RESÚMENES DE PUBLICACIONES

COMPLEX PERINATAL SYNDROMES AFFECTING EARLY HUMAN GROWTH AND DEVELOPMENT: ISSUES TO CONSIDER TO UNDERSTAND THEIR AETIOLOGY AND POSTNATAL EFFECTS

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Complex perinatal syndromes (CPS) affecting pregnancy and childhood, such as preterm birth, and intra- and extra-uterine growth restriction, have multiple, diverse contexts of complexity and interaction that determine the short- and long-term growth, health and development of all human beings. Early in life, genetically-guided somatic and cerebral development occurs alongside a psychism "*in statu nascendi*," with the neural structures subjected to the effects of the intra- and extra-uterine environments in preparation for optimal postnatal functioning. Different trajectories of fetal cranial and abdominal growth have been identified before 25 weeks' gestation, tracking differential growth and neurodevelopment at 2 years of age. Similarly, critical time-windows exist in the first 5–8 months of postnatal life because of interactions between the newborn and their environment, mother/care-givers and feeding practices. Understanding these complex relational processes requires abandoning classical, linear and mechanistic interpretations that are placed in rigid, artificial biological silos. Instead, we need to conduct longitudinal, interdisciplinary research and integrate the resulting new knowledge into clinical practice. An ecological-systemic approach is required to understand early human growth and development, based on a dynamic multidimensional process from the molecular or genomic level to the socio-economic- environmental context. For this, we need theoretical and methodological tools that permit a global understanding of CPS, delineating temporal trajectories and their conditioning factors, updated by the incorporation of new scientific discoveries. The potential to optimize human growth and development across chronological age and geographical locations – by implementing interventions or "treatments" during periods of greatest instability or vulnerability – should be recognized. Hence, it is imperative to take a holistic view of reproductive and perinatal issues, acknowledging at all levels the complexity and interactions of CPS and their sensitive periods, laying the foundations for further improvements in growth and development of populations, to maximize global human potential. We discuss here conceptual issues that should be considered for the development and implementation of such a strategy aimed at addressing the perinatal health problems of the new millenium.

Keywords: complex perinatal syndromes, human growth and development, preterm birth, extra-uterine growth restriction, intra-uterine growth restriction, pregnancy and childhood

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