THIS MAN WANTS TO BE ON BIRTH CONTROL

Inside the race to develop a better male contraceptive

By Alexandra Sifferlin

Kristoffer Thordarson, 22, has participated in early studies of male contraceptive methods at the University of Washington School of Medicine

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Health

Daniel Dudley, 28, is a busy man. The medical resident at Valley Medical Center in Washington is an active biker, an amateur chef—he’s currently learning how to cook Indian cuisine—and a proud “father” to two dwarf rabbits, whose antics he chronicles under the Instagram handle @bunnyzaddy. He’s also at least partly responsible for the creation of a new male contraceptive.

Over the past five years, Dudley has volunteered for three separate clinical trials of three male contraceptive methods. He’s taken a daily pill, rubbed a hormonal gel on his chest and received an injection of hormones into his left butt cheek. If all the methods were available today, he says, he would “totally use” the injection for its long-lasting convenience.

Dudley, who is in a long-distance relationship with his partner Adrian, Ton, wants to do his part to increase contraception options for men and take the burden of pregnancy prevention off women, “which is an injustice,” he says. “There’s been much less money and effort put into safely and effectively lowering men’s fertility.”

Women today bear the greatest responsibility for preventing pregnancy, with nearly a dozen options for birth control, including longer-term solutions like the IUD implant and drug contraceptives like the diaphragm and vaginal ring. For a century, men have had only two: the condom (with a failure rate of close to 20%) and the vasectomy, which involves minor surgery. There has not been a new commercial contraceptive for men in several decades.

That may change, thanks to new clinical trials and shifting perceptions of gender responsibilities, including those in the bedroom. Along with overdue conversations about consent, scientists are hoping that the time is right to change the contraception imbalance and are launching clinical trials this year of different methods including pills and gels with the hope that they will attract drug companies with promising results. Industry analysts believe there’s money to be made. If a new male contraceptive method is approved in the next five years, the market is projected to be about $1 billion by 2024 and could grow at a rate of 6% over the next 10 years, according to Global Market Insights. And there’s a pressing need: in the U.S. alone, 45% of pregnancies are unplanned, and yet the public-health strategy to prevent them largely ignores 50% of the population.

The Arrival of the Birth Control Pill in 1960 started a sexual revolution, helping women level the playing field. Its debut in the U.S. market changed society in unanticipated ways too. College enrollment among American women who could access the Pill legally by age 18 in 1970 was 20% higher than among women who could not. One-third of the wage gains women have made since the 1960s are considered to be a result of oral contraceptives access, according to a Planned Parenthood report.

But female birth control methods have not solved the world’s unplanned-pregnancy problem. Studies suggest that it’s common in the U.S. for women to cycle through multiple types of birth control, often because of side effects. Yet the burden of pregnancy prevention almost always falls on them, with 62% of all women of reproductive age currently using a contraceptive method. Even when it comes to permanent measures, female sterilization remains a much more common procedure than vasectomy in the U.S.

Women not only endure all the physical risks when a birth control method fails but also assume the social ones: a 2018 Denmark study found that a woman’s income sharply declines after she has her first child—a drop not experienced by men—which ultimately causes women to earn 20% less than men throughout the rest of their career.

Ton, 26, who is studying to become a family nurse practitioner at Columbia University, says women may initially find it difficult to relinquish some control over pregnancy prevention, but that doing so can create more balance in a relationship. “Women are so used to carrying that burden and are socialized to think it’s our responsibility,” she says. “But I think women would be willing to have more protection.” Ton says she was initially nervous about Dudley’s trials but thinks it’s “amazing” that he’s willing to volunteer.

Past surveys suggest that at least 50% of men would use a new male contraceptive, with men in stable relationships being the most open to taking a daily pill. While some scientists are exploring hormonal options for men that suppress testosterone and sperm production, other researchers are exploring nonhormonal options.

Recently, the pill method that Dudley tested showed promise. Researchers gave Dudley and 82 other men a drug called dimethandrolone undecanoate, or DMAU, which lowers certain hormones like testosterone that are required for sperm production. The small study found that the once-daily pill appeared safe, and among the men who took the highest dose, it was able to suppress the hormones needed for sperm development to extremely low levels that classified their bodies as medically castrated. The men didn’t experience serious side effects, however, because DMAU also mimics testosterone throughout the body.

The scientists behind the DMAU pill trial—from the University of Washington School of Medicine (UW Medicine), Los Angeles Biomedical Research Institute and elsewhere—have worked in the field for years and say there’s welcome and unprecedented energy around their research today. “We have a lot of positive momentum right now,” says study author Dr. Stephanie Page, the division head for metabolism and endocrinology at UW Medicine. “I think the field may be in a different place because the public is expressing quite a bit of interest. There are changes happening socially. It seems different from 15 years ago.”

Like Dudley, Kristo Thordarson—22, a California native and self-described “beach bum” who attends UW Medicine, Los Angeles Biomedical Research Institute and elsewhere—have worked in the field for years and say there’s welcome and unprecedented energy around their research today. “We have a lot of positive momentum right now,” says study author Dr. Stephanie Page, the division head for metabolism and endocrinology at UW Medicine. “I think the field may be in a different place because the public is expressing quite a bit of interest. There are changes happening socially. It seems different from 15 years ago.”

Like Dudley, Kristo Thordarson—22, a California native and self-described “beach bum” who attends UW Medicine, who is a PhD student in biology, has volunteered in multiple clinical trials for male birth control methods. In January, Thordarson, 22, got an injection containing either DMAU or a placebo into his right abdomen to lower his sperm count to nearly negligible. He was told not to use the method as contraception just in case. “It felt like I was being stung by a bee,” he says.

Thordarson and Dudley say the pain from the needle is a worthy burden to bear if it means they’re doing their part to advance the science behind male contraceptives and, in their opinion, right a wrong. “I think having both men and women be responsible for preventing unwanted pregnancies will alleviate a lot of the misogyny and crap that women face,” says Thordarson.

In the Pill Study

In the pill study that Dudley participated in, the side effects were minor: eight of the 60 men reported decreased libido, and five men taking the drug reported acne. Dudley says he didn’t experience any different taking the pill. The researchers are now testing the effects of the pill on an additional 100 men before moving on to a longer trial with couples in a few years.

In the meantime, the National Institutes of Health (NIH) and the Population Council, with the help of several universities around the world, are planning to kick off one of the largest male contraceptive trials to date in July for a gel contraceptive. Research behind the gel method is further along than the pill, largely because when taken orally, lab-made testosterone, which is used in male contraceptives, clears the body quickly, and researchers are very interested about Dudley’s trials and thinks it’s “amazing” that he’s willing to volunteer.

Recruitment is under way for the gel trial, which will enroll over 400 couples in six countries and require men to rub the gel onto their upper arms and shoulders once a day. The gel contains a synthetic progesterin called Nestorone—which blocks the testes from making enough testosterone to produce sperm—and a synthetic testosterone, which will counteract subsequent hormonal imbalances. Once the men’s sperm count has reached a low enough level, the men and women will agree to rely solely on the gel as their birth control.

Historically, men had one of the few contraceptives and a much maligned condom has been around in some form since imperial Rome, though the condom as we know it was invented in the 16th century. It evolved from animal intestine to latex and gained favor during World War II. The German military began supplying condoms during World War I to prevent sexually transmitted diseases, and by 1918 condoms were legalized in the U.S. for disease prevention.

Men’s other birth control option, the
Sterling Drug tested a fertility-suppressing compound called WIN 18,464.6. But when a father of two in Santiago, Chile, “It’s true there were side effects, but they were mild and well tolerated.”

For researchers, the study may say less about men’s willingness to put up with the same side effects. “If you ask whether regulators think they should. In fact, over 80% of the men in the study were willing to take the method if it were available.

The decision to end the trial sparked criticism in the reproductive health community, with some arguing that women regularly deal with significant side effects from their hormonal birth control, including mood swings, depression, acne, strokes, low libido, blood clots and more.

“To the side effects were no different from female hormonal contraception,” says study co-author David J. Handselman, a professor of reproductive endocrinology and andrology at the University of Sydney, adding that he was “definitely disappointed that the trial should end. Interviews with nine of the report’s authors revealed that many of them did not agree with the panel’s decision or were disappointed by it.

There are other reasons pharmaceutical companies have not been quick to pursue male contraceptives. There are other reasons pharmaceutical companies have not been quick to pursue male contraceptives. Female birth control works largely by preventing the ovulation of one egg, once a month. But men produce millions of sperm every day, and bringing that number down to zero involves careful experimentation with various hormones, dosing and intervals, and it takes a while to get it right. Hopefully, we will have results that are exciting and needed. And if a male pill makes it in a funding round led by Peter Thiel’s Founders Fund in 2017. Although Contrace intra CEO Kevin Eisenfrats would not release the number of men who have contacted the company, he says over 70% of people who have reached out have expressed interest in participating in future clinical trials.

“We thought it would be women singing their boyfriends or husbands up, but it’s been primarily men signing themselves up,” says Eisenfrats, adding that the company hears largely from men in their 20s and 30s. “I think there’s a huge interest from millennials.”

For men like Akincilar, a nonhormonal option that’s reversible is appealing, though he says he’s unsure whether other men would be on board. “I’ve asked people I work with if they would do it, and they’d like, Absolutely not. I would not take a shot to the balls,” he says.

Researchers remain optimistic that the field will bring a male birth control method to market within 10 years but argue that they need more support to make it a reality, ideally from pharmaceutical companies. Large, costly studies involving thousands of couples are needed to make a male contraceptive injection that works. It’s estimated to be at least 98% effective and has been tested so far in about 500 men, preventing pregnancies in their partners for up to 10 years.

It has inspired similar versions in the U.S. The nonprofit Parascuro Foundation acquired the rights to produce RISUG in 2010 and has since created Vasalgel, which may begin a clinical trial in humans in 2019. Vasalgel is also a polymer gel injected into the vas deferens—the tube that sperm swim through—neutralizing the sperm. It’s estimated to be at least 98% effective and has been tested so far in about 500 men, preventing pregnancies in their partners for up to 10 years.

I would like to have a choice, and options and I would like control of my own destiny.”

— Devin Patterson, 33, Grand Rapids, Mich.