

# UNDERSTANDING ART SUCCESS

INFORMATION FOR PATIENTS FROM  
THE AFRICAN NETWORK AND REGISTRY FOR ART



Women and men use ART because they want to have a baby. Therefore, the most important measure of ART success is the delivery of a healthy baby. In addition, pregnancy is also often counted as success although some pregnancies may not result in a baby. To correctly understand the success of ART it is important to understand the different ways in which it can be measured and reported.

FIGURE 1: Clinical pregnancy rate and delivery rate per aspiration and per embryo transfer. (Source: The African Registry for ART, 2020)



In Africa, many ART pregnancies are lost to follow up. This graph only includes delivery data from ART centres which have fewer than 5% of ART pregnancies lost to follow up.

## HOW IS ART SUCCESS MEASURED?

ART success is expressed as a rate. In Africa, the most commonly reported rates are the number of clinical pregnancies or the number of deliveries divided by the number of aspirations (egg retrievals) or the number of embryo transfers. Numbers are usually counted over the course of one year. Each of these numbers represent different steps of the ART cycle:



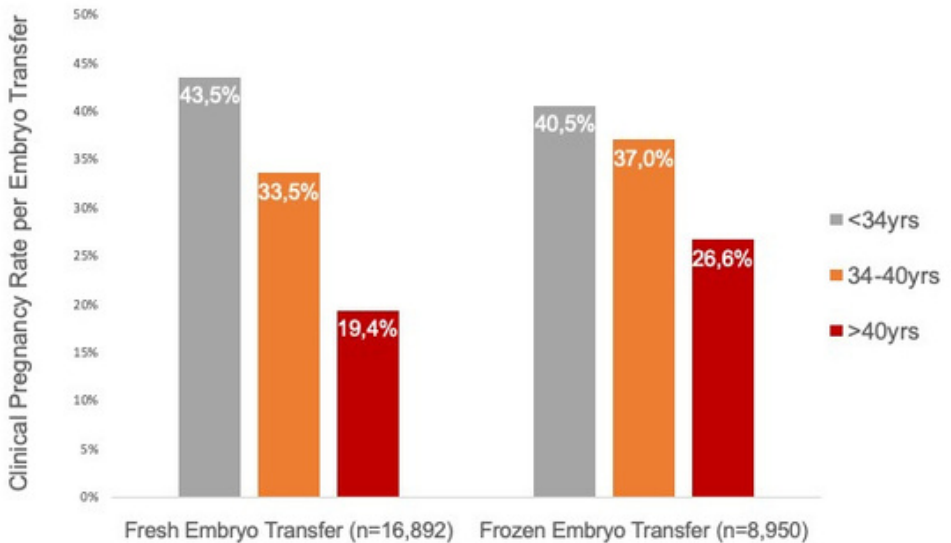
## OTHER MEASURES OF SUCCESS ARE:

- Clinical pregnancy rate or delivery rate per initiated (started) cycles: this rate counts all clinical pregnancies or all deliveries divided by the number of initiated cycles. Initiated cycles include all cycles started, including those that did not result in an aspiration or embryo transfer.
- Live birth delivery rate per aspiration: this rate counts all deliveries with at least one live baby divided by the number of aspirations (egg collections)
- Cumulative delivery rate per aspiration: this rate counts all deliveries resulting from both fresh and frozen embryo transfers divided by the number of aspirations (egg collections)

## ARE ALL CYCLES EQUALLY SUCCESSFUL?

No, the success of individual cycles varies. The most important factor that influences success is the age of the woman. Younger women have a higher chance of having a baby than older women. The graph below shows results from the African Registry for ART for women of different age groups using their own eggs (called autologous ART).

FIGURE 2: Clinical pregnancy rate per embryo transfer according to age in fresh and frozen autologous cycles. (Source: African Registry for ART, 2020)



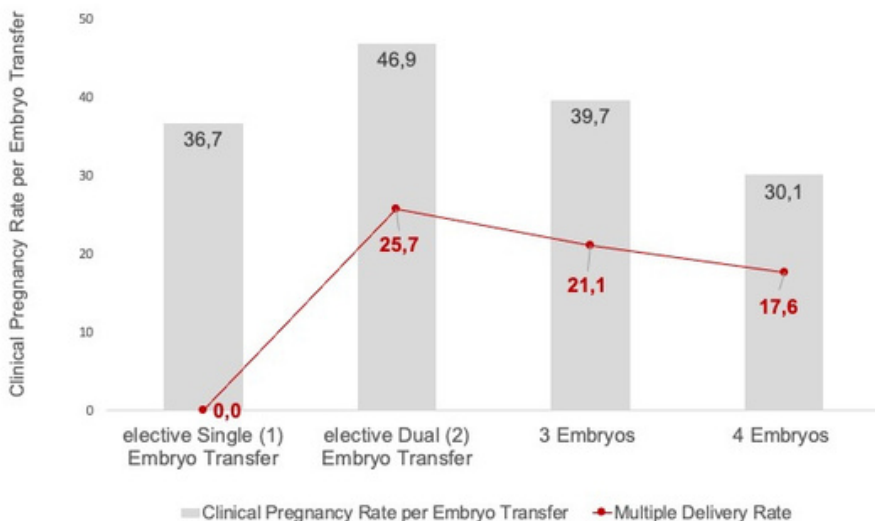
## OTHER FACTORS THAT INFLUENCE SUCCESS INCLUDE:

- a previous pregnancy and delivery
- the number of eggs retrieved
- the number of eggs that fertilize in the laboratory
- how well the embryos grow in the laboratory
- how mature the embryos are when transferred back to the womb. More mature embryos (blastocysts) provide a higher chance of success than less mature embryos (cleavage stage embryos)

## HOW MANY EMBRYOS SHOULD BE TRANSFERRED FOR THE BEST CHANCE TO HAVE A BABY?

This is an important and also difficult question. Data from the African Registry for ART show that the highest chance to get pregnant comes from a cycle in which several embryos formed and in which two embryos were transferred while the additional embryos were frozen (also called elective dual embryo transfer). However, the transfer of two embryos (elective dual embryo transfer) often results in a multiple pregnancy (twins or even triplets). Although some patients may wish to have twins or even triplets, it is very important to know that a multiple pregnancy is much more risky for both the mother and the growing babies. This risk can be avoided by choosing to transfer only one embryo and freezing the remaining ones (also called elective single embryo transfer) for use in another cycle (if the first cycle fails or for another baby). Lastly, the data show that the transfer of three, four or even more embryos does not further increase the chance for a pregnancy compared to two embryos. Therefore, it is usually better to freeze these embryos.

FIGURE 3: Clinical pregnancy rate by number of embryos transferred. (Source: African Registry for ART, 2020)



## HOW IS THE DECISION MADE ON HOW MANY EMBRYOS TO TRANSFER?

The decision on how many embryos to transfer is very important. It requires balancing optimal success with optimal safety. Having one baby at a time is always safer than two or even three. But of course, success is also hugely important, especially if it is difficult for a couple to come back for another cycle, either because of cost, or because of living far away from the ART centre, or for other reasons. The decision also requires understanding what factors other than the number of embryos transferred influence success and safety in each individual woman, couple and cycle.

The ART doctor will carefully consider all these aspects and then recommend how many embryos should be replaced in his/her opinion and experience. This opinion and experience are very important. While the data from the regional ART registry help to inform this decision, the doctor will understand the individual circumstances of each woman, couple and cycle. However, the decision how many embryos are replaced should ultimately be made by the couple, as they – and in particular the woman whose body is most involved – are most affected by the outcome of the decision. In order to make this decision, couples need to be well informed and also feel empowered to decide.

This factsheet is brought to you by the African Network and Registry for ART (ANARA) in cooperation with the Latin American Registry of Assisted Reproduction (RLA) and Network (REDLARA). It is endorsed by the International Committee for Monitoring ART (ICMART), the African Federation of Fertility Societies (AFFS)\*, and Groupe Inter-africain d'Etude, de Recherche et d'Application sur la Fertilité (GIERAF)\*\*.

This information does not replace individual medical advice of a qualified care provider in ART.



**ANARA**  
african network and registry for  
assisted reproductive technology



**REDLARA**  
red latin american registry of assisted  
reproduction and network



**ICMART**  
International Committee for  
Monitoring Assisted Reproductive  
Technology



\*



\*\*