POLICY

Mexico debates ban on human-embryo research

Researchers there have only just started using homegrown human embryonic stem cells.

BY SARA REARDON

Fabián Díaz achieved a milestone last year when he derived the first human embryonic stem-cell line from cells of Mexican origin. Biologists across Mexico now use the stem cells, which Díaz — a researcher at the National Institute of Perinatology in Mexico City — created using embryos discarded by a fertility clinic.

But in recent months, Díaz has put his stem-cell research on hold. He is waiting to see whether Mexico's legislature will approve an amendment to the national health law that would ban experiments with human embryos. The proposal is winding its way through the legislature's lower house, the Chamber of Deputies. To become law, it would have to be approved by the legislature and by Mexico's president, Enrique Peña Nieto.

"They want to eliminate an entire area of research in Mexico," says René Drucker-Colín, a neurobiologist at the National Autonomous University of Mexico (UNAM) in Mexico City who hopes to use embryonic tissue as a treatment for people with Parkinson's disease.

The amendment is intended to regulate assisted reproduction, including the payment of surrogate mothers, donations to egg and sperm banks and the fertilization of more than three eggs at a time. But it would also ban the creation of human embryos for any purpose except reproduction and any research with existing human embryos.

Such restrictions are intended to address Mexico's thriving reproductive tourism industry, which has few protections for surrogate mothers. But the proposed amendment would have prohibited a scientific world first that took place in Mexico: the conception of a baby with DNA from three people. The child was born in April. His parents, who are from Jordan, used the treatment to prevent their baby from inheriting a disease that would otherwise be passed down through his mother's mitochondrial DNA.

The proposed changes to Mexico's health law have the backing of the National Action Party (PAN) and Peña Nieto's Institutional Revolutionary Party (PRI), but researchers worry that they are too broad.

"We're not against the regulation," says Diana Escalante, a neurodevelopmental biologist at UNAM. "But the way in which they are doing it is just forbidding everything." The amendment would prevent the creation of new embryonic stem-cell lines, she says, as well as a standard way to test whether the cells can develop into any cell type in the body. The penalties for violating the restrictions would include heavy fines and imprisonment.

MADS NISSEN/ BERLINGSKE / PANOS

Reproductive tourism is under threat from proposed changes to Mexico's health law.

Human-rights groups have joined scientists in opposing the proposed amendment, which would restrict artificial reproduction to heterosexual couples. Only Mexican-national couples would be able to use surrogate mothers, who would be limited to their relatives. Opponents of the plan say that it discriminates against same-sex couples and people without family members of reproductive age.

But Rosa Velez, a spokesperson for Sylvana Beltrones, the legislator who authored the amendment, says that the restrictions would protect human dignity and the legal rights of children who are created using fertility techniques and their parents. She adds that scientists would be able to study stem cells

obtained from adults.

Researchers have protested against the plan. On 24 October, more than 60 Mexican scientists sent a letter to the newspaper *El Universal* critizing the proposed amendment. Drucker-Colín says that he has also asked Mexico's National Academy of Sciences to intercede with the politicians.

EARLY DEVELOPMENTS

The amendment would make it harder for scientists to study the earliest stages of human development, says Iván Velasco, a neurodevelopmental biologist at UNAM and president of the Mexican Society for Stem Cell Research. "It's possible people will train abroad, but if they want to come back they won't be able to do it here," he says. Yet Velasco thinks that his own work, which uses existing human embryonic stem-cell lines, would be permitted.

"It's possible people will train abroad, but if they want to come back they won't be able to do it here."

Others are worried about how a ban on the use of embryonic stem cells would affect clinical research. "We are close to beginning working with [embryonic stem] cells, and these laws are going to trash everything," says Raymundo Cañales de la Fuente, a research gynaecologist at the Hospital Angeles Pedregal in Mexico City whose group looks for ways to improve the efficacy of assisted reproductive techniques.

The amendment would limit the use of routine techniques used in fertility clinics, including a method used to screen embryos for genetic mutations before they are implanted into the mother. Such screening can prevent the transmission of severe genetic diseases, and help some infertile couples to understand why they are having trouble conceiving.

If the technique is banned, researchers would need to rely on older, less precise methods to determine whether embryos are likely to survive implantation, says Patricia Grether, a geneticist at the National Institute of Perinatology. Clinicians could also send patients to the United States for treatment, but that is too expensive for many Mexicans.

Velez says that the intent of the proposed amendment is to improve assisted reproduction, not to ban it. But Cañales de la Fuente says that the proposal would prevent many reputable clinics from offering such services. Clinicians would be limited to fertilizing three eggs at a time, reducing their success rates. They would also have to verify that a couple is not storing fertilized eggs at another clinic. With more than 100 such clinics in Mexico City alone, there is no practical way to do this.

"We need to make a new law," Cañales de la Fuente says. "Completely different from this one, with a scientific basis and a medical basis to be practical — and from the ministry of health, not from the congressmen." ■

POLITICS

Wage fight leaves US postdocs in limbo

Institutions struggle to respond after court blocks pay law.

BY ANNA NOWOGRODZKI

An ongoing battle over US overtime pay rules has left many postdocs in financial limbo. Labour regulations set to take effect on 1 December would have effectively increased wages for some researchers, but on 22 November a US federal judge in Texas temporarily blocked the rule.

Some universities are proceeding with planned salary increases for postdocs, but others have cancelled — or at least, temporarily halted — changes to researchers' pay. The uncertainty over how the legal fight will play out is already affecting some postdocs' career and family plans.

"The injunction coming down, especially right before the holiday weekend, was really disheartening," says Colm Atkins, a postdoc at the University of Texas Medical Branch at Galveston. His institution had planned increases to comply with the overtime rule, but is now cancelling them. "I know postdocs with spouses and families that were really looking forward to having that safety net."

One couple, both postdocs at the University of Massachusetts Medical School in Worcester, had decided to try for a baby because their combined pay rises would have allowed them to afford childcare, says Sonia Hall, a fellow postdoc at the school. But the institution will not go ahead with the increases, so now they can't, she adds.

NEW THRESHOLD

The US Department of Labor finalized the new wage rule in May. The regulation made overtime pay, set at 1.5 times a worker's hourly wage, mandatory for people making less than US$47,476 per year, once they work over 40 hours in one week. The average postdoc salary in the United States is about $45,000 per year, and many researchers surpass the 40-hour cut-off. The previous overtime pay threshold was $23,660 per year.

Because it would probably have been cheaper and logistically easier to raise salaries than to count the hours a postdoc worked, many universities and government agencies had planned to increase annual wages.

The US National Institutes of Health (NIH) will stick to its plan to raise the minimum salary for postdocs paid through its grants to $47,484. This is a 9% increase over previous NIH guidelines.

"A lot of places follow the NIH's example," says Kate Sleeth, chair of the board of the National Postdoctoral Association in Washington DC, which has advocated for a minimum postdoc salary of $50,000 for more than two years. "I'm hoping everyone follows suit."

Even though they are no longer legally compelled to, many institutions — including Duke University in Durham, North Carolina, the University of Minnesota in Minneapolis and Boston University in Massachusetts — will go ahead with plans to raise postdocs' minimum salaries above the $47,476 cut-off.

For those that aren't raising pay — such as the University of Michigan in Ann Arbor — it is not clear whether they are temporarily pausing their plans or abandoning them entirely. The Future of Research, an advocacy group for junior scientists, is tracking institutional responses to the regulation and its suspension on its website.

Sleeth was not surprised to hear that the regulation had been suspended. "We were kind of waiting to see if someone was going to challenge it," she says. Twenty-one states and a coalition of businesses filed a case against the rule in October, arguing that the Department of Labor had overreached its authority.

"When you're at the bottom of the pecking order, it's hard to ask for a raise."

The judge blocked the rule from taking effect on 22 November, until he could decide on the case. It's unclear when he will do so, or whether the department will challenge the ruling.

"When you're at the bottom of the pecking order, even when you're highly educated and skilled and motivated, it's hard to ask for a raise," says Tess Eidem, a biochemistry postdoc at the University of Colorado Boulder. Her institution will let individual researchers decide whether to raise their postdocs' pay.

The increased wages would have sent a message that postdocs are respected and their work is valued, says Hall. "They're a major driving force of the data collection and discovery in the scientific enterprise, and they want to feel like they're not hiding in the shadows anymore." ■