FVV in ObGyn, 2013, 5 (2): 141-146

The portrayal of healthy women requesting oocyte cryopreservation

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Abstract

The possibility to cryopreserve oocytes to be used in IVF treatment later in life has not only enlarged the reproductive options of cancer patients who are faced with gonadotoxic treatments, but also holds the promise of enlarging the reproductive options of healthy women whose personal circumstances (most often the absence of a partner) do not allow them to reproduce in their most fertile years. Opinions for and against this application of the cryopreservation technology are often based on different portrayals of the women who might use it. Three different portrayals can be discerned in the debate about the ethics of so-called 'social egg freezing' or 'non medical egg freezing'. First, these women have been portrayed as selfish career-pursuing women. Second, healthy women who might benefit from oocyte cryopreservation have been portrayed as victims of a male-oriented society that makes it difficult for women to combine motherhood with a good education or professional responsibilities. Third, healthy women opting to cryopreserve oocytes have been portrayed as wise, proactive women who will not have to depend on oocyte donors should they suffer from age-related infertility by the time they are ready to reproduce. Each of these three portrayals has its own shortcomings that one should be wary of, as they lead to an oversimplification of the ethical debate.

Key words: **Oocyte cryopreservation, social egg freezing, ethics, delayed childbearing.**

Introduction

Although the first report of a live birth from a frozen oocyte dates back to 1986 (Chen, 1986), oocytes have long been notoriously difficult to cryopreserve. However, following advancements in slow freezing and especially since the introduction of vitrification, the survival rates of oocytes after thawing have risen significantly. In combination with ICSI, good fertilization rates are achieved, making oocyte cryopreservation an efficient procedure (Rienzi et al., 2010). As safety data are also reassuring (although long term follow-up data are not yet available), it is now considered both safe and efficient enough for routine clinical application by many (Cobo et al., 2010; Noyes, 2010; Rienzi et al., 2010; 2012).

The possibility to cryopreserve oocytes to be used in IVF treatment later in life has enlarged the reproductive options of cancer patients who are faced with gonadotoxic treatments. It also holds the promise of expanding the reproductive options of healthy women whose personal circumstances (most often the absence of a partner) do not allow them to reproduce in their most fertile years. However, this latter possibility has been criticized by many and also professional bodies such as the ASRM and ESHRE were initially reluctant to support this particular application (ASRM, 2007; ESHRE, 2004). Objections that were voiced included the experimental status of vitrification, the fact that expanding the reproductive lifespan is unnatural and represents an unwarranted medicalization of reproduction and that it would lead to an unwelcome increase in the age of mothers (Jones, 2009; Martin, 2010; Mc Cullough, 2004; Shkedi-Rafid and Hashiloni-Dolev, 2011). A number of ethicists have addressed these objections extensively (Dondorp and de Wert, 2009; Goold and Savulescu, 2009; Rybak and Lieman, 2009). In short, it appears very difficult to maintain that it would be *unacceptable* to freeze eggs from a 30-year old woman and use them to establish a pregnancy when she is 40 while

it is deemed *acceptable* to provide IVF to a similar woman of 40 suffering from age-related infertility either with her own low quality eggs or with donor eggs. Likewise, it is not clear why the innovative character of oocyte cryopreservation would plead against offering it to those women whose fertility is threatened by aging but not to those whose fertility is threatened by disease or therapy.

However, part of the debate was not based on fundamental objections, but rather on more emotionally charged arguments and prejudices, led by stereotyping of the healthy women who might request oocyte cryopreservation. Three different portrayals can be discerned in the debate about the ethics of so-called 'social egg freezing' or 'non medical egg freezing' (Martin, 2010). First, these women have been portrayed as selfish career-pursuing women, which leads to a position that does not support oocyte cryopreservation by healthy women. Second, healthy women who might benefit from oocyte cryopreservation have been portrayed as victims of a male-oriented society that makes it difficult for women to combine motherhood with a good education or professional responsibilities. Third, healthy women opting to cryopreserve oocytes have been portrayed as wise, proactive women who will not have to depend on oocyte donors should they suffer from age-related infertility by the time they are ready to reproduce. Although these portrayals may not lead the academic discussion, they are quite prominent in the lay media and shape public opinion. Therefore it is important to have an insight in the extent to which they are truthful and in what their shortcomings are.

Selfish, career-pursuing women

When the phenomenon of egg freezing for so-called 'social reasons' first hit the headlines, the portrayal of the women who might request this new technology was largely judgmental and negative:

> *The popular media conjured up visions of selfish, self-absorbed career women deliberately avoiding motherhood in their 20s and 30s whilst relying on cryobiology to produce their own genetic babies for them in their 40s and 50s*. (Lockwood, 2003)

> *Social egg freezing generally arises because a woman chooses to delay bearing children. This could be because they wish to further their career before parenthood*. (Catt, 2009)

> *Professor Ledger believes that is ethically questionable for women to freeze their eggs purely for 'lifestyle reasons'*. (Fletcher, 2009)

In contrast with women who are faced with the prospect of infertility due to cancer treatment, these women were seen as facing infertility due to their own 'life style choices' and thus due to their own *fault*. In this case the reasoning goes that women who postpone motherhood to pursue a career until the point where they suffer from age-related fertility decline, are themselves accountable for this misfortune as they misplaced their priorities.

Preliminary data on the profile of women requesting social egg freezing shows that most of these women are indeed highly educated, which appears to support the first narrative (Nekkebroeck et al., 2010). However, these women do not request egg freezing at a young age with the intent of putting motherhood on hold in order to pursue their careers. Rather, they present themselves when they are approaching their forties and are faced with the fact that although they want to be parents, they have not found the right partner yet (which, granted, may be due in part to investing a lot of time in their education and careers). Thus, these women did not necessarily *choose* to delay parenthood, but their personal situation did not *allow* them to have children earlier in life. For these women, oocyte cryopreservation is a way of clinging onto the last straw of hope they have for ever establishing a family at a moment when their ovarian reserve has already diminished substantially.

The question then is: was it *wrong* for these women to invest in their education and career at the expense of their fertility? Would it be better if women paid more attention to childbearing than to career building at the time when they are most fertile (between the ages of 20 and 30)? Several studies have found that women find it increasingly important to first complete their education, have financial security, good housing and a stable relationship before taking on the responsibility of parenthood (Lampic et al., 2006; Maheshwari et al., 2008, Tough et al., 2007). These are not selfish concerns, but considerations that are made in the best interest of their future children. Bonneux et al. (2008) have argued that the rising age of women at first childbirth is a trend that increases overall wellbeing and that should not be regretted in itself, even if it is regrettable that the peak of natural female fertility does not coincide with this age period. They even go as far as to say that having children before the age of 23 is not to be encouraged, given the heightened risk of social deprivation. This means that the 'perfect' time for reproducing – not too early for reasons of wellbeing, not too late for medical reasons – is between the ages of 25 and 35. As previously argued by Lockwood (2011), "both women and men, especially if they have received a tertiary-level education and have good employment prospects, are simply unprepared to cope with the

consequences of the very narrow window of opportunity for parenthood that exists in the decade between realization of educational, career and economic goals and the onset of, at best, a reduced family size compared with their ideal and, at worst, involuntary childlessness."

This brings us to the second narrative: if it is in fact not the educated women's fault that they cannot reproduce at the optimal age, can we then put the blame on society?

Victims of a male-oriented society

The premise of this second narrative is that society, and most notably the way the labor market is structured, makes it difficult for women to combine motherhood with a good education or professional responsibilities. The labor market is seen as leaving little room for family responsibilities, which was workable years ago with an all-male labor force and women as primary caregivers, but is not adapted to today's typical family with two working partners.

This second narrative can be invoked to support oocyte cryopreservation by healthy women as an intervention that women are entitled to, given the expectations of today's society:

> *It seems unfair that society at large, which creates the economic, educational, and professional conditions that encourages deferred maternity, discourages women from using technology to bypass a biological inequity—the early loss of fecundity*. (Gosden and Oktay, 2000)
>
> *Women face reductions in earning capacity and potentially serious financial implications that men do not. In fact, they may have very few choices at all*. (Savulescu and Goold, 2009)
>
> *We are disturbed by the implied judgment that our society, having failed to sufficiently safeguard the ability of many women in their twenties and thirties to establish families without jeopardizing career advancement, cannot withstand the challenges posed by elective deferral of childbearing*. (Rybak and Lieman, 2009).

Alternatively, the idea that society forces women to postpone parenthood can be invoked to oppose oocyte cryopreservation. In this case, it is argued that although accepting oocyte cryopreservation as a 'quick fix' for social inequalities can heal the problem of age-onset infertility, it does not tackle the root of the problem, which ought to be remedied by taking measures that make it easier for women to have their children earlier in life:

> *One might ask whether we actually help women […] by taking for granted their bad employment situation and offering them egg freezing to deal with it*. (Goold and Savulescu, 2008)
>
> *Technological solutions to social problems may result in a greater degree of repression rather than liberation […] Would it not be likely […] that women, who already feel that they are expected by employers to postpone (or give up) motherhood, would now be expected to freeze their eggs if they pursue a career? […] the best way to overcome society's restrictive influence on the individual's ability to act autonomously is to change the societal norms that give rise to this oppression, rather than encouraging individuals […] to adapt to these norms*. (Shkedi-Rafid and Hashiloni-Dolev, 2012)
>
> *The reproductive technology of egg freezing […] cannot escape the serious feminist worry about potentially reinforcing patriarchy and leaving the problematic social structures largely intact*. (Petropanagos, 2010)
>
> *Egg freezing may leave the hard work of moving society toward greater sexual equality untouched […] technological solutions to social problems are inadequate and often result in the further oppression of disadvantaged groups*. (Harwood, 2009)

Fertility preservation for social reasons is then a type of unnecessary medicalization of society that can be avoided by creating a better social climate for working mothers. However, symptoms and root causes are best treated simultaneously in order to obtain the fastest results. Dondorp and de Wert (2009) have pointed out that women "cannot afford to wait until society has been changed in a way that would allow them to have it all at the right time". Few people would argue that the individual medical treatment of obesity should be halted because the distribution of obesity over socioeconomic classes shows that social inequality or poverty is the underlying problem. Medical treatment and societal change are not mutually exclusive and thus there is no reason to abandon one to pursue the other.

Also, whether societal change will have any impact on the age of first-time mothers, and if such an impact is even desirable to start with, is debatable. In this context it is both amusing and remarkable that a 1969 study from Maxwell and Montgomery found that at that time, there was societal pressure towards early parenthood "although this is opposed to the desire of young couples for delayed parenthood". This begs the question: has this situation reversed itself in the last 50 years and is there currently societal pressure to delay parenthood – a claim that is supported by young mothers who report that "society sees them as "bad mothers" simply because they are young" (Benzies et al., 2006) – while women would prefer to have children at a younger age? Or have women's preferences

stayed the same while they are now finally liberated of the societal pressure to reproduce as young as possible? A study by Tough et al. (2007) in a Canadian population shows that most consider the ideal age to begin parenting to be somewhere between the ages of 25 and 35. This is in line with the previously mentioned findings that women prefer to complete their education, have financial security, good housing and a stable relationship before starting a family. Thus, it is very unlikely that socio-economical measures to stimulate having children before these goals have been met will have a great impact, nor that such measures are desirable. Hakim (2003) makes the same prediction that family-friendly adaptations to employment policies – although welcomed by parents (male and female) seeking to better combine parental and professional obligations – will not automatically lead to more children and/or younger parents. She bases herself on a preference theory with the underlying idea that such measures would benefit people who are 'home-centered' to start with (mainly women), which is the same group that would be willing to cut back on their career to have children anyhow. At the same time, such measures are unlikely to affect people who are 'work-centered'. This theory is also confirmed by data from Van Balen (2005), indicating that a strong desire to have children overrides motivations to postpone motherhood.

Another way to look at the trend to delay parenthood is to consider it in regard to an increased acceptance of voluntarily childless couples and an increased awareness that a life without children is not inferior in terms of overall wellbeing to a life with children and may indeed be more rewarding. Childfree couples remain a minority but their numbers have been growing steadily and are already estimated to be higher than involuntarily childless couples (Agrillo and Nelini, 2008). Delaying parenthood can then be seen as a conscious decision aimed at enjoying the best of both worlds (first without and then with children), rather than being some kind of second-best option. In other words, it is too simple to claim that women are forced by a male-oriented society to delay childbearing and that changing employment policies to render them more women-friendly is all it takes to lower the age of first-time mothers. Rather, many women prefer to delay motherhood and have good reasons to do so, even in a world where having children would not have an impact on career opportunities.

Wise, proactive women

This brings us to the starting point of the last narrative: neither women, nor society at large (nor men for that matter) should be scolded for a shift in the age of primigravid women. Societal and personal factors make it a smart choice for women *and men* to delay parenthood, despite the risk of remaining childless all together. Also, an abundance of dating websites cannot guarantee that every woman will meet her 'mister right' in her early twenties, nor that he will agree to have children at that age. So does a woman in her early thirties who wants to have children but not in her current condition have other options besides storing her oocytes until the circumstances are better? Sure, she does: she can either wait it out and risk remaining childless or having to rely on donor oocytes, or she can rush into having children without having a stable relationship or a stable financial situation. However, these are not necessarily *better* options, neither for her nor her future offspring, than to store her oocytes (even with a limited chance of success). Reproducing as fast as possible can be a great strategy from a gynecological point of view, but it may be a very bad choice from many other points of view.

The third narrative therefore takes the fact that many women attempt to reproduce in their late thirties – after their most fertile period – as a given, rather than as a variable that ought to change. According to this third narrative, the right way to present 'elective egg freezing' is not to see it as an alternative to reproducing earlier in life – as this is often simply not an option or not a good one – but as an alternative to relying on donor oocytes. It can be seen as a form of self-donation whereby the younger version of a woman donates eggs to her older version so that she is able to reproduce at an older age while keeping the genetic link between parent and child and while using younger oocytes with less risks of complications (Rybak and Lieman, 2009; Knopman et al., 2010). Rather than representing unnecessary medicalization of reproduction, elective egg freezing then becomes a form of preventive medicine (Stoop, 2010; Lockwood, 2011):

> *Many women end up childless as a result of postponing childbearing. Some want to plan ahead and try to prevent this outcome. As long as these women are fully informed and able to make rational decisions about their fertility, we should allow them to make their own financial decisions.* (Goold and Savulescu, 2009)

> *What if some women do want to freeze their eggs at 30, to 'use' at 45 and achieve what is genetically their own baby? Is that decision somehow less moral than using IVF at 45 with a 5% chance of a pregnancy and a 70% chance of a miscarriage, or using the precious, scarce resource of donor eggs and settling for 'someone else's' baby as preferable to no baby at all?* (Lockwood, 2003)

While this third narrative is all too easily embraced by commercial enterprises that offer egg freezing services, it is unfortunately not unproblematic. If women would deliberately delay childbearing until their forties, they could proactively freeze their eggs around their 30th birthday and achieve good success rates. However, this is not how things usually go in practice. As discussed earlier, women usually do not plan to have their children in their late thirties or forties, but they postpone childbearing bit by bit by lack of a partner, a demanding job, financial insecurity, etc. (a phenomenon also known as 'perpetual postponing') and before they know it their reproductive years have passed (Lockwood, 2011). Women are not inclined to undergo the demanding and costly procedure of ovarian stimulation and oocyte retrieval at the peak of their fertility. At that moment they are either not yet thinking about starting a family or they expect to find a partner in due time. Several studies have indicated that women underestimate the speed at which female fertility declines and that the possibilities of overturning age-related infertility through IVF are highly overestimated (Hammarberg and Clarke, 2005; Lampic et al., 2006; Maheshwari et al., 2008; Bretherick et al., 2010). Moreover, cryopreserving oocytes requires a substantial financial investment that women are only willing to make when there is a substantial possibility that they will ever 'cash in' on this investment. It is only when their time is running out, when approaching the symbolic age of forty, that most women start to worry about remaining childless and resort to oocyte cryopreservation. The oocytes that are preserved at that point already have a decreased potential to result in a successful pregnancy. Moreover, when lack of a partner is the problem, this problem may persist so that frozen oocytes remain unused. Thus, although egg freezing is potentially a wise and proactive measure for women in today's society, in practice it is often a desperate measure with a low utility (Mertes and Pennings, 2011).

However, this last narrative can serve as an ideal to be pursued. One can only hope that through public education on declining fertility with age, a reduction in costs and awareness about the possibility to store oocytes at a young age, the women cryopreserving their oocytes will one day resemble the ideal of smart, proactive women rather than the image of desperate singles…

Conclusion

The ethical debate regarding oocyte cryopreservation for healthy women has often been reduced to putting the women on trial who might benefit from it. Who are these women who want to defy nature and do they *deserve* this new expansion of their reproductive liberty? Three different narratives can be discerned: women interested in elective egg freezing are either portrayed as selfishly prioritizing their career over motherhood, as being forced by society to postpone motherhood or as smart, proactive women who have discovered a new means to make their career compatible with motherhood. The first narrative is probably the furthest away from reality, as the age at which healthy women currently request oocyte cryopreservation indicates that 'postponement' of childbearing is seldom planned at a young age and thus that freezing oocytes is rather an emergency intervention than part of a well designed life plan to 'have it all'. However, it is argued here that also the other two narratives are misrepresentations to a certain extent. Just as it is inaccurate to state that women *choose* to delay childbearing in order to advance their careers, it is also inaccurate to say that they have no other option but to delay childbearing. When people have their children depends on an interplay between contextual factors and personal values and neither one will completely override the other. Finally, the image of smart, proactive women is rather an idealistic picture of who the best candidates *would* be than an accurate depiction of those who actually come forward.

In conclusion, it may be interesting to learn who the candidates for elective oocyte cryopreservation are, what their motives are and how they got into a situation in which they need to or want to delay childbearing until after their reproductive years. However, a judgmental approach will not offer a clear answer to the question whether elective egg freezing is good or bad medical practice. The central question should not be whether or not women are *deserving* of oocyte cryopreservation, but whether or not oocyte cryopreservation for this particular indication does more good than harm. This evaluation will depend a lot on the utility rate, that is, on the number of women who actually return to use their frozen oocytes and on the success rates for these women. As argued elsewhere (Mertes and Pennings, 2011), if the only candidates for 'social freezing' are women whose ovarian reserve is already at a critical threshold, then the utility of this procedure will be very low and women will be buying false hope at a high price. However, if women become more aware of the effect of aging on their fertility, of the possibility to store oocytes in their fertile years (preferably before age 35) and of the limits of the procedure (especially when they are already over the age of 35), oocyte cryopreservation may be a welcome intervention for women who long to preserve their fertility longer than they naturally could.

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