

Dr. Nada Jafer Radhi (College of Dentistry/ University of Baghdad)

## **Dental health of disabled and medically compromised child**

**Disability:** It refers to any restriction or lack of ability to perform an activity. A disabled individual is a person who has one or more physical, medical, mental, or emotional problems that result in a limitation of the ability to function normally in fulfilling the activities of daily living (ADLs). Disability includes all handicapping conditions or combinations and could be developmental in origin or acquired.

### **Classification of disabling conditions:**

- Physical disability such as cerebral palsy.
- Mental disability such as Down syndrome and mental retardation.
- Sensory disability like deafness and blindness.
- Medical compromise disability like diabetes and Acquired Immune Deficiency Syndrome (AIDS).

**Oral status:** The oral health may little different between people with disability and normal. Reports show that disabled individuals have tended to have more teeth missing, more untreated decay and fewer teeth restored. Dental care is often generated as an emergency. With few exceptions, preventive care has not been emphasized in the way it should. The two most important oral health problems among disabled patients are dental caries and periodontal disease.

### **The issues regarding the delivery of care to people with disabilities:**

- Normalization.
- Lack of funding for training in the Community Dental Service.
- The development of Personal Dental Service.
- Cost of specialist services and facilities.
- Unwillingness of some general dental practitioners to provide dental services to some groups in the community.
- Consent and restraint.

It is important for dental providers to follow a few simple steps when treating these patients.

1. Assess medical, dental, and health history.
2. Take vital signs.
3. Communicate clearly with a patient who is able to do so. Otherwise, refer questions to the person's caregiver.
4. Obtain consent for treatment and possible medical stabilization.
5. Assess the patient for possible complications during dental treatment and utilization of medical stabilization if necessary.
6. If medical stabilization is needed, document clearly the time patient utilized medical stabilization and the purpose for which it was utilized.
7. Document the patient's tolerance for procedures.
8. Note any complications during treatment.
9. Document the procedures performed and those needed in future appointments.
10. Sign your name and professional title.

### **Dental management and preventive measures among disabled individuals:**

There are general ways to promote the oral health of people with disabilities before consideration of specific techniques and modalities of dental care. They include:

- To have an advocate someone to ensure that the individuals concerned receive the care they need if they are not in a position to demand it themselves. This relies on caregivers being aware of potential needs.
- Ensuring that financial barriers to dental care are removed is vital.
- Services themselves need to be offered flexibly.

People with limitations of movement needs safe and effective positioning and may extend to the use of conscious sedation or even general anesthesia as an adjunct to care.

### **The risk factors for dental caries among disabled individuals include:**

- Dietary constituents and form.
- Liquid oral medicines.
- Poor oral clearance/stagnation.

- Resistance to mouth cleaning.
- Infrequent attendance.
- Attitude of caregivers.

Preventive and treatment services are targeted at particular groups (disabled); the evidence is that oral health can be maintained at a higher level. Topical fluoride applications are indicated in those groups who may be at higher risk for the development of carious lesion. Administration of such agents can be difficult in a severely intellectually impaired person.

Conventional dental treatment may not be appropriate for all patients. For some groups, the only way is with the aid of general anesthesia. For other patients, an alternative approach to managing carious lesion using simple atraumatic restorative technique (ART).

Dietary consideration for people with disabilities may need to be different. For severely impaired people, food is often liquidized or fed in semi-solid state after mashing. Some very disabled children and adults need to take high calorie supplements in order to maintain nutritional status. Liquid oral medicines taken can be damaging for the dentition and in chronic users. A regular mouth cleaning using fluoride toothpaste where possible. If the patient will not tolerate the use of the toothpaste, then a toothbrush dipped in fluoride mouthwash (0.2% sodium fluoride) as a part of the mouth cleaning routine.

A proper diet is essential to a good preventive program for disabled child, to reduce the cariogenic potential it is necessary:

1. To restrict between meal snacking.
2. Limit use of highly cariogenic food.

**People with physical (neurological) impairment:** Periodontal diseases and caries are both more widespread in cerebral palsy (CP). Enamel hypoplasia, mouth

breathing, and food retention in the mouth all contribute to the increased rates of periodontal disease and caries. Physical constraints of the patient with CP can make proper oral hygiene difficult. For these reasons, the patient or caregiver should use a unique, individualized dental care plan. In a person who cannot tolerate extensive, rehabilitative dental care then it may be necessary to remove badly worn and sensitive teeth. Pureed diets are recommended for cerebral palsy patients who have difficulty in swallowing. For patients who have difficulty grasping a conventional, slim-handled brush, A wide-handled, powered toothbrush can assist these patients. A manual toothbrush with an enlarged handle, elastic cuff, or individualized, personal, and caregiver-directed plaque control measures. Electric toothbrushes are not recommended for those severely disabled individuals due to their increased weight, difficulty in using on/off switch as well as these devices can cause considerable damage to the hard and soft tissue in a short time. Several cases of gingival hyperplasia can be seen among those disabled individuals. The malocclusion is due to skeletal problems, not just tooth misalignment or the common habit of tongue thrusting. The increased rate of temporomandibular joint (TMJ) disorder corresponds with a high rate of bruxism. Severe bruxism can cause wear of tooth facets, tooth fractures, and possibly pulpal exposure of teeth. If reasonable for the individual, orthodontics could be considered. Patients with cerebral palsy also tend to have hyperactive bite and gag reflexes. If the gag reflex becomes a problem for the dental provider, keeping the patient in a semi upright position with chin down. In cases of CP, a mouth guard could help reduce the effects of the prolonged clenching. Immobilization of uncooperative physically disabled patients need papoose board for stabilization of body, adjustment of head by head positioner, and strap and tape for extremities.

**Visual Deficits** may range from correctable deficiencies to total blindness. Chair side instructions of tooth brushing and flossing should be demonstrated on oversized models of the dentition with a giant-sized toothbrush. Red floss can help when demonstrating flossing to those with visual impairment who have difficulty seeing white floss. Green floss is also available and can be used, but red is easier for the aging eye to see. Once the flossing technique is understood and visual acuity permits, the patient may switch to white floss for regular home use. This allows the patient to check the color of the floss for possible gingival bleeding. An adequate assessment of the patient's dexterity and ability to understand the technique must be determined before flossing is introduced. For some compromised patients, flossing can be performed regularly if a floss-holding device is used. Some patients who have experienced a cerebrovascular accident lack the skills necessary to use a mirror. For these people, using a mirror causes confusion and therefore is contraindicated. The patient must be sensitized instead to the "feeling" and "smell" of a clean mouth to test the success of oral hygiene measures.

**Hearing problems** can occur in all age groups. The most common problem in communicating with the hearing disabled, however, occurs when the speaker is not directly in front of the patient, at the same eye level, face to face. The hearing-disabled patient also relies on the communicator's facial expression and body language. Providing dental care with the clinician seated in the 12 o'clock position places the operator's arm nearly in contact with the patient's ear, and the clinician's sleeve may accidentally dislodge an over-the-ear hearing aid. When writing information, use a clipboard and a red felt-tipped pen. Although nonverbal communication, such as smiling, hand holding, and shoulder touching, plays a role in the clinician-patient interaction, it becomes extremely significant when there is no alternative.

**Mentally retardation:** For patients who resistant to mouth cleaning, carers need to carry out this task. This may be facilitated by use of powered toothbrush. It may be that electric toothbrushes are beneficial for this population, because patients and caregivers find them easier and more pleasant to use. If disabled individuals refused this type of brush, a super brush use instead that allow three teeth surfaces cleaning to be involved. The effectiveness of a very low concentration (0.06%) of CHX spray delivered by caregivers was evaluated in developmentally disabled patients and resulted in significant improvement in plaque scores. Thus, for severely disabled or mentally retarded patients, a caregiver can provide CHX applications by various means and improve the periodontal condition.

**For medical compromised patients** who are too ill need a different approach. For those unable to swallow, mouth care needs to be carried out for the patient in bed, aided with an aspirating toothbrush. If the person is unable to tolerate the foamy toothpaste, dipping the toothbrush into fluoride mouthwash.

The gingival status in disabled individuals is going to be affected by the poor levels of oral hygiene and to some extent an alteration in the immune system were recorded. For certain subgroups, like people with Down syndrome, periodontal disease has been noted to be more prevalent, due to combination of poorly controlled plaque levels and an alteration in phagocytosis of neutrophils. If gingival health is poor, chlorhexidine gel can be swapped around the mouth either on a brush or onto gauze. Alternatively, chlorhexidine can be inserted into the gingival sulcus area in a varnish form. In older patients, gingival recession is a common experience. If the gingival recession has occurred to the extent that the papilla no longer fills the interdental space, an interproximal brush may be beneficial.

Compromised patients who wear full or removable partial dentures may need assistance with maintaining proper hygiene of the appliances, which must be removed for thorough cleaning of the oral soft tissues and any remaining natural teeth. The appliances also must be cleaned appropriately and should be left out of the mouth for 6 to 8 hours per day. Modifications to denture-cleaning devices as well as modifications to the dentures may aid in helping compromised patients provide their own denture hygiene.

Disclosing products should be suggested to visualize plaque when a patient has difficulty in plaque removal. Single-dose packaging of disclosing solution with its own cotton-swab applicator has become available and may prove practical for weekly plaque removal effectiveness checks in institutional settings.

It appears that the non-institutionalized handicapped do not have as high a level of oral health as the rest of the population. The F (filled) value for the DMF (decayed, missing, or filled) scores is often lower in the compromised population, whereas the D and M values are higher than in the general population. Although becoming more common, preventive strategies that would really benefit this population group are often not available on a regular basis. The use of sealants and fluorides should be considered important preventive techniques to assist in caries control for compromised patients.

Sealant application may be more difficult in compromised patients, because it may be more difficult to control moisture contamination. Salivary pooling is often seen in cerebral palsy and muscular dystrophy patients, because they have swallowing difficulties. To aid in moisture control the patient should be seated upright rather than in a reclining position.

### **Specialized Equipment for disabled patient management:**

- Mouth Props.
- Headrests.

- Soft Ties.
- Body Wraps and Other Limb Stabilizers.

### **Dental care for Institutionalized disabled individuals**

- 1- The most common role for the dental provider in an institutional setting is consultant.
- 2- The dental clinician should provide educational training programs for the nursing staff.
- 3- The administration and the staff must be kept aware of the importance of routine oral-health care.
- 4- Follow-up observation is carried out by the dentist or the hygienist.
- 5- The dentist or dental hygienist trains the staff. This requires an ongoing training program because of frequent turnover of nurses' aides in such facilities. Training aids may include videotape recordings of the important aspects of preventive care.