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Impact of milk type on visual maturation during early infancy

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Objective:

Human milk is acknowledged to provide bio-available nutrients that contribute to retinal development and visual maturation in infants. Our aim was to assess differences in visual function and retinal development in healthy full-term infants aged 4 to 6 months relation to two milk feeding regimes, exclusively breast-fed and standard formula-fed.

Subjects and method: This cross sectional comparative study included 55 healthy full-term infants aged 4 to 6 months; 25 were exclusively breast-fed and 30 were fed standard formula. Visual function and retinal development were examined using flash visual evoked potential (F-VEP) and flash electroretinogram (F-ERG).

Results:

F-VEP revealed that breast-fed infants had significantly more rapid conduction than formula-fed infants in the form of shorter latency (123.68±18.44 versus 150.63±30.81) and higher amplitude of P2 wave (30.64±23.94 versus 9.23±9.95). Additionally, F-ERG a and b waves' amplitudes were significantly higher in breast-fed than formula-fed infants (11.96±4.82 versus 8.00±1.93 for a wave and 27.62±10.58 versus 19.21±6.81 for b wave).]

Conclusion:

Exclusive breast milk feeding in early infancy promotes earlier retinal development and visual maturation.

Key words:

visual evoked potential, electroretinogram, Visual function, breast-fed, formula fed, infants