



## Review

# Discussion of current ethical issues regarding the use of assisted reproductive treatment in Japan



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## ABSTRACT

**Purpose:** In Japan, the number of people who undergo fertility treatment is increasing; however, the absence of a legal regulatory framework concerning Assisted Reproductive Treatment (ART) results in a number of ethical issues. Some doctors violate existing guidelines and some couples who suffer from infertility go abroad in order to use medical treatments that are not allowed in Japan. In this paper, we introduce current issues and conditions and consider five major ethical challenges regarding ART.

**Study:** We researched current ethical issues and point out five major ethical issues regarding ART: (1) Issues arising when the oocyte donor and person giving birth are not the same, (2) issues related to posthumous assisted reproduction (PAR), (3) issues related to prenatal diagnosis (PD), (4) issues associated with sexual minorities starting a family, and (5) issues related to the rights of children born from ART to know their origins. We examined existing theories and summed them up.

**Results:** We provide a specific discussion on five major ethical challenges considering Japanese laws and court cases. We found that due to the absence of a legal framework for ART, there is likely to be an increase in contradictions between the use of outdated legal precedents and the technical developments of ART.

**Conclusions:** In modern Japan, legislation on ART urgently needs to be prepared. Such laws must sufficiently take into consideration the human rights of the next generation. The welfare of the child should be afforded the utmost respect.

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## 1. Purpose

### 1.1. Introduction

Japan is one of the global leaders in infertility treatment today [1]. The population of infertile women is increasing, and given higher levels of academic achievement and employment rates among women, the tendency is to marry later [2,3]. Consequently, the population of women who undergo infertility treatment is rising; the age of this population is increasing as well [4]. In 2012, one in seven couples were reported to be concerned about infertility, and in 2010, there were 28,945 neonates conceived as a result of in-vitro fertilization, accounting for approximately 2.7% of the total number of infants born that year [5,6]. In terms of assisted reproductive treatment (ART), the Ministry of Justice's Legislative

Council Subcommittee for considering the Legal Status of Mothers and Children Born through ART defined assisted reproductive treatment as medical treatment performed for the purpose of aiding reproduction. Specifically, this included artificial insemination, in-vitro fertilization, intra-cytoplasmic sperm injection (ICSI), and surrogate pregnancy [7–9].

In Japan, there has been a long history of ART, with the first child conceived by artificial insemination by donor (AID [10]) born at Keio University Hospital in 1949 [11]. More than 50 years later, it is estimated that over 10,000 children have been born by means of AID [12]. With rapid developments in medical technology thereafter, since in-vitro fertilization (IVF) first appeared in 1978, the first child conceived by IVF was born in 1983 [13], the first child conceived from a frozen embryo was born in 1989, and the first child born as a result of ICSI was in 1992 in Japan. During the 20th century, there have been rapid advances made in the techniques used for ART. Now, rather than understanding infertility as a physiological phenomenon, it is recognized as a “condition that should be treated” and “a disease that is curable with treatment” [14].

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For this reason, the spread of ART has changed the previously held notion of children being a gift and brought about the idea that medical technology can enable their conception. As there have also been advances in the technology for cryopreservation of gametes, the tendency for women to have concerns about limited child-bearing years has lessened causing them to give priority to their careers and private achievements [15,16].

In addition, it has become possible to conceive by traveling to foreign countries and receiving treatment that cannot be obtained legally in Japan; this has given rise to the social phenomenon of “reproductive tourism” [17]. Reproductive tourism is becoming a global issue, whereby infertile women move to countries in which they can easily conceive a child at low cost with their method of choice [18].

Some people have suggested that in Japan there is a strong stigma associated with infertility. Once people have undergone ART treatments, if they cannot reach their goal of having children, then ART treatments have a heavy impact on their identities [19]. Thus, we will highlight current ethical challenges in ART in Japan.

## 2. Study

### 2.1. Current issues

Recently, there have been several reports of cases in which medical doctors have clinically gone against the Japanese guidelines in order to meet their patients' needs [20–23]. In a case from June 1998, a married woman with premature ovarian failure received an oocyte donation from her younger sister. She then conceived after IVF with her husband's sperm and gave birth to a child. In another case, a wife was able to conceive and give birth following IVF after sperm was donated by the younger brother of her azoospermic husband. These cases were published by Dr. Yahiro Nezu, an obstetrician/gynecologist. In 2001, Dr. Nezu publicized the first successful case of surrogate reproduction between sisters in Japan. In this case, sperm and oocytes were retrieved from an infertile couple, and in-vitro fertilization was performed. The zygote was also implanted into the uterus of the wife's younger sister [24]. In Japan, there are no laws governing ART and there are only guidelines set by the Japan Society of Obstetrics and Gynecology (JSOG) [25], thereby putting the regulatory responsibility solely into the hands of medical professionals. However, doctors who perform ART that are not recognized by academic societies have started to appear within Japan. Thus, it is no longer adequate for the principles of a single society to govern ART.

In 2003, a couple, who worked as entertainers in Japan, traveled to the US to request surrogate birth, where IVF was performed using her own oocytes and her husband's sperm [26]. The embryos were transplanted into the surrogate mother and twin boys were born. After returning to Japan, they presented the registration of birth to confirm the twins as their legitimate children; however, the ward office rejected this. They then filed a lawsuit as an appeal against the administrative directive. In 2007, the Supreme Court ruled that the twins were not their legitimate children because the “mother did not actually deliver the children” [27], and they had to conduct a plenary adoption [28]. This case was heavily publicized through the media, and promoted discussions on the issues associated with surrogate pregnancy [29].

In June 2002, a woman underwent IVF using the cryopreserved semen from her late husband. She then delivered a boy on May 10, 2001. She filed a lawsuit to have the birth of the boy registered as the legitimate child of her and her late husband, but the application was not accepted [30]. The late husband suffered from chronic myeloid leukemia and was concerned about the loss of fertility as a result of the azoospermia, which is a side effect of radiotherapy. He

had expressed the desire that, should he die and his wife remain unmarried, she should be able to use his frozen sperm to conceive his child. The wife had accordingly used her late husband's sperm to conceive. On September 4, 2006, the Japanese Supreme Court ruled that, based on an investigation from a multitude of perspectives, the legal issue of whether to acknowledge the parent–child relationship was based on the legislation determining the effects and requirements of upholding the parent–child relationship. This took into consideration the bioethics of ART using the preserved sperm from a deceased person, the awareness of the person concerned who would be involved in the welfare and formation of parent–child relationships and familial relationships with the child born, as well as a consideration of society in general. As a result, a legal parent–child relationship between the deceased husband and the male child was not established [31].

On the other hand, in 2013, the Japanese Supreme Court ruled that a transgender father should be regarded as a legitimate father in accordance with the Gender Identity Disorder Act (GID law) [32,33]. A transgender man and his wife had a child that was conceived through artificial insemination, with donated sperm [34,35], but when they went to register the child as their own at the city hall, their application was refused. They then filed a lawsuit for the child (then 4 years old) to be recognized as their legitimate child. The Japanese Supreme Court decided that even though there may be no blood relation between the transgender man and the child, they were in a legitimate parent–child relationship on the family register [36–38].

With increasing numbers of parents making use of advances in genetic analysis techniques, they are able to investigate the chromosomal map of the fetus, and detect birth defects at an early stage of pregnancy by analysis of maternal blood samples [39]. This means that parents in Japan who become aware that the fetus has genes that could cause disease can choose to terminate the pregnancy. There were an estimated 11,760 cases of termination, due to learning of fetal chromosomal abnormalities after prenatal diagnosis in the 10-year-period between 2000 and 2009 [40], which is double the rate of the preceding 10 years. The number of terminations due to Down syndrome rose dramatically from 368 cases between 1990 and 1999 to 1122 cases between 2000 and 2009. We believe that the introduction of a new method of prenatal diagnosis, Non-Invasive Prenatal Testing (NIPT) in 2013 will lead to an increase in the number of elective terminations performed due to the detection of Down syndrome or other genetic diseases [41].

Reproductive tourism by Japanese individuals is also becoming a problem. In an apartment block in Bangkok, Thailand in 2015, nine unidentified infants were found between the ages of 1 month and 2 years; their father was a Japanese male client. It was reported that the Japanese male client had requested to be introduced to surrogate mothers, saying that he “wanted to have 10–15 children a year” and “planned to have 100–1000 children.” There were 17 children born as a result of insemination with the client's sperm in Thailand alone. Since the surrogate mothers delivered these children in unlicensed hospitals, there could be other such children too. In this case, it was assessed that the purpose was not to have a child to become a parent, but rather to produce a large number of children who would continue the lineage of the client's DNA. Only one child actually left Thailand, and the other children were left in Thailand [42,43].

Based on the situations mentioned above, we can point out five major issues regarding ART. (1) Issues arising when the oocyte donor and person giving birth are not same, (2) issues related to posthumous assisted reproduction (PAR), (3) issues related to prenatal diagnosis (PD), (4) issues associated with sexual minorities starting a family, and (5) issues related to the rights of children born from ART to know their origins. Below, we provide a specific discussion of each of these challenges.

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