“Dental caries is...not easily prevented or treated in the most susceptible children”

An interview with Prof. Jill Fernandez and Drs Neal Herman and Lily Lim, New York University, USA

Prof. Jill Fernandez:
In July, paediatric dentistry specialists will gather in Passy City, the Philippines, for the 7th biennial congress of the Pediatric Dentistry Association of Asia. Daniel Zimmermann spoke with presenters Prof. Jill Fernandez and Drs Neal Herman and Lily Kim from the New York University College of Dentistry about their participation and recent developments in the field.

Taiwan's Ministry of Education (MOE) is working to improve access to care for age 3-5 children under the age of 3. The MOE aims to ensure that all children have access to dental care by the age of 3. The government has launched a new programme to provide dental care for children aged 3-5, including subsidized dental plans, to promote early dental care.

Daniel Zimmermann: The US congress recently approved a new proposal for dental health care reform. It is still too early to know what the final health reform bill will entail exactly, but as of now it does include mandatory paediatric dental care that requires dental coverage be offered as part of any essential benefits package for children under the age of 21.

What we conclude from the latest research is that dental caries is not easily prevented or treated and continues to be a major public health problem. It is essential for pediatricians and family physicians to identify at-risk children and refer them for dental treatment.

The surgical approach to ECC—the ‘drill and fill’ solution of placing restorations in teeth as they become cavitated—has long been proven futile and often counter-productive. Therapeutic interventions, particularly utilizing fluoride varnish, have shown promise in preventing, arresting and reversing carious lesions. Much more work must be done to document its success, but at least this ‘medical model’ has begun to address the fact that ECC is a bacterial disease that requires more than just filling up the holes.

The oral health of children in the US is poor and caries figures are at an all-time high. What are the reasons for this?

Prof. Jill Fernandez: Actually, the oral health of children in the US has improved significantly over the past few decades, when you look at a national sample across all age groups. Today, most American children have excellent oral health, but a significant subset suffers from a high level of oral disease. The most advanced disease is found primarily amongst children living in poverty, some special-needs, and minority populations, children can no longer be ignored. It is unfortunate that even parents with third-party coverage for dental care (Medicaid, Child Health Plus) and are from lower socio-economic backgrounds often fail to seek dental care as part of general health-care services.

As a result, pre-school children with Medicaid may still have untreated decayed teeth. The oral health of children in the US is poor and caries figures are at an all-time high. What are the reasons for this? We're not sure if ECC is a transmissible disease.

What is your opinion on the latest research and how will it affect the way children should be treated?

Dr Neal Herman: The nursing bottle is only one of many confounding factors in ECC. ECC is a transmissible disease. What is your opinion on the latest research and how will it affect the way children should be treated?

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the filling materials most commonly used for primary pulp canals are non-reinforced zinc-oxide-eugenol paste, iodoform-based paste (KRI), and iodoform-oxide-eugenol paste, iodoform.

A study in the Netherlands has found that prevention involving the counselling of parents on caries-promoting feeding behaviour is often ineffective in the long term. Is there a lack of quality intervention strategies?

Dr Neal Herman: If we (or the WHO) could answer this question, we’d have found the key to unlocking the mystery of improving or enhancing human motivation. It is probably true that without continual and periodic follow-up, counselling will wear off even amongst highly motivated individuals. We think the key lies with education that begins early and promotes a sound nutritional and sustainable oral-hygiene model for parent and child alike. As you might imagine, this is a task not well suited to the traditional dental-care delivery model, and will require some serious paradigm changes to permit effective implementation.

What preventative measures do you recommend based on your clinical experience in New York?

Dr Neal Herman: Preventive measures and conservative therapies that confront the cause of the disease, rather than treat the symptoms, are the most effective and work the best. Fluoride varnish has proven to be a godsend, although most of the evidence to date is empirical and anecdotal. Good long-term longitudinal studies are needed to prove conclusively what we already know as clinicians—an intensive regimen of fluoride varnish, along with adjunctive measures, can control and often reverse dental decay, as well as prevent it.

Dr Neal Herman: (DTI/Photo courtesy of New York University, USA)

Dr Lily Lim: Starting in infancy, children at-risk for dental decay should be receiving twice-yearly applications of fluoride varnish, whether by a dentist or dental professional, or as part of their well-baby care from their paediatricians. More than 40 states in the US have implemented such programmes, and the outcomes are impressive—as much as 40 per cent fewer children with early signs of ECC.

The auxiliary should be able to prescribe an individualised preventive programme. Our presentation will examine and offer solutions to the management of ECC. We will offer a clinical therapeutic protocol that effectively stabilises and/or arrests active caries, and that suggests a disease-intervention model of care that replaces restoration or dental professional, or as part of their well-baby care from their paediatricians. More than 40 states in the US have implemented such programmes, and the outcomes are impressive—as much as 40 per cent fewer children with early signs of ECC.