human conditions into medical problems", we can assume that the medicalization of infertility is the last *step* in the process of progressive medicalization of reproduction, which encompasses conception, contraception, pregnancy and childbirth. Within the process of progressive medicalization of everyday life, of bodies, of relationships and of desires (including the desire for parenthood), infertility is constructed as a problem susceptible to medical treatment, for which assisted reproduction techniques are the "cure". In reality, MAP does not "cure" infertility or sterility but, at best,

[3] Cases in which it is not possible to determine the female or male causes that can explain the couple's difficulty in conceiving.

contributes to the "production" of children. We therefore use the notion of "biomedicalization" introduced by Clarke (2003) to describe the increasingly invasive intervention of medicine and biotechnologies, which are now being used to improve human conditions in a broad sense, rather than to heal sick bodies. The biological determinism of assisted procreation techniques represents an individualization of social problems: biology becomes the primary cause reducing everything to biological/genetic data and relegating other causal factors to the background (Conrad 2009).

The body constitutes a system of signs in which society recognizes its own belonging, and the female body is the privileged place of expression of the group's symbolic heritage. Tamar Pitch interprets the female body as «the nature on which (male) culture needed to exercise its domination. In this respect, (the female body), being more natural than male bodies (…), still represents a threat and a danger, and it is no coincidence that it is more medicalized than the male body» (Pitch 2006, 99). The medicalization of the body and of everyday life demands specific consideration of both women's bodies and their lives. Women's bodies have long been subject to medical scrutiny, and we are now witnessing an expansion of very gender-oriented medical-technological markets, as Peter Conrad points out: «Gender segmentation is a winning strategy for the definition of health disorders and the promotion of medical solutions. In doing so, the boundaries of the gender dimension are exploited and strengthened» (Conrad 2009, 51).

3. European overview. Laws, rules, reproductive rights

Since 1978 – the year Louise Brown, the first baby conceived in a test-tube by English doctors Edward and Steptoe, was born - it is estimated that eight million children have been born in Europe through assisted reproduction technology (ART)

(Calhaz-Jorge *et al*. 2020). Globally, Europe has the highest number of ART treatments: in 2005, the most recent year for which global data are available, 56% of all ART cycle treatments took place in Europe, 23% in Asia and 15% in North America. Since many European countries have extremely low fertility rates, ARTs do not only represent a means to alleviate the suffering of infertile women and men, but also a political lever to increase fertility rates in Europe (Calhaz-Jorge *et al*. 2017).

The use of ART varies considerably among European countries: although diagnostic and treatment services are currently available in all European countries, variation in the use of reproductive technologies indicates that there are substantial differences in access. To explore these differences, we will refer to data collected by the European IVF Monitoring Consortium (EIM) of the European Society of Human Reproduction and Embryology (ESHRE). Their survey considers 38 out of 51 European countries. France (with 84,214 treatments), Spain (with 78,152), Germany (with 76,422), Italy (with 64,446) and the UK (with 61,728) are the countries which have provided the most accurate collection of ART cycles data. France, Italy, Poland and the UK participate in monitoring with 100% of their infertility clinics (Lombardi 2018b).

In 2013, 686,271 treatment cycles were carried out in the aforementioned European countries (+ 7.2% compared to 2012). The percentage of children born through ART fertilization varies from 0.7% in Malta to 6.2% in Denmark; in Italy, the percentage is 1.9%. In total, in 2013 149,466 children were born through reproductive technologies in European countries (which equals 2.2% of total births). 18 out of 22 countries in which embryo donation is permitted declared they had carried out 4,378 embryo transfers, resulting in 1,594 pregnancies (36.4%).

The age of women starting ART treatments varies from country to country: the highest percentage of women over 40 who undergo IVF is to be found in Greece, Denmark and Hungary, while the highest percentage of women below 35 is found

in Polish, Ukrainian and Belarusian clinics. Another important indicator is represented by pre-term and multiple pregnancies, which are one of the major risks of ARTs. The risk of severe pre-term pregnancy (20-27 weeks of gestation) is 1.3% for single pregnancies, 2.9% for twins and 8.3% for triplets. The percentage of pregnancies resulting in childbirth is 87% for single births, 49% for twins and 11.7% for triplets (Lombardi 2018b).

Several studies have tried to explain the variations in ART recourse in different countries. Several factors have emerged, with the cost and accessibility of ARTs playing an important role. Belgium and Denmark are known for their generous reimbursement policies for couples and people undergoing ART treatments. A transnational study has shown evidence of a negative correlation between cost and use of reproductive technologies. This indicates that accessibility to the treatment is an important factor not only for its use, but also for the use of safer technological practices. (Calhaz-Jorge *et al*. 2017). Standards and beliefs also seem to play an important role in the different use of ART: there is evidence of a positive association between the social convention of time and age at which to have children and the availability of reproductive technologies in European countries. Mills and Präg (2015) suggest that beliefs about the moral status of a fertilized egg - that is, if an embryo is considered to be human after fertilization - are associated with the use of ARTs: in countries where this belief is less widespread, reproductive technologies are generally more widely used.

3.1. Reproductive rights

Europe is the only continent where the legal regulation of ARTs is widespread. In other countries which resort to reproductive technologies (India, Japan and the United States) ARTs are largely based on voluntary guidelines by single clinics. ART regulation is sometimes described as a new phenomenon, but in reality, in the realm of reproduction, there are a long history and many legislative battles (Spar

2005). There are three main ways to regulate access to ART. Firstly, it can be regulated by guidelines or sets of rules to be followed voluntarily. These guidelines are generally issued by professional organizations, such as associations of obstetricians and gynaecologists. Secondly, it can be regulated by government legislation, which sanctions those who violate the rules. Thirdly, access to ARTs can be regulated through insurance coverage: the high cost of infertility treatments and the level of coverage can be read as an indirect regulation of access to reproductive practices. However, since infertility is now considered a disability (WHO and World Bank 2011), infertile people should have a right to treatment. In all European countries, ARTs are regulated by law and in half of them government regulation is supplemented by voluntary guidelines (as is the case in Italy). The regulation of reproductive technologies is a prominent issue for governments because public debate is often intense on these issues concerning social (health), personal (reproduction) and civil rights.

The most comprehensive survey currently available on the legal and financial frameworks of 43 European countries found that almost all of them (with the exception of Albania, Bosnia and Herzegovina, Ireland, Romania and Ukraine) have specific legislation (Calhaz-Jorge *et al*. 2020). The most significant legislative variations are found in access to care (based on age, relationship status), third-party donation, fertility preservation (for medical or non-medical reasons) and public funding.

In 11 of the 43 countries surveyed, access is limited to heterosexual couples diagnosed with infertility, which precludes treatment for single women and lesbians. These countries include the Czech Republic, Italy, Poland, Slovakia, Slovenia, Switzerland and Turkey. In France, self-preservation of oocytes for non-medical reasons has been authorised since 29 June 2021, within the framework of the bioethics law. Access to PMA for lesbian couples and single women is also authorised.

Thirty-four of the 43 countries set legal age limits for access to PMA. In 21 countries, males and females must be over the age of 18, and 18 countries have a maximum age limit for women: from 45 in Denmark and Belgium to 51 in Bulgaria. Egg donation is prohibited in Germany, Norway, Switzerland and Turkey, while sperm donation is permitted in almost all European countries. Sex selection of embryos (by PGT-A) is not allowed in any country (with the exception of some countries where screening embryos for sex-linked diseases is permitted) (Calhaz-Jorge *et al*. 2020).

Regarding the financial coverage for the treatment, Switzerland, Belarus and Ireland are the only countries that offer no coverage. Denmark, France, Hungary, Russia, Slovenia and Spain cover all expenses through their national health service: perhaps it is not a surprise that Denmark, Slovenia and Spain have a high recourse to ART. Other countries only offer partial coverage.

Other differences between European countries concern the requirements for access to ARTs: for example, Belgium, Bulgaria, Denmark, Finland, Latvia, Spain and the UK allow access to single and lesbian women; Greece, Hungary and Russia allow access exclusively to single women. Surrogacy is forbidden in Bulgaria, Finland, France, Germany, Italy, Malta, Norway, Portugal, Switzerland, Spain, Sweden and Turkey. All countries that allow surrogacy prohibit it as a commercial transaction, except for Ukraine and the Russian Federation (Calhaz-Jorge *et al*. 2017, 2020).

3.2. The Italian ARTs legal and epidemiological context

Let's first consider the Italian legislation on medically assisted procreation (L. 40/2004) and its article 1 which, indirectly attributes juridical personality to the

embryo[4] and limits the decisional power of women and couples in relation to the embryo's survival at "all costs"; it thus values women's bodies not in their overall function of *maternage*, but in their biological function of "containers" for the embryo. Is this not a way to establish social and political control over women's bodies? (Lombardi 2016).

> Every draft law incorporates specific representations of the body: representations of men's bodies, of women's bodies and their reproductive functions, of the body of the child to be born, and representations of the boundaries and legality in the use of all these (Borgna 2005, 66).

Similarly, art. 4 c.3 in the same Act bans gamete donation, although a recent ruling by the Constitutional Court has declared this article illegal[5]. Therefore, while according to the above article, gamete donation is now allowed, it is in fact still difficult for couples living in Italy to resort to it; art. 5 states that only stable couples (adult and heterosexual) may have access to ARTs. It is therefore evident

[4] According to article 1 of act 40/2004: in order to facilitate the solution of reproductive problems emerging from human sterility or infertility, recourse to medically assisted procreation is permitted, in accordance with the rules of this act of law, "which ensures the rights of all concerned parties, including the embryo".

[5] With its ruling issued on 9 April 2014, the Italian Constitutional Court declares unconstitutional Article 4 c.3 of Law 40/2004, stating that "the right to have children is incoercible" and upholding the ban on heterologous fertilisation creates discrimination between infertile couples on the basis of their economic possibilities. The reasons that led the Court to pronounce in favour of heterologous fertilisation substantially refer to the right to have children and to form a family: the choice to "become parents and to form a family with children too constitutes an expression of the fundamental and general freedom of self-determination" and this applies "also to the absolutely sterile or infertile couple" who decide to proceed with heterologous fertilisation. About therapeutic choices, the constitutional judges reiterate that "An intervention on the merits of therapeutic choices, in relation to their appropriateness, cannot arise from assessments of purely political discretion on the part of the legislators" but is the responsibility of the medical profession in collaboration with the patient. The Court also judges Law 40 to be 'irrational' because it violates the principle of equality enshrined in Article 3 of the Italian Constitution, specifying that "The absolute preclusion of access to heterologous medically assisted procreation introduces a clear element of irrationality, since the absolute denial of the right to parenthood, to the forming of a family with children, with an impact on the right to health, is established to the detriment of couples suffering from the most serious pathologies, in contrast with the ratio legis" (Sentenza CC n. 162/2014).

that the rules influence the practices and representations of parenthood and family structure. Moreover, Act 40/2004 creates the National Register of Medically-Assisted Procreation (NRMAP), which annually collects anonymous data for treatment cycles, therapeutic protocols, results and follow-ups of pregnancies and new-borns. The introduction of NRMAP is considered a success in the Italian context because it provides data and useful information on MAP-ART (www.iss.it/rpma).

In 2018 the Italian Assisted Reproductive Technology Register collected data from about 350 infertility centres, both public and private, where 77,509 couples made use of assisted procreation techniques: this resulted in 97,508 treatment cycles started, with 18,994 pregnancies obtained and 14,139 children born alive (RNPMA 2020[6]). The mean age for men and women resorting to ART is respectively 39.5 and 35.2 (34.7 being the European mean age for women). The highest number of initiated cycles is to be found in those aged 30 to 39, which is in line with the average age for having the first child in Italy.

One of the factors not clearly defined in the RNPMA report (2020) is the age of people who undergo assisted reproduction. While the relationship between the woman's age and the success of reproductive techniques is always highlighted and interpreted, this relationship has never been investigated with regard to the male partner. Several studies have revealed that age also impacts on male fertility, which begins to decline after the age of 35, while also increasing the risk of births with genetic or chromosomic diseases (Crosnoe and Kim 2013): despite this, the relationship between male age and infertility is not yet recognised by either medical practice or the socio-cultural context. In other words, these studies should contribute to the deconstruction of the stereotype that "men are always fertile" and that they can conceive throughout their life (Kroløkke *et al*. 2019).

[6] Report by the Ministry of Health to Parliament on the state of implementation of the legislation on medically assisted procreation (L. February 19, 2004, n.40, article 15) - year 2020.

4. New challenges for human reproduction. Social Egg Freezing

Frozen egg replacement is a technique in which cryopreserved oocytes are fertilised in vitro after thawing and then transferred into the uterus. This technique offers women the possibility to have genetically related children later in life. Frozen egg replacement was first used in cancer patients, who had retrieved and frozen their eggs before undergoing forms of chemotherapy or radiotherapy that could damage their ovaries. But because this technique can also be used to postpone pregnancy for any reason, it has attracted considerable public attention in recent years and is sometimes referred to as "social egg freezing". In 2013, large companies such as Facebook and Apple offered their young female employees around $ 20,000 to fund the freezing of their eggs. The idea behind this proposal was to allow young employees not to interrupt their career progression due to pregnancy and, at the same time, not to give up on motherhood, by allowing them to postpone it.

From a legal point of view, egg (and sperm) freezing for fertility preservation and medical reasons is allowed in all European countries, despite the absence of specific legislation in 17 of them. Non-medical egg freezing is not allowed in Austria, Hungary, Lithuania, Malta, Norway, Serbia and Slovenia, but is permitted in Germany and Switzerland and since 29 June 2021 also in France. In 2009, 564 egg freezing cycles were performed in the US and by 2016 the number had risen to 8,892 cycles, and similarly, egg freezing cycles for non-medical reasons rose from 395 in 2012 to 1,170 in the UK: this increase is, at least in part, due to egg freezing no longer being considered experimental. Although it has become a thriving activity in the US, the UK and Spain, the practice has not yet found its own place in Scandinavian countries (with the exception of Sweden). This is despite the fact that Scandinavian fertility doctors consider infertility to be one of the most com-

mon chronic diseases in the region and that cryopreservation increases the possibility of synchronising reproductive desires with that of educational, financial realities (Kroløkke *et al*. 2019).

Although Social Egg Freezing is also known as “social freezing”, “elective oocyte preservation”, “planned cryopreservation” or “self-donation”, it is preferable to use the term “non-medical freezing” because the terms “social”, “elective” or “planned” hide the fact that not everyone has access to cryopreservation and that consequently freezing can be seen as “medical” or “non-medical”. This is also demonstrated by empirical research findings in Scandinavian countries: for example, a recent study on Danish students' attitudes towards human oocyte cryopreservation shows that they strongly support freezing for medical reasons but remain divided regarding freezing for non-medical reasons (*Ibidem*).

Overall public reaction to the significance of this new reproductive option varies across countries: some view the development positively as a forward-looking practice that would give greater flexibility and reassurance to young female workers; others doubt that women would gain any real advantage from it, as it would create implicit pressure to participate in egg freezing and thus delay motherhood in order to demonstrate reliability and dedication in the workplace (Tozzo *et al*. 2019). Furthermore, cryopreservation has raised general ethical concerns about the autonomy and well-being of women and the child (Kroløkke *et al*. 2019), about the presumed unnaturalness of the procedure or concerns that medical freezing gives women false hope (Mertes and Pennings 2011). In Scandinavian countries there is a high political and general consensus towards moral and legal support for freezing for medical reasons, but the same cannot be said for freezing for non-medical reasons. Women who freeze eggs for medical reasons are placed in an empathetic imaginary, as a 'worthy cancer patient', while women who do so for non-medical reasons, are often portrayed as selfish and putting their own individual needs first. As Martin notes (2010, 536-537): “The healthy young woman’s decision to freeze

eggs is portrayed as a selfish move, unlike the altruism of the cancer patient who is willing to subject her body to invasive treatments to fulfill future family obligations" (Kroløkke *et al*. 2019).

4.1. Non-medical egg freezing in Italy

The technique of "social egg freezing" is also developing in Italy as a medical discourse and would seem to offer a reproductive chance to the 'conceptional delay' of Italian women. At present, there are about 120 public and private centres for cryopreservation of oocytes in Italy, in which about 15,000 oocytes are stored, and more than 1,000 women have had access to cryopreservation of their oocytes. There are no reliable data on cryopreserved oocytes and those available are estimates that also include oocytes stored for medical reasons. In fact, as we have already seen, there is a tendency to rename "social egg freezing" to "non-medical egg freezing"[7]. At present in Italy there are no specific rules or time limits on oocyte storage: rules or protocols on oocyte cryopreservation are at the discretion of individual clinics. Some of them adopt internal protocols, such as an annual renewal of consent; the preservation of oocytes until the woman's 50th birthday. It is usually recommended that women cryopreserve oocytes between the ages of 25 and 35 (Lombardi 2018b).

In Italy no attention has yet been paid to elective oocyte freezing, although the practice is spreading rapidly: in other countries, however, studies have already been conducted that have examined women's attitudes, opinions and knowledge on different aspects of the issue (Ikhena - Abel *et al*. 2017; Lallemant *et al*. 2016; Tozzo *et al*. 2019; Kroløkke *et al*. 2019). As reported in the study by Tozzo *et al*.

[7] In Italy, social freezing is not financed by the National Health Service. Women who want to freeze their eggs must therefore go to a private centre and pay for ovarian stimulation drugs. The cost of each operation ranges from 4 to 5 thousand euros (usually two are performed to have a better chance of success), plus about 300 euros for the annual deposit. On the contrary, for women who must undergo chemotherapy cycles (which endanger fertility), the NHS covers the costs (http://profert.org/; https://www.sifes.it/).

(2019), two studies present findings on basic knowledge of oocyte cryopreservation among European and US populations: one study has looked at individual attitudes and policy choices in Scandinavian countries (Lallemant *et al*. 2016) and the other was conducted on medical students at Northwestern University in Chicago (Ikhena-Abel *et al*. 2017), in which a high percentage of respondents showed a good knowledge of oocyte cryopreservation - 89% and 99% respectively.

In 2018, 930 female students at the University of Padua took part in a survey (to date probably the only Italian study on the topic) that explored their knowledge of and attitude towards non-medical egg freezing and their potential intentions regarding this procedure (Tozzo *et al*. 2019). This research shows that only 34.3% of the respondents have heard of oocyte cryopreservation for non-medical reasons and are aware of the relevance of this procedure; 23.8% have heard about the procedure but do not know exactly what it is, and 41.7% have never heard of social freezing of oocytes. 181 women interviewed (19.5%) would consider freezing their oocytes, 39.0% would not and 41.0% said they "don't know". The results of this study, in terms of willingness to egg freeze, are in line with other surveys conducted in other countries: in fact, a US study reports that 21.6% of respondents are willing to freeze their oocytes for non-medical reasons (Milman *et al*. 2017); 19% is the result of Danish and British research (Lallemant *et al*. 2016) and 26.4% is reported by Singapore research (Tan *et al*. 2014; Tozzo *et al*. 2019).

The most important circumstances in which the respondents consider the use of egg freezing justifiable are: “To allow a woman to find the right partner” and “To allow a woman to feel ready for motherhood” (26.5%); “To allow a woman to postpone motherhood due to work commitments and professional opportunities” and “To allow a woman to have stability (whether economic, social or relational)” (50.2%).

Regarding insurance coverage of non-medical oocytes freezing procedures, in Italy it is not financed by the National Health Service. Women who want to freeze

their eggs must therefore go to a private centre and pay for ovarian stimulation drugs. The cost of each operation ranges from 4 to 5 thousand euros (usually two are performed to have a better chance of success), plus about 300 euros for the annual deposit. On the contrary, for women who have to undergo chemotherapy cycles (which endanger fertility), the NHS covers the costs (http://profert.org/; https://www.sifes.it/).

4.2. The rhetoric of clinics and the ongoing debate

The term “Social Egg Freezing", with an emphasis on the word “Social”, seems to indicate precise intentions regarding the promotion of the practice and sets itself up as a medical-clinical solution to a problem known to be social in its effects (demographic decline and ageing population) as well as in its causes.

The rhetoric of the clinics that offer non-medical egg freezing practice points precisely to the “social” motivation, as shown by the promotional notices published on the websites of some clinics, quoted below.

> Social eggs freezing is an assisted fertilization technique, successfully performed by the Biogenesis centers, which is gaining more and more popularity in many countries, in step with the evolution of the women' role in today's society and their need to postpone childbirth, due to:
>
> - professional expectations;
> - economic events;
> - lifestyle and personal habits;
> - lack of a partner.
>
> The cryopreservation of oocytes for precautionary purposes (also called "social freezing") can be defined as a therapy of future infertility. It is indicated and requested by women who for personal reasons want to preserve fertility and

> seek pregnancy later on, when difficulties may arise in natural conception due to fertility reduction (Humanitas fertility center).
>
> Social Egg Freezing is a technique for preserving female fertility. It provides the cryopreservation of gametes, in order to block the woman's biological clock, thus protecting her fertility (Gatjc Center).

The public debate on this technique is still open and there is also a need for a lot of social research on the subject in order to understand both the scale of the phenomenon and the impact it may have on individual and collective procreative choices. The subject is complex and difficult to understand, and consequently the positions from the feminist point of view, as well as from the medical-scientific point of view, are controversial. The former includes positions in favour of the technique in the name of self-determination and renewed freedom from the biological clock. On the other hand, those against this technique interpret it as a form of further control – both medical and social - of women's productive (working without interruptions due to pregnancies) and reproductive life and body (Krolokke *et al*. 2019).

In the medical and scientific field there are some critical positions that question what we define as "social infertility" (Lombardi 2016).

> As it is - even the technique of egg freezing risks being a social "shock absorber". It is the conflict between reproductive biology and social organisation that needs to be resolved - by helping women to have children. (AG, gynaecologist).

On the other hand, female professionals are wondering about women's "choice".

> If the freezing of oocytes is a voluntary choice, and not forced because one is cut off from the labour market, then it is fine. If not, it seems to me a hidden coercion disguised as freedom (EP, geneticist).

The main question that requires research and reflection therefore is: if the choice of freezing eggs at 25-30 years of age and to defrost them at the age of 40 or 50 years is forced on women by unfavourable social conditions, we cannot speak of "free choice" but rather of a choice that goes against women and not to their benefit. The risk is that "social egg freezing" may reproduce the "illness" of society and its institutions on women' bodies. It would be a new form of control of productive and reproductive bodies, both women's and men's. Therefore, social problems should receive "social care" provided by policies, services, parenting and children support. This confusion between social and medical fields can lead to social, reproductive and health inequality and reinforce biological determinism (Conrad 2009; Lombardi 2018b).

5. Non-medical egg freezing. Reflection on the Italian social context

In conclusion, I propose some reflections on the relation between the Italian socio-economic context and non-medical egg freezing. Assisted procreation and non-medical egg freezing take place in a socio-cultural context of significant changes that not only relate to the new perceptions and approaches to health and care, but also to relationships between genders and generations and the different ways of being in a couple and having a family. From a social and relational point of view, the current historical moment is characterized by a strong tension between tradition and change that sees the boundaries of gender identities redrawn in relation to the transformation of life courses, the different ways of starting a family, instability in households and the various forms of participation in the labor market.

According to the most recent ISTAT data[8] Italy's low fertility rate is evident (1.27 live births per woman in 2019, in the EU-28 the rate was 1.55) and so is a steady increase in the age at marriage (on average 32 for women and 35 for men) and at starting a family. Single parents and unmarried couples have doubled since 2007 and the number of same-parent families and homosexual people and couples who turn to foreign clinics to fulfil their desire for parenthood is growing[9]. Directly linked to these changes is the point in time at which people decide to have a child, which is occurring increasingly later and later in Italy (within the European context Italy is only slightly ahead of Spain and Ireland), a delay due to various factors relating to social rather than clinical problems, such as: a) the difficulty young people have in gaining independence; b) the extended period of time young people now spend living with their parents.

In addition, gender conditions are still significantly unequal, both in terms of the labour market and in terms of work-life balance. In 2019 the male employment rate in Italy was 73.4% (79% in the EU27) compared to the female employment rate, which was only 53.8% (67.3% in the EU27)[10]. The employment situation among mothers is significantly worse: in the second quarter of 2017 the employment rate of 25-49-year-olds was 81.1% for women living alone, 70.8% for those living in couples without children and 56.4% for women with children. The disadvantaged status of women in the labour market is aggravated by the imbalance in the distribution of domestic and care workloads between genders. This phenomenon has essentially

[8] http://dati.istat.it/Index.aspx?QueryId=19029

[9] In Italy there are no reliable data on the number of children of homosexual people and couples: the 2005 "Modi di" survey carried out by ArciGay, with the patronage of the Higher Institute of Health, estimates that there are about 100,000 children of homosexual individuals and/or couples in Italy. The survey also states that 17.7% of gays and 20.5% of lesbians over the age of 40 have at least one child. Taking all age groups into account, one in 20 gays or lesbians are parents, while 49% of same-sex couples would like to be able to adopt a child (http://www.famigliearcobaleno.org/it/informazioni/studi-e-ricerche/).

[10] See: EUROSTAT, Employment - annual statistics, September 2020, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Archive:Employment_statistics/it&oldid=496566#Increase_del_rate_of_employment_women_in_time.

retained the same pattern over the last twenty years: among couples, about 76% of the family housework is borne by women, even when women are working and have dependent children[11]. Therefore, a significant part of the low Italian birth rate and the decision to have children later in life can be attributed to the factors described above, to the welfare system and to inadequate and ineffective work-life balance policies. Social factors are at play that influence each other and for this reason we can speak of "social infertility": the difficulty or impossibility of having children when (and if) one wants them, due to economic and social conditions and the welfare system (Lombardi 2016).

References

Borgna, P. (ed.) (1995), *Corpi in azione,* Torino, Rosemberg e Sellier.

Borovecky, A., Tozzo, P., Cerri, N., and Caenazzo, L. (2018), Social egg freezing under public health perspective: just a medical reality or a women's right?, in *Journal of Public Health Research*, vol. 7, no. 3, p. 1484 - https://doi.org/10.4081/jphr.2018.1484 - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6321944/

Braidotti, R. (1996), *Madri, mostri, macchine,* Roma, Manifesto libri.

Calhaz-Jorge, C., De Geyter, C., Kupka, M.S., de Mouzon, J., Erb, K., Mocanu, E., Motrenko, T., Scaravelli, G., and Wyns, C. (2017), Assisted reproductive technology in Europe, 2013: results generated from European registers by ESHRE, in *Human Reproduction*, vol. 32, no. 10, pp. 1957–1973 - https://doi.org/10.1093/humrep/dex264

[11] See: ISTAT, Annual Report, *The situation in the country*, 2017 - https://www.istat.it/it/files//2017/05/RapportoAnnuale2017.pdf

Calhaz-Jorge, C., De Geyter, C., Kupka, M.S., Wyns, C., Mocanu, E., Motrenko, T., Scaravelli, G., Smeenk, J., Vidakovic, S., and Goossens, V. (2020), *Survey on ART and IUI:* legislation*, regulation, funding and registries in European countries.* The European IVF-monitoring Consortium (EIM) for the European Society of Human Reproduction and Embryology (ESHRE) - https://academic.oup.com/hropen/article/2020/1/hoz044/5715201 by guest on 11 August 2021

Clarke, A.E. (2003), Biomedicalization: Technoscientific Transformation of Health, Illness and U.S. Medicine, in *American Sociological Revue*, no. 68, pp. 161-194.

Conrad, P. (2009), The Shifting Engines of Medicalization, in *The medicalization of life,* ed. by Antonio Maturo and Peter Conrad, pp. 31-48. *Salute e Società*, a. VIII, no. 2.

Crosnoe, L.E., and Kim, E.D. (2013), Impact of age on male fertility, in *Current Opinion in Obstetrics and Gynecology*, vol. *25*, no. 3, pp. 181-185 - https://doi.org/10.1097/GCO.0b013e32836024cb

Haraway, D. (1995), *Manifesto Cyborg. Donne, tecnologie e biopolitiche del corpo,* Milano, Feltrinelli.

Ikhena-Abel, D.E., Confino, R., Shah, N.J., Lawson, A.K., Klock, S.C., Robins, J.C., and Pavone, M.E. (2017), Is employer coverage of elective egg freezing coercive? A survey of medical students' knowledge, intentions, and attitudes towards elective egg freezing and employer coverage, in *J Assist Reprod Genet,* vol. 2017, no. 34, pp. 1035–1041 - https://doi.org/10.1007/s10815-017-0956-9

Kroløkke, C., Søbirk Petersen, T., Herrmann, J.R., Bach, A.S., Adrian, S.W., Klingenberg, R., and Petersen, M.N. (2019), *The Cryopolitics of Reproduction on Ice: A New Scandinavian Ice Age*, Bingley, UK, Emerald Group Publishing.

Lallemant, C., Vassard, D., Nyboe Andersen, A., Schmidt, L., and Macklon, N. (2016), Medical and social egg freezing: internet-based survey of knowledge and

attitudes among women in Denmark and the UK, in *Acta Obstetricia and Gynecologica Scandinavica,* no. 95, pp. 1402–1410 - https://doi.org/10.1111/aogs.13024

Lombardi, L. (2018a), "The medicalization of infertility. Men's discourse between marginalization and reproduction", in Lombardi, L., and Sarcinelli, A.S. (eds.), *The art of ART. Assisted Reproductive Technology challenging gender, biomedicine and inequalities*. "SALUTE E SOCIETÀ", vol. XII, pp. 1-168, Milano, FrancoAngeli.

Lombardi, L. (2018b), New Challenges for Human Reproduction: "Cross-Border Reproductive Care" and "Social Egg Freezing", in *GSI – Gender/Sexuality/Italy*, Invited Perspectives, no. 5, August, pp. 216-229, ISSN: 2470-2684 - http://www.gendersexualityitaly.com/12-new-challenges-for-human-reproduction-crossborder-reproductive-care-and-social-egg-freezing

Lombardi, L. (2016), Reproductive technology in Italy between gender policy and inequality. Can we speak of "social infertility"? in *ABOUT GENDER, International Journal of Gender Study*, vol. 5, no. 9, pp. 1-20, ISSN: 2279-5057.

Lombardi, L., and Mambrini, C. (2014), "La medicalizzazione della riproduzione umana. La sterilità inspiegata e il percorso delle donne nella procreazione medicalmente assistita", in Cipolla, C. (ed.), *Sociologia e salute di genere,* Milano, FrancoAngeli, pp. 186-213.

Martin, L.J. (2010), Anticipating Infertility, in *Gender and Society,* vol. 24, pp. 526-545.

Mertes, H., and Pennings, G. (2011), Social egg freezing. For better, not for worse, in *Reproductive Biomedicine Online*, no. 23, pp. 824–829 - https://doi.org/10.1016/j.rbmo.2011.09.010

Mertes, H., and Pennings, G. (2012), Elective oocyte cryopreservation: who should pay?, in *Hum Reprod,* no. 27, pp. 9–13 – https://doi.org/10.1093/humrep/der364

Milman, L.W., Senapati, S., Sammel, M.D., Cameron, K.D., and Gracia, C. (2017), Assessing reproduction choices of women and the likelihood of oocyte cryopreservation in the era of elective oocyte freezing, in *Fertil Steril,* vol. 107, pp. 1214–1222.e3 – https://doi.org/10.1016/j.fertnstert.2017.03.010

Pitch, T. (2006), *La società della prevenzione,* Roma, Carocci.

Präg, P., and Mills, M.C. (2015), *Norms, politics, and assisted reproductive technology (ART) policies. A cross-national comparative analysis*, Paper presented at the annual meeting of the population association of America, San Diego.

Spar, D. (2005), Reproductive tourism and the regulatory map, in *New England Journal of Medicine*, 352, pp. 531–533 - https://doi.org/10.1056/NEJMp048295

Tozzo, P., Fassina, A., Nespeca, P., Spigarolo, P., and Caenazzo, L. (2019), Understanding social oocyte freezing in Italy: a scoping survey on university female students' awareness and attitudes, in *Life Sci Soc Policy*, published online 2019 May 3 - https://doi.org/10.1186/s40504-019-0092-7

WHO and World Bank (2011), *World report on disability*, Geneva, WHO - https://www.who.int/publications/i/item/WHO-NMH-VIP-11.01