

UK: Public OK with creating babies from three people

March 20 2013, by Maria Cheng

Britain's fertility regulator says it has found broad public support for in vitro fertilization techniques that allow babies to be created with DNA from three people for couples at risk of passing on potentially fatal genetic diseases.

It also found there was no evidence to suggest the techniques were unsafe, but said further research was still necessary.

Critics, however, slammed the decision as a breach of ethics, saying there were already safe methods like egg donation to allow people to have children without mitochondria defects.

Britain's Human Fertilisation and Embryology Authority began a public discussion of the topic at the government's request last year.

"Although some people have concerns about the safety of these techniques, we found that they trust the scientific experts and the regulator to know when it is appropriate to make them available to patients," Lisa Jardine, chair of the group, said in a statement Wednesday.

British law forbids altering a [human egg](#) or an embryo before transferring it into a woman, so such treatments are currently only allowed for research. The regulator will now pass its findings to the government, which would need Parliamentary permission to change the law.

Similar research is going on in the U.S., where the [embryos](#) are not being used to produce children.

About one in 200 children every year in Britain is born with a [mitochondrial disorder](#), faults in a cell's energy source that are contained outside the nucleus in a normal female egg. Mistakes in the mitochondria's [genetic code](#) can result in serious diseases such as muscular dystrophy, epilepsy, [heart problems](#) and [mental retardation](#).

When a method to avoid these faults was first successfully used in 2008, headlines announced that scientists had created a child with three parents—two biological mothers and a father. But scientists said that was inaccurate, since there are only trace bits of [genetic material](#) from one woman.

There are two procedures to avoid passing on faulty mitochondria. The first involves using an egg from one woman with mitochondrial defects and the sperm of the father. Scientists then put that embryo into an emptied egg from a second woman with healthy mitochondria. The DNA from the second woman amounts to less than 1 percent of the embryo's genes.

In the second technique, scientists transfer nuclear DNA out of a day-old embryo with defective mitochondria. The DNA is implanted into another single-cell embryo with normal mitochondria. The nuclear DNA from the donor embryo is discarded, leaving the healthy mitochondria.

Experts say the new techniques would likely only be used in about a dozen U.K. women every year.

David King, director of Human Genetics Alert, called the HFEA recommendations "a travesty of basic medical ethics." His group is a secular organization that opposes many genetics and fertilization

experiments.

Others, however, called it progress for those with mitochondrial diseases.

"This technique does involve a step into new scientific territory," said Marita Polschmidt, director of research at the Muscular Dystrophy Campaign. "But it is a calculated, specific step with the sole aim of preventing a potentially fatal condition from being passed down to the next generation."

More information: www.hfea.gov.uk/141.html

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