

Birthweights below the 25th percentile linked to later developmental concerns

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Childhood development was assessed in four domains: fine motor, gross motor, communication, and social skills. Credit: Pixabay, Pexels (CC0, creativecommons.org/publicdomain/zero/1.0/)

Being born below the 25th percentile for birthweight may put a child at

risk for developmental difficulties, according to a new study by Abiodun Adanikin of Coventry University, U.K., and colleagues, publishing October 11 in the open access journal *PLOS Medicine*.

Babies that are too big or too small are believed to be at risk of poor birth outcomes and problems related to [childhood development](#), but little is known about this relationship across the entire range of birthweights for non-premature [babies](#). To fill this gap, researchers studied the development of more than 600,000 infants born after 37 weeks of gestation in Scotland.

At around two or three years of age, the children underwent evaluation for [social development](#) and for fine motor, gross motor and communication skills. The researchers looked for associations between [birthweight](#) and [early childhood](#) developmental concerns, taking into account complicating factors, such as the child's sex and gestational age at delivery, as well as the health, ethnicity and socio-economic status of the mother.

The study showed that babies born below the 25th percentile for birthweight had a higher risk of developmental concerns compared to babies born between the 25th and 75th percentiles, with the smallest babies carrying the greatest risk. Babies born above the 75th percentile of weights did not have a substantially increased risk of developmental concerns compared to babies born in the middle range.

The researchers conclude that having a low birthweight is an unrecognized and potentially important contributor to the prevalence of issues related to childhood development. Traditionally, babies below the 10th percentile were believed to be at risk for developmental concerns. But the new study found a greater number of babies within the 10th to 24th percentile range of birthweights with these issues, simply because there are a larger number of babies within that population.

The researchers suggest that better birthweight surveillance, counseling for the parents and increased support during childhood may help reduce the risks associated with babies born with lower birthweights.

Coauthor Abiodun Adanikin adds, "Though it is mostly unrecognized, babies who are mild-to-moderately small at birth are key contributors to the burden of childhood developmental concerns. They may need closer monitoring and increased support to reduce the risk of developmental concerns."

More information: Association of birthweight centiles and early childhood development of singleton infants born from 37 weeks of gestation in Scotland: A population-based cohort study, *PLoS Medicine* (2022). [DOI: 10.1371/journal.pmed.1004108](https://doi.org/10.1371/journal.pmed.1004108)

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