Almost 6% of children are conceived through fertility treatment – delayed childbearing increases the need for treatment

Although some Finns voluntarily choose not to have chidren, the majority of individuals of reproductive age wish to have a child or more children. According to the Healthy Finland Survey collected by the Finnish Institute for Health and Welfare (THL) in 2023, around 40% of people aged 20–49 wanted a child or more children.

Wishes to have a child are most common among people under 30 and decrease with age. Wishes to have a child are slightly more common among men than women and less common among those with lower levels of education than among those with high levels of education (Healthy Finland Survey 2023).

According to the Healthy Finland Survey, 16% of women and 11% of men aged 30–74 have experienced involuntary infertility. More than half of those who have experienced involuntary infertility seek infertility examination or treatment, and around half of them conceive had a child through treatment (Healthy Finland Survey 2023).

Fertility treatments have become more common and the likelihood of success has increased

In vitro fertilisation (IVF) revolutionised infertility treatments. The world's first IVF baby was born in 1978. The first successful in vitro fertilisation pregnancy in Finland took place in the autumn of 1983, and the first child was born in April 1984. Between 1983 and 1990, a total of 170 children were born from IVF treatments, corresponding to 0.03% of all children born (Tiitinen et al. 1998).

In the 1990s, the number of in vitro fertilisation clinics increased, especially in

• Approximately 2,500 children are born annually in Finland are conceived through fertility treatments.

- Around half of those seeking infertility examination and treatments have a baby through fertility treatment.
- The proportion of children born through fertility treatment is largest in higher socio-economic groups.
- Treatments should be accessible to all, regardless of where they live or their socio-economic background.

• The single most important factor explaining unintended biological infertility is the postponement of childbearing to a higher age. Knowledge on the impact of age on the likelihood of pregnancy needs to be provided as part of health education in schools.

the private sector. Between 1992 and 1996, the number of treatments initiated almost tripled. At the same time, the success rate of treatments improved from 10% in the 1980s to over 20%, and the number of children born exceeded 1,000, accounting for just over 2% of all children born (THL fertility treatment statistics 2024).

Since 2001, THL's data collection on fertility treatments has also covered in vitro fertilisation treatments with donated

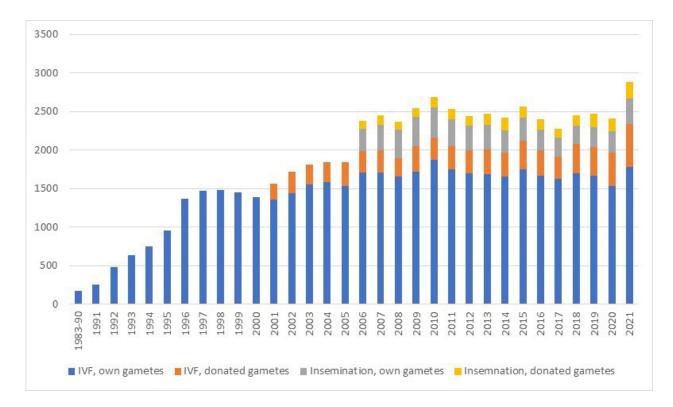


Figure 1: Number of children born from fertility treatments between 1983 and 2021 (THL Statistics on assisted fertility treatments).

gametes and since 2006, inseminations with both donated and autologous gametes. Insemination refers to the injection of sperm into the uterine cavity. Between 2006 and 2020, the average number of children born from all fertility treatments was 2,460 per year, or around 4.4% of all children born. Annual differences were small, as shown in Figure 1.

In 2021, the year after the Covid-19 epidemic, a record number of treatments were performed: 15,300. The number of children born from treatments also increased: 2 883 children and 5.8% of all children born.

In the 1990s, Finland still had the highest number of in vitro fertilisation treatments per capita among the Nordic countries. However, between 2020 and 2022, the number of in vitro fertilisation treatments and associated frozen embryo transfers started in Finland was lower than in the other Nordic countries. The maximum number of treatments initiated in Finland was 8 per 1,000 women of childbearing age. In Norway and Sweden, the ratio was 9-10/1,000, in Iceland and Denmark 12-15/1,000.

Late childbearing increases the need for fertility treatments

The single most important factor explaining involuntary infertility due to biological causes is the postponement of childbearing to a later age, when getting pregnant may no longer be possible and miscarriages and other problems during pregnancy become more common.

According to the THL Medical Birth Register, around 0.3% of children born to women aged 20¬–24 years were conceived through infertility treatments, compared to 1.3% of children born to women aged 25–29 years (Figure 2). The proportion is 3% for women aged 30-34 years and doubles to 6% for women aged 35–39 years.

For those aged 40 and over, the increase has been most marked in recent decades. One in ten children born to women aged 40– 44 and more than one in four children born to women aged 45 and over were conceived using in vitro fertilisation, insemination or ovulation induction.

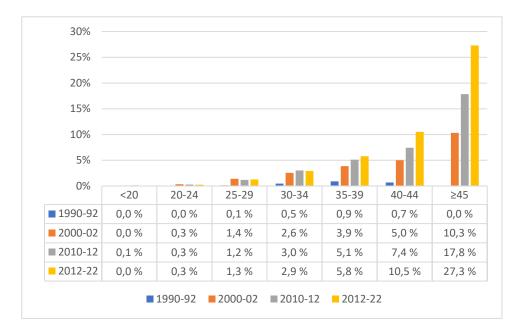


Figure 2: Number of children born from infertility treatments (in vitro fertilisation, insemination and ovulation induction) (THL Medical Birth Register).

Equal access to infertility treatments for all

Not all people who experience unintended infertility seek infertility testing or treatment. According to studies from the 1990s, there were no major regional differences in the use of fertility treatment in Finland (Klemetti et al. 2004). Differences between urban and rural areas or between different socio-economic groups have also been small, although private clinics are an important provider of services. Kela reimbursements for medicines, visits to the physician and procedures have reduced the financial burden on those receiving treatment in the private sector.

The proportion of children born through fertility treatments has been highest in higher socioeconomic groups, and the age of the mother does not explain the phenomenon (Räisänen et al. 2013). There may be socio-economic differences in the number and success of treatments, which cannot be studied in Finland until a cycle-specific fertility treatment register is established. THL is piloting data collection between 2024 and 2026, involving all clinics providing fertility treatment. Infertility treatments should be accessible to all, regardless of educational background and income level. If fertility is to be promoted in Finland, we must offer the childness the support they need, respond to the growing demand for fertility treatments and support family formation and families at all stages.

Not all young adults are aware of the negative impact of age on the likelihood of becoming pregnant and progressing to childbirth (The Family Federation of Finland 2024). Fertility counselling refers to information and advice on fertility issues, including the effects of age on fertility and contraception. It should therefore be part of health education in schools and other counselling and health checks for people of reproductive age.

More information

Research Professor Mika Gissler, THL — Finnish Institute for Health and Welfare & University of Turku, mika.gissler@thl.fi

Funding

The research has been funded by the Strategic Research Council (SRC) of The Research Council of Finland, FLUX consortium (Family Formation in Flux – Causes, Consequences, and Possible Futures), decision numbers345130.

References:

Klemetti R, Gissler M, Hemminki E: Equity in the use of IVF in Finland in the late 1990s. Scandinavian Journal of Public Health 32: 3: 203-209, 2004.

Räisänen S, Randell K, Svarre Nielsen H, Gissler M, Kramer MR, Klemetti R, Heinonen S: <u>Socioeconomic status affects the</u> <u>prevalence, but not the perinatal outcomes,</u> <u>of in vitro fertilization pregnancies.</u> Human Reproduction, Volume 28, Issue 11, November 2013, Pages 3118–3125. THL – Finnish Institute for Health and Welfare: <u>Statistics on assisted fertility</u> <u>treatments</u> (referenced 16.2.2024).

THL – Finnish Institute for Health and Welfare: Wishes to have children postponed until later – fertility counselling, support for families with children and positive speech may support birth rate. (referenced 16.2.2024).

Tiitinen A, Hovatta O, Kujansuu E, Gissler M, Koskimies A: Hedelmöityshoidot ja niistä alkaneet raskaudet Suomessa (Assisted fertility treatments and resulting pregnancies in Finland, in Finnish). Duodecim 114: 2219–2224, 1998.

The Family Federation of Finland: <u>Tietoisuus</u> <u>iän vaikutuksista hedelmällisyyteen</u> (Awareness of the effects of age on fertility, in Finnish) (referenced 16.2.2024).



