Title: Use of Advanced Imaging Techniques to Bridge the Gap Between Oral Health and Systemic Exposures.

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Objective assessment of the phenotypic expression associated to emerging diseases allows for an inclusive characterization of the effects of any given exposure. Emerging diseases such as congenital Zika syndrome, challenge the existent paradigm of relying on biomarkers for diagnosis. Epidemiological studies demonstrate that in at least half of the cases infection will be asymptomatic, and we continue to identify sequelae among children who where initially thought not to be affected. As clinicians we now called to suspect cases based on a phenotypic profile that has not been fully defined. Geometric morphometric assessment provides the means to objectively assess the craniofacial characteristics of individuals beyond that of a clinical assessment that carries inherent bias. Variations in development identified through the use of landmarks, provides baseline information on the effects of past exposure and even potentially be used to identify profiles that predict emerging diseases. When paired with functional assessment, craniofacial profiling provides targets for personalized intervention based on the non-invasive morphologic assessment. Future applications beyond emerging infectious diseases include the identification of the evolutionary effects of genetic predisposition and early behaviors in the development of now common conditions such as childhood obesity. Questions on how to best stimulate oromotor function during early feeding while preserving both oral and systemic health across the lifespan abound, while evidence on the association between obesity and alterations in dental and craniofacial development is emerging.

Biography

Maribel Campos has completed his MD at the age of 25 years from University of Puerto Rico and postdoctoral studies in Neonatal Perinatal Medicine and Clinical Research from the same institution. She is the director of the Center for Community Outreach for Health Across the Lifespan, an interdisciplinary research and consulting service division under the Office of the Dean of Research of the University of Puerto Rico School of Dental Medicine. She has published more than 25 papers in reputed journals and has been serving as member of Special Review panels for the National Institutes of Health.

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