

High incidence of neonatal infections in Madagascar

February 28 2018

Every year, 4 million children die before the age of one, mainly in resource-limited countries; one-third die from severe infections. The first month of life accounts for one third of deaths before the age of one. This situation is all the more complex in a context of antibiotic-resistant bacteria. In 2012, the Institut Pasteur and Institut Pasteur de Madagascar initiated the BIRDY program with the aim of documenting neonatal infections and assessing the state of antibiotic resistance.

The researchers reported results obtained from the first 981 children included in this program, which began in 2012. A total of 394 newborns were followed on an urban site in Antananarivo and 587 in a semi-rural area in Moramanga. All babies received active follow-up during their first month of life (regular home visits) and rapid care in cases of suspected [infection](#).

Incidence of Neonatal Infections 40 Times Greater Than in the United States

The first results show an incidence of confirmed neonatal infections of 17.7 per 1000 [live births](#). This rate rises to 35.8 per 1000 when adding cases of probable neonatal infections, an extremely high incidence of 40 times that observed in the United States. The researchers also found that 75 percent of these infections occur during the first week of life. "Our results underscore the importance of strengthening follow-up and management around childbirth at the community level. One must bear in

mind that more than one-third of the women in our cohort delivered at home," says Bich-Tram Huynh, researcher in the Pharmacoepidemiology and Infectious Diseases Unit of the Institut Pasteur and co-principal investigator of the BIRDY program.

The incidence of multidrug-resistant bacterial infections has been estimated at 7.7 cases per 1000 live births. "This is the first time ever that this rate is estimated in a community setting. These preliminary results are relatively moderate compared to what we expected. If they are confirmed, it means there is still time to implement interventions to limit the spread of these multidrug-resistant bacteria in the community," says Jean-Marc Collard, co-principal investigator of the BIRDY program. However, bacteriological analyses showed that 70 percent of pathogens found in newborns were resistant to at least one of the two antibiotics currently recommended by the World Health Organization to treat these infections (ampicillin and gentamicin).

The researchers have announced the launch of a BIRDY 2 project, which will start in the second half of 2018 for a period of three years. This new project will implement a One Health approach for a global study the transmission of multidrug-resistant bacteria. "We will refine our estimate of the incidence of [neonatal infections](#) and study the acquisition of multidrug-resistant bacteria in neonates, whether from the mother or the environment. We will also look at prematurity to try to understand what triggers it and what are the consequences for the development of the child," says Perlinot Herindrainy, program coordinator and epidemiologist at the Institut Pasteur de Madagascar. Complications due to premature birth are responsible for more than 27 percent of newborn deaths.

Unique in its approach and scope, this study has also been ongoing in Cambodia and Senegal since 2014 in partnership with local Institut Pasteur. It will ultimately provide comparable results in different local

contexts.

Provided by Pasteur Institute

Citation: High incidence of neonatal infections in Madagascar (2018, February 28) retrieved 26 April 2024 from

<https://medicalxpress.com/news/2018-02-high-incidence-neonatal-infections-madagascar.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.