

The Association Between Birthweight and Current Blood Pressure: A Cross-Sectional Study in an Australian Aboriginal Community

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Abstract

Objectives:

To study the relationship of blood pressure to birthweight and current body mass index in a population with high rates of low birthweight (< 2.5 kg).

Design:

A cross-sectional population screening program conducted between 1992 and 1998, with retrospective retrieval of birthweights.

Setting:

A remote coastal Australian Aboriginal community with a high prevalence of diabetes, cardiovascular and renal disease.

Participants:

Eighty-two per cent of the community members (1473/1805) were screened. Birthweights were available for 767 (71%) of the screened participants aged 7–43 years.

Main outcome measures:

The association between birthweight and current blood pressure, accounting for current body mass index.

Results:

Mean birthweights were low, and 18% of children and 35% of adults had been low-birthweight babies. In children (7–17 years), blood pressure was not correlated with birthweight, but in adults there was an inverse correlation — a 1 kg increase in birthweight was associated with a 2.9 mmHg (95% CI, 0.3–5.5 mmHg) decrease in systolic blood pressure, after adjusting for age, sex and current weight. Overweight adults with low birthweight had the highest blood pressures.

Conclusions:

Low birthweight is significantly associated with higher blood pressure in adult life, and the effect is amplified by higher current weight. Given the high rates of low birthweight in Aboriginal people in remote areas, and the detrimental effect of higher blood pressures on chronic diseases (currently present in epidemic proportions), interventions should focus on improving birthweights and on weight control in adolescents and adults. Special attention should be paid to children with low birthweight to avoid their becoming overweight in adult life.

Full text available at

http://www.mja.com.au/public/issues/179_10_171103/sin10228_fm.html (HTML)

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