Simple invention could reduce barriers to contraception

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The team behind the new invention, Dr Helen Paterson, Emma Macfarlane and Professor Michael Stitely from the University of Otago's Department of Women's and Children's Health Credit: Sharron Bennett

A device that could help decrease the global burden of unwanted

pregnancy has been invented by University of Otago academics.

The invention will make it safer and easier for birth attendants, such as midwives, to insert an intra uterine contraceptive device (IUD) immediately after a woman gives birth.

One of the inventors, Associate Professor Michael Stitely, of the Department of Women's and Children's Health, says IUDs are small, T-shaped devices offering up to 10 years of contraception which are inserted in the uterus through the cervix.

The best time to insert them is straight after birth, however, the current method requires surgical skills, dramatically limiting their use.

"We attended an IUD training session for registrars and saw how difficult they found inserting them in a simulation model," he says.

"We thought: There has to be a better way."

Associate Professor Stitely sketched an idea for a device that would assist with the insertion on a scrap of paper. Then he and his team drew it up using a computer assisted drawing (CAD) programme, and created a prototype using a desktop 3-D printer.

"It was great to be able to hold it in our hands and make changes to dimensions and shapes until we got it right."

The device has the potential to save tens of thousands of lives, as the World Health Organisation estimates up to 100,000 maternal deaths per year could be avoided if effective contraception was used by those who didn't want children.

The invention is now one step closer to medical reality after winning

Otago Innovation Ltd's $60,000 Proof of Concept competition for 2019.

Otago Innovation's Intellectual Property Manager and Patent Attorney Tomas Ribeiro says the standard of entries was extremely high this year, making it difficult to pick a winner.

However, he believes Dr. Stitely's idea "stood out" as it "solves a very real clinical problem".

Dr. Stitely says he and his team are very excited to have the opportunity to progress the idea to its next stages.

"We're very excited to work with Otago Innovation to advance this to clinical product. It will move up our timeframes considerably. We can start working on next steps immediately."

Provided by University of Otago