

EPIDEMIOLOGICAL EVALUATION OF INTRAUTERINE MORTALITY OF MULTIPLE PREGNANCIES IN COMPARISON TO SINGLE PREGNANCIES IN BRAZIL BETWEEN THE YEARS 2011-2020

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Introduction & Objective

Multiple pregnancies occur in approximately 1% of the world population and is defined as pregnancy from one or more ovulatory cycles, resulting in the development of more than one zygote or in a zygote that divides. These pregnancies have an increased risk of perinatal morbidity and mortality (e.g., prematurity, intrauterine growth restriction, low birth weight, or intrauterine demise). They are a risk factor for maternal diseases such as gestational diabetes mellitus, preeclampsia, and postpartum hemorrhage. With expanding access to assisted reproduction methods and population growth, the incidence of multiple pregnancies has been increasing and, along with them, their associated outcomes. On the other hand, advances in knowledge in fetal medicine and intrauterine surgical techniques, although unavailable to a great part of the Brazilian population, have contributed to the reduction of adverse outcomes.

The objective of this presentation is evaluate the rates of twin pregnancies, gestational age at delivery, and perinatal mortality ratio compared to singleton pregnancies in Brazil.

Methods

Historical series type ecological study, based on secondary data available in DATASUS corresponding to the years 2011 to 2020; The number of live births according to the type of pregnancy (single or multiple) and time of interruption according to gestational age (<22, 22-27, 28-31, 32-36, 37-41 and >41 weeks) were analyzed using the Information on Live Births System (SINASC) and the number of stillbirths according to gestational age by the Mortality Information System (SIM). From the data, rates, mortality ratios, and we calculate trend lines in the Excel program.

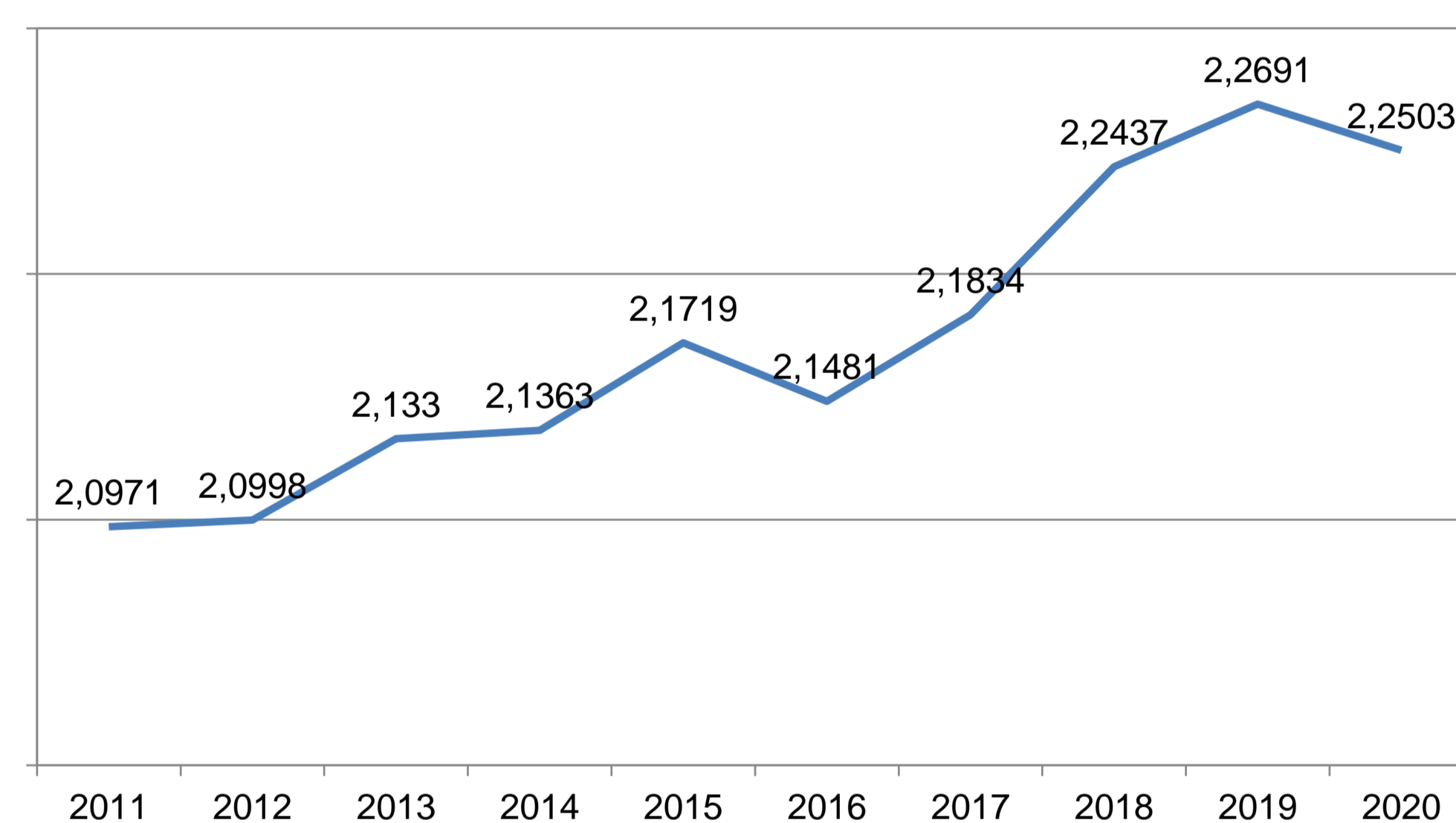
Results and Conclusions

There was a progressive increase in the percentage of multiple pregnancies between 2011 and 2019 ($R^2=0.906$), with a slight decrease in 2020. While 2.17% of births corresponded to multiple pregnancies, 5.62% of fetal deaths occurred among twins. However, mortality among single pregnancies remained stable in the analyzed decade (0.98%), while mortality among multiple pregnancies shows a (slight) downward trend - from 2.86 in 2013 to 2.54 in 2020.

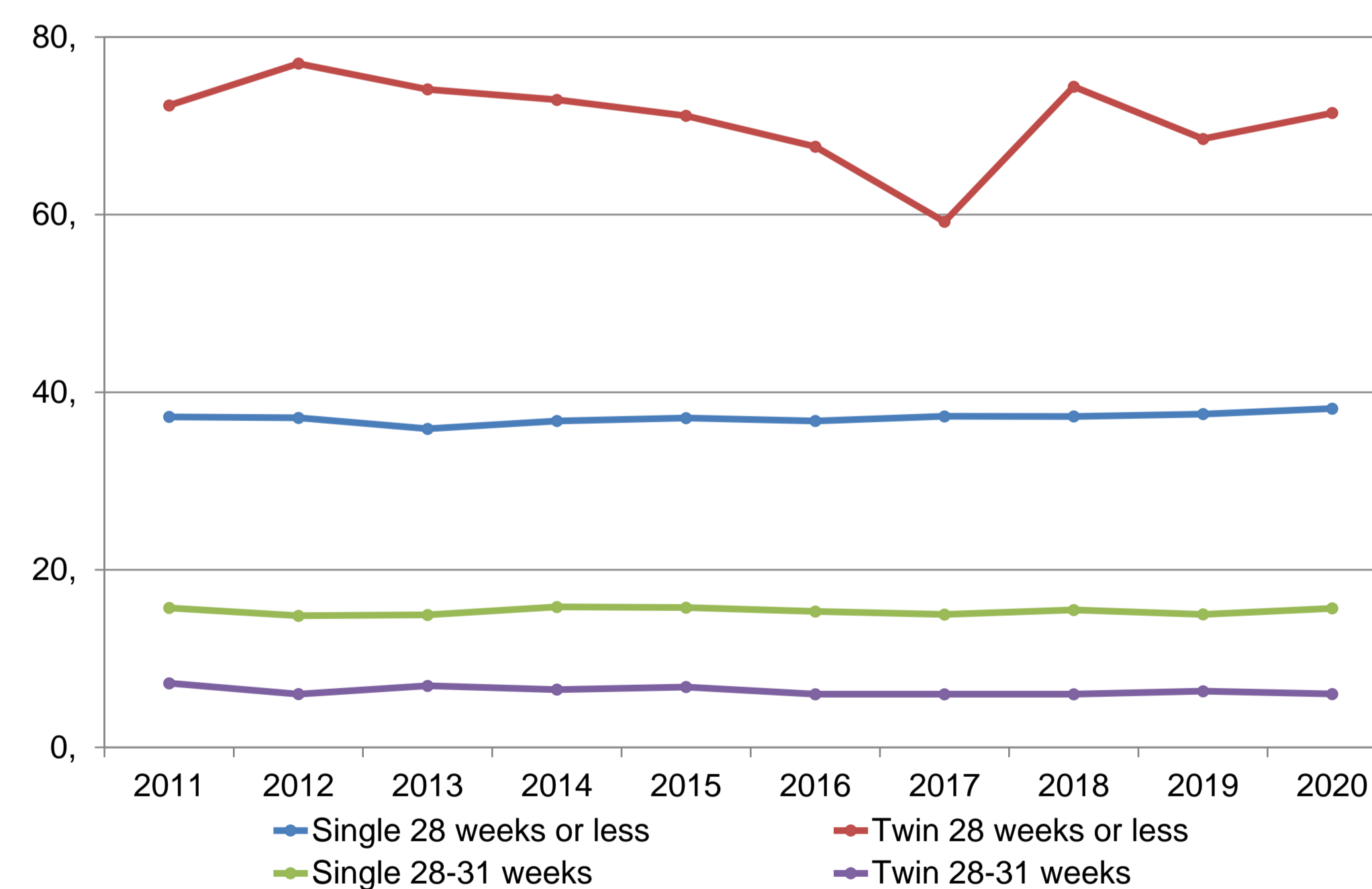
As expected, the prevalence of prematurity was higher among twins at all gestational ages, with 61% of multiple fetuses being born before 36 weeks, subdivided into 4.85% before 28 weeks, 7.07% between 28 and 31 weeks, and 44.69% between 32 and 36 weeks.

When calculating the RR of fetal demise between populations, twins appear to offer protection for fetal demise when considering the interval from 22 weeks to 36 weeks of gestation, with the interval from 28 to 31 weeks presenting the lowest relative risk of death (RR 0, 42), on the other hand, after 37 weeks, the RR returns to what was expected: RR 2.58 between 37 and 41 weeks and RR 1.88 after 42 weeks. Analyzing the historical series, the mortality ratios that show a clear downward trend are those of twins between 32 and 36 weeks (R^2 0.8309) and between 37 and 41 weeks (R^2 0.8028). The other charts do not show a clear trend or maintain stability.

% twin pregnancy - Brazil



Mortality Rate - singleton and twin pregnancies < 32 weeks - Brazil



Mortality rate - singleton and twin pregnancies - > 31 weeks- Brazil

