Opinion

Educational pathways in Paediatric Virology: Pros and cons

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The '2015 Paediatric Virology proposal' (1), which was presented during the '1st workshop on Paediatric Virology' on October, 2015, resulted in a very interesting and constructive debate on the potential role of the scientific field of neonatal and paediatric viral infections as a new paediatric subspecialty candidate. To date, the proposal, which described in detail the new subspecialty areas, including both clinical and laboratory sections, has attracted the interest of several world leading experts (2-12), who have evaluated it in detail and highlighted the value of Paediatric Virology subspecialists in the future (Table I). The value of the scientific field of Paediatric Virology is also examined in the recent third supplement issue of the *Experimental and Therapeutic Medicine* (13-19), which is dedicated to Paediatric Virology and is edited in the context of the '5th workshop on Paediatric Virology', which will be held in Sparta, Greece on October 12, 2019.

However, specific points of scepticism have been raised (2). Amongst these, two have been considered to be as the most critical. The first one is the limited number of paediatric virologists required in each country. This can be addressed by Paediatric Virology being kept as a special interest (4) and not scheduled as a separate paediatric subspecialty (5). The Paediatric Virology subspecialty training should be offered by international centres of excellence, which would offer trainees the opportunity to be exposed to the highest case mix, while supervised by internationally renowned educationalists and researchers. A balance between subspecialisation and general knowledge should always be sustained (7).

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The second issue is the scientific background of paediatric virologists; should their medical core specialization be Microbiology, Internal Medicine or Paediatrics? Fig. 1 presents these different pathways. The supporters of the first two options are based on the current practice, where Microbiology or Internal Medicine consultants develop a special interest in Virology. We suggest that this subspecialisation should be included in Paediatrics (20). Currently, the paediatric orientated clinical training in Paediatric Virology can be undertaken by entering subspecialty training in paediatric infectious diseases (PID) or being a general paediatrician and undertaking a special interest (SPIN) module in infectious diseases or a higher degree, e.g., Master of Sciences (MSc), Doctor of Philosophy (PhD), Master of Research (MRes), or a Postgraduate Diploma in PID (3,4,15). In the future, to optimize care for children requires state-of-the-art educated neonatologists and paediatricians on viral infections and paediatric virologists, who will be skilled in highly demanded diagnostic and therapeutic decisions for neonates and children with possible viral infections (20). We believe that the implementation of the '2015 Paediatric Virology proposal' into medical education and clinical practice will be a step forward in this direction.

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Table I. Pros and cons of the '2015 Paediatric Virology proposal', which presented Paediatric Virology as a new separate paediatric subspecialty candidate.

Pros
New and old viruses as causative agents of emerging epidemics
New vaccines under investigation
New anti-viral agents in the paediatric clinical practice
Complexity of the special group of patients
New technology methods in neonatal and paediatric care
Increased clinical, research and educational needs
Cons
Subspecialty or special interest?
Jobs limitations
Clinical or basic sciences research orientation?
Subspecialty of Paediatrics or Microbiology or Internal Medicine?
Subspecialisation educational problems of the past

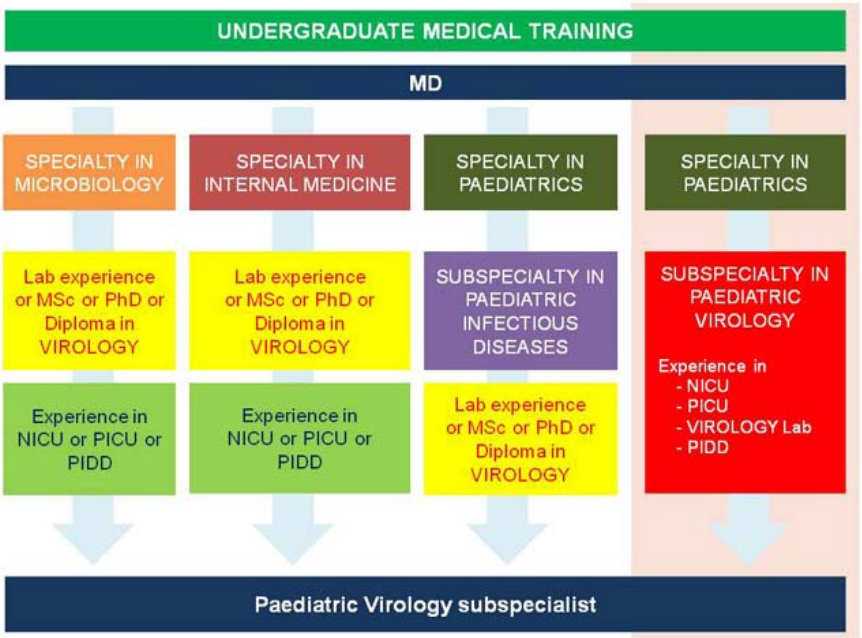

Figure 1. Different educational pathways in Paediatric Virology. MD, medical degree; Lab, laboratory; PhD, Diploma of Philosophy; MSc, Master of Sciences; NICU, Neonatal Intensive Care Unit; PICU, Paediatric Intensive Care Unit; PIDD, Paediatric Infectious Diseases Department.

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