

UNDERSTANDING AGE AND ART



INFORMATION FOR PATIENTS FROM THE AFRICAN NETWORK AND REGISTRY FOR ART

The age of the woman strongly influences the outcome of assisted reproductive technology (ART). Younger women have a higher chance of having a baby than older women. This does not mean that older women cannot be treated, although many centres and some countries have an upper age limit beyond which ART is not offered or not allowed. It is important to understand how female age affects the outcome of ART. This helps women and couples to understand their prognosis and to make decisions related to ART.

— FEMALE AGE AND NATURAL FERTILITY —

Women are born with all their eggs. Over time, the number of eggs that can result in a baby become fewer and also of poorer quality. This is due to the natural process of aging. Women are most fertile (= able to get pregnant) in their 20s. Thereafter fertility first declines slowly and then more quickly from 35–37 years onwards. A woman who is 40 is on average 4x less fertile than a woman who is 30. Very few women get pregnant after the age of 45. This means that women stop being fertile 5–10 years before they stop menstruating (having monthly periods) because of change of life (also called “menopause”).

Older women are also more likely to experience a miscarriage than younger women. This is due to the quality of eggs. Older women have older eggs, and older eggs are more likely to carry abnormalities that can result in miscarriages

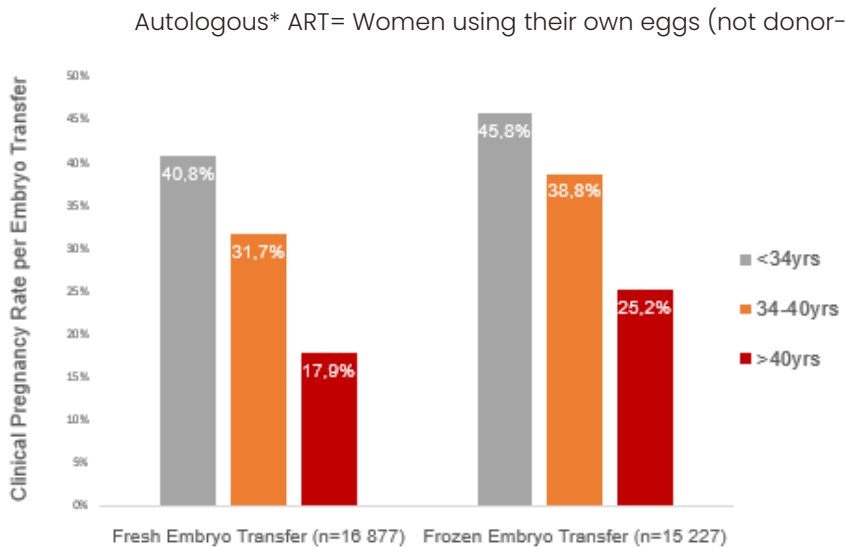
— ARE ALL WOMEN THE SAME? —

No. The natural decline in fertility due to age can vary a lot between women. It can also vary between families. In addition, medical conditions can affect a woman’s number and quality of eggs as well as lifestyle factors, such as cigarette smoking.

HOW DOES FEMALE AGE INFLUENCE THE OUTCOME OF ART?

To increase the chance of having a baby with ART, it is important to try and obtain several eggs from the woman's body (see also "Understanding embryo freezing in ART"). Since older women have fewer eggs and fewer good quality eggs, the chance of getting pregnant is lower and the risk of miscarriage is higher. This graph (Fig 1) shows pregnancy rates and the delivery rates per aspiration (=egg collection) in women ≤ 34 years, 35–39 years and ≥ 40 years.

FIGURE 1: Clinical pregnancy rate per embryo transfer in fresh and frozen autologous* cycles by woman's age. (Source: The Africa Registry for ART, 2024)



ARE THERE TESTS THAT CAN MEASURE THE NUMBER OF EGGS?

There are no tests that can count the actual number of eggs that a woman carries in her body, also called "ovarian reserve". But there are tests that can indicate whether the ovarian reserve is high, low, or normal. These tests are often done before ART is started but they are not routinely needed in younger women.

Ovarian reserve tests do not reliably predict the chance of getting pregnant. But they do help to predict whether the number of eggs that are likely to grow will be satisfactory. They may also help to decide how much medication (=hormonal stimulation) a woman should take to grow eggs. In some instances, especially if the woman had a failed ART cycle with few or no eggs, the ovarian reserve test may help to decide to use donor eggs.

CAN YOUNG WOMEN HAVE A LOW OVARIAN RESERVE?

Yes. Sometimes even a young woman can have only few eggs. There can be medical reasons for this such as previous surgery, previous cancer treatment or a genetic condition. Sometimes the reasons are unknown. Importantly, young women with few eggs often still have good quality eggs. Therefore, they may still have a chance of having a baby with their own eggs. This chance is lower than a young woman who has many eggs. But the chance is higher than an older woman who in addition to having few eggs also usually has poorer quality eggs.

CAN THE LOSS OF EGGS WITH INCREASING AGE BE PREVENTED?

The age-related decrease in egg numbers is natural and cannot be prevented. Therefore, women should not wait too long before having the child or children they desire. Women who wish to delay pregnancy for a few years can decide to freeze and store their eggs while they are still young. If needed, they can then use these eggs when they are older. There are many reasons why women want to postpone pregnancy, including education or professional reasons, not having found the right partner, medical reasons (such as having to undergo cancer treatment), or other important circumstances of life.

WHAT IS EGG DONATION?

Egg donation means that a woman gives away some of her eggs to another woman to help her get pregnant. The woman giving away eggs is also called an “egg donor” and the woman or couple receiving is called “recipient”. The egg donor may be known (=non-anonymous donation) or unknown (=anonymous egg donation) to the woman or couple. Egg donors are usually young women as they are likely to have many good quality eggs.

Some countries in Africa do not allow egg donation. Countries that allow egg donation often have guidelines or regulations that help to ensure that the donation is fair and safe for both donors and recipients. Both the donor and recipient must agree in writing to the donation and the guidelines or regulations that exist in the country must be followed. Importantly, the eggs are neither sold nor bought, but donated. While donors can and should be compensated (=receive some money) for their time and the treatment that they need to undergo in order to donate eggs, this compensation is not a payment or fee.

DOES AGE ALSO INFLUENCE THE OUTCOME OF EGG DONATION CYCLES?

The chance of having a baby after an egg donation cycle depends mainly on the age of the donor. Because most egg donors are young women, the success of egg donation cycles is usually high and similar to the success of ART in young women using their own eggs to get pregnant (also called “autologous” ART). The graph below (Fig 2) shows the delivery rates by age in women using their own eggs and in women using donor eggs. In donor egg cycles the delivery rate does not decrease with age. These data come from the Latin American Registry for ART, the sibling registry of the African Registry for ART.

IS THERE ANY TREATMENT TO INCREASE THE NUMBER OF EGGS?

No. To date no treatment exists that can increase the number of eggs a woman has in her body.

FIGURE 2: Delivery rates per embryo transfer by woman’s age.
(Source: The Latin American Registry for ART, 2021)

