

DENTAL MANAGEMENT OF MENTALLY RETARDED PATIENTS

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INTRODUCTION

Mental retardation is one of the major disorders in the category of development disabilities, the others being cerebral palsy, epilepsy and autism. The American Association on Mental Deficiency has defined mental retardation as "significantly sub-average intellectual functioning which exists concurrently with deficit in adaptive behavior, and is manifested during the developmental period"¹. "Significant sub-average intellectual functioning" refers to an intelligence quotient (IQ) of 70 or below, i.e., that an individual with IQ of 70 or below would be considered as mentally retarded. "Existing concurrently with deficit in adaptive behavior" means that these individual do not have the personal independence and social responsibility expected of their age and cultural background. The mentally retarded children do not have language skills and social interaction of normal children of same age. As these children grow and become adults, they have limited chances of earning a living, maintaining a family and becoming an integral part of society. The last part of the definition "during the development period" indicates that the deficit appears before the age of 18 years.

The dental health of mentally retarded carries special significance due to several reasons. Most of these children have medical problems and a poor dental health may further compromise their medical health. A poor dental health and esthetics may also further damage their psychological status².

The most important factor for providing dental care to these individuals is the confidence of a dentist in the ability to treat them. The more knowledge a

dentist has about treating these special individuals, more confident he/she becomes in the challenging but rewarding task of providing routine dental services to these patients'. The purpose of this paper is to share with readers some basic information that will assist them in successful dental management of these patients.

CLASSIFICATION OF MENTAL RETARDATION

Mildly Retarded: These are individuals with IQ score of — 70. With proper habilitation, they are able to function independently and earn their living. They can be educated up to sixth grade and, are placed in *educable* category.

Moderately Retarded: These individuals have an IQ score range of 36 — 50. With extensive efforts, they can function up to grade II level. They can be trained in manual skills (*trainable*).

Severely Retarded: These are individuals with IQ scores of 20 — 35. The severely retarded individuals can be taught a manual skill (*trainable*) and they are able to work at sheltered workshop.

Profoundly Retarded: These individuals possess IQ score below 20. They are totally dependent on others for their personal needs and are usually institutionalized. These individuals usually have multiple medical problems⁴.

Clinical Manifestations

Various clinical manifestations of mental retardation are listed below:

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- Hyperactivity and impulsiveness
- Distractibility
- Stubbornness and opposition
- Attention seeking
- Fearful behavior
- Self-mutilation (biting, head banging and scratching)
- Craving for non-food items such as dirt, hair etc.

Oral Manifestations

Periodontal disease; is the most common dental problem associated with mental retardations. The periodontal disease is not primarily due to the disability and is usually the result of dental neglect.

Dental caries; especially the untreated carious lesions are a common finding in these children. The dental caries in these children are also a result of dental neglect.

Structural abnormalities; are related to disturbances in growth pattern in many of these children.

Malocclusion; of some form is frequently found in retarded individuals with craniofacial syndromes and Dilantin hyperplasia.

Destructive oral habits; such as tongue thrusting, bruxism, clenching and drooling are frequently found in these individuals.

DENTAL MANAGEMENT

Medical History

It is extremely important to obtain background information about the condition and any associated medical problem(s) the patient may have. It is prudent to consult patient's physician in case of medical problems. The following information is obtained from sources such as parents, caregivers and patient's physician.

- The medical status of the patient
- Any medication the patient is currently taking and need to adjust dosage before dental treatment.

- Need of antibiotic prophylaxis for Sub-acute bacterial endocarditis.

- Any other precautions (such as choice of local anesthesia or sedation drug) for dental

treatment. **Behavioral History**

The dentist should try to obtain as much information as possible about the degree of mental retardation. The following information is important for patient management.

- Communication level of the child
- Whether or not the child is institutional
- What functions can the patient perform for himself/herself
- How the parents/caregivers control the behavior at home/institution.

Dental History

It is important to find out if the patient has visited a dentist previously and what was the behavior of the patient during those visits. Information is also noted about previous dental treatment and recurrent caries. The above information will assist the dentist in planning behavioral, restorative and prevention strategies.

Behavioral Strategies

The behavior management techniques used in the special individuals especially in mildly retarded are similar to those applied in normal patients. Moderately and severely retarded individuals often present a higher incidence of emotional behavioral problems in form of fearfulness, hyperactivity and oppositions. These individuals usually have developed an association between pain/fear and certain stimuli such as white coats, injections, hospital settings and even certain smells (a phenomenon known as classical conditioning). The aim of the dentist is to minimize the effects of classical conditioning through:

- Avoiding/minimizing painful/fear-evoking stimuli
- Reinforcement of appropriate response
- Systematic desensitization
- Promoting relaxation using pre-medication.

Behavioral Guidelines

- Most maladaptive behaviors can be prevented simply by dentist's kind approach to patient communication. A majority of these individuals try hard to cooperate and please the dentist who shows sincere interest in them.
- Positive reinforcement help shape the behavior i.e., some reward for good behavior such as smile, praise, a pat on the back or physical rewards such as balloons or rings in the fingers or anything of their interest.
- Slow and repeated instructions are required in teaching the appropriate behavior. Tell, show and Do (TSD) method should be utilized for each procedure.
- Complete demonstrations may be required for disabled patients who are unable to understand verbal instructions.

General Guidelines^{4,7}.

- The actual dental procedures in these individuals are similar to normal patients. The difference lies in the area of behavior management. The dentist working with these individuals should be aware of various behavior management modalities available to assist them.

Brief and early morning appointments are suitable for most of the mentally retarded individuals because they get easily frustrated and have short attention span.

- It is helpful to get the patient familiar with the dentist, dental staff and dental office before the treatment begins. It is also important to get familiar with the patient to reduce your own and your staffs anxiety about the patient.
- All instructions should be given slowly keeping in view the cognitive level of the patient. It is not appropriate to give a series of instructions at once as this will confuse a Mentally retarded patient. It is necessary to comply with one instruction before repeating or giving another instruction.
- The dentist should pay attention to what the patient may be trying to convey. Many of these patients have not only have difficulty in under-

standing your communication, they have difficulty in expressing themselves. It is wise to utilize the services of parents/caregivers in alerting you to the signs to fear and pain.

- Parents/caretakers are responsible for holding the film if there is difficulty in taking a radiograph.
- It is very important to remember that many of these patients especially those in severely and profoundly retarded category have to be treated under deep sedation or general anesthesia. A written consent is obtained from parent/guardian before using any restraint, sedation or general anesthesia.
- Many of these patients utilize wheelchair for transportation, therefore, it is important to have a ramp access to your clinic/hospital.

Management Aids

A number of management aids for physically restraining of patients are available such as:

- Papoose board for complete patient restraint (Fig 1 & 2)
- Tie type arm and leg restraints
- Seat belt type straps and
- Extra personnel.

Intra-oral management aids such as Molt's mouth prop (Fig. 3) and tapped multiple tongue blades.

It is important to remember that use of these restraints require written consent of the guardian/care giver. The physical restraints are used only when necessary with the aim of preventing injury due to poor behavior or muscle coordination during the dental treatment. The physical restrain are never used as a punishment to the patient.

PREVENTION

Need for Prevention

Dental disease is one of the few problems encountered by special individuals that can be controlled. Good dental health is important for mastication, digestion, appearance, speech and general health. Providing dental treatment to mentally retarded indi-



Fig 1. Papoose Board secured on a dental chair

viduals is a challenging task for a dentist. The guardians of these individuals are also under a lot of economic pressure due to loss of time from work and travel. Therefore, the prevention of dental disease in these individuals is of vital importance and should receive absolute priority.

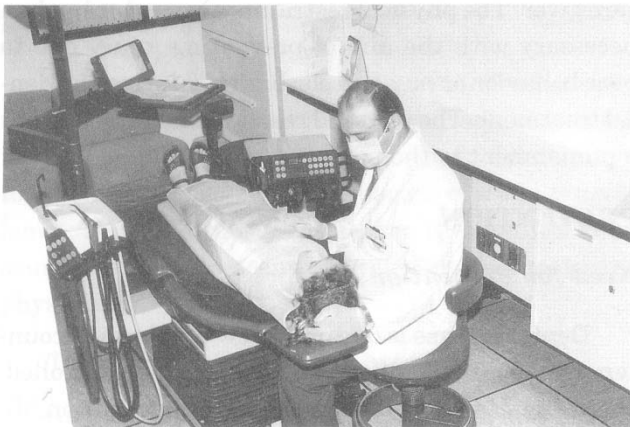


Fig 2. Papoose Board in use

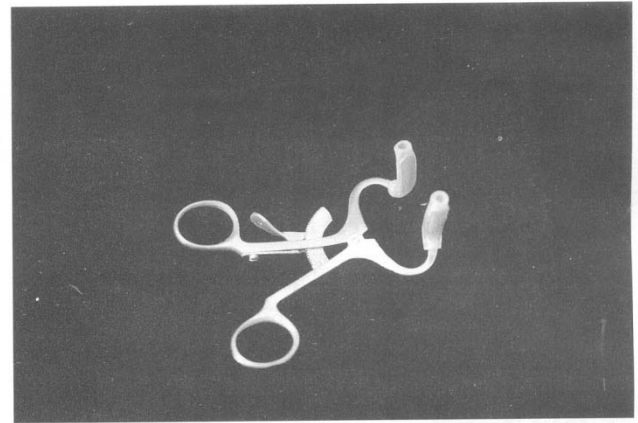


Fig 3. Molt's mouth

prop. **Preventive programs**

Keeping in mind the importance of dental prevention, a vigorous approach to preventive measures such as oral hygiene practices, dietary advice and fluoride supplements is required. The preventive programs can be either one to one type or group-based programs. Dentists should take the responsibility and offer their services in prevention of dental disease in mentally retarded individuals in the community they work⁸. Dentists working in government sector or private sector need to establish communication with the authorities responsible for welfare of these individuals and involve themselves in the total health care.

Many of these individuals are unable to clean their teeth. They may also have involuntary hand and arm movements or may be partially or totally paralyzed, thus making it necessary for another person to take responsibility for maintenance of oral hygiene. Therefore, communication should also be established with the parents/care takers of these individuals, and assistance offered in preventive efforts. The parents and caretakers of these individuals need to play an important role in prevention of dental diseases⁹.

The presence of plaque is a major cause of both dental caries and inflammatory periodontal disease. Following measure are recommended for prevention of dental caries and periodontal disease in these individuals.

Tooth brushing: The selection of tooth brush and brushing technique depends on the degree of mental retardation and any physical handicap. A variety of

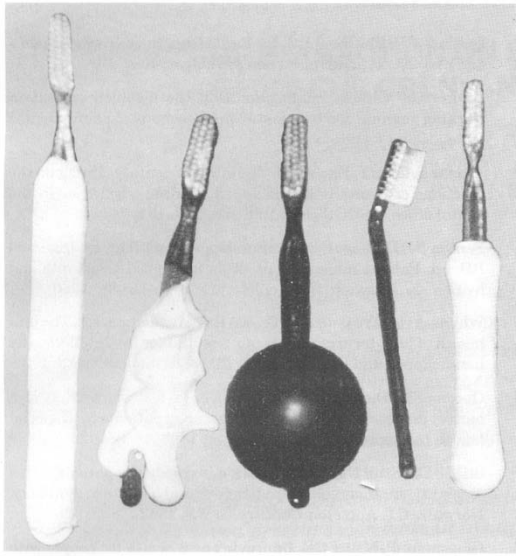


Figure 4. Various toothbrush modifications

toothbrush modifications (Fig. 4) are available for those who have limited ability but like to take some responsibility". Some companies have designed special brushes that require minimal manual dexterity.

Flossing: It is very important that a routine for flossing should be developed to remove the interproximal plaque. Modifications in design and technique are available for those who are able to do it themselves and for caretakers. Floss holders are a useful tool for those with limited dexterity and for care givers responsible for flossing the individuals with severe disabilities.

Plaque Disclosing Solutions: Staining the teeth to visualize plaque deposits is very useful in teaching and evaluating the efficiency of tooth brushing and flossing. Mouth props are useful for caregivers in gaining access to teeth of these patients.

Chemical Plaque Control: Clinical trials have demonstrated the usefulness of chlorhexidine preparations (mouthwashes, gels and sprays) in maintaining oral hygiene of special individual ^{11,12}. The beneficial effects of these preparations outweigh the side effects such as staining or taste disturbances.

Fluorides: Additional protection against dental caries is provided through supplemental and/or topical

fluoride. The fluoride dosage/regimen is determined considering the total fluoride intake from various fluoride vehicles. Many of these individuals although living in fluoridated water areas do not consume enough water to obtain full benefits of the fluoridated water and therefore need fluoride supplements. Professional topical fluoride applications can be combined with home-use fluoride to gain maximum protection against dental caries. The home-use fluoride can be provided in the form of chewable tablets, gels or rinses depending on the need and the abilities of patient.

Dietary Counseling: Many of these individuals consume soft diet containing refined carbohydrates. Sweetened foods are also used to as a reward to control the behavior of these patients. Therefore, it is important that the caretakers of these individuals and the authorities of special institutions are counseled regarding the deleterious effects of the foods containing refined carbohydrates on the dental health.

Recall Examinations: Frequent recall examinations are essential to determine the success of preventive efforts and programs". The patients and caretaker's oral health behavior, attitude and ability need to be reinforced and monitored continuously. Those with high caries risk are screened for interproximal lesions with the help of bitewing radiographs. Fissure sealants are useful in preventing occlusal caries in high risk patients.

Parents' Counseling

The parents and caretakers are under tremendous pressure due to demanding daily chores associated with care of these individuals". Therefore, it is important to consider the factors such as parents/caretakers' coping abilities, financial status, working schedule and transportation arrangements while designing a preventive program. They are supported through counseling if required.

Dental Profession's Responsibility

It is a noble responsibility of dental health care workers to provide preventive and restorative services to mentally retarded individuals. A dentist who provides these services participates in improvement of quality of life in these individuals by

eliminating infection and enjoying mastication. The self-image of these individuals is greatly enhanced with improved appearance. It must be mentioned here that providing services to mentally retarded is a spiritually rewarding experience and instills a special feeling of achievement in those who provide such services.

SUMMARY

The provision of dental treatment and prevention services to special children is an important part of dentists' professional responsibilities. The dental management of children with sensory disabilities such as blindness and deafness is a challenging but very rewarding experience. The term hearing impairment refers to a defective but functional hearing with or without a hearing aid. The term deafness indicates an inability to hear even with an assistance of a hearing aid. The dentist should be aware of various modalities utilized to enhance communication skills of these children such as amplification, lip-reading and sign language. There are no direct oral/dental manifestations related with hearing impairment/deafness with the exception of bruxism. The hearing impairment is usually associated with other disabilities such as ectodermal dysplasia, Down syndrome and cleft lip/palate, which have specific oral/dental manifestations. The dental treatment as such in these children is not different than other children. The key to successful management of these children for a dentist is to learn to utilize the remaining senses especially the sense of sight for purpose of communication. Dentists should take the responsibility and offer their services in prevention of dental disease in special children. All these efforts may not be financially lucrative but are definitely very rewarding in terms of improved oral health of these children.

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