

Medically assisted reproduction in the Netherlands: Estimating the contribution and limits of MAR use to completed cohort fertility using microsimulation

Rolf Granholm, Anne Gauthier, Gert Stulp

Couples are having fewer children than they intend to across Europe, based on available data on intended family size and completed cohort fertility. Part of this gap can be explained by infertility. This may be due to genetics, but also because couples are postponing childbirth until older reproductive ages, when getting pregnant is more difficult due to age-related physiological constraints on fertility. Medically assisted reproduction (MAR) offers infertile couples an opportunity to achieve their reproductive goals, and MAR treatment has improved considerably over the past few decades. Nevertheless, MAR is no panacea. As with natural fertility, the success rate of MAR declines with maternal age. MAR treatments are also complex and expensive procedures, and they elevate health risks to the mother and the foetus. We would therefore like to know what the utility and limits of MAR are when it comes to population fertility. Several studies have attempted to measure the contribution MAR makes to total or cohort fertility, but few studies have taken into account the complexity of the reproductive life course, and no study has done so in great detail. We have developed a microsimulation model to achieve this. The model includes cohort-representative information on intended family size, education, and union formation using data mainly from the Generations and Gender Survey and the Longitudinal Internet studies for the Social Sciences. It also includes information on contraceptive behaviour, physiological constraints on fertility, and MAR pregnancy rates. We reproduce the completed cohort fertility of Dutch women born during 1974-1984, and run counterfactual simulations to measure the extent to which MAR can contribute to completed cohort fertility. Our model extends on previous simulation studies.