

Dental Care and Treatment of Children with Emotional Disorders – An Overview

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Abstract

This article reports a dental management of children with emotional problems. The dental treatment difficulty is more often due to behavior disorders and is prone to tears or temper tantrums. A very important cause of uncooperation is fear of an unknown experience. These children are parent dependent and presence of parent during dental treatment is mandatory. Care must be taken of any casual remarks to the parent or assistant in front of child, the waiting room should have play objects, after one or two social visits treatment procedures can be introduced. They must be simple at first and are usually confined to the prophylactic polishing. The traditional method is to ask the patient to raise his hand if he wishes the dentist to pause. Toothpaste is produced and discussed as a familiar topic, dentist's finger nail are then polished first, the parent's and then finally child's. From here it may be possible to polish the anterior teeth then followed by bur by introducing special small brush for posterior teeth, care should be taken to make no unexpected movements. Initially, simple restorations should be done followed by multiple restorations. If the child is not cooperative for the treatment, it has to be done under sedation. Along with dental causes and management have been also discussed.

Keywords Autism; Emotional disorders; Children; Treatment

Introduction

The emotional problems which cause children to be difficult dental patients may be non-dental or dental origin. The non-dental causes cannot be discussed other than briefly and the interested dental surgeon is referred to the short list of general references which in their turn give substantial reading lists.

Psychoses in childhood are very uncommon. Schizophrenia is rare and is manifested by deterioration in interest and concentration, and so may be noticed first at school. The patient becomes withdrawn and later may develop restlessness and impulsiveness or remain unresponsive.

Early infantile autism is characterized by an appearance of extreme 'aloneness'. The child is interested in objects to the exclusion of people and appears to be unable to form emotional relationships. Many have severe speech difficulties, so unresponsive is the child that the condition may be suspected only after tests for both deafness and intelligence have proved normal.

Hyperkinesia may occur in children after brain trauma and may accompany epilepsy. It is characterized by intense over activity for a considerable length of time, possibly extending into years. Such a patient may indulge in outbursts of rage and aggression but his mood is unstable. He has no shyness or fear but his level of intelligence may be at any level from high to very low [1].

The non-dental background of dental treatment difficulties is more often due to behavior disorders and long term problems are most often related to:

An unstable home- background.

Some degree of rejection by one or both parents.

Intellectual expectation by the parents of higher level than the child is capable of achieving.

A physical defect which makes the child feels different from others.

In addition, a parent who is overanxious may have a child who is rebellious and an over- indulgent parent a child who has immature behavior and is prone to tears or temper tantrums. Any of these can produce behavior patterns which create problems for the dentist in relation to cooperation.

There are children who are dentally uncooperative for reasons more immediate than those so far discussed. It is not uncommon to find a very young patient with a previously good dental history suddenly becoming uncooperative because of reasons such as:

1. A recent hospital admission at an age when he is too young to understand that his mother is not in fact abandoning him in a strange place.
2. His mother herself has had to be admitted to hospital with a resultant feeling of insecurity in the child.
3. Addition to the family of a second child, so that the first loses part of the attention of his mother when he has hitherto been used to the whole of it.

Such events are world-shaking to 3 or 4 year old but by the age of 5 years and above he should be advanced enough to understand the circumstances and to accept them more easily, particularly as he himself has a life at school which is independent of his family. Although in most cases this emotional crisis is fairly soon overcome after stability has been re-established, in some of the effects may be prolonged [2].

Most important cause of dental non cooperative is fear of an unknown experience. This is commonly due to the anxiety of the mother or accentuated by it, as she herself is often afraid or ignorant of dental treatment. Such fear is sensed by the child and adds to any

apprehension he may have already. This fear does not appear to be related to the type of dental operation to be done whether actual treatment or merely examination.

Autism

Autistic disorder can be defined as a pervasive developmental disorder defined behaviorally as a syndrome consisting of abnormal development of social skills (lack of interest in peers, withdrawal) limitations in the use of interactive language (speech as well as nonverbal communication), and sensorimotor deficits (inconsistent responses to environmental stimuli). Generic terms; autism and autistic refer to the broad spectrum of pervasive developmental disorders that exhibit autistic features as their primary presenting behavior.

Autism was first described by American child Psychologist, Leo Kanner in 1943. Recognition of its origin in Itard's 1801 description of the "wild boy of Aveyro" a violent child with no language skills who related to other people as if they were objects. In 1911, Bleuler used term "AUTISM" for first time, to assign the loss of contact with reality that was caused by difficulty or impossibility of communication.

Autism is a neurodevelopmental disorder that usually appears in less than 3yrs of child's age. Autism is a prototypical form of spectrum of related, complex neurodevelopmental disorders referred to as Autism spectrum disorders (ASD). It is often used synonymously with Pervasive developmental disorders (PDD), a collective term given to developmental disabilities that impair the way individuals interact and communicate with others.

- ICD-10 classification into subgroups [3].
- F84 PDD
- F84-0 childhood autism
- F84-1 A typical autism
- F84-2 Rett's syndrome
- F84-3 other childhood disintegrative disorder
- F84-4 overactive disorder associated with mental retardation and stereotyped movements
- F84-5 Asperger's syndrome
- F84-8 other pervasive developmental disorders
- F84-9 pervasive developmental disorders, unspecified

Theories of Autism

1. Single biologically based defects are responsible for the development of Autism [4].
2. An emotionless parenting style caused the child to develop autism, which is the most common cause but that has been completely discarded.
3. Theory of Mind Hypothesis stated that the autistic child fails to "impute mental states to themselves and others" and this deficit manifests as inability to mentalize, or failure to take into account others' mental states and this theory was supported by Wimmer and Perner in 1983 where 80% of the autistic children failed the transfer task [5,6].
4. Theory of Executive dysfunction: Executive dysfunction is defined as the ability to maintain appropriate problem solving set

for attainment of future goal. It includes behaviors such as planning, impulse control, inhibition of prepotent but irrelevant responses, set maintenance, organized search and flexibility of thought and action.

5. Weak central coherence theory (WCC): It suggests that autism is characterized by weak or absent drive for global coherence. That is, individuals with autism process things in a detail focused or piecemeal way processing the constituent parts, rather than the global whole [7-10].
6. Cognitive Complexity and Control Theory (CCC): It is a hybrid theory that states that executive function is related to theory of mind in typical and atypical individuals because both theory of mind and measures of executive ability involve higher order rule use [7].

Incidence

The reported incidence ranges from about 5 per 10,000 to 20 per 10000 people. Male to female ration vary with IQ scores from 2:1 in severely handicapped persons to 4:1 in moderately handicapped persons and the occurrence rate in sibling to be from 3-7% [11].

Etiology

No single cause has been recognized for the development of Autism. However, an increased frequency of occurrence is seen in patients with genetic conditions such as fragile X syndrome and tuberous sclerosis and in association with Down Synrome [12,13]. Possible contributing factors include infections, errors in metabolism, immunology, lead poisoning, and fetal alcohol syndrome [14]. The exact cause is unknown, though evidence from family and twin studies suggests that it is an inherited disorder involving up to 20 interacting genes. Genes located on chromosomes have been suggested [2,7,15,16]. The preponderance of males with the disorder suggests an X-linked disorder [15-17]. Children whose fathers were 40 years or older at the time of their births are 5.75 times more likely to have autism children [18].

Only two-thirds of autistic children achieve some functional speech while rest of the children without functional language throughout their lives [19].

Clinical Features

They are Self-sufficient, introvert and want to be alone. Unlike normal children, they have little or no attachment with their parents. These children relate poorly to persons, and they relate well to objects like moving or shiny inanimate objects such as a string of keys or a spinning top for hours. They may typically display affection or anger with a toy.

Dental Manifestations

Although, there appears to be no known autistic specific oral manifestations oral problems might arise because of autism related behaviours such as communication limitations, personnel neglect, effect of medications, self-injurious behaviours, dietary habits, resistance to receiving dental care, hyposensitivity to pain and possible avoidance of social contact [20].

These children prefer soft and sweetened foods and they tend to pouch food inside the mouth instead of swallowing it due to poor

tongue coordination as well as difficulties in brushing and flossing they are more susceptible to dental caries.

Forceful grinding of teeth (Bruxism) is one of the sleep disorders in autistic children. They have damaging oral habits such as tongue thrusting, picking at the gingiva, lip biting and pica. Traumatic ulcerated lesions are most common oral finding, usually brought on by self-injury from head banging, picking or face tapping.

Often they have food texture sensitivities leads to consumptions of refined and high sugar diet, xerostomia and frequent regurgitation behaviours [21].

Hormonal influences and heavy plaque accumulation along with poor oral hygiene are likely explanations for the occurrence of gingivitis [22].

Diagnosis

Signs and symptoms are discussed here based on their age as follows:

Infants up to one year: with Autism are distinguished by following findings:

A baby who does not babble or gesture by the age of 12 months; who lacks eye contact with its mother by the age of 12 months; a baby who resists being held or cuddled by its mother; who does not respond when its mother says its name; A baby who appears to be deaf.

An infant who does not say single words by 16 months of age and a toddler who does not say 2 word phrases by 24 months of age; Absence of social smiling, lack of facial expression and reduced social interaction; abnormal movements, pattern and muscle tone and lack of pointing, and spontaneous imitation.

Young children: They will be in their own world and they do not participate in group play and they do not seem to recognize that other people intentions, desires, and feelings.

Teenagers and young adults: They are unable to empathize with and see the world from other people's perspective and lack of interest in sharing their achievements.

Diagnosis

By 12 months of age no babbling, other gestures and not even single word by one and half year, no two word phrases by two years of age. Delayed speech and language complained by parents. It depends on the clinical evaluation of multidisciplinary staff and use of objective scales like Childhood Autism Rating Scale (CARS), Denver screening tools⁷⁹ have been used in primary care settings for routine developmental surveillance, due to lack of sensitivity and specificity not been used [23]. Other tools like Parent's Evaluation of Developmental Status (PEDS), are available for assessing these conditions. Checklist for Autism in Toddlers (CHAT) and Pervasive Developmental Disorders Screening Test Stage I (PDDST) are specific screening tools for Autism [24-27].

Differential diagnosis of Autism

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An EEG examination will be of value if the child is suspected to have epileptic seizures acquired epileptic aphasia or an autistic regression similar to Landau Kleffner syndrome.

Metabolic and genetic screening to rule out other conditions similar with autism.

Serologic studies, to see if a child has been infected with herpes simplex virus, intrauterine rubella, or cytomegalo inclusion disease.

MRI should be performed to rule out any structural brain lesion is suspected

Hearing tests, to determine if there is delay in language due to hearing problem. There are 2 hearing tests which are the behavioural audiometry test and the brainstem auditory evoked responses test (BAER).

Autism is a lifelong condition. There is no treatment or drug regimen which can cure autism. Early detection and early intensive remedial education and behavioral therapy are most important measures which need to be taken.

Behaviour modification in the management of Autism: Structuring the environment, providing consistent responses to behaviours, Positive reinforcement.

Dental Causes

One of the most potent and common causes of unco-operation unfortunately is that of a previous unpleasant experience at the hands of a dentist. There does not seem to be any association of tooth pain with the dentist in this sense in the mind of a very young child even though it may be the reason for several visits. One of the principal faults is the infliction of pain to a child by a dentist without, in the child's mind, an acceptable reason. An intelligent patient with confidence in his dentist can accept pain if given a good reason for it, it is at a tolerable level and for a brief period. A failure to assess correctly any of these factors may cause a breakdown of the relationships.

Another cause of antipathy to dental treatment can be a faulty technique for administration of nasal general anesthesia; faulty, that is, in the approach to the child. Nothing is more terrifying than having a mask firmly clamped over nose and mouth without a preliminary gentle introduction and the patient can be expected to break into a panic and fight for release. He will always carry a memory of it in his mind, whether conscious or subconscious.

It should be said here that the inability to obtain co-operation from a particular child patient is not to be read as an indictment of a practitioner's skill, only that he has failed to 'get on the same wavelength' as the patient. Dental treatment is essentially a matter of co-operation between dentist and patient and if one dislikes or is indifferent to other, then the best co-operation is not obtainable [28].

Dental Treatment

The approach to any child who is averse to dental treatment is really a modification of the technique to introduce and handling are basic to the prevention of the development of such an aversion, this is discussed fairly fully here.

Introducing a new patient to dentistry

It is unfortunate that the first visit for many children to a dental surgery is for the relief of toothache so that real treatment must start from once without any of the preparation so important to acclimatize the child to strange surroundings and experiences. The school dental officer is at a great advantage in his respect or his general practitioner colleagues as he can draw the children straight from school by inspection before the demands of the toothache drive them to seek dental treatment. This is general practitioner must do all he can do to encourage those of his adult patients with children to bring them regularly from the age of 2 years with the introductory period in view [29].

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- Once at school, child has learned to be more self-dependent and should be expected to come into the dental surgery alone.

- Children with mental, physical or medical handicaps may be parent dependent and the presence of the parent may be necessary.

- If the parent is allowed in, he or she must not interfere or talk unless invited to do so. Ideally, since she is there to give confidence, she should be in view, and the best position would be behind the dental chair but in full view in a large mirror. She is then present but not so tempted to participate. Occasionally, however, she may be asked to take a part in helping to control the child if she is considered suitable for this role and invited to do so. Dentist must always give his full attention to the patient [30].

- Care must be taken of any casual remarks to the parent or surgery assistant in front of any child. At 3 years and upwards children are impressionable and an unguarded statement or request can be misinterpreted an may be damaging.

- The general approach to the new child patient incorporates a number of features to stimulate his interest as well as to distract or soothe him if he is at all anxious [31].

- Child should be introduced early to the dental surgery, with his mother or older siblings if possible, so that he regards it as a fairly normal and quite pleasing visit. He should want to return. The motor chair and the water jet are useful gadgets to stimulate his interest.

- Waiting room should have play objects in a modest range, preferably too large to be removed and providing a ready excuse to return. Aquarium is always an attraction, and school essays on the subject 'A visit to the Dentist' have shown that the quality of the comics is an important feature to the older children.

- After one or two social visits, treatment procedures can be introduced. They must be simple at first and are usually confined to prophylactic polishing, leading to a very simple small filling which can be done quickly. It is often advantageous, if there is a choice, to do one that the patient can see in a mirror afterwards. It is something to show his admiring friends.

- Treatment must be limited to the toleration of the patient. A child of 2 to 3 years should not be expected to sit still in the chair for more than 10 to 15 minutes increasing the time as necessary with older age

groups. Anything that the child does not accept well should be kept to a minimum. Apart from pain this may include the saliva ejector, water jet (especially from an air turbine), cotton rolls and a variety of minor items such as a colored mouth rinse. A note should be made any such dislikes on the record so that they can be avoided if it is reasonable to do so [32].

- Older children should have simple explanations and boys particularly are interested in the way things work and what they are for. Speaking to a child to divert his attention particularly if he is asked questions. If he has to answer then his mind is on the answer rather than on what is going on around him.

- An 'escape hatch' is essential. The traditional method is to ask the patient to raise his hand if he wishes the dentist to pause. It is, of course, most important that the agreement is honoured and the dentist does stop at such an indication so that confidence is maintained. It should be explained, however, that the promise works both ways and that the patient must not signal unless he really feels the need of a break, and that too frequent stops prolong the treatment [33].

Treating an emotionally handicapped child

As has already been said, in the dental care of a patient who is averse to treatment, there must be an adaptation of the normal procedure. Every child is different so that guide lines only can be suggested to try to convert the patient to co-operation.

Many of these children, of whatever age will need the assurance of a parent in the surgery. While it is usually the mother, in some cases the father can produce a better effect, in which case an effort should be made to arrange appointments so that he can attend.

The introductory period must in most cases be considerably prolonged and it may take several visits before any effective work can be done. Severe apprehension requires very careful handling and the polishing gimmicks are most helpful. The child is encouraged to feel the soft rubber cup which is then fitted into the 'handle' (i.e., the straight handpiece). Toothpaste is produced and discussed as a familiar topic, and then a copper coin can be polished with it. The dentist can polish on side and the patient encouraged to do the reverse side himself. Finger nails are then polished-the dentist's, the parent's and then finally the child's [34,35].

From here it may be possible to polish the anterior teeth, or it may have to wait until the next visit when nail polishing is repeated first. Once the teeth can be polished it should not be too difficult to change to a diamond bur by introducing it as a 'special small brush for the back teeth' which can also be felt with the finger. One small and rather difficult patient treated by the author accepts the bur as a brush and is quite amenable to cavity preparation provided toothpaste is used well. This illustrates well the very logical mind that young children have.

The child must be warned that the bur will be nosier than the brush for the front teeth. Only a small amount of tooth preparation must be done initially and the operator must not be carried away by any success he has had. The patient has a very low level of tolerance and any work done must be well within this, and not at its limit. If necessary several visits must be taken for the first filling.

Particular care must be taken to make no unexpected movements. The operator should talk reassuringly most of the time but must include mention of what he is going to do or to use next, and where possible, remind the child that he has already experienced it and it was all right.

When talking to any child patient, effort should be made to obtain responses from him. With these emotionally handicapped children this is even more important as it involves him in the effort of thinking, displacing his dental fears for the moment. Exchange of information gets him involved with the dentist and the knowledge that they both have a dog or are interested in the same football team will help towards a partnership. Even better is to find a subject about which the patient is knowledgeable and ask for information [36].

If the patient has a substantial amount of work to be done, the introductory phase should be carried out and possibly a small filling accomplished first. It is then advisable to submit him to general anaesthesia to do the rest of the cavity preparation if possible. The cavities are filled with temporary restorations and next visit replaced with permanent restorations, so that the child is still required to cooperate. In this way the training can still go on without deterioration in the dental condition and the large amount of work does not entail an endless number of visits to the discouragement of the patient and his family. Periodic return visits for examination should always include at least polishing of the teeth to keep the patient reminded of the lessons he has learnt [37-39].

Conclusion

Often a problem with emotionally compromised children is that there is no confirmed diagnosis. Parents, even intelligent, well informed parents may have no idea that anything is wrong. Because they have grown accustomed to their child's behaviors, they often overlook the abnormalities or rationalize an explanation for why their child behaves in certain ways. This situation is extremely unfortunate because most emotional illnesses are diagnosable and manageable, and, as is often the case, the earlier the upset is addressed, the faster and more effective is the therapy.

Emotional illness can also be problem for children from broken homes and other unfortunate parenting circumstances. The children of poverty probably suffer more from privileged classes.

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