



**We must all support the introduction of the Measles Rubella (MR) Vaccine**

**By Dr. Ombeva Malande**

**On behalf of the Kenya Paediatric Association's Immunization Working Group**

**About Measles and Rubella**

Measles and rubella are viruses that occur only in humans. Measles virus is transmitted by cough droplets and by direct contact with infected person. It takes about 10–14 days from exposure to onset of body rash, and patients are infectious from about 4 days before appearance of the body rash until 4 days after. They often have a high fever, cough, flu-like illness and red eyes. The typical rash appears after another 3–4 days, starting from the head and spreads downwards to other parts of the body. It is more likely to occur in children under the age of 5 years, in those with poor nutrition (especially with vitamin A deficiency), and those with low immunity such as advanced HIV. It can lead to increased chances of developing ear infections, pneumonia, persistent diarrhoea leading to malnutrition, and encephalitis. Measles can be prevented easily by vaccination.

Rubella infection on the other hand is usually a mild disease. Its public health importance is due mainly to the severe effects it can cause to a baby growing in a mother's womb before birth if the mother is infected. In pregnant women the virus infects the placenta and developing foetus, and lead to a collection of conditions called the congenital rubella syndrome (CRS). It is this outcome that vaccination for rubella aims to prevent. About 9 out of 10 fetuses of infected pregnant mothers may develop multiple birth defects and may result in death, miscarriage or stillbirth. The defects may affect eyes causing cataracts, or small tiny eyes, deafness, heart defects, small head, a big liver or spleen, bone and clotting defects of blood, among others. It can be prevented easily by rubella vaccination. Because congenital rubella and congenital rubella

syndrome can occur in the offspring of women infected with rubella virus during pregnancy, vaccinating a child with rubella vaccine protects their future generations.

### **The World Health Organization (WHO) recommendation of rubella vaccines**

In an effort to control the rising cases of rubella infection and congenital rubella syndrome, the WHO has encouraged countries to introduce Rubella vaccine. To make this cheaper, easy to implement and reduce the number of visits for vaccination, vaccines have been designed that combine rubella with measles (MR) or Rubella and measles and mumps (MMR) or Rubella and measles and mumps and chicken pox/varicella (MMRV) vaccine for countries to use. There are 2 general approaches to the use of rubella vaccine. One approach focuses exclusively on reducing CRS by immunizing adolescent girls or women of childbearing age, or both, to provide individual protection. The second approach is more comprehensive, focusing on interrupting rubella virus transmission and thereby eliminating rubella as well as CRS. For countries undertaking the elimination of rubella and CRS, the preferred approach is to begin with MR vaccine or MMR vaccine in a campaign targeting a wide range of ages to rapidly build population immunity that is followed immediately by the introduction of MR or MMR vaccine into the routine programme.

### **MR vaccine and schedule in Kenya**

The old schedule in Kenya recommended measles vaccine at 9 months of age, and the new schedule will include vaccination at 9 months and 18 months for the MR vaccine. Our coverage of measles vaccine at 9 months is approximately 80%. That means we miss 20% of children born in every year. Out of those who receive measles vaccine (80%), another 15% don't get immunity. This means that we have some children who have been vaccinated but not protected. The combination of 20% (not vaccinated) and 15% (vaccinated but not protected) further increases the number of children not protected every year. Mass campaigns every 3 years or so help to enable more children get protected. While we have some local data on rubella, the burden of disease on rubella as recorded is complicated by the fact that many cases go unreported while others are mistakenly labelled measles due to the similarity in the rash. Before the introduction of rubella vaccine into the routine immunisation program, the recommendation is to have a mass vaccination campaign targeting infants to early teens (in our case 9months to 14 years) so that we have them covered. After this all children will then be given routinely at 9 and 18 months. Kenya will introduce Measles-Rubella vaccine in routine immunization in January 2017

### **Vaccine effectiveness, safety and adverse reactions**

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Rubella vaccine-induced immunity is generally assumed to be lifelong, although rubella antibodies may fall below detectable levels. Research studies show persistent protection in more than 95% of immunized individuals 10-12 years later.

Common adverse reactions include pain, redness and swelling at the site of injection, mild fever and rash, irritability, enlarged lymph nodes; muscle aches, and rarely short lived joint pains.

Rubella vaccination of pregnant women or people who previously had severe reaction to the vaccine is not recommended. At birth, most babies have protection from the mother's antibodies that cross over to the baby via the placenta. If you give a vaccine to this baby, these antibodies can destroy the vaccine virus and can cause the vaccine to be ineffective. By 12 months of age, almost all infants have lost this protection they received from their mother. It is recommended that you receive a measles containing vaccine at least 28 after a previous vaccine. It is safe to get a repeat measles containing vaccine even if you already got another, whether MR or MMR or MMRV, because the vaccine does not harm those who are already immune to measles.

The measles vaccine is very effective. One dose of measles vaccine is about 85% effective at preventing measles if exposed to the virus and two doses are about 97% effective. The association of MMR or MR vaccines with autism was refuted as the doctor had distorted facts and was de-registered. The focus is on the public and not individuals and the campaign is targeting every child from 9 months to 14 years irrespective of prior immunisation status. The vaccine will not be given door to door since it is an injection. There are fixed and mobile vaccination points including schools, government facilities and public places. The campaign runs from 16th to 24th May 2016. Also note that there is in 11 pre-selected sub counties in which neonatal tetanus is still a threat, and an additional tetanus toxoid vaccine will be given to women of child-bearing age. The Kenya Paediatric Association fully supports this campaign. Let us support the government in protecting our children.

#### ***About the author***

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