United States is poor and caries figures are at an all-time high. What are the reasons for this?

Fernandez: Actually, the oral health of children in the U.S. 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 racial/ethnic minority populations, children with special health care needs, and children with HIV/AIDS infection.

You might be referring to the National Health and Nutrition Examination Surveys (NHANES) that have demonstrated an increase in dental caries from 24 percent to 28 percent in the 2- to 5-year-old group.

The reasons for this are presently unclear, but this increase has reignited efforts in the U.S. to improve access to care for this age group and in children in the U.S. to treat every young children in our population.

Early childhood caries (ECC) has increased not only in the U.S., but also worldwide. Should this area be considered a new priority in pediatric dentistry?

Fernandez: Early childhood caries, and efforts in the intervention and treatment of early dental decay, has always been a priority.

In order to combat the current national epidemic of ECC in young children effectively, a more comprehensive, collaborative approach to the education of parents by all new and pediatric health-care providers, such as nurses, pediatric dentists, dental hygienists, pediatricians, pediatric nurse practitioners, obstetricians and gynecologists, is essential.

The American Academy of Pediatricians (AAP) began a collaborative effort with pediatric dentists to address the issue of ECC. The AAP has made strides in developing education programs for pediatricians and family physicians to identify at-risk children and refer them for dental treatment.

However, for many children, access to dental care remains a problem and the number of dental caries seems to be growing. Most children do not have dental insurance; thus, they postpone dental treatments until the problem is so advanced that it can no longer be reversed.

It is unfortunate that even parents who have third-party coverage for dental care [Medicaid, Child Health Plus] and are from lower socioeconomic 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.

Frequent bottle feeding at night has been identified as a driving factor for ECC. Other studies have found a microbiological connection between mother and child, labeling ECC a transmissible disease. What is your opinion on this latest research and will it affect the way children should be treated?

Dr. Neal Herman: The nursing bottle has been a culprit of many childhood cavities. What we conclude from the latest research is that dental caries is highly complex and perplexing, not easily prevented or treated in the most susceptible children.

It is believed these days that there are nutritional, behavioral, immunological and bacterial factors that must be considered in order to understand and prevent dental caries.

The traditional approach to ECC — the “drill and fill” solution of placing restorations in teeth as they become cavitated — has long been proven futile and often counterproductive. 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 the holes that are merely its symptoms.

The initial concept of ECC is high-low-carbohydrate diet and fluoride varnish. What is your opinion on this traditional approach to ECC that replaces restoration of teeth as performed in the past?

Dr. Neal Herman: We’re not sure that pulp therapy is on the increase but rather trying to preserve a primary tooth instead of extracting it. The “drill and fill” solution of placing restorations in teeth as they become cavitated — has long been proven futile and often counterproductive.

The goal of treatment for primary teeth is not much different from that of permanent teeth.

Dr. Lily Lim: We’re not sure that pulp therapy is on the increase but rather trying to preserve a primary tooth rather than extract it whenever possible.

The goals of treatment for primary teeth are not much different from that to permanent teeth. In both cases, diseased portions of the dental pulp are removed in an effort to preserve the hard structure of the tooth for functional or cosmetic purposes. Anatomical and physiological differences between primary and permanent teeth make a difference to the principle of root-canal treatment.

A permanent tooth requires an inert, solid, nonresorbable material that can last a lifetime, and gutta-percha fits that bill.

The ideal root-canal filling material for primary teeth should resorb at a similar rate to the primary root in order to permit normal eruption of the successor tooth; not be harmful to the underlying tissues or to the permanent tooth germ; fill the root canals easily; adhere to the walls and not shrink; be easily removed, if necessary; be radiopaque; be antiseptic; and not cause discoloration of the tooth.

There is currently no material that meets all these criteria, but the filling materials most commonly used for primary pulpotomies are non-reinforced zinc-oxide-eugenol paste, iodoform-based paste [Kri], and iodoform and calcium hydroxide [Vitapex].

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

Herman: If we, or the World Health Organization, could answer this question, we’d have found the key to unlocking the mystery of improving raising human motivation. It is probably true that without continuous and periodic follow-up, counseling 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 dental providers, or as clinicians — an intensive regimen of fluoride varnish, along with dietary measures, can control and often reverse dental decay, as well as prevent it.

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 the well-child care from their pediatricians. More than 40 states in the U.S. have implemented such programs, and the outcomes are impressive — as much as 40 percent fewer children with early signs of ECC.

Fernandez: Collaboration between other health providers and the dental professions is key to combating the incidence of ECC.

You will be presenting at this year’s PDAA Congress in Pasadena City. What will the participant be able to take home from your presentation?

Lim: At New York University [NYU] through education, outreach, training and collaboration with other health professionals, we have developed a multi-faceted approach to the many aspects of oral-health problems. Our presentation will describe the coordination of the strategies and programs that NYU employs, particularly in combating ECC.

Herman: Our presentation will examine and offer solutions to the management of ECC. We will offer a clinical therapeutic protocol that effectively stabilizes and/or arrests active caries, and that suggests a disease-intervention model of care that replaces restoration of teeth as the primary approach to the treatment of ECC in infants, toddlers and pre-school children.

Fernandez: Participants will learn about setting up an infant oral-health program in their offices using an auxiliary. The auxiliary should be able to conduct a risk assessment, provide anticipatory guidance and prescribe an individualized preventive program. Our presentation will outline the steps in establishing an infant oral-health program in the dental office.