

Oral Health Care For Hospitalized Children

Jo Young Blevins

Oral health care may be the greatest unmet health need of children in the United States. Even though oral health is recognized as being an essential part of overall health (Gorbova & John, 2004; U.S. Department of Health and Human Services [USDHHS], 2000), it has too often been overlooked and neglected.

Pediatric nurses are in a unique position to contribute to the health of their patients and should take advantage of the opportunity to provide quality oral health care aimed at health promotion for all children, including those who are hospitalized. A comprehensive oral health care program for hospitalized children includes assessment, oral hygiene, and education. Oral health care for children, critically ill or otherwise, should be an integral part of hospital nursing care.

Scope of Poor Oral Health

The most recent National Health and Nutrition Examination Survey report (NHANES 1999-2004) indicates that 42% of U.S. children 2 to 11 years of age have a history of tooth decay in their primary teeth (Dye et al., 2007). Dental caries is cited as the most common chronic disease of childhood in the first ever Surgeon General's Oral Health Report (USDHHS, 2000), with an incidence five times that of asthma, and seven times that of hay fever. The National Children's Oral Health Foundation (2009) reported that dental-related illness results in children

Oral health care may be the greatest unmet health need of children in the U.S. Half of the children in the U.S. suffer from tooth decay by 8 years of age. The consequences of poor oral health are many, including mouth pain, inability to chew and eat, abscess and soft tissue infection, diminished self-esteem, and impaired school performance. Numerous medical conditions, such as asthma and diabetes, and developmental disabilities, such as cerebral palsy and autism, have associated oral health implications. Oral health care is often neglected by non-dental health providers. Nurses are in a unique position to contribute to the improvement of this national health problem by promoting oral health care among hospitalized children and their families. A hospital program for oral health care is proposed, including assessment of teeth and gingiva, ensuring oral care for all, as well as oral health education as part of patient education.

missing more than 50 million hours of school annually. Dye and colleagues (2007) compared NHANES 1999-2004 with NHANES III 1988-1994, noting that dental caries in primary teeth among children 2 to 5 years of age increased from 24% to 28%. Approximately 23% of all children 2 to 11 years of age continue to have untreated dental decay. It is currently estimated that one of every five children receives no dental care (PEW Center on the States, 2010).

The *Healthy People 2020* document includes objectives to reduce the number of children who have dental caries in their primary or permanent teeth and to reduce the proportion of those children with untreated dental decay (USDHHS, 2011). Evidence shows that children in the U.S. from low-income families have a higher rate of caries and untreated decay than children of more affluent families (Bernabé & Hobdell, 2010; Dye et al., 2007; Kenney, McFeeters, & Yee, 2005). According to survey results from NHANES 1999-2004, the prevalence of primary tooth decay among Caucasians is 39%, Africa-Americans is 43%, and Mexican-Americans is 55% (Dye et al., 2007). The extent of poor oral health is an identified concern for all children, even though oral diseases are largely preventable (Gorbova & John, 2004; National Institute of Dental and Craniofacial Research [NIDCR], 2009).

Consequences of Poor Oral Health

Tooth decay is the most common disease of the mouth (U.S. General Accounting Office, 2000). Dental caries, or cavities, can plague children who fail to practice effective oral care. Microorganisms in the mouth, which cluster in plaque (or biofilm), produce acids from dietary carbohydrates, primarily sugars, that decalcify tooth enamel, leading to decay. The primary pathogen responsible for dental caries has long been identified as *Mutans Streptococci* (America Academy of Pediatric Dentistry [AAPD], 2009a; Caufield & Griffen, 2000), in particular, *Streptococcus mutans* and *Streptococcus sobrinus*. These organisms are now known to be transferred from mothers to their babies and young children, most likely by salivary contamination (Douglass, Li, & Tinanoff, 2008). Thus, carious lesions represent a transmissible infectious disease. In addition to the presence of cariogenic bacteria on a tooth surface, a dietary source of sucrose must be present to cause caries. The bacteria thrive in the biofilm where there is a supply of sugar, which is subsequently fermented into acid (Rolfes, Pinna, & Whitney, 2009; Zero et al., 2009).

Saliva plays an important role in oral health through its protective functions. Its antibacterial activity, provision of acid buffering agents, and

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Statement of Disclosure: The author reported no actual or potential conflict of interest in relation to this continuing nursing education activity.

The Pediatric Nursing journal Editorial Board reported no actual or potential conflict of interest in relation to this continuing nursing education activity.

flushing ability to clear food particles away from the teeth and gum line contribute to the prevention of cavities (Foster & Fitzgerald, 2005; Stookey, 2008). Any condition altering normal salivary function can, therefore, have an impact on oral health.

Early childhood caries (ECC) reflect decay in the primary teeth of young children and is defined by the AAPD as “the presence of one or more decayed (non-cavitated or cavitated lesions), missing (due to caries), or filled tooth surfaces in any primary tooth in a child 71 months of age or younger” (AAPD, 2008a). This can occur from prolonged contact with sweet, fermentable liquid from a bottle, sippy cup, sweetened pacifier, and even breastfeeding. These carious lesions are associated with an anterior pattern of decay, inappropriate feeding practices (taking a bottle to bed; sucking/sipping frequently or for extended periods of time), and inadequate oral hygiene (AAPD, 2009b; Caufield & Griffen, 2000; Yost & Li, 2008). ECC replaced formerly used terms, such as *nursing caries* or *nursing bottle mouth*, which implied decay was associated with baby bottle use alone.

In their literature review of ECC-related morbidity, Casamassimo, Thikkurissy, Edelstein, and Malorini (2009) found that ECC creates stress on the child, family, and society as a whole. Health care systems often deal with acute cases in the operating room with associated risks, or in the emergency department, where the underlying cause of decay and emergent pain/infection is left untreated (Cassamassimo et al., 2009).

Caufield and Griffen (2000) explain that caries development can cause mouth pain, sensitivity to heat and cold, inability to chew, and even facial cellulitis. The pain and difficulty associated with eating can lead to inadequate nutrition (AAPD, 2009a). A severely decayed tooth can become abscessed, resulting in purulent drainage directly into the oral cavity or to the development of facial cellulitis. Abscessed teeth are responsible for approximately 50% of facial cellulitis cases in children (Caufield & Griffen, 2000; National Maternal and Child Oral Health Resource Center, Georgetown University [NMCOHRC], 2003). Gingivitis is related to poor oral hygiene. It causes redness, bleeding, and discomfort of the gums. Although gingivitis can progress to periodontitis, gingival disease leading to tooth loss rarely occurs in children (Delaney & Keels, 2000). However,

oral health habits set during childhood influence oral health during adolescence and adult life.

There are also psychosocial effects of poor oral health. Halitosis and decay may have an impact on self-esteem and result in a reluctance to smile, talk, and interact with others (Huff, Kinion, Kendra, & Klecan, 2006). Pain in the mouth or teeth makes it difficult for a child to sleep or concentrate, and thus, can influence activities and school performance.

Impact of Illness and Disease on Oral Health

Children who are hospitalized for an illness may have lethargy or malaise, and oral hygiene often becomes secondary to their medical problems or the need for rest; consequently, oral hygiene might be neglected. Unless a child has an obvious high risk for oral health problems, such as oral mucositis associated with cancer treatments, oral care often loses priority with the nursing staff. Many times it is not even considered. Who ensures that a child brushes his or her teeth while in the hospital? Is it just assumed that the parents will take responsibility? Nurses need to identify children at risk for poor oral hygiene and see that they receive adequate oral health care.

Many hospitalized children receive medications. Most liquid drugs for children now contain artificial sweeteners (such as sucralose) and sugar replacers (such as sorbitol, mannitol, or xylitol), which are non-cariogenic. Sugar replacers additionally have cavity prevention properties (Rolfes et al., 2009). However, children may receive over-the-counter medications sweetened with sugar or a variation, such as fructose, in the hospital or at home. For example, label reading reveals children’s acetaminophen contains high fructose corn syrup. Sugar-free alternatives for medications may be available and should be given whenever possible, especially with repeated-use drugs (Foster & Fitzgerald, 2005). In addition, nurses need to be mindful of sugar content associated with medication administration techniques. Are liquid medications being mixed with sweetened syrups to increase palatability, or are pills being given with a spoonful of sweetened applesauce or pudding to mask the taste and make them easier to swallow? The frequent practice of administering sugar-sweetened medications can contribute to poor oral health,

Table 1.
Medical Conditions Associated with an Increased Risk for Poor Oral Health in Children

Asthma
Attention Deficit Hyperactivity Disorder
Autism
Cancer and Treatments
Cerebral Palsy
Congenital Heart Disease
Critical Illness
Cystic Fibrosis
Down Syndrome (Trisomy 21)
Gastroesophageal Reflux Disease
Gastrostomy Tube Placement
Hemophilia or Other Clotting Disorders
Immune Dysfunction
Insulin Dependent Diabetes
Juvenile Idiopathic Arthritis (JIA/JRA)
Renal/liver Failure
Seizure Disorder
Sickle Cell Anemia
Special Needs Child

Note: Adapted from AAPD, 2009a.

especially in children at higher risk for caries (Foster & Fitzgerald, 2005).

Numerous medical conditions impact oral health, making children more vulnerable to poor oral health outcomes. Some are readily identifiable by nurses, such as ventilator-assisted pneumonia (VAP) occurring in intubated patients, or immune dysfunction increasing susceptibility to infection. As many as 20% of American children are reported to have special health care needs that require additional health care services (Iida, Lewis, Zhou, Novak, & Grembowski, 2010). In the 2009 *Comprehensive Review of Pediatric Dentistry*, the AAPD highlights more than 20 special health conditions that can impact a child’s oral health (see Table 1). Among these conditions are prevalent diseases, such as diabetes and asthma, as well as common developmental disabilities, including cerebral palsy and autism. The spectrum of special health care needs is vast, encompassing medical, developmental, emotional, and behavioral conditions (Iida et al., 2010).

Asthma is a leading cause of hospitalization in children. Not only are these children at risk for oral infection by *candida albicans* from using steroid inhalers (Hockenberry & Wilson,

2007), but studies have shown an association with increased gingivitis and caries as well; these children should be identified as needing preventive oral health care (AAPD, 2009a; Bimstein, Wilson, Guelmann, & Primosch, 2006). Children with congenital heart defects are considered to be a high risk group for poor oral hygiene. Research indicates these children have more decay and untreated decay than otherwise healthy children (Balmer & Bu'Lock, 2003; Busuttill et al., 2006; Steckslen-Blicks, Rydberg, Nyman, Asplund, & Svanberg, 2004). In addition, they are susceptible to developing infective endocarditis due to oral bacteremia. Children with diabetes who have poor metabolic control have an increased risk for gingivitis, periodontitis, and caries development (Cassamassimo, 2000; Iughetti, Marino, Bertolani, & Bernasconi, 1999; Twetman, Johansson, Birkhed, & Nederfors, 2002). In their review of studies of children with gastroesophageal reflux disease (GERD), Alfaro, Aps, and Martens (2008) noted that oral signs of the disease included mucosal lesions, dental lesions (such as erosion and decay), and changes in salivary composition. They concluded that dental erosion due to dissolved enamel from refluxed acid was the most prominent oral manifestation of GERD.

Children with a disability, physical or cognitive, are considered as having special needs and can have a deficit in meeting their oral health needs. Assistance with or supervision of oral health can be critical to the maintenance of their oral and general health. Those children with severe impairment may be totally dependent on their caregiver to provide preventive care and to identify when oral problems arise. In addition, this population of children may display bruxism, or grinding of the teeth. Bruxism is harmful to dentition due to wearing away of protective enamel (American Dental Association [ADA], 2005b).

Some medications cause mouth dryness. This can impair the oral mucous membrane, cause halitosis, and impact salivary action. Medications used to treat attention deficit hyperactivity disorder (ADHD), autism, and childhood depression often have dry mouth as a side effect (AAPD, 2009a). Anticonvulsants, such as phenytoin, can cause gingival hyperplasia (Hockenberry & Wilson, 2007), making it more difficult to effectively remove plaque.

Research by Iida and colleagues

(2010) reveals that children with special health care needs receive less preventive dental health care than otherwise healthy children. This underlines the significance of ensuring effective oral health care for so many hospitalized children. Poor oral health, in itself, is considered a risk factor for the development of infections, such as candidiasis, bacteremia, and septicemia, particularly in children using immunosuppressive drugs, such as corticosteroids, methotrexate, or azathioprine (Foster & Fitzgerald, 2005).

Implementing an Effective Oral Health Care Program For the Hospital

There is very little in the literature about oral health care for hospitalized children. Most nursing literature focuses on the care of oncology patients; generalized oral health care is often neglected in hospitalized children. Saunders and Roberts (1997) noted that the focus on a child's primary medical condition can lead to neglect in other health areas. In a study of 120 children on a pediatric hospital ward, more than 40% had unmet oral health needs, as determined by a dental assessment (Nicolopoulos et al., 2007). The authors stated that unmet oral health needs of medically compromised children can impact general health and quality of life, and recommended an increase in hospital-based dental services and oral health education of health providers. Collins, Fair, Dickinson, and Peacock (2009) reported on their initiation of an oral health project for underserved children in New Zealand, which was a collaborative effort between public health nurses and hospital nurses. This project was done in response to the Ministry of Health focus on the need to improve oral health in the country's children. In the U.S., the Tooth Tudor Program offered dental services to underserved children in Vermont through the school system (Melvin, 2006). The author concluded that a school-based dental program offering screening, education, and dental referral can effectively improve oral health for needy children.

Hospital nurses are in a unique position, given that they play such a significant role in the delivery of health care, to contribute to the identification, care, and prevention of oral health problems in American children. A proposed plan for hospitals, which can contribute to oral health

Table 2.
NANDA-Approved Nursing Diagnoses Related to Poor Oral Health

Impaired Dentition
Ineffective Health Maintenance
Acute Pain
Risk for Infection
Deficient Knowledge: Oral Health
Impaired Oral Mucous Membrane

Note: Adapted from Ackley & Ladwig, 2008.

improvement in children, includes three very basic components: assessment, oral care, and education. These interventions are far from being novel, but there may be a gap between the theory and practice of oral care for hospitalized patients (Peate, 1993). Although oral health in children has not been a frontline issue of health care for nurses (Melvin, 2006), the tide is now turning, with health care disciplines being cognizant of the impact of oral/dental health on overall health and recognizing the mouth as an integral part of the body.

Pediatric nurses in the hospital need to join the wave of promoting good oral health. Identified NANDA-approved nursing diagnoses exist, including "impaired dentition" (Ackley & Ladwig, 2009), validating the need for nurses to consider oral health needs (see Table 2). An oral health program for hospitalized children is congruent with the scope of pediatric nursing. The scope and standards of pediatric nursing support the need for assessment pertinent to a child's health through physical assessment (Standard 1); determining the diagnosis/health care issue based on assessment data (Standard 2); identifying expected outcomes achievable through evidence-based practices (Standard 3); planning an appropriate care plan, which may include strategies for health promotion (Standard 4); and implementing the plan of care with interventions such as health promotion education (Standard 5) (American Nurses Association [ANA], 2008).

The AAPD Web site (www.aapd.org) contains a wealth of child oral health information, dental research, and policies. The site includes a number of guidelines and clinical stan-

dards useful to nursing, as well as a parent resource center. The National Institute of Dental and Craniofacial Research (www.nidcr.nih.gov) is also an excellent professional source for research, containing links to related sites and educational handouts in English and Spanish.

Assessment

The initial component of any oral health care program is oral assessment. Assessment is the first step in the nursing process, providing a baseline from which patient care decisions are made (Eilers, Berger, & Petersen, 1988; Potter & Perry, 2009). Physical assessment allows the nurse to assess for health problems, make clinical judgments, and promote wellness behaviors (Potter & Perry, 2009). Oral assessment should be performed on all children at the time of hospital admission and repeated as necessary. Fundamental and pediatric nursing texts contain educational information on oral assessment, including the observation of teeth and gums for evidence of oral hygiene status (Hockenberry & Wilson, 2009; Potter & Perry, 2009).

Nurses need to specifically add inspection of the teeth and gingiva (gums) to their admission assessment, quickly looking for signs of poor oral hygiene, obvious decay, or infection. Opening the mouth widely, as if for a usual oral assessment, does not give adequate visual access to teeth and gingiva. The lips and cheeks must be retracted to see the front surfaces. This can be done with a gloved finger or a tongue blade. School-age children can be asked to retract their own lips and cheeks. Overt decay shows as a brown or black-colored lesion on a tooth (Caufield & Griffen, 2000). Severe decay can produce holes and breakage in teeth. Most decay in children under 3 years of age is found on the front surface of the upper anterior teeth, so simply lifting the upper lip will reveal the majority of caries (Caufield & Griffen, 2000). The presence of gingivitis or gingival bleeding is assessed. Normal gums should be pale pink and firm (Hockenberry & Wilson, 2009). The child's state of oral hygiene can be rapidly evaluated while inspecting the gingiva. It is important to look for food debris and plaque formation along the tooth-gum line. Older school-age children may also demonstrate tartar formation, calcified plaque, most commonly on the lingual (tongue) side of

lower anterior teeth. The nurse should take notice of fillings or caps indicative of previous decay that was restored. A history of decay itself may be the biggest risk factor for future caries development in primary teeth (AAPD, 2006; Zero et al., 2009).

Due to the possibility of abscess development from tooth decay, the nurse should be alert to any draining fistulas in the mouth. The presence of extraoral facial cellulitis can be indicative of an abscessed tooth. An oral pain assessment should also be performed using an age-appropriate method.

Oral Care

The second component of an oral health program is to provide for oral care needs of patients. Providing oral hygiene is a basic nursing activity taught in nursing fundamentals. Costello and Coyne (2008) recently investigated nurses' knowledge and practices of oral care for hospitalized medical-surgical patients. They concluded that oral care is an essential component of quality nursing care, yet nurses in Ireland often give a low priority to it. The nurses recognized the benefits of oral care and characteristics of a healthy mouth, but time constraints and lack of equipment were cited as deterrents to providing mouth care. Patient comfort and the prevention of oral infection were the most cited reasons for providing mouth care.

The AAPD recommends brushing twice daily with fluoridated toothpaste for all children. The use of fluoride has been documented to be highly effective in cavity prevention (AAPD, 2008b). In a study of children with heart disease, Busutil et al. (2006) found that brushing twice daily resulted in decreased tooth decay. After brushing at night, refraining from eating or drinking prior to going to bed can prevent the deleterious effects of prolonged exposure to cariogenic matter. Using a "pea sized" amount of paste, the recommended size for children 2 to 5 years of age (AAPD, 2008b), contributes to the prevention of ingesting too much fluoride during enamel development and maturation. Fluorosis (excessive fluoride ingestion) can cause demineralization and discoloration of the teeth (NMCOHRC, 2003). Young children unable to spit are likely to swallow toothpaste. The AAPD further recommends that only minimal rinsing, if any, be done after brushing to prolong the beneficial topical effect of

the fluoride in young children. Flossing is recommended when tight spacing between teeth prevents adequate tooth cleansing with a brush (AAPD, 2009b). Primary teeth tend to be widely spaced, but flossing becomes important for children with permanent dentition. Toothbrushes should be soft-bristled and age-appropriate. The brush head should be small enough to move around in the child's mouth while large-handled brushes are easier for a young child to manipulate (NMCOHRC, 2003). The ADA (2005a) recommends that toothbrushes should be replaced every three months, when bristles become frayed, or after an illness, which might cause re-infection. Children's brushes may need replacement more often than adult brushes due to chewing on the bristles.

Limited self-care abilities of preschoolers and younger school-age children demand assistance with oral care because good fine motor skills are necessary to remove plaque. By 7 or 8 years of age, most children can brush effectively but still need supervision (NMCOHRC, 2003; Hockenberry & Wilson, 2009). School-age children have special considerations that may make them more susceptible to poor oral hygiene. Mixed dentition, tooth eruption and exfoliation, and presence of orthodontic appliances can hinder the achievement of optimal oral care.

Children with gastroenteritis, GERD, or bulimia, or those who are actively vomiting need oral care to prevent stomach acids from bathing the teeth and causing decalcification. Nursing staff should remember that children who are NPO (nothing by mouth) or are being fed through a tube need their teeth and mouth cleansed as well to remove accumulated bacteria. Children who are tube-fed for prolonged periods of time accumulate heavy calculus buildup as a result of alterations in oral pH (Dyment & Casas, 1999). Pediatric nurses need to identify children who are at greater risk for poor oral hygiene and health, and ensure they receive effective oral care. This should be done for all children, not only for high-risk children. This may require the nursing staff to actually perform oral hygiene, assist with or supervise the procedure, or simply ask the caregiver or older child whether oral care was done. Nurses must realize, however, that asking whether oral care has been performed does not necessarily ensure that it is being done properly or effectively.

Child and Caregiver Education

The third component of an oral health program should be education for the child and/or caregiver. If assessment reveals no problems with oral health care practices, the nurse should praise the child and caregiver for evidence of this positive health behavior. However, if deficits in oral health care are noted, the nurse should attend to the need for oral health education. Nursing often focuses on patient teaching, yet oral health is an area that is likely low on the list of topics to cover, if not off the radar screen entirely. Areas that might need to be covered include cavity prevention techniques, such as brushing and limiting sugar in the diet; regular dental visits; and oral injury prevention. Inadequate knowledge may be a leading barrier to good oral health, and health care professionals such as nurses can play an important role in providing this knowledge (Foster & Fitzgerald, 2005).

Children and/or caregivers need to realize how their food choices can be important to oral health. A well-balanced dietary intake is needed for healthy teeth and tissues. Healthy snacks are beneficial to oral health as well as overall health. It is not realistic to eliminate sugar foods from today's diet, but they can be limited. The relationship between caries and sugar exposure is strong (AAPD, 2009a; Zero et al., 2009). It is preferable to consume sugary foods and beverages along with meals, rather than alone as a snack. Prolonged exposure to sugary foods, especially sticky ones, is of greater concern than a quick ingestion of sugar. For example, from a cariogenic standpoint, sucking on a lollipop for 20 minutes is worse than eating a piece of chocolate candy and then rinsing the mouth. Fruit rollups or raisins are better replaced with carrot sticks or pieces of cheese.

Beverage choices can also be problematic. Popular beverages among children may include soda pop, Kool-Aid™, sports drinks, fruit juice drinks, and milk-flavored with chocolate or strawberry syrups. Most of these contain sugar, so it is important for a child to drink them down rather than sip on them. Sodas, even "diet" varieties containing artificial sweeteners, are acidic and contribute to tooth decay. Sports drinks, especially popular, may not have much sugar, but they contain a lot of sodium. An addi-

tional concern for children who may drink primarily bottled water is its lack of fluoridation.

All children need to receive professional dental care as their primary and permanent dentition develops. Prevention, early detection, and management of dental problems can be attended to, which will serve to improve a child's oral and overall health. AAPD guidelines recommend an initial examination be done at the time of first tooth eruption and no later than 1 year of age. Prevention of early childhood caries is vital. Children 2 to 12 years of age should have regular dental visits, including a professional cleaning, every six months (AAPD, 2009c). Nurses can inquire about when a child has last seen a dentist and encourage regular visits.

Staff Education and Collaboration with Dentistry

In addition to the three components of the oral health care program proposed, two additional complimentary threads are important to the success of such a hospital program. These are staff education and collaboration with dentistry.

Staff Education

Nurses need to be knowledgeable about oral health care to effectively deliver it. They should be familiar with dental development in children, causes of decay, assessing for common oral/dental health problems, providing preventive oral health education, and the general availability of community resources for dental care. In 1996, Adams tested her theory that qualified nurses lack adequate oral health knowledge, resulting in inadequate care of hospitalized patients. Thirty-four trained nurses from four different wards in a hospital filled out questionnaires, and results supported her theory. Less than one-third indicated a preference for using toothbrushes to do oral care. Less than half thought all patients needed oral assessment on admission. Only half listed clean teeth as an indicator of a healthy mouth. Pediatric nurses can be more effective patient advocates through advancing their knowledge base. Enhanced knowledge can be achieved through in-house educational programs or by Internet programs, such as *A Health Professional's Guide to Pediatric Oral Health Management* (NMCOHRC, 2003).

Collaboration with Dentistry

Collaboration between nursing and dentistry is vital if we wish to provide children with the benefits of multidisciplinary health care (see Table 3). Some large hospitals have affiliated dental schools and clinics, dental residents, or hospital-based dentists. Pediatric dental residency programs provide training on childhood illnesses and their oral effects (Casimassimo, 2000). Nurses working in these hospitals should take advantage of dental resources available to their patients, as well as educational resources for themselves. Pediatric nurses can suggest a dental consult for children identified with oral health problems or assist with seeking a dental clinic appointment. For facilities with no onsite dental affiliation, pediatric nurses can identify children in need of dental care and refer them to a dentist if they do not already have one. Becoming aware of community dental services for children can be a benefit to the pediatric nurse (Collins et al., 2009). It is particularly important for nurses to be aware of dental services for families with limited resources. Non-dental health care providers are encouraged to refer all children, especially those at risk, to a dentist for oral health care. Doing so helps children establish a desirable "dental home," where an ongoing relationship and continuity of oral health care can be provided (AAPD, 2006).

Ultimately, the desired patient outcome of any oral health plan of care is improved oral health, measured perhaps by a decline in caries. For a hospital program, such a desired outcome likely cannot be realized, but rather, contributed to. In light of the currently expanding focus on health rather than illness, Hamer and Collinson (2005) point out that clinical effectiveness in all settings needs to be looking at longer-term outcomes of treatment and health promotion.

Conclusion

Quality oral health care should include assessment, oral hygiene, and education. Knowledge of oral health and collaboration with dentistry complements successful implementation of oral health care. A well-developed plan of care can contribute to evidence-based practice for guiding this important yet often neglected aspect of care. Acute care nurses need to take advantage of their opportunity to contribute to the improvement of

Table 3.
Nursing Interventions for Oral Health Care for Children

Assessment	<p>Inspect oral cavity, noting condition of:</p> <ul style="list-style-type: none"> • Mucous membrane. • Gingiva. • Teeth. <p>Evaluate dental hygiene status by noting presence of:</p> <ul style="list-style-type: none"> • Plaque or tarter. • Gingivitis. • Decayed, broken, filled, or missing teeth. <p>Assess for factors affecting dentition, such as:</p> <ul style="list-style-type: none"> • Infection and abscess. • Orthodontic appliances. • Bruxism. • Medical conditions and/or treatments. • Ability to perform oral hygiene. <p>Determine need for referral to dental provider.</p>
Provision of Dental Care	<p>Assist with or provide oral care:</p> <ul style="list-style-type: none"> • Soft-bristled toothbrush. • Flouridated paste with supervision if unable to spit. • Manual or electric/battery toothbrushes. • Performance of oral care twice daily, even if child is not eating by mouth. <p>Administer any ordered medication:</p> <ul style="list-style-type: none"> • Anti-infectives. • Analgesics. <p>Provide appropriate diet:</p> <ul style="list-style-type: none"> • Nutritional, based on 2010 Dietary Guidelines. • Limitation of sugar containing food and drink, especially between meals. • Avoidance of hot and cold foods with dental sensitivity. • Provision of adequate fluid intake.
Education and Home Care	<p>Aim at child and/or parent, as appropriate.</p> <p>Instruct about or review proper oral care procedures.</p> <p>Instruct about or review dietary aspects of oral health.</p> <p>Explain importance of oral health care for this child.</p> <p>Advise parent to have child use mouth guard for sports activities.</p> <p>Educate on need to have dental home by 1 year.</p> <p>Educate on need for preventive dental care every 6 months.</p> <p>Refer to dental provider and other community resources, as needed.</p>

children’s oral and overall health in the hospital and beyond. Luce and Sande (1983) iterated the vital need for nurses in ambulatory and acute care settings to incorporate oral health maintenance into the care of children based on the prevalence of children with poor oral health. The need was identified by nurses over 25 years ago and yet remains a largely unmet need today.

There is an identified gap in the literature, research-based or otherwise, relating to oral health care for chil-

dren in the hospital. Nursing research is needed in all areas pertaining to oral health care, including assessment of nurses’ knowledge of dental health, validation of screening tools for oral/dental health of children, implementation of effective oral health programs, alternative approaches to providing preventive education, and the current state of dental-nursing collaboration. Such research can assist pediatric nurses in providing desired best practice guidelines for oral health care in hospitalized children. ■

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