Prevention and Management of Children with Special Health Care Needs During Dental Treatment

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The AAPD defines special health care needs as "any physical, developmental, mental, sensory, behavioral, cognitive, or emotional impairment or limiting condition that requires medical management, health care intervention, and/or use of specialized services or programs. The condition may be congenital, developmental, or acquired through disease, trauma, or environmental cause and may impose limitations in performing daily self-maintenance activities or substantial limitations in a major life activity. Health care for individuals with special needs requires specialized knowledge acquired by additional training, as well as increased awareness and attention, adaptation, and accommodative measures beyond what are considered routine. [1]

For a long time, these special children were denied their special needs because of ignorance, social taboos, parental embarrassment and lack of "specialists". Historically, five basic reasons have been given to account for the inadequacy of dental care for this group by Plummer: [2]

1. On the part of the profession, there has been lack of knowledge, understanding and actual experience in treating the handicapped patient.
2. There has been inadequate information on the oral hygiene status and dental needs of the handicapped population.
3. The importance of dental care for the handicapped has been overlooked by health planners and administrators in establishing programs for the non-institutionalized population.
4. Parents and guardians of handicapped children have not been made aware of the importance of oral health and may lack knowledge of the health care system and financial resources available to them.
5. Home care has been so neglected that most handicapped patients need extensive dental treatment.

To plan treatment appropriate for the child with special health care needs and effectively deliver this treatment, it is necessary for the dental care provider to understand the implications of his own attitudes toward the disabled in addition to understanding the basis of the disabled individual's perception of himself and the health provider. [3]

Management of Children with Special Health Care Needs

Dental Access

The following are some of the modifications which a dental operatory prepared to treat children with special needs should have: [4]

- In the dental operatory, doorways should be 4 inch (10 cm) wider than normal.
- The required wheelchair turning space and top space under furniture and fixtures may be more readily accommodated if one operatory is specifically designed with a movable dental chair instrument control unit, and suction system.
- Movable equipment should enhance the opportunity to back the patient's wheelchair into the operatory and thus reduce the need for more wheelchair turning space.
- Dental chairs should adjustable for height to match different wheel chair designs.

First Dental Visit

By scheduling the patient at a designated time (early in the day) and allowing sufficient time to talk with the parents (or the guardian) and the patient before initiating any dental care, a practitioner can establish an excellent relationship with them. A thorough medical and dental history is very important, and the parent or guardian should be interviewed before the initiation of any treatment. In addition, steps such as pre-setting the dental chair in the required position, avoiding loud noises and sudden lights, help in avoiding some of the potential anxiety associated with dental treatment.

The office staff, under the guidance of the dentist, should determine the need for an increased length of appointment and/or additional auxiliary staff in order to accommodate the patient in an effective and efficient manner. [5]

Patient Assessment

An accurate, comprehensive, and up-to-date medical history is necessary for correct diagnosis and effective treatment planning. Information regarding the chief complaint, history of present illness, medical conditions and/or illnesses, medical care providers, hospitalizations/surgeries, anesthetic experiences, current medications, allergies/sensitivities, immunization status, review of systems, family and social histories, and thorough dental history should be obtained. [6] Comprehensive head, neck, and oral examinations should be completed on all patients. A caries-risk assessment should be performed. [7]

Patient Communication

Often, information provided by a parent or caregiver prior to the patient's visit can assist greatly in preparation for the appointment. [8] An attempt should be made to communicate directly with the patient during the provision of dental care.

Behavior Guidance

Behavior guidance of the patient with SHCN can be challenging. Because of dental anxiety or a lack of understanding of dental care, children with disabilities may exhibit resistant behaviors. These behaviors can interfere with the safe delivery of dental treatment. With the parent/caregiver's assistance, most patients with physical and mental disabilities can be managed in the dental office. Protective stabilization can be helpful in patients for whom traditional behavior guidance techniques are not adequate. [1,9]

Prevention of Oral Diseases

The team of dental professionals should develop an individualized oral hygiene program that takes into account the unique disability of the patient. Brushing with a fluoridated dentifrice twice daily should be emphasized to help prevent caries and gingivitis. Toothbrushes can be modified to enable individuals with physical disabilities to brush their own teeth. Electric toothbrushes and floss holders may improve patient compliance. A non-cariogenic diet should be discussed for long term prevention of dental disease.

Sealants reduce the risk of caries in susceptible pits and fissures of primary and permanent teeth. Topical fluorides may be indicated when caries risk is increased. Interim therapeutic restoration (ITR), using materials such as glass ionomers that release fluoride, may be useful as both preventive and therapeutic approaches in patients with SHCN. [10] In cases of gingivitis and periodontal disease, chlorhexidine mouth rinse may be useful.

Clinical Examination and Treatment Considerations: [4,11]

A short attention span, restlessness, hyperactivity, or erratic emotional behaviour may characterize children with emotional or intellectual disabilities. On the other hand, children with physical disabilities may have restricted movement, abnormal reflexes and involuntary movements of the head and extremities. The dentist should assess the degree of disability by consulting the patient's physician or other caregiver if the patient does not live with the parents.

- Schedule the appointment early in the day, when the dentist, the staff, and the patient will be less fatigued.
- In guiding the patient to the operatory, ask if the patient desires assistance.
- Invite the parent into the operatory for assistance and to aid in communication with the patient as well as to provide reassurance to the child.
- Introduce other office personnel very informally.
- When communicating, be repetitive; speak slowly and in simple terms. Make sure explanations are understood by asking the patient if there are any questions.
- Give only one instruction at a time. Reward the patient with compliments after the successful completion of each procedure.
- Keep appointments short.
- Consider treating a patient who uses a wheelchair in the wheelchair.
- Make an effort to stabilize the patient's head throughout all phases of dental treatment.
- Try to place and maintain the patient in the midline of the dental chair, with arms and legs as close to the body as feasible.
- Employ the 'tell show do' approach allow

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treatment of periodontal infection, Scaling Root Planing coupled with systemic antibiotics has shown to definitely improve glycemic control in diabetic patients. Evidences for the same are stated in studies done by Miller ET all 1992, Taylor et al 1996 and Grossi et al 1997.

Also the Annal of Periodontology 2001 states that effective management of periodontitis using systemic antibodies decreases signs and symptoms of periodontal infection and also improves glycemic control.

Conclusion

AAP 2006 Systematic Review-

Diabetes mellitus increases the risk of periodontal disease and there is enough evidence to prove the same.

The effect of periodontal disease on Diabetes Mellitus is less clear and Mechanisms are Unclear. Probably infection increases insulin resistance aggravating poor Glycemic Control.

Thus with more than one half of the population suffering from Diabetes Mellitus, their Periodontal Health Maintenance becomes an important concern.

Clinical Implications

1. Routine dental and periodontal check up can, with the help of various oral signs and symptoms, is indicative of diabetes mellitus. Thus can help detect Diabetes in a patient unaware of the same.

   Various periodontal manifestations that could be suggestive of Underlying Diabetes Mellitus-

   - Tendency towards gingival enlargement
   - Sessile / pedunculated gingival polyps
   - Multiple abscesses.
   - Severe gingival inflammation
   - Deep periodontal pockets
   - Rapid bone loss

   Various other oral manifestations that could be suggestive of Underlying Diabetes Mellitus:

   - Cheilosis
   - Mucosal drying & cracking
   - Burning sensation of mouth and tongue
   - Decreased salivary flow
   - Taste impairment
   - Lichen planus
   - Increased C.albicans, Hemolytic Streptococci, Staphylococci.
   - Dental caries
2. In a patient who is known to have diabetes mellitus, oral and especially periodontal health becomes of utmost importance. These patients should be kept on a high maintenance protocol, especially if the patient has poor periodontal conditions.
3. Diabetic Patients should be constantly educated and motivated about maintaining good oral hygiene.
4. Periodontal Surgeries can be undertaken in a diabetic patient as long as the patient maintains a good glycemic control.
5. While treating a Diabetic Patient proper detailed history of his/her most recent diabetic record and drugs that patient is taking is mandatory.
6. One of the most important complications to be considered while testing a diabetic patient on medications is Hypoglycemia. It is advisable for every dentist to have a glycometer to keep a check on the glucose levels of a patient especially before and after a surgery. Also the emergency drugs to treat hypoglycemia should be within reach, while treating a diabetic patient who is on medication.
7. Special attention should be given to the oral health of pregnant women as it could increase the chances of gestational diabetes.

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the patient to see the instruments and demonstrate how they work.

- Allow the patient to ask questions about the course of treatment and answer them, keeping in mind that the patient is highly individual, sensitive, and responsive.
- The use of facial expressions, gestures and praises are important. The dentist should speak directly to the patient in a normal tone of voice.
- Local anaesthesia and use of rubber dam are essential but are especially difficult concepts to explain to children with intellectual or communicative disabilities.
- Minimize the gag reflex by placing the patient's chin in a neutral position or downward position
- If the patient has a swallowing problem, tilt the head slightly to one side and place the body in a more upright position

Radiographic Examination

Adequate radiographic records are often necessary in planning dental treatment for the child with disabilities. For patients with limited ability to control film position, intraoral films with bite-wing tabs are used for all bite-wing and periapical radiographs. An 18 inch (46-cm) length of floss is attached through a hole made in the tab, to facilitate retrieval of the film if it falls toward the pharynx. Film-holders are a valuable aid in accomplishing proper positioning of the film intraorally.[4] Assistance from the parent, caretaker, dental assistant. Wear lead apron and/or gloves. [11]

Treatment Immobilization

Partial or complete immobilization of the patient is sometimes a necessary and effective way to diagnose and deliver dental care to patients who need help controlling their extremities, such as infants or patients with certain neuromuscular disorders. The parents or guardian or patient must be informed and give consent, and the consent must be documented, before immobilization is used.[4]

Indications for Using Immobilization

1. Lack of maturity
2. Mental or physical disability
3. Other behavior management techniques have failed
4. Safety

Contraindications

1. Cooperative patient
2. Underlying medical condition (e.g. Osteogenesis imperfecta)
3. Should not be used as a punishment

The following are commonly used for immobilization:

Mouth opening: Tongue blade, OPEN-WIDE®, Molt mouth prop, Rubber bite block.

Body : Papoose Board, Triangular sheet, pedi-wrap, Beanbag dental chair insert, Safety belt, Extra assistant.

Extremities: Posey straps, Velcro straps, Towel and tape, Extra assistant.

Head : Forearm-body support, Head positioned, Plastic bowl, Extra assistant.[11]

Conclusion

In recent years, the dental professionals have showed increasing concern regarding the delivery of oral health care to mentally or physically disabled children. This increasing concern is the realization that individuals with a disability, whether developmental or acquired, are entitled to the opportunity to achieve appropriate habilitation, that is, to enable them to realise their maximal level of functioning and to assist them in "normalizing" their lives.

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