

Stem cell-rich cord blood donations could increase by 'nudging' parents, study suggests

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It contains potentially lifesaving stem cells that can treat a host of blood-based cancers and other diseases. Yet the blood found in newborns' umbilical cords is almost always discarded as medical waste, rather than banked for future needs.

A two-year study of expectant mothers in Milan, Italy, however has found that cord [blood](#) donations increased significantly when parents received information about the procedure and "prompts" to indicate their interest in donating at both early and late stages of their pregnancies.

"We more than doubled the number of cord blood units that were collected. We learned a lot and we did a little bit of good too so that feels nice," said Nicola Lacetera, an applied economist at the University of Toronto Mississauga, who is also cross-appointed to the UofT's Rotman School of Management and one of the study's four authors. Prof. Lacetera is also a Chief Scientist with the Behavioural Economics in Action at Rotman (BEAR) centre. He conducted the study with Daniela Grieco of Bocconi University, Mario Macis of Johns Hopkins University and Daniela Di Martino of Ospedale Buzzi, Milan.

It is the first randomized control study to apply behavioural science "nudging" techniques to cord blood donation. A nudge uses knowledge of human psychology to create a low-key, non-coercive intervention that makes it easier for people to take positive actions they support, but may find hard to do.

People may not donate their baby's cord blood even if they'd like to because they procrastinate—such as putting off the required paperwork to allow the donation—or are overwhelmed by the myriad of decisions and plans parents have to make closer to baby's arrival , among other reasons. Parents may also store their baby's cord blood in a private bank, but this is banned in Italy, where the study took place.

The study conditions included no information given about cord blood donation, and information provided early in the pregnancy or late. This could be combined with asking expectant parents about their intention to donate, and, in the case of the early-informed condition, a third-trimester reminder about their intention, plus an opportunity to change it.

The combination with the most nudges had the highest donation rate: just over 21 per cent of women who received donation information early in their pregnancy, an opportunity to signal their intention, followed by a third-trimester reminder and revision opportunity successfully donated. This compared to donations from 2.7 percent of women who received no information and 11.4 percent of women who received it only in their third trimester.

All told, out of 850 expectant mothers, some 57 cord blood donations were made when nudging was used, compared to 18 to 20 without the intervention.

As positive as these numbers are, the study says donations could have been doubled by the removal of organizational and institutional barriers, such as a lack of staff to perform the cord blood collection and inflexible operating hours at the blood bank.

Cord blood donation is a relatively recent option, which may be another reason why so few people do it. Canada opened its first national public cord blood bank in Ottawa in 2013. The Milano Cord Blood Bank,

where donations in the study were stored, opened in 1993. Italy's public cord blood donation rate is about one percent. In the U.S., the rate of cord blood donation of any kind is believed to be below five percent.

Provided by University of Toronto

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