Rh disease, also known as Rh incompatibility, is an inherited condition that occurs during pregnancy. In 2010, it was estimated about 373,000 babies were affected by the disease worldwide (1). The Rh factor is a protein found on red blood cells in some people, which determines whether their blood types as Rh positive or negative. However, a mother who is Rh-negative and delivers a child who is Rh-positive has a chance of developing Rh disease. During the pregnancy, the fetus’s blood can pass into the mother’s blood, most commonly during the delivery of the child. In Rh disease, the mother’s immune system then responds to the baby’s red blood cells and produces antibodies against those cells. These antibodies can damage and rupture the baby’s blood cells, leading to what is called “hemolytic anemia.”

While it has almost disappeared within the US, Canada, and western Europe through the use of prophylactic Rh immunoglobulin, it remains an issue across the globe. A recent analysis concluded that about 50% of the women worldwide who require prophylaxis do not appropriately receive it (2).

**Sample Patient Handout**

**Knowing Your Blood Type**

**Why should I know my blood type?**

- Pregnancy: Women who have a certain blood type, known as Rh negative, may need to take special care during pregnancy. This is because when the mother's immune system does not recognize the baby's Rh positive blood type, antibodies are produced to attack the baby's blood cells during the pregnancy. These antibodies can cause the baby's blood cells to become damaged or destroyed, which can lead to a condition called hemolytic anemia.

- Donors: Knowing your blood type is important for giving blood. If you are Rh negative, your blood can be donated to any Rh positive or Rh negative person, but if you are Rh positive, your blood can only be donated to another Rh positive person.

**How do I find out my blood type?**

Talk to your healthcare provider about getting a simple blood test that can check for your blood type. This will involve taking a small sample of your blood or testing your blood type if you have never been tested before. You only need to have this test performed once to know your blood type.

**Different blood types:**

Blood types are typically designated with either a plus (+) or minus (-) sign, and are categorized as A, B, AB, O, or Rh negative. A person’s blood type is determined by the presence or absence of certain antibodies in their blood.

1. **A Blood Type:** The A blood type has the A antigen on the surface of red blood cells. People with A blood type can receive A or O blood.
2. **B Blood Type:** The B blood type has the B antigen on the surface of red blood cells. People with B blood type can receive B or O blood.
3. **AB Blood Type:** The AB blood type has both A and B antigens on the surface of red blood cells. People with AB blood type can receive any blood type.
4. **O Blood Type:** The O blood type has neither A nor B antigens on the surface of red blood cells. People with O blood type can receive any blood type.
5. **Rh Negative:** The Rh negative blood type has neither the A nor B antigens on the surface of red blood cells. People with Rh negative blood type cannot receive Rh positive blood.

**Sample Graphic**

**Discussion**

As part of the push to advance WIRhE, a new website, in coordination with a European developer, is currently being built. As part of the new website, educational materials were assembled. Priority was given to materials that needed to be made available as soon as possible. These included information pages for both providers and patients. Recent and important papers in the field were also summarized and compiled. Importantly, via discussions with the WIRhE board of directors, the intended audience of the various educational materials was determined to be the following:

**Audience:**

- Providers (Doctors, Nurses, Midwives, Doulas, etc.)
- Patients (Mothers, Parents, etc.)
- Academics (Researchers, Institutions, etc.)

**Materials Produced**

- Patient Information Page
- Provider Information Page
- Patient Blood Type Handout
- Diagnostic Provider Graphic
- Literature/Paper Summaries x5

**References**


**Contact Info**

Kalvis Hornburg: kth2128@cumc.columbia.edu

Dr. Steven Spitalnik: ss2479@cumc.columbia.edu