

MICROCEPHALY IN BRAZIL: PREVALENCE AND CHARACTERIZATION OF CASES FROM THE INFORMATION SYSTEM ON LIVE BIRTHS (SINASC), 2000-2015

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Objective: To estimate the prevalence of microcephaly at birth in Brazil from 2000-2015 and profile the mothers and live births (LB) in 2015.

Method: Descriptive study with data from the Brazilian Information System on Live Births (Sinasc). The prevalence rates, prevalence ratios and 95% confidence intervals (95%CI) were calculated according to the categories of the variables studied.

Results: During 2000-2014, 2,464 LB with microcephaly were recorded in Brazil (average 164 cases/year; standard deviation 15). In 2015, the average was exceeded nine times (n = 1,608 cases) and the prevalence in the country was 54.6 cases per 100,000 LB, with higher rate in the Northeast region (138.7; 95%CI 130.9-147.0). The highest prevalence rates were observed among children of mothers up to 19 years old (70.3; 95%CI 63.5-77.8), less than 4 years of schooling (73.4; 95%CI 58.2-92.4), black (70.9; 95%CI 58.5-85.9) or brown skin color (71.5; 95%CI 67.4-75.8) and single (62.3; 95%CI 58.1-66.9). The prevalence of microcephaly decreased with increasing maternal education and gestational age. In premature, the rate was 82% higher (81.7; 95%CI 72.3-92.2) than those born between 39-41 weeks of pregnancy. The prevalence in female LB (65.0; 61.0-69.3) was 48% higher than in male. The rate in underweight (235.1; 95%CI 216.8-254.9) was 6.2 times higher than those with adequate birth weight. It is noteworthy that 65% of LB with microcephaly and underweight were born at term. In the Northeast, the prevalence in the cities with more than 500,000 inhabitants (184.9; 95%CI 167.0-204.8) presented 1.7 time the rate in those with 20.000-50.000 inhabitants (109.9; 95%CI 96.0-125.9). Multiple anomalies were recorded in 259 (16%) LB with microcephaly, summing 456 anomalies, with higher involvement of the musculoskeletal (186/456; 41%) and nervous system (55/456; 12%), eye, ear, face and neck (49/456; 11%).

Conclusions: In 2015 there was an increase in the prevalence of microcephaly, especially in the Northeast of Brazil, and Sinasc was essential in confirming and monitoring cases since the beginning of the outbreak. This increase has been attributed to probable intrauterine exposure to Zika virus. However, more research on the etiology is necessary. The highest prevalence rates were observed among mothers with proxy characteristics of low socioeconomic level. The higher prevalence in most populated municipalities can be explained partly by the high population density favoring the vector transmission. Coordinated actions between surveillance and health care services need to be strengthened to prevent new cases and follow children with microcephaly and their families.