

International Multiple Birth Awareness Week: Zygoty and chorionicity matter

Starting on November 7th, 2022, and concluding on November 13th, multiple birth organisations worldwide will celebrate International Multiple Birth Awareness Week, the theme for this year being that zygoty and chorionicity matter.

Why Multiple Birth Awareness Week?

The core focus of the week is to educate communities and professionals about the unique challenges of the world of multiples, and what can be learned from them. Worldwide, the perception is that twins are cute. The image of the sweet babies in matching outfits is how the general population thinks of multiple births. IMBAW is held annually to change the public perception of these unique births and their families, and shed light on the risks, the complications and the issues faced in the multiple birth community. Awareness Week is also an opportunity to highlight the rights and needs of multiples and their families. A passion for the rights of multiples led ICOMBO to create a document outlining their rights – [Declaration of Rights and Statement of Needs of Twins and Higher Order Multiples](#)

Background

Twin and higher order multiple pregnancies can be categorised according to zygoty and chorionicity. Zygoty refers to the type of conception and the similarities or differences between the DNA of two or more fertilised eggs. The two most common types of twins are identical (monozygotic = formed from one egg) and fraternal (dizygotic = formed from two eggs). Higher order multiples can be all fraternal or all identical or a combination of both. If multiples are the same sex and each has a placenta, or if there is doubt about the type of placenta, then they could be identical or fraternal, and zygoty testing may be the only way to tell. It is important to note that, although each identical twin starts off with the same DNA, they may not be exactly 100% genetically or physically identical because of changes (mutations) in genes that can happen over time, and epigenetic effects that might influence gene expression, plus other environmental factors that will shape the individuals. Because dizygotic twins result from the fertilisation of two ova by different sperms, they only share half of their genes, which is the same as non-twin siblings.

Chorionicity refers to the type of placentation and does not reflect zygoty. Whereas dizygotic twins are always dichorionic, monozygotic twins may be monochorionic or dichorionic depending on when the zygote divides. It is most accurately determined between weeks 6 and 9 of gestation, sometimes up to week 12.

Why does knowing zygosity and chorionicity matter?

Despite improvements in science, incorrect information on whether twins are monozygotic or dizygotic is still given to twins and their parents. In some countries, chorionicity is still not always correctly determined. That is why it is important we raise awareness and help people understand what zygosity and chorionicity mean and the implications of knowing about them. Chorionicity, rather than zygosity, is the main determinant of the outcome in twin pregnancies. Monochorionic twins are at greater risk of complications than dichorionic twins. These complications include twin-to-twin transfusion syndrome (TTTS), twin anaemia-polycythaemia sequence (TAPS), selective fetal growth restriction (FGR) and twin reverse arterial perfusion syndrome (TRAP). For this reason, the early determination of chorionicity in multiple birth pregnancies is very important in order to manage the pregnancy appropriately, e.g. more frequent, detailed scanning, testing and intervention if needed. In addition, accurate knowledge of zygosity can be important for a range of reasons including medical, personal, financial, scientific, legal and ethical considerations.

Follow ICOMBO during IMBAW

Throughout the week, ICOMBO will share some individual stories highlighting the importance of zygosity and chorionicity determination. These stories and other information will be found on the ICOMBO facebook page - <https://www.facebook.com/InternationalCouncilofMultipleBirthOrganisations>

Contact

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