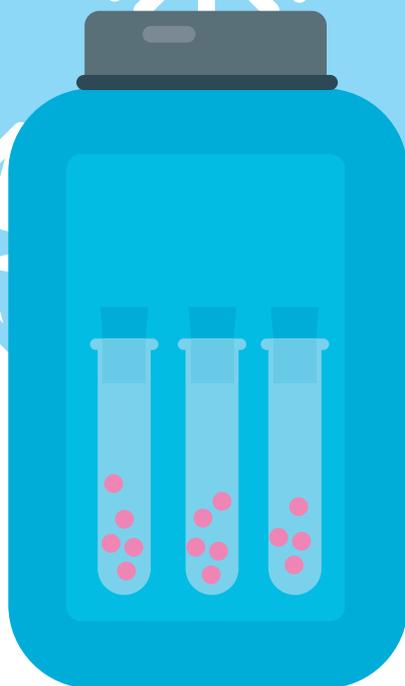


Eggs from the freezer: the benefits and risks of social freezing

Abridged version of the study «Social Freezing – Kinderwunsch auf Eis»



TA-SWISS, Foundation for Technology Assessment and a centre for excellence of the Swiss Academies of Arts and Sciences, deals with the opportunities and risks of new technologies.

This abridged version is based on a scientific study carried out on behalf of TA-SWISS by an interdisciplinary project team led by Prof. Andreas Balthasar and Sarah Fässler from Interface Politikstudien Forschung Beratung. The abridged version presents the most important results and conclusions of the study in condensed form and is aimed at a broad audience.

Social Freezing – Kinderwunsch auf Eis

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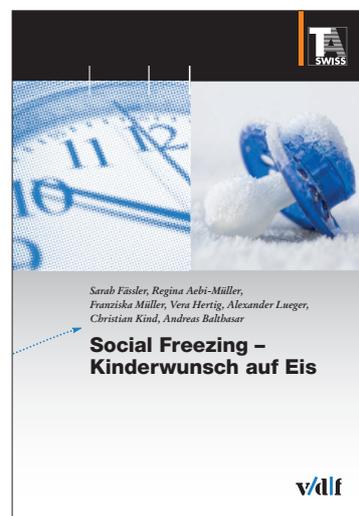
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Social freezing in a nutshell	4
Benefits ...	4
... Risks ...	4
... And some recommendations	4
Introduction	5
Trend towards later motherhood	5
The technology at a glance	6
Egg retrieval	6
Deep-frozen and preserved	7
Fertilisation of eggs in vitro	7
Medical risks related to the age of the mother	8
Costs and chances of success	8
Demand	9
The lack of a partner as the main motive	9
Resorting to the use of frozen eggs	10
Legal situation	11
Legal situation in Switzerland	11
Comparison with other countries	11
Opinions on social freezing	12
An informed decision is essential	12
Reproductive freedom and children's well-being	13
Social freezing instead of egg donation	13
Surplus eggs: destroy, donate or research?	14
Compatibility between family and work	14
Cost coverage by health insurance funds	14
Recommendations	15
Restrained application of social freezing	15
Promoting research on the risks of social freezing	15
Ensuring data collection on social freezing	15
Verifying that the decision is an informed one	15
Cancelling the retention period in favour of an age limit	15
No funding of social freezing by health insurance funds	16
Further discussion points in the advisory group	16

Social freezing in a nutshell

Through social freezing, women can extend their fertile period by having their eggs preserved. Their eggs are retrieved, frozen and stored – preferably before the age of 35. If necessary, these can be thawed years later and fertilised with the sperm of the desired father. Thus, inherently fertile women use reproductive medical procedures to postpone a pregnancy.

Women who have their eggs frozen tend to be over 35 years old, single and well educated. A lack of a partner is usually indicated as the main reason for social freezing. Career reasons, on the other hand, are rarely given as a motivation for the procedure.

Benefits ...

Social freezing is seen as a type of safeguard against future infertility. Users hope to enter motherhood «at the right time» as well as for extended time to search for a partner. Unlike adoption, social freezing enables a woman to have her own biological child even beyond menopause.

If a woman seeks to become pregnant in her later years, thanks to social freezing she can use her own eggs that she had had frozen when she was young. As a result, the chances of success are better than with the use of freshly retrieved eggs at an older age. In addition, this avoids any controversial egg donation.

... Risks ...

In vitro fertilisation is inevitable in order to achieve a pregnancy within the context of social freezing. In comparison to natural conception, this is associated with increased medical risks for the child such as premature birth, low birth weight and malformations. There is also evidence that children conceived in vitro are at an increased risk for cardiovascular disease. Additionally, the risk of complications during pregnancy and childbirth increases for the mother as she gets older – which means health risks to both her and the child.

There is limited data on the risks associated with the freezing, storage and thawing of eggs. Little is known about the long-term health consequences for the children since the procedure has only been in use for ten years.

Many women interested in social freezing are over 35 years old and are thus above the ideal age for egg retrieval. Moreover, often fewer eggs are stored than recommended for a realistic prospect of having a baby. Women end up investing a lot of money in a procedure with unclear chances of success and might be banking on false hopes.

... And some recommendations

Due to the sparse data as well as the medical risks, a restrained use of social freezing is recommended – at least until more reliable findings are available.

Research on social freezing should be encouraged in order to obtain such reliable information. It is also important to collect statistical data in the future, including the number and the age of the women performing egg retrieval and fertilisation as well as the pregnancy and birth rates.

Women interested in social freezing should be fully informed about risks, chances of success and costs as well as about the legal framework of social freezing. An independent information centre is worth exploring.

The existing retention period of the maximum ten years for frozen eggs should be lifted in favour of an age limit for women using the frozen eggs. A limit of 45 years is recommended for in vitro fertilisation.

Introduction

Trend towards later motherhood

Children, yes – but later please. Thanks to modern contraceptives, we can largely plan on when to start a family nowadays and we can wait to have children until we feel really ready to do so. Men and women can now finish their education first, gain a foothold in their career, find the right partner or perhaps fulfil the dream of a long journey. Correspondingly, women in Switzerland are becoming mothers later and later. Today, women are on average 31 years old at the birth of their first child – in 1971 the average age was still 25 years.

However, postponing a family can cloud the prospect of motherhood. It becomes more difficult for women to get pregnant as they grow older. The number and quality of eggs decreases continuously, especially from the age of 35.

Social freezing promises to cheat the biological clock and extend the fertile phase in order to avoid involuntary childlessness later on. Eggs are taken from women at a young age; they are then frozen and stored in a deep-freezer. If it is no longer possible to have children naturally, women can thaw their eggs years later and have them fertilised in a Petri

dish. Social freezing ought to enable women to have more time for family planning – to find a suitable partner, for instance, or to advance a career. As advertised by one of the providers of the procedure: «Everything in my own time».

This method was originally developed for cancer patients to enable them to become pregnant after chemotherapy or radiotherapy. However, today more and more healthy women want to use this reproductive method, as a type of insurance in case they want children later on in life. Since the reasons for egg retrieval are social rather than medical in this case, it is called social freezing. The procedure is also called oocyte cryopreservation, social egg freezing and elective egg freezing for social reasons.

The procedure received a great deal of public attention in 2014 when Apple and Facebook announced that they were going to pay the costs of social freezing for their employees. This sparked fears that employers could influence the family planning of their employees in the future, raising questions about compatibility between career and family. This also led to controversy regarding the question of what medical and social consequences a later pregnancy would mean for the child.



With this in mind, the TA-SWISS Foundation decided to take a closer look at the future viability of social freezing and to determine the exact demand for social freezing in Switzerland. Therefore, the TA-SWISS study examines the benefits and risks of this procedure. It also looks at the number of women using social freezing in Switzerland, the scope of potential of this technology in the future and what motivates childless women to become interested in the procedure. Under the leadership of Prof. Andreas Balthasar and Sarah Fässler (Interface), the interdisciplinary project team evaluated

the available literature to assess the medical, ethical, social, financial and legal consequences of social freezing. The researchers also conducted an online survey of all Swiss fertility clinics as well as of 408 childless women between the ages of 25 and 39. In addition, the team interviewed reproductive medical specialists, political and social actors, and women who had their eggs frozen. Social attitudes on the issue were assessed through a media analysis and, finally, Swiss legislation was compared to that of seven other European countries.

The technology at a glance



The medical procedure of social freezing consists of three phases: the first step consists of retrieving a number of eggs after hormonal stimulation. The retrieved eggs are then frozen and stored in a deep freezer until further use (cryopreservation). In the third step, the eggs are finally thawed when required and fertilised in a Petri dish.

When couples with fertility problems resort to in vitro fertilisation, the first and third steps are identical to social freezing. This classic reproductive medical procedure has been in use for 40 years. The second phase of cryopreservation is new – and crucial for social freezing. It has only been practiced for about ten years. Through freezing, the eggs can be preserved for a longer period of time without affecting their viability and effectiveness. Thanks to this step, it is possible to postpone a pregnancy until a later time.

Egg retrieval

Ideally, the eggs should be removed before the woman is 35 years of age, i.e. while she is still fertile. To this end, the woman is injected with hormones for several days in a stimulation cycle in order to stimulate the ovaries and to initiate the maturation of multiple eggs. The eggs are removed through the vagina with a needle during a short operation under anaesthesia. The goal is to obtain enough eggs so that there is a realistic chance of pregnancy later on. This sometimes requires several stimulation cycles.

Medical risks of egg retrieval

The first phase of social freezing is associated with low short-term risks for the woman. However, severe overstimulation syndrome does occur in less than one percent of cases which can lead to respiratory distress as well as liver dysfunction. The risk of complications in egg retrieval is also less than one percent. There are no indications of longer-term risks for the woman such as cancer or restricted fertility.

Deep-frozen and preserved

After removal, the eggs are snap-frozen at minus 196 °C in liquid nitrogen. Thanks to the new technology of rapid freezing (so-called vitrification), the chances of success increase considerably in comparison to the previous slow freezing process. Pregnancy rates via the fertilisation of cryopreserved eggs now hardly differ from those of fresh eggs. This rapid freezing process made the wider use of social freezing possible in the first place.

Medical risks of cryopreservation

While egg retrieval and in vitro fertilisation have been practised for 40 years now, the widespread use of egg cryopreservation is a recent phenomenon. Accordingly, there is currently little data on the risks. The storage period does not appear to have any decisive influence on the chances of success. For example, babies were born from eggs after 12 years of storage. However, little is known about the consequences of egg preservation on the resulting offspring. The malformation rate in children from frozen eggs does not appear to be higher than in children who were conceived either naturally or from freshly retrieved eggs. Additional data is nonetheless needed – especially on the long-term effects on children's health.

Fertilisation of eggs in vitro

When a woman resorts to using her cryopreserved eggs, these are thawed during the third phase and fertilised with the sperm of the desired father in a Petri dish ('in vitro'). In the case of a successful fertilisation, one to three embryos are inserted into the woman's uterus after a few days.

Medical risks of in vitro fertilisation

As a rule, fertilisation in a Petri dish leads to more twins and triplets compared to natural conception because more than one embryo is transferred into the uterus. Multiple pregnancies are associated with an increased risk in terms of pregnancy and birth complications. However, there is an international tendency to transfer only one embryo to the uterus, which should reduce this risk in the future.

There are nevertheless differences between artificial and natural conception, even with singleton pregnancies. Singleton children conceived in vitro present an increased risk of malformations. They are also more affected by risks such as pre-eclampsia, premature birth and low birth weight. In addition, the reproductive medical procedures are suspected of facilitating cancer and impairing cognitive development in childhood. Recent studies also show that children conceived in vitro are at increased risk of cardiovascular disease. Nevertheless, the extent and significance of these research results remain to be clarified in large-scale, well-controlled epidemiological studies.

In principle, the risks listed here are not specific to social freezing. Rather, they correspond to those of classic in vitro fertilisation as performed for many years now for couples with infertility issues. However, the widespread use of social freezing would lead to an expansion of this reproductive medical procedure and the associated risks. This could have an impact on public health.

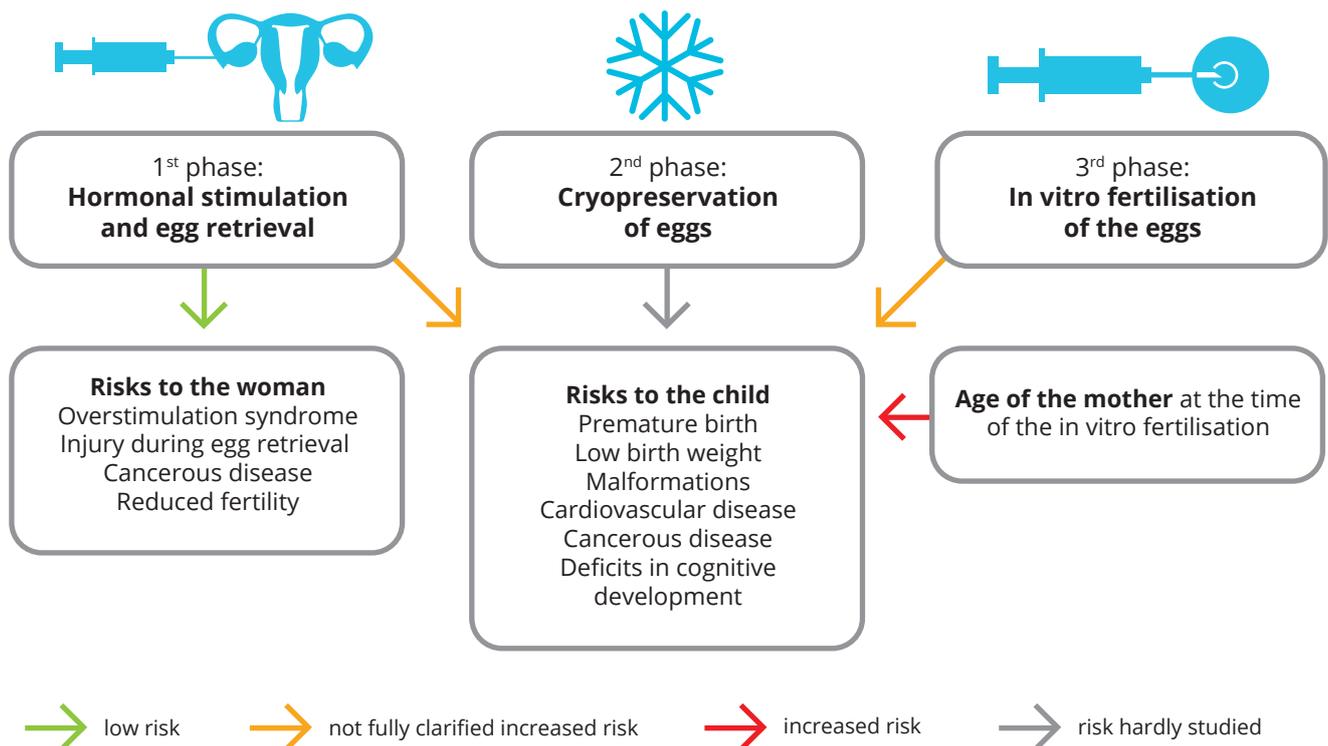
Medical risks related to the age of the mother

With social freezing, women tend to fertilise their eggs at an older age. The risk of complications in pregnancy (including gestational diabetes, hypertension or pre-eclampsia) and during birth (necessity of a caesarean section for example) increases as a

woman becomes older. These risks increase exponentially from the age of 35, and are considerable from the mid-40s and especially from the early 50s.

Children of older mothers also have a higher risk of being born too early or having too low a birth weight. This in turn facilitates cardiovascular disease as well as deficits in cognitive development.

Overview of the medical risks for women and children in connection with social freezing



Costs and chances of success

Social freezing is relatively expensive. In Switzerland, the costs of hormone stimulation, egg retrieval and cryopreservation are between 3,000 and 6,000 francs per stimulation cycle. An additional 200 to 300 francs must be paid per year for the storage. Between 2,500 and 3,500 francs are estimated for in vitro fertilisation.

So far, because only a few women have resorted to using their frozen eggs, the success prospects of this technology cannot be conclusively assessed as of yet. The older a woman is when her eggs are retrieved, the lower her future chances are of

having a baby. In women under 35 years of age, the chances of having a baby are estimated as being 60 to 80 percent when 15 to 20 eggs have been frozen. As a rule, one to two treatment cycles are necessary for this purpose. Both abroad and in Switzerland, however, women sometimes freeze significantly fewer eggs due to cost reasons or because of the side effects of the treatment. For women over 35, social freezing is only promising if there are still enough good quality eggs available.

Women who have their eggs cryopreserved therefore invest a lot of money in a procedure of which the chances of success cannot be clearly determined at the present time.

Demand

There are no recorded statistics on the number of women in Switzerland using social freezing. In general, it can be noted that the demand is currently still low: according to a rough estimate, around 400 women in Switzerland had their eggs frozen in 2017. However, demand has been growing steadily in recent years and continues to rise.

Both abroad and in Switzerland, women who have their eggs frozen are often over 35, single and well educated. Individual women have their eggs preserved not only for social reasons, but also partly due to either feared or diagnosed reduced fertility (e.g. due to an illness or early menopause).

Over 400 childless women between the ages of 25 and 39 were surveyed in the TA-SWISS study on social freezing. The results showed that the topic is not (yet) well known in Switzerland. Only about half of the women had already heard about the technology – a relatively low level of knowledge when compared internationally.

Once the women had received detailed information on the procedures, risks, chances of success, costs and the legal framework, one in three could fundamentally envisage having their eggs frozen. Information on the costs and risks of social freezing in particular has a dampening effect on interest. Seven percent of the childless women surveyed were not influenced negatively in their decision by any of the detailed information and showed a concrete interest in the technology. One percent of the women had already had their eggs cryopreserved.

In the future, between 2,000 and 10,000 women are expected to have their eggs frozen in Switzerland every year. The number of children who would actually be born from this egg preservation is subject to a great deal of uncertainty and is difficult to predict.

The lack of a partner as the main motive

In the media, users of social freezing are often portrayed as ambitious women who are driven in their careers and who consciously postpone maternity to a later date. However, this image is rebuffed by the interviewed users as well as by reproductive health professionals. When deciding to preserve eggs, the women assign a minor role to the compatibility of career and family. The most cited reason by far for using social freezing is the lack of a suitable partner. The technology is viewed by women as a way to take the pressure out of dating and not to enter into an unwanted relationship simply because of their desire to have children. Appropriate partners are deemed to be men who correspond to the image of the «new father». These fathers take responsibility for raising children together with the mothers and are interested in being intensively involved in their care.



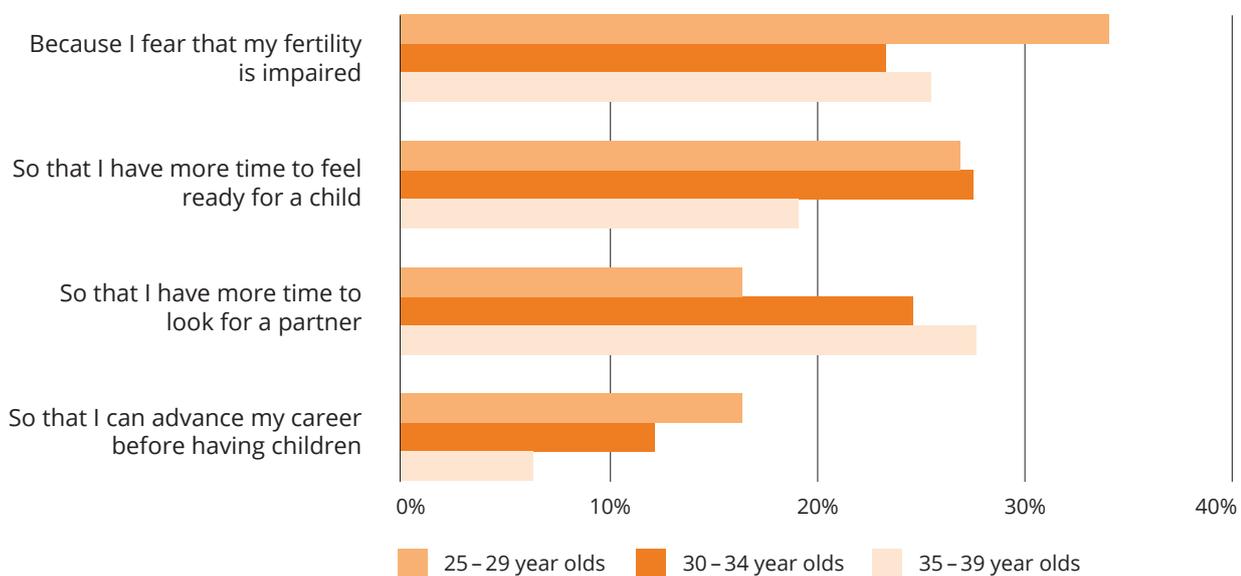
In addition to the hoped-for additional time in the search for a partner, economic and social factors also play a role: women want to enter motherhood at the «right time». They want a secure job, a good income and a decent housing situation. Furthermore, they would like to have all the necessary psychological attributes and be able to dedicate themselves intensively to their child.

A genetic link to the child is also important for many women who have their eggs frozen. Unlike

egg donation or adoption, social freezing allows for such biological parenthood. Despite its progressive reputation, social freezing primarily serves to maintain a 'classic' family relationship.

Social freezing is ultimately seen by women as a safeguard against future infertility. The technology conveys the mentality of having done everything feasible against infertility.

The most important reason for social freezing by age category



Source: Survey of childless women aged 25-39; n = 207

Resorting to the use of frozen eggs

According to international studies, a maximum of one tenth of the women worldwide with cryo-preserved eggs have resorted to using them so far. Around one-third of women with frozen eggs consider it very likely that they will have their eggs fertilised in vitro. However, most women first try to become pregnant with a partner naturally, even at an advanced age.

In Europe, most women want to become mothers by age 50 at the latest; in the US, a large majority of women find pregnancy well conceivable even past the age of 50. The majority of childless women surveyed in Switzerland also want to become mothers before their mid-40s. Only five percent could envisage motherhood over the age of 45.

Legal situation

Legal situation in Switzerland

Social freezing is not explicitly regulated in Switzerland. In the literature, it is assumed that the retrieval of eggs is not subject to the Reproductive Medicine Act and is permitted accordingly without medical reason.

With regard to the second phase (namely cryopreservation), Art. 15 para. 1 of the Reproductive Medicine Act provides for a retention period of five years which can be extended once and without further justification to a maximum of ten years.

Unlike with egg retrieval, there must be a medical necessity such as infertility for the in vitro fertilisation of eggs. It is, nonetheless, controversial as to whether age-related infertility falls under this category. Moreover, the in vitro fertilisation of eggs is permitted only if the woman lives in a stable heterosexual relationship.

There are no fixed age limits in Switzerland either for the retrieval or the in vitro fertilisation of eggs. However, there is a 'social' age limit: reproduction procedures may only be used on couples who are expected to be able to care for and raise a child until that child is of age.

Comparison with other countries

A comparison with other countries shows that the legal situation concerning social freezing in Europe is inconsistent. Belgium, Spain and the Czech Republic have liberal regulations. In Austria, on the other hand, social freezing is prohibited. There are likewise restrictive regulations in France. Social freezing is only allowed there in conjunction with egg donation. However, there are efforts to dissolve this link because it can lead to the commercialisation of egg donation. Germany and Italy have taken an intermediate stance. There are no regulations in Germany and in Italy the legislation of reproductive medicine is partly based on regional provisions.

Age limit for the fertilisation of eggs in vitro

Unlike Switzerland, most countries have an age limit for fertilising eggs in vitro. Belgium has an age limit of 47 and in the Czech Republic it is 49. In Italy the age limit is inconsistent and regulated on a regional level; for constitutional reasons, however, it is assumed to be from the age of 50. Although Spain has no legal regulations, hospital associations recommend treatment up to the age of 50. There is no fixed age limit in France, but the woman must still be in her fertile years. In practice, a relatively low age limit of 42 to 43 years has been determined. No other country exclusively relies on a social age limit like Switzerland does.

Retention period

Most of the countries surveyed do not have a retention period for egg storage. Only in Belgium, as in Switzerland, is there a storage period of ten years. However, this storage period may be extended at any time at the discretion of the fertility clinics.

Information obligation

Because in Switzerland the retrieval and cryopreservation of eggs are not subject to the Reproductive Medicine Act, fertility clinics are likewise not obliged to adhere to the information and counselling obligations. With the exception of the Czech Republic, all other countries have an information obligation which is more or less comprehensive.

The need for reform?

There are no medical reasons for the current maximum ten-year retention period. According to the current state of medicine and technology, cryopreserved eggs remain in a consistently good condition for a long period of time. Since the quality of eggs in a woman's body decreases with age, it would therefore make sense to perform egg retrieval well before the age of 35 and allow for a longer retention period.

All reproductive medicine specialists interviewed advocate for an extension of the retention period. A majority can also envisage lifting the retention period in favour of an age limit for the women to use the preserved eggs. This would also correspond more closely to the practice in place in most of the European countries studied. Among the Swiss actors interviewed, opinions are split on the extension of the retention period. Also with regard to the question of the 'age limit instead of retention period', the opinion of the Swiss actors seems to be neither clear nor yet conclusive.

While there is no medical justification for a retention period, there are medical, ethical, social and

legal considerations with in vitro fertilisation that call for an age limit. Taking all these perspectives into account, an age limit of 45 years is most suitable for in vitro fertilisation. From a medical point of view, the risk of pregnancy and birth complications with negative consequences for mother and child increases exponentially from 35 years of age and is considerable as of the age of 45. The Swiss fertility centres surveyed online also seem to follow an age limit of 45 years. The age ranges between 43 and 48 years, with an age limit of 45 years for in vitro fertilisation with cryopreserved eggs in most of the hospitals surveyed.

Opinions on social freezing

Interviews with Swiss actors from various political parties, churches and professional organisations shows that there is a wide range of opinions on social freezing in Switzerland. It is a very personal topic, which is strongly influenced by subjective factors such as age, gender and the desire to have children.

In the study, three types of opinions were identified based on the answers:

- The negative opinion type represents a very critical attitude towards social freezing and is fundamentally opposed to this technology. Primarily ethical concerns, such as the risks to the physical and mental well-being of the child, are the decisive factors in this case.
- The ambivalent opinion type is fundamentally not against social freezing in individual cases, but it does exhibit social concerns. It demonstrates a fear that technology will have a negative impact on reconciling career and family as well as on gender equality.
- The endorsing opinion type represents a liberal attitude and is fundamentally open to social freezing. In the foreground is the belief in self-determination by the woman, who is capable of independently deciding on social freezing.

The majority of the actors interviewed rejected the idea of prohibiting social freezing. Nevertheless, there are quite a few concerns about the technology. There was overall agreement in that comprehensive information should be mandatory for those women interested in social freezing. More controversial were the opinions on children's well-being, the need for an age limit or an extension of the retention period. There was likewise controversy regarding the influence of social freezing on the compatibility of work and family as well as on cost coverage by health insurance.

An informed decision is essential

The three opinion types agree on one point: comprehensive information is indispensable for women in the decision on social freezing. This requirement is particularly important because the data on the risks to the child is still sparse. In addition, false hopes on the possibilities of the procedure could be aroused, especially in older women. Interested women should be informed that social freezing offers no guarantee for a child and that natural procreation at a young age is a more promising approach. Moreover, women should receive information about their personal chances of success as well as the necessary number of eggs for this purpose.

Reproductive freedom and children's well-being

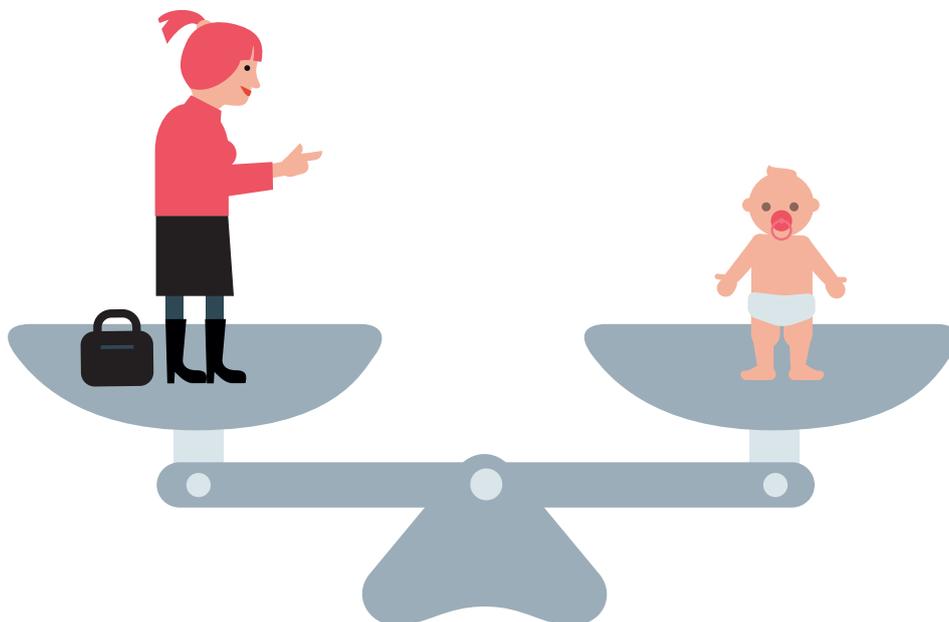
The right to realise a desire for children is undisputedly regarded as an important asset and a fundamental right. The restriction to reproductive freedom, however, is permissible when harm to third parties may thus be avoided. In this sense, the child's well-being is placed above reproductive freedom. There is controversy as to whether children born thanks to social freezing are actually harmed.

Maternity at an older age increases pregnancy risks and may result in early loss of the mother for the child. On the other hand, in some circumstances later motherhood could also provide better conditions for successful parenting such as more stable family relationships and greater financial security.

Although the state may not restrict reproduction, there is no obligation to ensure access to reproductive medical procedures at any age. Amongst the Swiss actors interviewed, the negative and the endorsing opinion types are in favour of an age limit due to the medical risks. Ambivalent actors have a critical view of a fixed age limit and advocate rather for an individual medical assessment by the treating physicians.

Social freezing instead of egg donation

If an older woman resorts to in vitro fertilisation, thanks to social freezing she is able to use her own eggs and is not dependent on a donation. Compared to egg donation, which is prohibited in Switzerland, there are fewer ethical concerns about social freezing. The majority of Swiss actors interviewed are of the opinion that social freezing is a more acceptable alternative to egg donation. In particular, the genetic link between mother and child seems to be crucial for the endorsing and the ambivalent opinion types. It is also important for representatives of the ambivalent opinion type that the woman goes through the complex procedure herself – as opposed to a third-party, non-involved egg donor, whose financial distress may potentially be exploited. The negative opinion type does not view social freezing as an alternative to egg donation, but rather rejects both procedures equally.



Surplus eggs: destroy, donate or research?

As a rule, because women with cryopreserved eggs first attempt a natural pregnancy, social freezing is likely to lead to surplus eggs. Today, these eggs must be destroyed. However, there is discussion about the possibility of donating these eggs for research purposes or to infertile women. In Switzerland, however, this would only be possible if the prohibition on egg donation were lifted. Critics of social freezing therefore fear that the pressure to approve egg donation will increase due to the surplus eggs.

Abroad, some clinics offer a so-called 'freeze and share'. They take over the costs of egg retrieval for women under the age of 35 who, in turn, donate half of their eggs. There is a possibility that the donor will never resort to using her own eggs, while the recipient will become a mother thanks to the donated eggs. This situation could be psychologically stressful for the donor. Such concerns can be alleviated if the woman donates her surplus eggs only after becoming a mother herself or if she is no longer interested in having children.

The negative opinion type clearly opposes such an egg donation, because it fears an ethically questionable commercialisation of the eggs. The other two opinion types advocate such an arrangement. This could contribute to reducing the inequality between low and high income women in terms of access to social freezing.

Another possibility is for researchers to make a contribution to the costs of social freezing and, in return, receive a portion of the retrieved eggs. This ought to increase the supply of rare eggs for research. Women seem more willing to provide their eggs for research rather than for infertile women. They thereby do not have to face the idea that a biologically related child of theirs could exist somewhere without their knowledge.

While the negative opinion type rejects this possibility, the endorsing opinion type is open to donation for research purposes.

Compatibility between family and work

In the discussion on social freezing, it is often feared that women will be under pressure to put their family planning on the back-burner in favour of their careers. The representatives of the negative and ambivalent opinion types are therefore concerned that social freezing will have a negative impact on efforts to reconcile career and family life as well as on gender equality. According to the women and reproductive medicine specialists interviewed, however, career considerations are not the primary decisive factor for the use of social freezing. Rather, the lack of a suitable and committed father is the main issue. Additionally, in order to support a mother's working life, measures are therefore also required of the fathers which would allow them to become more involved in the family.

Cost coverage by health insurance funds

Among the actors interviewed, it was relatively undisputed that the costs of the first steps of social freezing the egg retrieval and preservation should be paid for by the women themselves, even in the future. This, among other things, is because the future use of frozen eggs is uncertain. With the step of the in vitro fertilisation however, advocates in contrast to the negative and ambivalent opinion types can envisage a contribution by health insurance funds. In such a way, even less well-off women would have easier access to social freezing. In Switzerland, however, the question of cost coverage by health insurance funds would come up only if in vitro fertilisation were subject to obligatory coverage by health insurance funds.

Recommendations

Social freezing promises to free women from the time pressure of the biological clock. Because the technology is relatively new, their chances of success are uncertain and the (long-term) consequences are largely unknown. Nevertheless, demand is continuously on the rise and could lead to wider use in future. The following measures are therefore recommended:

Restrained application of social freezing

Through social freezing, women can take advantage of reproductive medical procedures without medical necessity – although these procedures were actually developed for the treatment of infertility. This entails higher ethical responsibilities, in particular concerning the risks to the children, the women and the consequences for public health. There is only limited data on the consequences of cryopreservation. Moreover, recent study results indicate that reproductive medical procedures have a negative effect on the cardiovascular system of the children concerned. More reliable information on the medical, social and psychological risks for the children concerned is therefore necessary prior to a wider application of social freezing. Until then, the technology should be used and applied with restraint.

Promoting research on the risks of social freezing

Research on social freezing must be encouraged in order to obtain reliable information on the risks of reproductive medicine (for example, in a National Research Programme (NRP) project). In this respect, the ethical, social and legal aspects of social freezing ought to be examined in addition to the medical aspects. Moreover, long-term studies with children conceived in vitro should be conducted in cooperation with other countries.

Ensuring data collection on social freezing

In order to better assess the demand for social freezing and its consequences, reliable data is required from clinics and laboratories. There should be annual information on the number and the age of the women who have had their eggs frozen for social reasons. The number of women who have the frozen eggs fertilised in vitro and at what age they do so must also be recorded. Finally, data on pregnancy and birth rates must be collected and evaluated within the context of social freezing.

Verifying that the decision is an informed one

An informed decision is important when it comes to social freezing. Interested women must therefore receive comprehensive information on the medical procedure, the risks for the woman and child, the prospects of success, the costs and the legal framework. Ideally, women should be given independent and comprehensive advice on all aspects of social freezing. An offer of information on social freezing at the cantonal specialist offices for family planning and sexual health would be worth examining.

Cancelling the retention period in favour of an age limit

The maximum ten-year retention period for preserved eggs should be lifted in favour of an age limit for the woman. A pregnancy at an advanced age carries medical risks for both mother and child. Additionally, parenthood at an advanced age is associated with social risks. For this reason, the adoption law provides for a maximum age difference of 45 years between adoptive children and parents. A maximum age limit of 45 years should be designated for in vitro fertilisation in order to ensure that

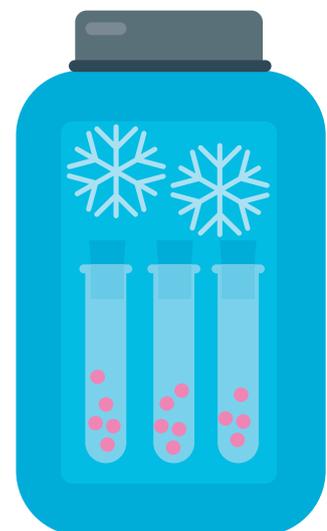
adoption and reproductive rights are consistent in terms of their value systems. As with adoption law, exceptions are conceivable. With the introduction of an age limit, the frozen egg would no longer be destroyed after expiry of the retention period, but rather after reaching the age limit.

No funding of social freezing by health insurance funds

The cost of freezing eggs should not be covered by health insurance. Health insurance funds are primarily responsible for the costs of diseases or their prevention. An individual provision for the possible eventuality of age-related infertility and the continued desire for a child, however, cannot be designated as disease prevention.

Further discussion points in the advisory group

The advisory group of TA-SWISS for the study on social freezing identified and discussed points of contact with other topics that would have gone beyond the scope of this study. These include so-called reproductive health tourism, the market for reproductive health services, the purchase and sale or donation of eggs, the impact of social freezing on the perception of family in society, the specifics of a child's well-being, the restriction of social freezing to heterosexual couples or the definition of (age-related) infertility.



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