

**FORUM:** World Health Organization (WHO)

**QUESTION OF:** The Ethical, Legal, and Social Issues of Modern Assisted Reproductive Technologies

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## INTRODUCTION

Around 17.5% of the adult population – roughly 1 in 6 worldwide – experience infertility<sup>1</sup>. The sheer proportion of people affected shows the need to widen access to fertility care and ensure this issue is no longer sidelined in health research and policy, so that safe and effective ways to attain parenthood are available for those who seek it. Modern Assisted Reproductive Technologies have developed so as to solve such issues. In these techniques, eggs from a woman's ovaries are surgically removed and combined outside of the woman's body with the male's sperm through a medical procedure called in vitro so that an embryo is ultimately returned to the woman's body. Assisted Reproductive Technologies (ARTs) therefore incorporate a wide range of procedures that are used to overcome natural barriers in fertilization by finding new ways to create an embryo. The most commonly used technology is In Vitro Fertilization (IVF), where a woman's eggs are removed, fertilized in a laboratory and then reimplanted into her body. Since the first successful IVF procedure in 1978, the use of this and other similar technologies has expanded to become commonplace internationally.

However, while ART has given hope to millions of couples suffering from infertility<sup>2</sup>, it has also introduced countless ethical, legal, and social challenges. In order to address these issues, it is important to consider all aspects of the problem including whether the legislation that exists in countries around the globe for such technologies is adequate, the optimal treatment of embryos remaining frozen in the laboratory as well as the elimination of techniques that are not safe and effective. In addition to that, another issue constitutes the question of who has access to ART. While the United Nations Universal Declaration of Human

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<sup>1</sup> "1 in 6 People Globally Affected by Infertility: Who." *World Health Organization*, World Health Organization, [www.who.int/news/item/04-04-2023-1-in-6-people-globally-affected-by-infertility](https://www.who.int/news/item/04-04-2023-1-in-6-people-globally-affected-by-infertility). Accessed 23 Sept. 2024.

<sup>2</sup> Ibid, 1.

Rights includes the right to “found a family”, in many countries ART is unavailable for homosexual couples and single women . For example, even though Norway was the first country in the world to pass a law on ART, the treatment was limited to married or cohabiting couples. Same sex couples, lesbians and single women were excluded and further surrogacy and embryo donation was not permitted. Even though the United Nations (UN) has taken action by addressing the protection of women against harmful practices so as to reduce maternal mortality and morbidity, this effort is not merely enough to completely solve all the social, ethical and legal issues involved. The creation of universal frameworks and collaboration in order to address these issues is of utmost importance.

This topic is particularly relevant to this year’s conference theme; “Ethos vs Progress: Reassessing our Values in a fragile world”. The multifaceted nature of the topic that will be explored below includes an ethical dimension, minding it to the conference theme.

## **DEFINITION OF KEY TERMS**

### **Assisted Reproductive Technology (ART)**

Assisted Reproductive Technology is used to overcome infertility. It includes removing eggs from the ovaries and fertilizing them in the laboratory by combining them with sperm. The embryo is then returned to the woman who will eventually give birth.<sup>3</sup>

### **Embryo**

The early developmental stage of an unborn child, in particular a human offspring during the period from approximately the second to the eighth week after fertilization.<sup>4</sup>

### **Fallopian Tubes**

“One of two long, slender tubes that connect the ovaries to the uterus”<sup>5</sup>

### **Gametes**

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<sup>3</sup> “What Is Assisted Reproductive Technology?” *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 8 Oct. 2019, [www.cdc.gov/art/whatis.html](http://www.cdc.gov/art/whatis.html).

<sup>4</sup> “Embryo.” *Encyclopædia Britannica*, Encyclopædia Britannica, inc., 25 Aug. 2024, [www.britannica.com/science/embryo-human-and-animal](http://www.britannica.com/science/embryo-human-and-animal).

<sup>5</sup> “NCI Dictionary of Cancer Terms.” *Comprehensive Cancer Information - NCI*, [www.cancer.gov/publications/dictionaries/cancer-terms/def/fallopian-tube](http://www.cancer.gov/publications/dictionaries/cancer-terms/def/fallopian-tube). Accessed 23 Sept. 2024.

“Gametes are an organism's reproductive cells. They are also referred to as sex cells. Female gametes are called ova or egg cells, and male gametes are called sperm”<sup>6</sup>

## Infertility

“A disease characterized by the failure to establish a clinical pregnancy after 12 months of regular, unprotected sexual intercourse or due to an impairment of a person's capacity to reproduce either as an individual or with his/her partner. Infertility is a disease, which generates disability as an impairment of function.”<sup>7</sup>

## In-Vitro Fertilization (IVF)

“Medical procedure in which mature egg cells are removed from a woman, fertilized with male sperm outside the body, and inserted into the uterus of the same or another woman for normal gestation” (time between conception and birth, during which the embryo is developing in the uterus)<sup>8</sup>.

## Maternal Morbidity

“Any health condition attributed to and/or complicating pregnancy, and childbirth that has a negative impact on the woman's well-being and/or functioning”<sup>9</sup>

## Surrogate

“a woman who has a baby for another person who is unable to become pregnant”<sup>10</sup>

## Uterus

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<sup>6</sup> “Gamete.” *Nature News*, Nature Publishing Group, [www.nature.com/scitable/definition/gamete-gametes-311/](https://www.nature.com/scitable/definition/gamete-gametes-311/). Accessed 23 Sept. 2024.

<sup>7</sup> “Infertility.” *World Health Organization*, World Health Organization, [www.who.int/news-room/fact-sheets/detail/infertility](https://www.who.int/news-room/fact-sheets/detail/infertility). Accessed 23 Sept. 2024.

<sup>8</sup> “In Vitro Fertilization.” *Encyclopædia Britannica*, Encyclopædia Britannica, inc., 17 Sept. 2024, [www.britannica.com/science/in-vitro-fertilization](https://www.britannica.com/science/in-vitro-fertilization).

<sup>9</sup> “Maternal Morbidity and Well-Being.” *World Health Organization*, World Health Organization, [www.who.int/teams/maternal-newborn-child-adolescent-health-and-ageing/maternal-health/maternal-morbidity-and-well-being](https://www.who.int/teams/maternal-newborn-child-adolescent-health-and-ageing/maternal-health/maternal-morbidity-and-well-being). Accessed 23 Sept. 2024.

<sup>10</sup> *Cambridge Dictionary | English Dictionary, Translations & Thesaurus*, dictionary.cambridge.org/. Accessed 23 Sept. 2024.

“The hollow, pear-shaped organ in a woman's pelvis. The uterus is where a fetus (unborn baby) develops and grows. Also called the womb.”<sup>11</sup>

## **BACKGROUND INFORMATION**

### **Who can benefit from ART**

ART offers a chance at parenthood to couples who until recently would have had no hope of having a "biologically related" child. The first successful IVF procedure was in 1978 with the announcement of the birth of Louise Brown through *in vitro* fertilization (IVF).

For women, the most common causes of infertility are problems with ovulation. Hormonal imbalances, weight, exposure to chemicals or radiation and cigarette smoking all have an impact on fertility. Other factors include; endometriosis (a tissue similar to the lining of the uterus that grows outside the uterus causing severe pain in the pelvis and making it harder to get pregnant), damage to the fallopian tubes, poor nutrition, polycystic ovary syndrome (affects the function of ovaries) and uterine fibroids. That being said, while for many infertile women, upon undergoing the respective treatment their infertility is overcome, there are some cases that can not be reversed.

The causes of infertility to men include low sperm counts (oligospermia) and azoospermia (no sperm cells are produced). Overall, the possible causes of oligospermia may be exposure to environmental hazards and toxins such as pesticides, lead, paint, radiation, radioactive substances and heavy metals, smoking, excessive alcohol consumption on regular basis, prolonged use of marijuana and other recreational drugs, excessive stress, malnutrition and anemia and inadequate vitamin C and Zinc in the diet.

Other than those struggling with infertility, another social group that could benefit from ART is individuals who have had their ovaries removed through a surgical procedure for risk-reducing purposes. Finally, male same-sex couples and single males, with any clinical condition are also very commonly in need of ART. Either because they may desire a pregnancy and the patient or their partner cannot provide eggs for fertilization, or because the eggs that are available are unacceptable for use due to certain chromosomal and genetic conditions, those individuals could benefit significantly from ART's services. Fortunately, ART has helped people overcome all the issues mentioned above, using methods such as IVF, Intracytoplasmic sperm injection (ICSI) (direct injection of a single sperm cell into an egg) ,

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<sup>11</sup> “NCI Dictionary of Cancer Terms.” *Comprehensive Cancer Information* - NCI, [www.cancer.gov/publications/dictionaries/cancer-terms/def/uterus](http://www.cancer.gov/publications/dictionaries/cancer-terms/def/uterus). Accessed 23 Sept. 2024.

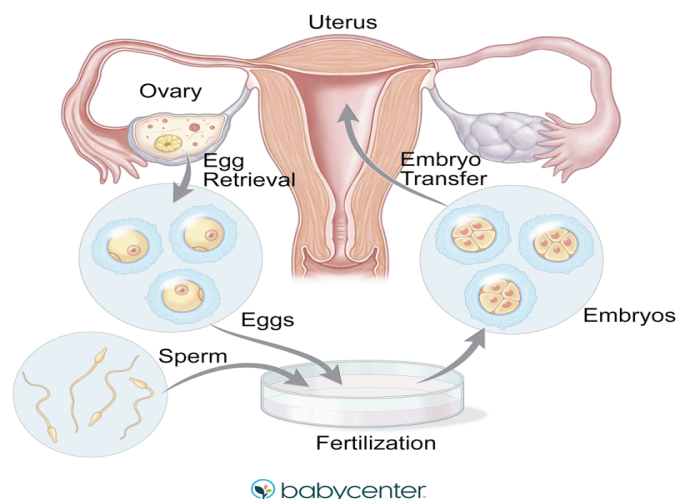
Frozen Embryo Transfer (freezing embryos for future use) and Third Party ART (when another individual donates eggs, sperm, or embryos to an individual or couple)

## Assisted Reproductive Technologies (ART)

### In-Vitro Fertilization (IVF)

In vitro fertilization (IVF) is the preferred or most common infertility treatment used when the fallopian tubes are severely damaged or absent, and for unexplained or male factor infertility. Due to its high success rate, IVF has been used more frequently in recent years as a first line of therapy for all causes of infertility. In IVF, an individual's eggs are fertilized with sperm "in vitro." In vitro is a Latin phrase that means "in glass." In medical terminology, it means that the fertilization occurs outside of the body, in a laboratory dish under controlled conditions.

To be exact, the following steps are taken when performing in vitro fertilization. Firstly, a patient takes fertility drugs to stimulate their ovaries to produce many eggs. Then, the eggs are retrieved from the ovaries. In some cases, eggs from a donor may be used, so these first steps may be omitted. The eggs are then fertilized with sperm (in a petri dish) in a laboratory and one or more fertilized eggs—or embryos—are transferred to a patient's uterus. Finally, pregnancy occurs when the embryo attaches to the lining of the uterus. The embryo develops and grows over the next nine months, until a baby is born.



Overall, the likelihood of having a baby with IVF is related to the age of the patient (or donor). Most commonly, it is observed that the number and quality of eggs tend to be higher in younger patients seeing as a woman's eggs deteriorate and diminish with time. Sometimes, patients must undergo more than one cycle to have a baby. In some cases, however, they do not get pregnant, even after several IVF cycles. Just like with any medical procedure, similarly with IVF, the risks of certain complications due to ovarian stimulation and retrieval of eggs are possible. Examples include, Ovarian hyperstimulation syndrome

(OHSS), a condition in which the ovaries become overstimulated due to the use of fertility medications to stimulate the development of eggs. In OHSS, the ovaries swell and leak fluid into the abdominal cavity and chest area. Rarely, OHSS can be life-threatening. Other than OHSS, blood clots, infections, abdominal bleeding as well as the twisting of ovaries and, in some cases, of the fallopian tube which disrupt blood flow, are all possible scenarios of IVF side effects.

### **Intracytoplasmic sperm injection**

Intracytoplasmic sperm injection (ICSI) is a specialized form of in vitro fertilization (IVF) that involves the direct injection of a single sperm cell into an egg to facilitate fertilization. This technique is commonly used in cases of male infertility, such as low sperm count or poor sperm motility, to increase the chances of successful fertilization and pregnancy. The procedure that follows an ICSI is very simple. More specifically, an embryologist or an embryo specialist uses a tiny needle to inject a single sperm directly into the center of an egg which in turn fertilizes it.

Overall, ICSI is characterized by great success rates seeing as it fertilizes between 50–80% of eggs<sup>12</sup>. The success rate of ICSI is similar to those of IVF, and it is considered as an effective method of ART for people with sperm-related infertility. Nevertheless, some potential risks that are attributed to this method are as follows; the procedure may damage some or all of the eggs inside a woman’s body and increase the risk of a miscarriage; as far as the infant is concerned, there is a possibility that they may suffer from heart problems, something that may require surgery; additionally, an increased risk of behavioral or learning disabilities accompanied with a risk of infertility in the child during their adulthood are complications that deter many people from opting for an ICSI.

### **Frozen Embryo Transfer**

Very often with IVF or Intracytoplasmic sperm injection (ICSI) treatments, there may be some good quality embryos left in the laboratory after the embryo transfer is completed. In those cases, instead of disposing them, there is the option to freeze them for future use.

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<sup>12</sup> Chavanaves, Pimpagar. “What Are the Differences between IVF and ICSI?” *MedPark Hospital*, 20 Sept.2024,[www.medparkhospital.com/en-US/lifestyles/what-are-the-differences-between-ivf-and-ics](http://www.medparkhospital.com/en-US/lifestyles/what-are-the-differences-between-ivf-and-ics).

Embryos can be frozen at different stages of their development; when they're just a single cell or later in their development.

The procedure of frozen embryo transfer is quite simple. Firstly, the embryos are put in a special solution containing substances (cryoprotectants), which help to draw water out from the embryo and provide protection for the cells. This ensures that no damage is caused by ice crystals forming inside the dish. Then, they are frozen most usually with a technique called vitrification (fast freezing) and stored in tanks of liquid nitrogen until they are ready for use. Overall this method is not considered to have high success rates. To be more specific, not all embryos will survive the freezing and thawing process (a frozen substance becoming liquid) and very occasionally no embryos will survive. The main risk in this procedure is having a multiple birth (twins or triplets), which can pose serious health risks to both mum and babies, including life-threatening maternal complications or premature birth. In order to reduce the risk of having a multiple birth by transferring only one embryo to the womb, a process known as elective single embryo transfer is suggested.

## **The Issues Associated with ART**

### **Ethical Issues**

There are multiple ethical implications associated with ART and its application. One of which, is the misinformation of people wishing to receive ART regarding pregnancy results and the success rates of ART. A case which exemplifies this situation is what happened after the creation of the Fertility Clinic Success Rate and Certification Act of 1992 in the United States (US) which envisioned patients' education on success rates, the reporting data turned out to only report outcomes on IVF cycles and to not include detailed information regarding the maternal or paternal medical history. As a result, people lacked knowledge on the parental medical history that is required in order to ensure that the procedure is a hundred percent successful. In addition to that, success rates of other techniques such as frozen embryo transfer were not considered. It was also harder to gain actual insight into the specific cases that ART could work, for example the rate of success if one of the parents has suffered from any medical condition. In other countries such as the United Kingdom and Sweden, similar national registries exist, making it possible to evaluate data from IVF cycles on both a national and international scale. Such laws were implemented in an attempt to ensure that patients may be informed as to which clinics have superior ART pregnancy

results. In some instances, however, this has led to some clinics “cherry picking” patients to improve their overall pregnancy results, bringing about the misinformation of patients .

Besides that, another ethical dilemma that scientists must sort out is what to do with embryos that are left in the laboratory and that were not used by their genetic parents. Considering the fact that more embryos are fertilized than are reimplanted into a woman’s body, people are uncertain on whether it is considered ethical to donate them to science for laboratory research, destroy them, keep them frozen indefinitely or donate them to other families. In the US alone, it is estimated that over 400,000 embryos are currently cryopreserved, many of which will not be used by their genetic parents<sup>13</sup> . Certainly, there are many aspects to consider should one wish to reach a consensus on this dilemma.

Finally, when inspecting ART from a religious point of view, certain complications arise, as each religion accepts different forms of ART. For instance, Judaism, Hinduism and Buddhism accept nearly all of its forms, while the majority of Orthodox Jews refuse third party involvement (e.g surrogate mother) and Protestants and Anglicans do not accept gamete or embryo donation. On the contrary, Roman Catholics consider it totally unacceptable. Taking all of the above into consideration, it is understandable that people suffering from infertility, but whose religious beliefs reject assisted reproduction, are often challenged with a difficult decision.

### **Legal Complications**

The legislation regarding ART that defines the parameters for its acceptable practice differs within countries. For instance, a legislation that has been introduced in many Member States such as France and Sweden, due to the increased social costs and health risks associated with multiple births, restricts the number of embryos that may be transferred, cryopreserved or fertilized per cycle in an effort to limit the incidence of multiple gestations. This law denies one’s right to freely choose whether or not they wish to have more than one baby in one pregnancy, however, it also reduces the risk of preterm birth which may include increased risk of short-term and long-term health problems for the embryo, including problems with breathing, eating and other side effects such as learning and behavioral disabilities that may appear later in childhood.

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<sup>13</sup> Brezina, Paul R, and Yulian Zhao. “The Ethical, Legal, and Social Issues Impacted by Modern Assisted Reproductive Technologies.” *Obstetrics and Gynecology International*, U.S. National Library of Medicine, 2012, [www.ncbi.nlm.nih.gov/pmc/articles/PMC3261493/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3261493/).



In addition to that, the acceptance of homosexuality in different countries has clearly affected laws concerning the access to ART for same-sex couples. European countries have been divided into most permissive and least permissive countries, as Denmark, the Netherlands, Austria, Germany and Sweden have opened ART to lesbian couples by law but the Czech Republic, Italy, Switzerland and Poland have not. This has resulted in couples traveling across international borders to obtain ART, since such technology is unavailable in their native country.

Finally, another topic of legal debate surrounds the use of surrogate, a woman who agrees to carry a pregnancy using her own eggs but the sperm of another couple and the use of gestational carriers. This involves a couple who undergoes IVF with their genetic gametes and then places the resultant embryo in another woman's uterus, the gestational carrier, who will carry the pregnancy and relinquish the child to this couple upon delivery. Laws upholding the right of a gestational carrier, regardless of genetic relation to the child, to retain parental rights despite the existence of a preexisting gestational carrier contract. This contract is an agreement between intended parents and a gestational carrier to detail the parties rights, obligations, intentions and expectations in connection with their arrangement.

### **Social Barriers**

A social issue preventing people from accessing ART is the fact that IVF treatments can be expensive. This way, people and families dealing with financial problems are left disabled from profiting from ART's services. Blood and imaging tests, medications, procedures for removing eggs and implanting embryos, laboratory work involved in fertilizing the eggs, and embryo storage, all refer to highly costly procedures. In the US, each IVF cycle costs over \$15,000 on average<sup>14</sup>, and some people may need to undergo more than one cycle in case of failure on the first. Often, insurance plans do not cover fertility treatments, and only some states mandate that insurance companies cover IVF treatments. Consequently, families dealing with financial difficulties end up gaining no benefit from the development of ART.

## **MAJOR COUNTRIES AND ORGANIZATIONS INVOLVED**

### **France**

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<sup>14</sup> "In Vitro Fertilization (IVF)." *Yale Medicine*, Yale Medicine, 2 Apr. 2024, [www.yalemedicine.org/conditions/ivf](http://www.yalemedicine.org/conditions/ivf).

France is a rare Western country to fully cover the costs of IVF, meaning that even economically disadvantaged couples have access to such technologies. More specifically, IVF is paid for by the French national health plan, and each woman is entitled to four cycles of IVF per child. Also, in 2021 after serious debate IVF rights were extended to lesbians and single-women making serious progress and being the 11th country in the EU to widen access to ART<sup>15</sup>. However, after the 2024 elections and despite the recent legislative amendment, many regulatory limitations are remaining and resulting in a system that excludes most of LGBT people from parenthood such as gay men and transgender people.

### United States of America (USA)

For the 12 percent of the USA women of reproductive age who have difficulty getting pregnant or carrying a pregnancy to term<sup>16</sup>, IVF is one of the most used assisted reproductive technologies. It is also one of the most expensive. Just one round of IVF costs anywhere from 15,000 to 30,000 USD<sup>17</sup>, and, depending on age, most people require at least three rounds. IVF is not uniformly covered by private or public insurance, so most patients end up paying the costs themselves. In 2015, 70 percent of U.S. women who underwent fertility treatment incurred some amount of medical debt, with 44 percent taking out USD 10,000 or more in loans and 34 percent stopping treatments altogether because of the cost<sup>18</sup>. However, in the case of overcoming the economic barrier, the possibilities of a birth resulting from a

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<sup>15</sup> "French Parliament Votes to Extend IVF Rights to Lesbians and Single Women." *The Guardian*, Guardian News and Media, 29 June 2021, [www.theguardian.com/world/2021/jun/29/french-parliament-votes-to-extend-ivf-rights-to-lesbians-and-single-women](http://www.theguardian.com/world/2021/jun/29/french-parliament-votes-to-extend-ivf-rights-to-lesbians-and-single-women).

<sup>16</sup> Chandra, Anjani, et al. "Fertility Service Use in the United States: Data From the National Survey of Family Growth, 1982–2010." *National Health Statistics Report*, 22 Jan. 2014, [www.cdc.gov/nchs/data/nhsr/nhsr073.pdf](http://www.cdc.gov/nchs/data/nhsr/nhsr073.pdf).

<sup>17</sup> Chandra, Anjani, et al. "Fertility Service Use in the United States: Data From the National Survey of Family Growth, 1982–2010." *National Health Statistics Report*, 22 Jan. 2014, [www.cdc.gov/nchs/data/nhsr/nhsr073.pdf](http://www.cdc.gov/nchs/data/nhsr/nhsr073.pdf).

<sup>18</sup> Chandra, Anjani, et al. "Fertility Service Use in the United States: Data From the National Survey of Family Growth, 1982–2010." *National Health Statistics Report*, 22 Jan. 2014, [www.cdc.gov/nchs/data/nhsr/nhsr073.pdf](http://www.cdc.gov/nchs/data/nhsr/nhsr073.pdf).

successful ART cycle are extremely high. According to the American Society for Reproductive Medicine (ASRM) 2.5% of all births in the US are a result of successful ART cycles<sup>19</sup>.

### **South Africa**

ART services are not accessible to the majority of infertile couples due to the high cost of treatments in addition to cultural, religious and legal barriers. More specifically, 80% of South Africans are Christians<sup>20</sup> and the attitude toward reproductive practice varies among Christian groups. While assisted reproduction is not accepted by the Vatican, it may be practiced by Protestant, Anglican and other denominations. According to traditional Christian views, beginning at conception, the embryo has moral status as a human being, and thus most assisted reproductive technologies are forbidden. This together with the high costs of ART prove the fact that people in South Africa are seriously lacking accessibility to such technologies. To add to that, even access to infertility information is severely limited, thus preventing families from choosing the appropriate family plan for their needs.

### **United Nations Educational, Scientific and Cultural Organization (UNESCO)**

UNESCO is not directly involved with ART. However, UNESCO's International Bioethics Committee (IBC), which is a body of 36 independent experts that follows progress in the life sciences and its applications in order to ensure respect for human dignity and freedom, is significantly related with ARTs. It plays an extremely important role in addressing the ethical implications of scientific advancements, including those related with ART. This committee examines how these technologies intersect with human rights, dignity, and ethical concerns. Besides that, the Universal Declaration on Bioethics and Human Rights adopted by UNESCO in October 19th 2005 deals with ethical issues raised by medicine, life sciences and associated technologies such as ART, as applied to human beings. Its aim is to ensure respect for human dignity, human rights and fundamental freedoms in the application of life sciences. Overall, UNESCO, while not directly dealing with infertility and ARTs, is actively engaged in the topic.

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<sup>19</sup>“IVF-Assisted Pregnancies Constitute 2.5% of All Births in 2022.” ASRM, [www.asrm.org/news-and-events/asrm-news/press-releasesbulletins/ivf-assisted-pregnancies-constitute/](http://www.asrm.org/news-and-events/asrm-news/press-releasesbulletins/ivf-assisted-pregnancies-constitute/). Accessed 23 Sept. 2024.

<sup>20</sup> GCIS, [www.gcis.gov.za/sites/default/files/docs/resourcecentre/pocketguide/2004/econom04.pdf](http://www.gcis.gov.za/sites/default/files/docs/resourcecentre/pocketguide/2004/econom04.pdf). Accessed 23 Sept. 2024.

### World Health Organization (WHO)

The WHO has previously dealt with the issue of ART in the context of other work on the subject of infertility. It has played a significant role in ensuring that the population is provided with safe and effective fertility services by publishing guidelines on infertility diagnosis, treatment and the correct use of ART. The organization has also collaborated with relevant stakeholders including academic centers, ministries of health, UN organizations, Non-State Actors (NSAs) as well as other partners in order to strengthen political commitment, availability and health system capacity with a view to deliver fertility care globally. Besides that, WHO advocates for the inclusion of vulnerable populations such as LGBTQ people and single-women for equal access to ART by providing non-discriminatory ART services.

### Path2Parenthood (P2P)

An American non-profit, Non-Governmental organization (NGO) working to provide the population with information and resources on fertility, adoption and third-party reproduction. They provide individuals and couples with support in their journey to parenthood through various methods including assisted reproduction. An extremely crucial program that this organization has founded is the Family Equality Program aiming to help people of the LGBTQ community who are interested in becoming parents by providing them with resources and information on grant opportunities that are available to help offset the costs of assisted reproductive technology.

### TIMELINE OF EVENTS

Date	Description of Event
1973	First human IVF pregnancy ending in an early embryo death.
July 25th , 1978	First successful IVF procedure; announcement of the birth of Louise Brown through <i>in vitro</i> fertilization (IVF).
1985	First live birth resulting from a cryopreserved embryo.
1986	The American Fertility Society first published guidelines for the ethical implementation of ART in the United States.

June 12th 1987	Norway is the first country in the world to pass a law on ART.
1992	Creation of Fertility Clinic Success Rate and Certification Act in the United States.
May 17th -21th 1999	52nd World Health Assembly raising concerns about the social and ethical implications of ART and requesting the World Health Organization (WHO) to review recent developments in the field of ART.
September 17th -21th 2001	WHO Department of Reproductive Health and Research convening a meeting on the medical, ethical and social aspects of assisted reproduction.
May 21st - 26th 2018	71st World Health Assembly urging Member States to take action to improve access to assistive technology.
2018	IVF accounted for about 2% of all births in the United States.
2022	France is the 11th country in the 27-member EU to allow medically assisted procreation for lesbian couples and single women alike.
15th October 2023	The American Society for Reproductive Medicine (ASRM) issued a statement implying that people, regardless of marital status, sexual orientation or gender identity, warrant equal access to reproductive medicine.

## UN INVOLVEMENT: RELEVANT RESOLUTIONS, TREATIES AND EVENTS

### A/HRC/18/27<sup>21</sup>

This resolution adopted by the Human Rights Council isn't directly about ART but generally discusses the features of proper and effective practices to reduce maternal mortality and morbidity. It highlights the importance in strengthening health systems to ensure access to and use of skilled care and availability in 24-hour emergency care. Considering the fact that most maternal deaths and disabilities could have been prevented if the women had been assisted by a health-care professional with the necessary skills,

<sup>21</sup> "Official Document System - Un." *United Nations*, United Nations, [documents.un.org/symbol-explorer?s=A%2FHRC%2F18%2F27&i=A%2FHRC%2F18%2F27\\_6928191](https://documents.un.org/symbol-explorer?s=A%2FHRC%2F18%2F27&i=A%2FHRC%2F18%2F27_6928191). Accessed 23 Sept. 2024.

equipment and medicines to prevent and manage complications, this resolution attempts to avoid that and reverse this situation. In addition to that, it emphasizes the need for services to be accessible and affordable to all, by becoming of high quality and being provided in a way that is both culturally acceptable and responsive to all women's needs. Moreover, the resolution has urged Member States to establish accessible, effective, independent and transparent accountability mechanisms, operating in public and private sectors, constantly improving existing programmes and policies to ensure reparations when pregnancy-related violations occur.

### **WHA71.8<sup>22</sup>**

The 71st World Health Assembly took place from the 21st until the 26th of May 2018. It made serious progress in improving access to assisted technology including ART. More specifically, it urged Member States to develop, implement and strengthen policies and programmes, as appropriate, in order to improve access to assistive technology within universal health and/or social services coverage. Moreover, it aimed to ensure that Member states possess adequate and trained human resources for the provision and maintenance of assistive products. Finally, the assembly established the fact that assistive technology users and their carers must have access to the most appropriate assistive products and use them safely and effectively. Also the Assembly requested to provide the necessary technical and capacity-building support for Member States, aligned with national priorities, in the development of national assistive technology policies and programmes. This included financing, regulating, providing the appropriate training for health and social services, optimizing service delivery as well as creating inclusive barrier-free environments. All while following mandatory reports on progress in the implementation of the present resolution to the Seventy-fifth World Health Assembly and thereafter to submit a report to the Health Assembly every four years until 2030.

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<sup>22</sup> "WHA 71.8 - Progress Indicators for Access to Assistive Technology." *World Health Organization*, World Health Organization, [www.who.int/publications/i/item/WHO-MHP-HPS-ATM-2022.01](http://www.who.int/publications/i/item/WHO-MHP-HPS-ATM-2022.01). Accessed 23 Sept. 2024.

### **Resolution 2011/1<sup>23</sup>**

This resolution, while not being directly related to ART, deals with fertility, reproductive health and development, therefore being indirectly relevant to the issue at hand. Upon being published, this document urged governments to redouble efforts to eliminate preventable maternal morbidity and mortality by ensuring that universal access to reproductive health, including family planning, is achieved by 2015. Additionally, it called upon governments to incorporate gender perspectives and human rights into health-sector policies, programmes and research activities, paying attention to the specific needs and priorities of women and girls, ensuring women’s right to the highest attainable standards of health. Overall, this resolution advocated for women’s access to affordable and adequate health-care services, including sexual, reproductive and maternal health care.

## **PREVIOUS ATTEMPTS TO SOLVE THE ISSUE**

### **Universal Declaration on Bioethics and Human Rights**

The Universal Declaration on Bioethics and Human Rights was adopted by the United Nations Educational Scientific and Cultural Organization (UNESCO) on October 19 2005. This declaration aims to provide a universal framework of the principles and procedures to guide Member States in the formulation of their legislation, policies or other instruments in the field of bioethics, to promote respect for human dignity and protection of human rights, to ensure equitable access to medical, scientific and technological developments and the sharing of benefits, with particular attention to the needs of developing countries. Article 6 of the declaration also emphasizes the importance of consent, ensuring that therapeutic medical intervention is only to be carried out with the prior, free and informed consent of the person concerned, based on adequate information.

### **52nd World Health Assembly**

The 52nd World Health Assembly took place in Geneva, 17-21 May 1999. It emphasized the role of the WHO in supporting Member States to enhance their reproductive

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<sup>23</sup> *Resolution 2011/1 Fertility, Reproductive Health And ...*, [www.un.org/en/development/desa/population/pdf/commission/2011/documents/CPD44\\_Res2011-1b.pdf](http://www.un.org/en/development/desa/population/pdf/commission/2011/documents/CPD44_Res2011-1b.pdf). Accessed 23 Sept. 2024.

healthcare services and requested that the organization reviews recent developments in the field of ART as well as their social and ethical implications. There was also extensive discussion on the importance of access to reproductive healthcare services as a fundamental human right, including the treatment of infertility. Other concerns regarding ART were also considered by urging the WHO to continue working on guidelines and policies that address the ethical, legal and social implications of ART and the need for ethical guidelines to govern the use of ART, ensuring that these technologies are applied in ways that respect human dignity and rights.

### **WHO Department of Reproductive Health and Research meeting on the medical, ethical and social aspects of Assisted Reproduction**

The meeting which took place in September 2001 was organized to provide a forum for interdisciplinary discussion involving as many interested parties as possible. More than 40 participants from 22 countries took part in the meeting, including clinicians, embryologists, social scientists, ethicists and consumer representatives. The objectives of the meeting were to review and assess recent developments in ART, to identify unresolved issues in the field and to provide recommendations for future research. The meeting was successful in establishing a framework for further research and collaboration and promoting the development of international standards in ART.

## **POSSIBLE SOLUTIONS**

### **Collaboration between the public and private sector**

While difficult to control from an international point of view, collaboration between clinics or biotechnology firms and governments could prove useful to mitigate the ethical and legal challenges related to ART. The creation of guidelines to address issues related to the use of cryopreserved embryos not used by their genetic parents in research, could be achieved through public-private sector cooperation. For example, legal guidelines could ensure that consent is given by the genetic parents for their unused embryo to be used for scientific purposes. Guidelines created through the collaboration of the two sectors could also ensure the prohibition of research practices that are considered unethical such as the creation of embryos specifically for research. Parental rights and responsibilities of donors or surrogates and patients could also be clearly defined. In addition, if private sectors such as research institutions and clinics are included in the drafting and reforming of legislation



regarding the use of ART, laws could be much more efficient and enforceable, being reviewed by professionals in the area.

### **Implementing universal legislations and frameworks**

The creation of universal frameworks and legislation could ensure that ART is accessible and provided equitably and safely across different states. More specifically, a universal framework recognizing ART as part of the right to reproductive health could ensure that ART is provided without discrimination and is accessible to everyone regardless of marital status, sexual orientation and socioeconomic status. As a result, inequality in access to ART would be prevented. Moreover, creating a universal framework through the contribution of the United Nations (UN) to establish the minimum legal standards regarding ART and urging nations to harmonize legislation with a global standard is of crucial importance. That is because it could result in couples not being obligated to travel across international borders to obtain ART, where there is less strict legislation. However this shall only be implemented while respecting cultural or religious differences. Therefore a baseline set of legal standards should be established, not forcing states to utterly change cultural and religious beliefs.

### **Strengthening the accessibility of ART for Less Economically Developed Countries (LEDCs)**

Strengthening the accessibility to such technology in LEDCs could have a profound impact on ensuring equitable access to such technologies. This can be achieved through several ways. For example, It would be important to ensure financial support and subsidization by international organizations such as the WHO , for low-income families and individuals in LEDCs. Financial support could include direct funding or grants to healthcare providers. Besides that, including ART in health insurance plans where possible could also make treatment affordable. Overall, reducing costs while maintaining quality and safety standards plays a very important role in promoting the right to reproductive healthcare regardless of socioeconomic status.

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