

May transdisciplinarity be the new paradigm for current Embryology? A proposal for debating

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Dear Editor,

Histology and Embryology was one of the 1st year disciplines in our Medical School. Therefore, it was since its inauguration in 1920 until 2001 when a *curriculum* based on SPICES model was implemented [1].

In this context, we perceived a temporal and conceptual curricular crack impeding a comprehensive understanding mother–embryo, as medical students firstly and as medical teachers later. Effectively, the early contact with the embryo made separated from the mother and employing three-dimensional plaster and plastic models along with illustrations was too far from the clinical study of the mother carried out without any reference to the embryo in Obstetrics during the final year of the career. This perception was communicated in an article published in 1987, where we stated that Medical Embryology would need to go beyond its disciplinary approach and would require a broader integrative one between embryo-fetal development and pregnancy. Mostly when considering that both are much likely to constitute a true evolutionary ecological unit. Consequently, its horizontal and vertical articulation with several related disciplines structuring a progressive spiral of complexity throughout the medical undergraduate *curriculum* sounded sensible to us. Accordingly, we proposed that Embryology should suitably interact with Anatomy (macroscopic morphogenesis), Molecular Biology and Histology (molecular genesis and microscopic morphogenesis or cyto-histogenesis), Physiology (physiogenesis), Pathological Anatomy (congenital malformations), Tocogynecology (evolution of pregnancy), Pediatrics (budding prenatal stimulation techniques and neonatology), Surgery (budding fetal surgical interventions) and Bioethics [2].

In 2001 *curriculum*, Embryology came to interact with the referred disciplines in integrated areas. Subsequently, a complementary elective course on Human Evolutionary Histogenesis and Physiogenesis was raised for students interested in deepening it.

Being now interdisciplinary, the next step for Embryology was to think about its possible future, especially when Histology, its former companion, seemed to have found a new paradigm in tissue engineering [3].

Starting from our earlier ideas [2] and its present interdisciplinary curricular predominance, Embryology, currently included in human development, could acquire, to our knowledge, a more relevant and renewed medical role provided it is joined to the already mentioned disciplines, within the setting of a transdisciplinary framework.

References

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