

**Registro Latino Americano de
Reproducción Asistida**

**Latin American Registry of
Assisted Reproduction**

2012

Figure 1. Assisted Reproductive Technologies performed in Latin-America in 2012

Country	Number of clinics	Assisted reproductive techniques						Total
		IVF/ICSI initiated cycles	IVF	ICSI	FET	OD	FP	
Argentina	25	6,461	504	5,515	3,027	1,543	429	11,031
Bolivia	1	215	148	62	14	8	923	237
Brazil	57	16,030	1,070	13,937	4,252	1,170	0	21,452
Chile	8	1,563	131	1,321	549	197	48	2,309
Colombia	11	977	293	622	262	247	13	1,486
Ecuador	6	608	216	324	165	154	107	927
Guatemala	1	100	38	62	7	17	0	124
Mexico	27	3,345	1,222	2,017	1,046	1,140	114	5,531
Nicaragua	1	91	46	41	0	9	0	100
Panama	1	245	7	192	86	33	9	364
Peru	6	1,264	298	875	430	547	114	2,241
Dominican R.	2	80	42	35	5	26	0	111
Uruguay	2	293	20	233	77	46	2	416
Venezuela	7	585	369	184	153	259	5	997
Total	155	31,857	4,404	25,420	10,073	5,396	1,764	47,326

Figure 1 shows the number of institutions and countries of the 155 reporting clinics to RLA. It also describes the type of procedures performed in the 47326 cycles, which include 31857 initiated cycles of IVF and ICSI, the transferred cycles of Frozen Embryos (FET; 10073) and Oocyte Donations (OD; 5396). It is also shown the OPU cycles of Fertility Preservation cycles (FP).

Figure 2. What types of ART cycles were performed in Latin America in 2012?

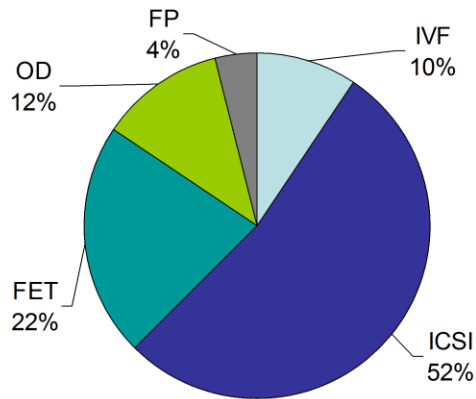


Figure 2 shows the distribution of ART cycles performed in Latin America during 2012. 62% were fresh non-donor egg retrievals, 22% were frozen/thawed embryos and 12% used oocyte donation (eggs from another women). 4% of the cycles were for fertility preservation.

Figure 3. Age of women who used assisted reproductive technologies in Latin America in 2012?

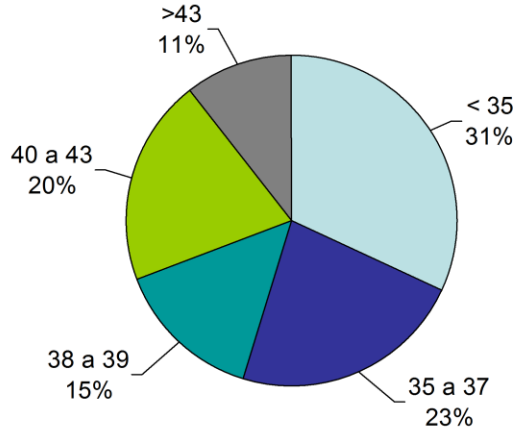


Figure 3 shows the percentage ART cycles according to age of the women in 5 different groups. Women under 35 years of age, represent 31% of the cycles. 23% were performed among women between 35 to 37; 15% between 38 to 39; 20% between 40 to 43; and 11% in women over 43 years of age.

Figure 4. How did the type of ART cycles performed in Latin America in 2012 differ among women of different ages?

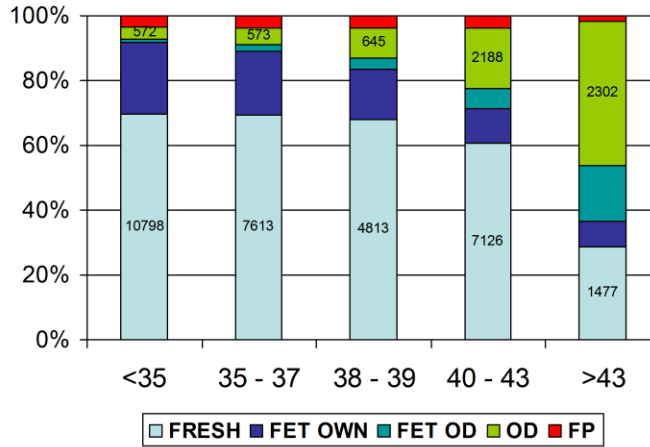


Figure 4 shows that, in 2012, the types of ART cycles varied by the women's age. Almost 70% of younger women, under 35 years of age, used their own eggs. In contrast, 45% of older women, over 43 years of age, use donated oocytes. Across all age groups, more ART cycles using fresh eggs and embryos were performed than cycles using frozen ones.

Figure 5. What are the steps for an ART cycle using fresh non-donor eggs or embryos?

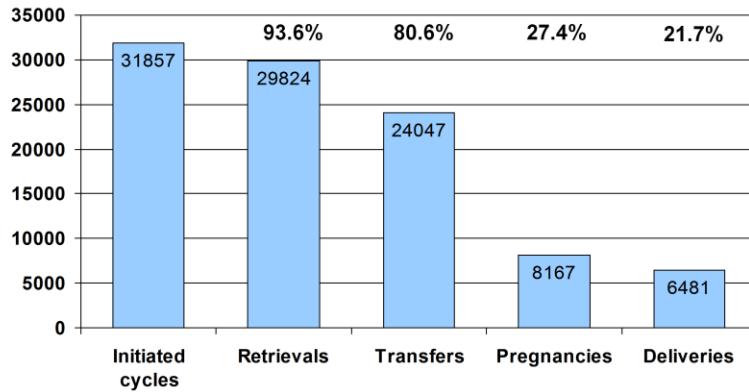


Figure 5 shows the steps for an ART cycle and shows how they progress through these stages toward pregnancy and live birth. 93.6% of initiated cycles are cycles that reach egg retrieval. Percentages in bars are calculated over the 29824 retrievals. Once retrieved, eggs are combined with sperm in the laboratory. If fertilization is successful, one or more of the resulting embryos are selected for transfer. If one or more of the transferred embryos implant within the woman's uterus, the cycle then may progress to clinical pregnancy. Finally, the pregnancy may progress to a live birth, the delivery of one or more live-born infants (the birth of twins, triplets, or more is counted as one live birth). A cycle may be canceled at any step for specific medical reasons (e.g., no eggs are produced, the embryo transfer was not successful) or by patient choice.

Figure 6. Why are some ART cycles cancelled?

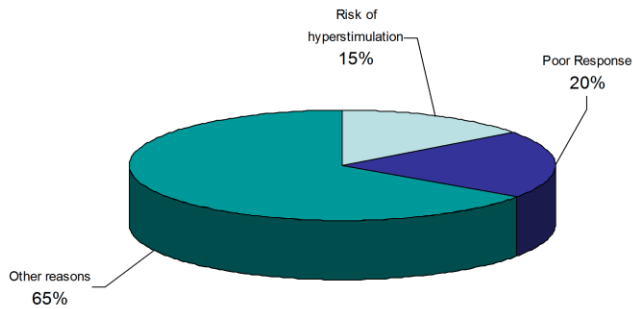


Figure 6 shows the reasons why the cycles were canceled. In 2012, a total of 2,033 ART cycles (about 6% of all 31,857 cycles using fresh non-donor embryos) were canceled before the egg retrieval step (see Figure 5). For approximately 20% of these cycles, there was no or inadequate egg production. Other reasons included a 15% too-high response to ovarian stimulation medications (i.e., potential for ovarian hyper-stimulation syndrome) and 65% of other reasons, or patient withdrawal for other reasons.

Figure 7. How are success rates of ART measured?

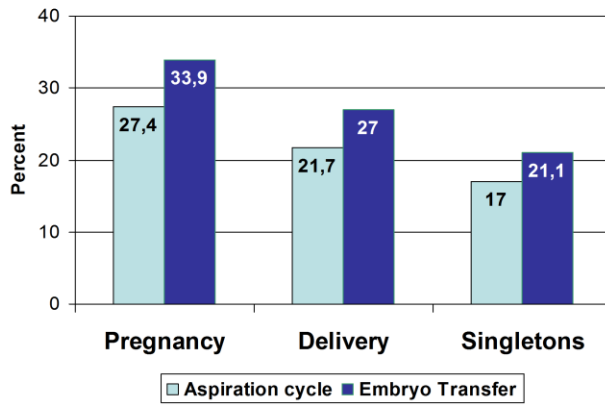


Figure 7 shows pregnancy, delivery and singleton live births rate by aspiration cycles and embryo transfer cycles using fresh non-donor embryos in 2012.

Figure 8. What percentage of ART cycles result in a pregnancy in Latin America in 2012?

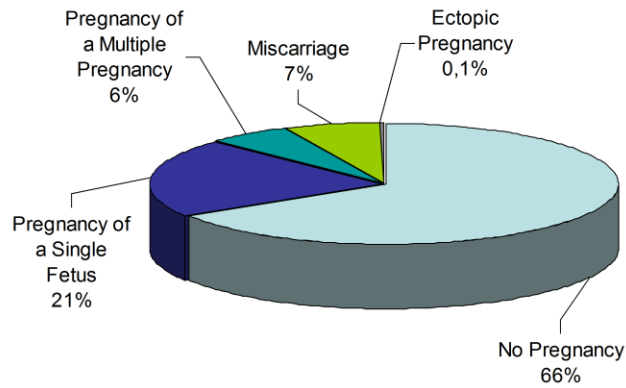


Figure 8 shows the outcomes of transfer cycles in 2012 that used fresh non-donor embryos. Most of these transfer cycles (66%) did not produce a pregnancy; a very small proportion (0.1%) resulted in an ectopic pregnancy (the embryo implanted outside the uterus), and 34% resulted in clinical pregnancy. Clinical pregnancies can be further subdivided as follows: 21% of clinical pregnancies resulted in a single-fetus pregnancy; 6% resulted in a multiple-fetus pregnancy; and 7% ended in a miscarriage.

Figure 9. Using ART, what percentage of pregnancies result in a live birth in Latin America in 2012?

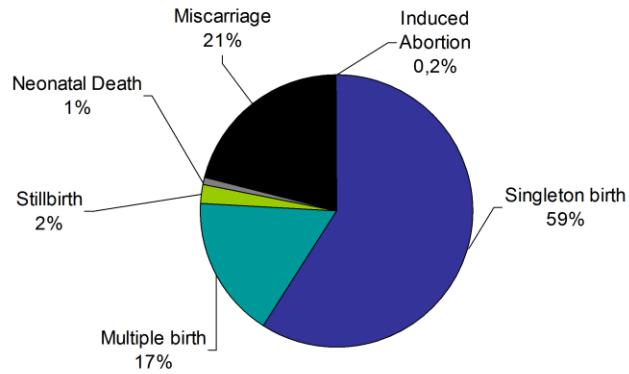
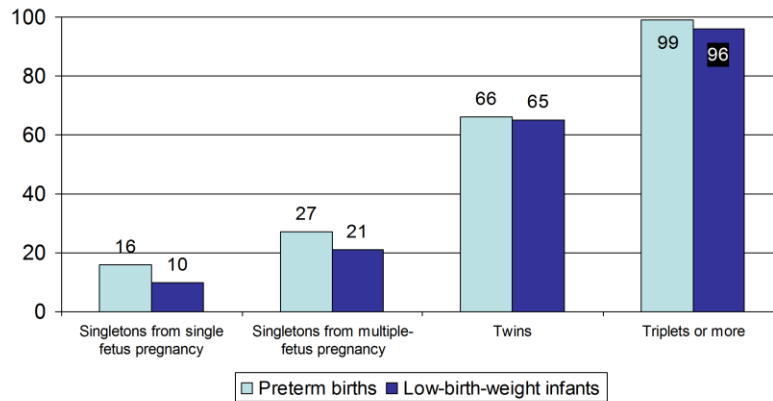


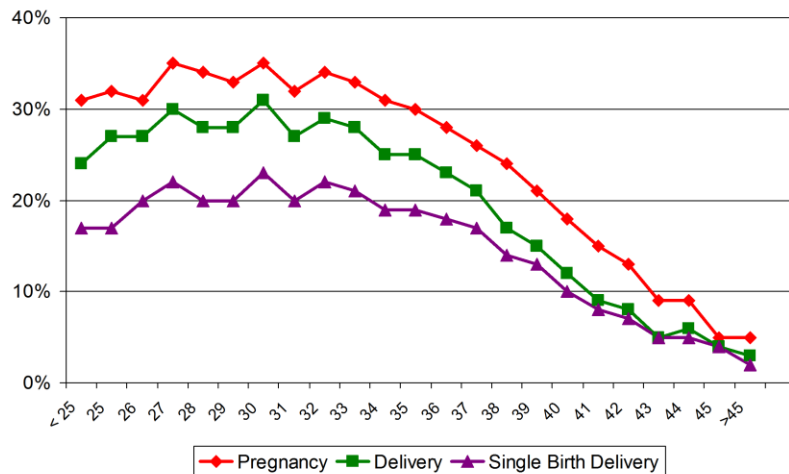
Figure 9 shows the outcomes of pregnancies resulting from ART cycles using fresh non-donor embryos in 2012. Approximately 76% of the pregnancies resulted in a live birth (59% in a singleton birth and 17% in a multiple-infant birth). About 24% of pregnancies resulted in miscarriage, stillbirth, neonatal death or induced abortion.

Figure 10. Using ART, what are the risks of having a preterm birth and low-birth-weight infant?



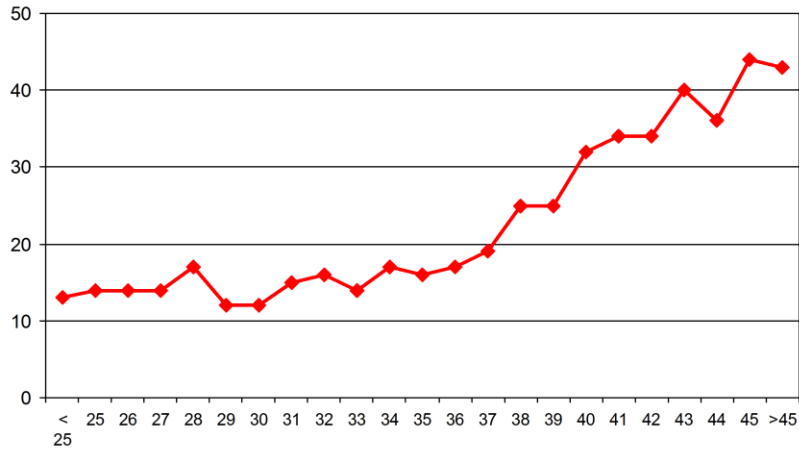
Preterm birth occurs when a woman gives birth before 37 full weeks of pregnancy. Low-birth-weight infants are born weighing less than 2,500 grams. Infants born preterm or with low birth weight are at greater risk of death in the first few days of life, as well as other adverse health outcomes, including visual and hearing impairments, intellectual and learning disabilities, and behavioral and emotional problems throughout life. Preterm births and low-birth-weight infants also cause substantial emotional and economic burdens for families. Figure 10 shows percentages of preterm births and low-birth-weight infants resulting from ART cycles that used fresh non-donor embryos in 2012, by number of infants born. For singletons, it shows separately the percentage of preterm birth and low birth weight among infants born from pregnancies that started with one fetus (single-fetus pregnancies) and with more than one fetus (multiple-fetus pregnancies). Among singletons, the percentage of preterm births and low-birth-weight infants was higher for those from multiple-fetus pregnancies.

Figure 11. Proportion of ART cycles that result in pregnancies, deliveries, and singleton live births among women of different ages??



The age of woman is the most important factor affecting the chance of a live birth. Figure 11 shows percentages of pregnancies, deliveries of live births, and singleton live births among women of different ages who had ART procedures using fresh non-donor embryos in 2012. Percentages of ART cycles resulting in deliveries of live births and singleton live births are different, specially in younger women, because of the high percentage of multiple-infant deliveries counted among the total live births.

Figure 12. How does the risk of miscarriage differ among women of different ages?



The age of woman affects the chance of the risk of miscarriage when her own eggs are used. Figure 12 shows percentages of ART cycles using fresh non-donor embryos in 2012 that resulted in miscarriage for women of different ages. Percentages of ART cycles that resulted in miscarriage were below 17% among women aged 35 or younger. The percentage of ART cycles that resulted in miscarriages began to increase rapidly among women in their mid-to late 30s and continued to increase with age, reaching more than 30% at age 40 and over 40% among women older than age 44.

Figure 13. How does a woman's age affect her chances of progressing through the various stages of ART?

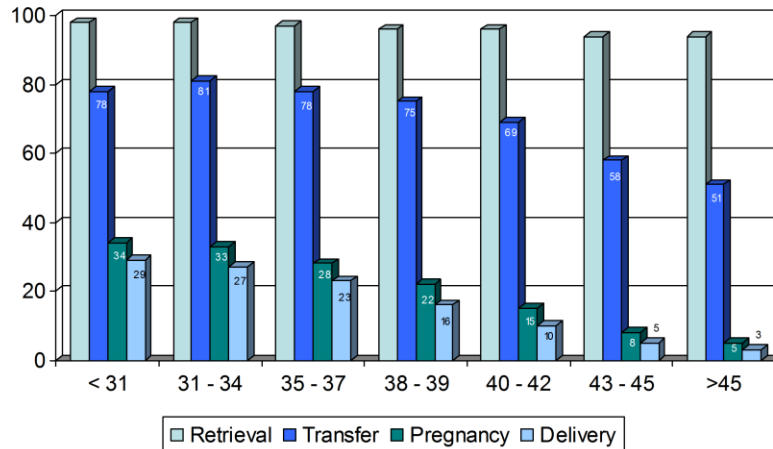


Figure 13 shows that a woman's chance of progressing from the beginning of ART to pregnancy and the delivery of a live birth (using her own eggs) decreases at every stage of ART as her age increases. As women get older: a) the likelihood of a successful response to ovarian stimulation and progression to egg retrieval decreases; b) cycles that have progressed to egg retrieval are less likely to reach transfer; c) the percentage of cycles that progress from transfer to pregnancy also decreases; d) cycles that have progressed to pregnancy are less likely to result in a live birth because the risk of miscarriage is greater (see Figure 12). Overall, 27% of cycles started in 2012 among women younger than age 35 resulted the delivery of a live births. This percentage decreased to 23% among women aged 35–37, 16% among women aged 38–39, 10% among women aged 40-42, 5% among women aged 43–45, 3% among women older than age 45.

Figure 14. How many embryos were transferred in an ART procedures in 2012?

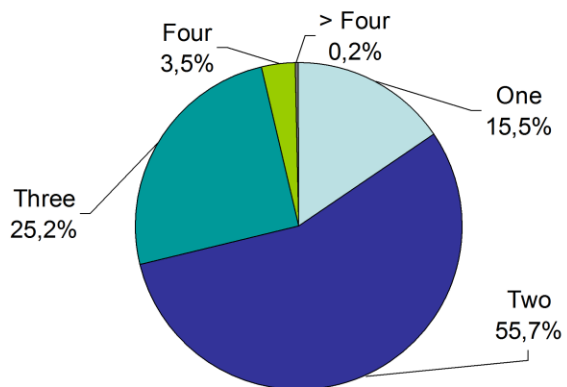


Figure 14 shows that in 2012, the majority (71.2%) of ART cycles that used fresh non-donor embryos and progressed to the embryo transfer stage involved the transfer of one or two embryos.

25.2% of cycles involved the transfer of three embryos and 3.7% of cycles involved the transfer of four or more.

Figure 15. Is an ART cycle more likely to be successful if more embryos are transferred?

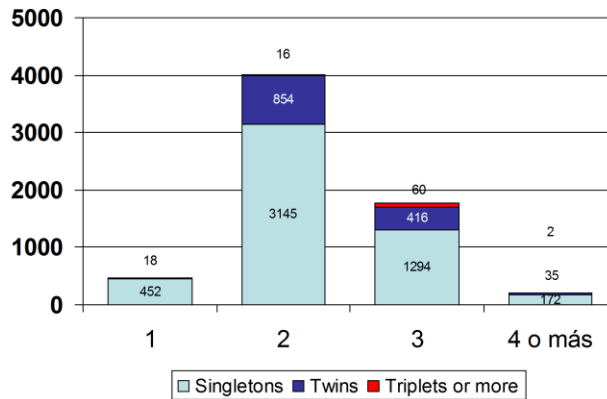
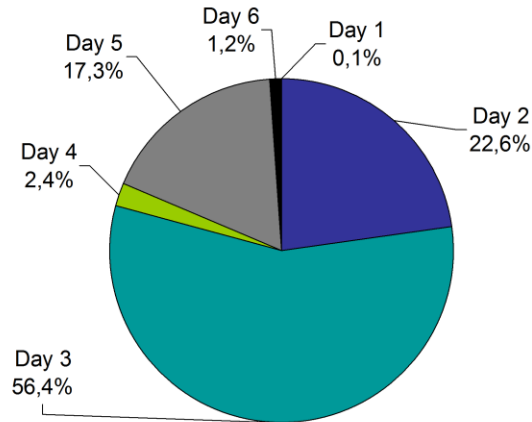


Figure 15 shows the relationship between the number of fresh non-donor embryos transferred, the percentage of transfers resulting in live births, and the percentage of multiple-infant live births for these cycles. In 2012, the percentage of transfers that resulted in live births increased when two embryos were transferred; however, transferring two or more embryos also poses a risk of having a multiple-infant birth. Multiple-infant births cause concern because of the additional health risks they create for both mothers and infants.

Figure 16. How long after egg retrieval does embryo transfer occur?



Once an ART cycle has progressed from egg retrieval to fertilization, the embryo(s) can be transferred into the woman's uterus in the subsequent 1 to 6 days. Figure 16 shows that in 2012, 56.4% of embryo transfers occurred on day 3. Still day 2 is the next most common day of transfer, with 22,6%. Day 5 of transfer is represented in 17.3% of cases.

Figure 17. What is the percentage of transfers that result in pregnancies, delivery of a live birth, and singleton live births for ART cycles using frozen embryos?

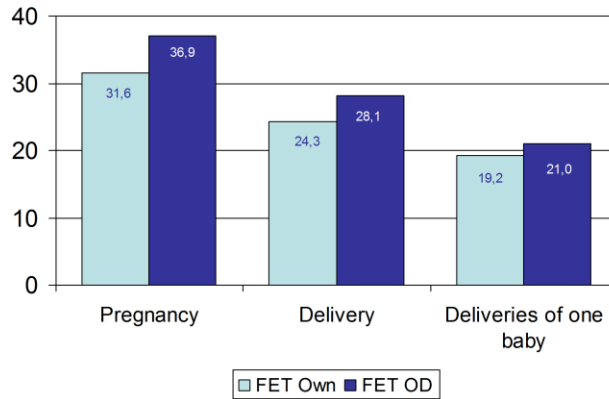


Figure 17 shows different measures of success for ART cycles using frozen non-donor embryos compared with ART cycles using frozen donor embryos. In 2012, percentages of transfers that resulted in pregnancies, live births, and singleton live births for ART cycles using frozen embryos were similar between own and donor, slightly better in donor cases.

Figure 18. Proportions of transfers that resulted in live births according to the age of women using fresh donor eggs and women using their own eggs?

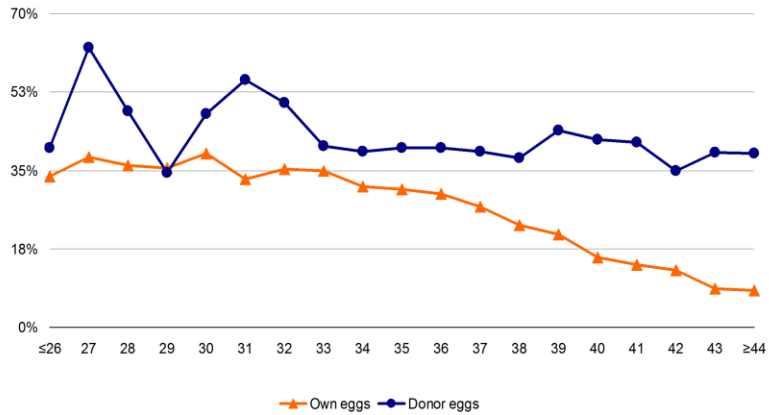


Figure 18 shows the percentage of transfers resulting in live births in cycles using fresh embryos from women's own eggs which decline with the age of women. In contrast, the percentage of transfers that resulted in live births in cycles using embryos from donor eggs is not affected by the age of the recipient.

Figure 19. What is the chance of pregnancy and of having a single or multiple pregnancy or miscarriage from an ART cycle using fresh or donor eggs?

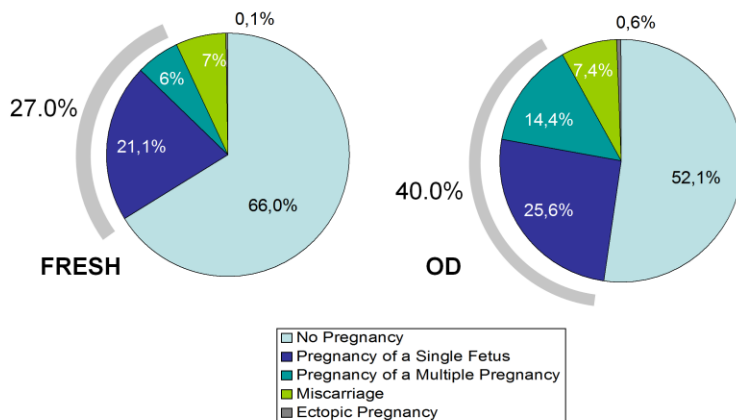


Figure 19 shows the chance of pregnancy, single or multiple, miscarriage and ectopic pregnancy in women from fresh non-donor eggs and fresh donor eggs. Approximately, 27% of transfers of fresh non-donor cycles and 40 % of transfers of fresh donor cycles were pregnancy.