

Adequacy of Antenatal Care and Its Relationship with Low Birth Weight in Botucatu, São Paulo, Brazil: A Case-Control Study

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Abstract : Background: Birth weight reflects gestational conditions and development during the fetal period. Low birth weight (LBW) may be associated with antenatal care (ANC) adequacy and quality. The purpose of this study was to analyze ANC adequacy and its relationship with LBW in the Unified Health System in Brazil. Methods: A case-control study was conducted in Botucatu, São Paulo, Brazil, 2004 to 2008. Data were collected from secondary sources (the Live Birth Certificate), and primary sources (the official medical records of pregnant women). The study population consisted of two groups, each with 860 newborns. The case group comprised newborns weighing less than 2,500 grams, while the control group comprised live newborns weighing greater than or equal to 2,500 grams. Adequacy of ANC was evaluated according to three measurements: 1. Adequacy of the number of ANC visits adjusted to gestational age; 2. Modified Kessner Index; and 3. Adequacy of ANC laboratory studies and exams summary measure according to parameters defined by the Ministry of Health in the Program for Prenatal and Birth Care Humanization. Results: Analyses revealed that LBW was associated with the number of ANC visits adjusted to gestational age (OR = 1.78, 95% CI 1.32-2.34) and the ANC laboratory studies and exams summary measure (OR = 4.13, 95% CI 1.36-12.51). According to the modified Kessner Index, 64.4% of antenatal visits in the LBW group were adequate, with no differences between groups. Conclusions: Our data corroborate the association between inadequate number of ANC visits, laboratory studies and exams, and increased risk of LBW newborns. No association was found between the modified Kessner Index as a measure of adequacy of ANC and LBW. This finding reveals the low indices of coverage for basic actions already well regulated in the Health System in Brazil. Despite the association found in the study, we cannot conclude that LBW would be prevented only by an adequate ANC, as LBW is associated with factors of complex and multifactorial etiology. The results could be used to plan monitoring measures and evaluate programs of health care assistance during pregnancy, at delivery and to newborns, focusing on reduced LBW rates.

Keywords : low birth weight, antenatal care, prenatal care, adequacy of health care, health evaluation, public health system

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