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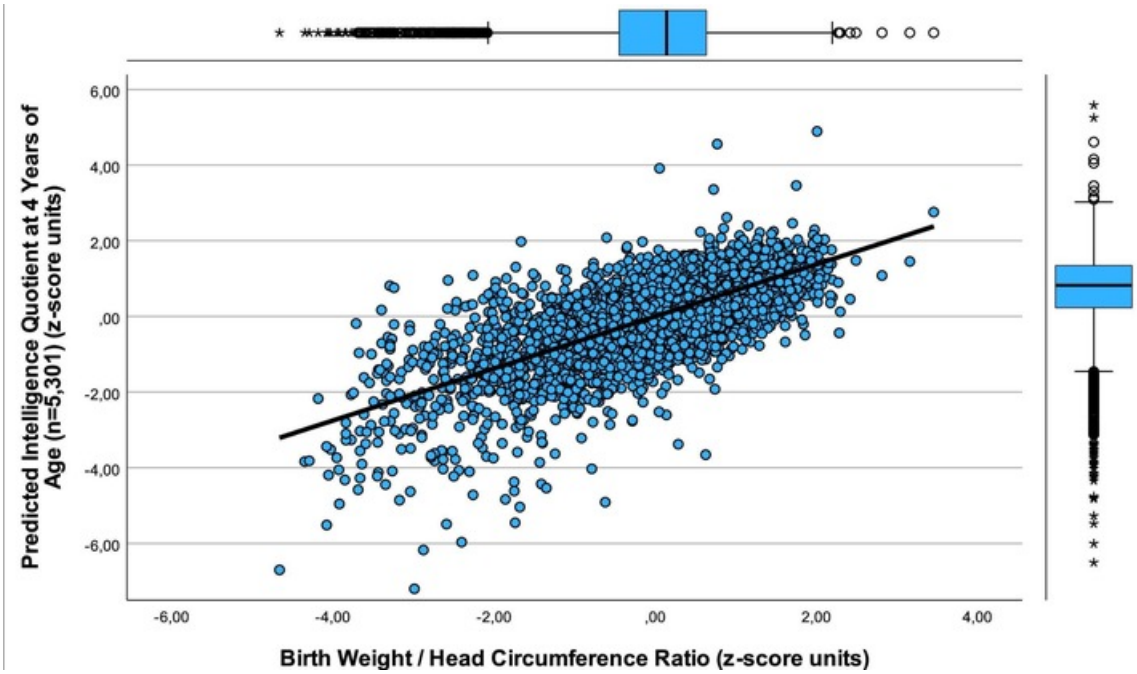
Birth weight and head circumference predict IQ and motor performance at 4 years of age



Bochum (ots) -

Bochum's medics have discovered a simple method to predict IQ and neurologic performance at 4 years preschool age. They prospectively screened 5,301 infants by cranial ultrasound and extrapolated the results of a previous study from the same center in which both cranial ultrasound and psychomotor development (Intelligence quotient (IQ), Maze test (MT), and Neurologic examination (NOS)) were measured. Most interestingly, the birth weight divided by head circumference (weight-head circumference ratio) correlated closely with the predicted IQ (pIQ) and neurologic examination score (pNOS). "These findings that have been validated in a large perinatal survey cohort (n=508,926) allow for early intervention and support strategies to improve school performance and educational success later in life", says Prof. Dr. Arne Jensen of the Campus Clinic Gynecology at the Ruhr-University Bochum, and continues: "this is particularly important for those infants that are born seemingly healthy that would normally escape further diagnostic assessment. Together with his colleague Gerd Neuhäuser, MD, he reports in the "American Journal of Obstetrics and Gynecology Global Reports" (https://doi.org/10.1016/j.xagr.2023.100219, https://www.sciencedirect.com/science/article/pii/S2666577823000606)

Links:

- Jensen A, Neuhäuser G, Jensen KO. Growth variables and brain damage at birth predict developmental disability at four years of age: a basis for individual preschool support. *Ann Pediatr*. 2019;2:1017. [https://ots.de/Vue0wY]
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- Jensen A, Holmer B. "White Matter Damage in 4,725 Term-Born Infants Is Determined by Head Circumference at Birth: The Missing Link," *Obstetrics and Gynecology International*, vol. 2018, Article ID 2120835, 12 pages, 2018. [doi:10.1155/2018/2120835 https://ots.de/Sd92nV]
- Jensen A. Cerebral palsy - brain repair with stem cells. J Perinat Med. 2022 Dec 12. doi: 10.1515/jpm-2022-0505. Epub ahead of print. PMID: 36503655. https://www.degruyter.com/document/doi/10.1515/jpm-2022-0505/html
- Jensen A. Autologous Cord Blood Therapy for Infantile Cerebral Palsy: From Bench to Bedside,*Obstet Gynecol Int* vol.2014,12p; https://www.hindawi.com/journals/ogi/2014/976321/
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- Jensen A, Neuhäuser G. Association of weight-length ratio at birth with psychomotor trajectories among preschool-aged

children. *AJOG Glob Rep*. 2022 Oct 2;2(4):100115. doi: 10.1016/j.xagr.2022.100115. PMID: 36275404; PMCID: PMC9579794.

Bibliographic record

Jensen A, Neuhäuser G. **Growth variables and obstetrical risk factors in newborns are associated with psychomotor development at preschool age.**. AJOG Glob Rep. 2023 May. doi.org/10.1016/j.xagr.2023.100219

Figures

Figure: Close relation between predicted IQ (pIQ) at 4 years of age and birth weight / head circumference ratio (W/HC) (z-score units) in 5,301 newborns (Jensen A, Neuhäuser G. https://doi.org/10.1016/j.xagr.2023.100219).

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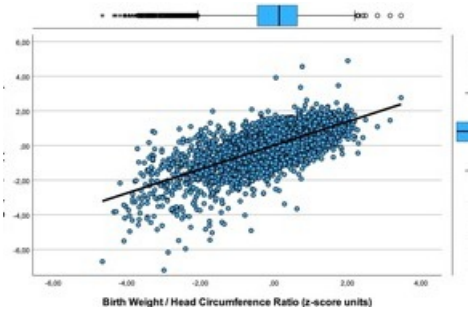
Medieninhalte



Predicted IQ at 4 years of age vs. Birth weight / Head circumference ratio in 5,301 newborns. / More information via ots and www.presseportal.de/en/nr/148654 / The use of this image for editorial purposes is permitted and free of charge provided that all conditions of use are complied with. Publication must include image credits.

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