Review Article

Dental Home

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Abstract

The Dental Home is a concept that comes from the American Academy of Pediatrics' "medical home." A "medical home" is a pediatrician's practice where a child has a relationship with that care provider. It is well-established that children that have a medical home are healthier, have fewer hospitalizations and emergency room visits. They also have better managed chronic illnesses. This is because of the "patient centered / family centered" approach of the medical home where doctors are accountable to developing sustained partnerships with patients and families to address a majority of their healthcare needs. Similar to the medical home, the dental home offers the patients comprehensive, continuous, prevention-based care that is accessible, family-centered, compassionate, and culturally competent. Citing strong clinical evidence that early preventive dental care promotes oral health, the AAPD declared that "the establishment of a dental home may follow the medical home model as a cost-effective and higher quality health care alternative to emergency care situations".

Keywords: American Academy of Pediatric Dentistry, anticipatory guidance, dental home

Background

"Home is the one place in this entire world where hearts are sure of each other. It is the place of confidence. It is the place where we tear off that mask of guarded and suspicious coldness which the world forces us to wear in self-defense and where we pour out the unreserved communications of full and confiding hearts. It is the spot where expressions of tenderness gush out without any sensation of awkwardness and without any dread of ridicule."

– Frederick W. Robertson

Definition

The dental home is the ongoing relationship between the dentist and the patient, inclusive of all aspects of oral healthcare delivered in a *comprehensive, continuously accessible, coordinated, and family-centered way*. The dental home *should be established no later than 12 months of age* to help children and their families institute a lifetime of good oral health. A dental home addresses anticipatory guidance and preventive, acute, and comprehensive oral healthcare and includes referral to dental specialists when appropriate. This definition was developed by the Council on Clinical Affairs and adopted in 2006. This document is an update of the previous version, revised in 2015.

History

In 1999, Nowak described the term in relation to the desired recurrence of preventive oral health supervisory services as propagated by the American Academy of Pediatric Dentistry (AAPD).[1]

Doykos suggests that early association with a dentist → Benefits of reduced cost of care.

Grembowski and Milgrom stated that the Access to Baby and Child Dentistry (ABCD) had increased use of preventive services, with primary prevention and anticipatory guidance. ABCD program trains both families and dentists to manage young children and their oral healthcare.

Delay in first dental visit → Increased need for treatment service.

Need for Concept of Dental Home

Benefits of dental home are substantial and intuitive,

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although not yet substantiated by research, and include an increasing emphasis on prevention and disease management, advancements in tailoring care to meet individual needs, and better health outcomes at lower costs. However, certain environmental forces may impact the implementation of the dental home.

Some of these factors are as follows:

1. The *advent of social medicine* in pediatric healthcare
2. *Expanding knowledge* of early childhood caries risk and disease management
3. *Trends in oral health and dental care* disparities and the forces that propel them
4. Perceived needs for *dental services and other barriers* to dental home utilization
5. Dentistry as an *independent health profession*
6. Dental capacity system for all children including those with *special needs*.

The advent of social medicine in pediatric healthcare

Social medicine concepts important to dental home are as follows:

- "Wellness" which can be ensured by effective implementation of
- "Life Course Modeling" with its appreciation of differential health trajectories that begin in childhood and continue well into adulthood and even into senescence
- "Social Determinants" of health with its understanding of nonbiologic factors (environmental factors) that regulate health status and outcomes
- "Family Pediatrics" with its approach to managing situations in which a family's distress is reflected on child's physical, mental, emotional health and demands professional care
- "Quality of life measurement" with its implicit recognition that broad physical and emotional functionality is an integral outcome of quality healthcare. These concepts are reflected in efforts to envision future systems of pediatric care delivery within the larger frameworks of family, community, and society. This new approach also recognizes the importance of early life in establishing a "scaffolding for physical, cognitive, and socioemotional health," which is not endowed at birth but develops over time.

Expanding knowledge about pediatric oral health risk and disease management

Since inception, dentistry followed the *concept of "Drill and Fill."* However, with greater understanding of the dynamics of Dental Caries, greater emphasis is being placed on prevention, and so, a Dental Home can prove to be an ideal place to *sow the seeds of primary prevention the benefits of which are reaped throughout the lifetime of the individual.*

Trends in oral health and dental care disparities and forces that propel them

Review of literature reveals that children with special healthcare needs have a greater prevalence of dental diseases, and unfortunately, these children (and their health) are often neglected mainly due to the lack of trained professionals and resources to cater to their needs. Hence, the establishment of a Dental Home becomes highly beneficial not only for these patients but also for those children from lower socioeconomic strata, foster homes, and single-parent households.

Perceived needs to dental care services and other barriers that propel need for dental home utilization

Establishment of a Dental Home helps in dissolution of certain "barriers" such as financial constraints, lack of provision of professional care, and guidance to the most vulnerable children of the society.

Dentistry as an independent profession

Majority of people belonging to the lower socioeconomic strata are not only ignorant about the maintenance of oral health but also the existence of Dentistry as a separate profession. The general physicians may not be well versed and may even lack the skills in diagnosing, managing, and preventing oral disease. Hence, it becomes all the more imperative for the establishment of dental home to enable the provision of professional dental services and guidance during the early critical stages of development.

Dental capacity system for all children including children with special dental care needs

Caregivers, in addition to nurses, physicians & dentist play a crucial part in the pediatric healthcare system. They are in an exceptional role to report on the care their special children and make choices for their beloved ones. Their insights and understanding of obstacles to care may differ in significant ways from those perceived by clinicians and policy-makers. Delineating parental perceptions is fundamental to developing programs and interventions to diminish obstacles and is vital to the establishment of patient-centered care.

Early intervention with preventive steps might be crucial in preventing dental caries in children with special needs. Oral health screening can be set up in routine clinic visits

It is known that poor oral health utterly affects special child's overall health and quality-of-life. If not well-managed within a timely manner this problem can broaden and lead to a substantial increase in the cost of later dental care for children with special health care needs.

The dental home concept extends to older children as well as infants and toddlers, but holds greatest promise for impact if focused on the children with special needs.

Statements from Officials of American Academy of Pediatric Dentistry Regarding Importance of Dental Home

By establishing a Dental Home and taking preventive steps recommended by the pediatric dentist, parents can avoid their children contracting early childhood caries which is extensive devastating tooth decay that results in pain, failure to thrive, and in many cases, extensive and costly restorative work.

The AAPD advocates interaction with:

1. Early intervention programs
2. Schools
   - Early childhood education and child care program
   - Members of the medical and dental communities
   - Other public and private community agencies. (To ensure awareness of age-specific oral health issues.)

Evidence of Benefits from Dental Home and Some Key Findings from Review of Literature

1. An article from the October 2004 issue of Pediatrics, the official Journal of the American Academy of Pediatrics, found that seeing children earlier for oral health examinations and preventive services save money. Pediatric dental faculty at UNC-Chapel Hill led by Dr. Jessica Y. Lee spearheaded the research, which examined a cohort of 9200 medicaid children in North Carolina between 1992 and 1997. The average cost per child who had a dental visit before age 1 was $262. This doubled to $546 when the child's first visit was not until ages 4–5 (These costs are per child over the 5 years of the study, not annual costs).
2. Medicaid-enrolled children who had an early preventive dental visit were *more likely to use subsequent preventive services and experience lower dental costs.*[2]

Missions of Dental Home as Recommended by the American Academy of Pediatric Dentistry

1. An oral disease-free population
2. Access of appropriate oral healthcare for all children and patients with special healthcare needs
3. To be centered on the Dental Home.

Services to be Provided by Dental Home

1. Comprehensive oral healthcare including acute care and preventive services in accordance with AAPD periodicity schedules
2. Comprehensive assessment for oral diseases and conditions
3. Individualized preventive dental health program based upon a caries-risk assessment and a periodontal disease risk assessment
4. Anticipatory guidance about growth and development issues (teething, digit, or pacifier habits)
5. Plan for acute dental trauma
6. Information about proper care of the child's teeth and gingiva. This would include prevention, diagnosis, and treatment of disease of the supporting and surrounding tissues and the maintenance of health, function, and esthetics of those structures and tissues
7. Dietary counseling
8. Referrals to dental specialists when care cannot directly be provided with the dental home
9. Education regarding future referral to a dentist.

Ideal Characteristics of Dental Home

1. Accessible
2. Family centered
3. Continuous
4. Comprehensive
5. Coordinated
6. Compassionate
7. Culturally competent.

Accessible

- Care provided in child's community
- All insurance accepted and changes in coverage accommodated.

Advantage

1. Source of care is close to home and accessible to family
2. Minimal hassle encountered with payment
3. Office ready for treatment in emergency situations
4. Office is non-biased in dealing with children with special needs
5. Dentists know community needs and resources.

Family-centered

- Recognition of the centeredness of the family
- Unbiased complete information is shared on an ongoing basis.

Advantages

1. Low parent or child anxiety improves care
2. Care protocols are comfortable to family
3. Appropriate role of parents in home care is established.

Continuous

- Same primary care providers from infancy through adolescence.

Advantages

1. Appropriate recall intervals are based on child's needs
2. Continuous care is given to child
3. Coordination of complex dental treatment is possible
4. Union with medical home for children with special health needs.

Comprehensive

- Healthcare available 24 × 7
- Preventive, primary, and tertiary care provided.

Advantages

1. Emergency access ensured

Coordinated

- Families linked to support, education, and community services.

Advantages

1. School, workshop, therapy linkages established and known (cleft palate care).

Compassionate

- Expressed and demonstrated concern for child and family.

Advantage

1. Dentist–child relationship established
2. Family relationship established
3. Children less anxious owing to familiarity.

Culturally competent

- Cultural background recognized, valued, and respected.

Advantages

1. Specialized resources known and provided
2. Staff may speak other languages and know dental terminology.

Principles Guiding the Concept of Dental Home

The age one visit

The AAPD recommends the child's first visit to be no later than age 1, but preferably when the first tooth erupts.

By visiting the dentist at that time, a Dental Home can be established AND Anticipatory guidance be made part of the child's total healthcare experience.

Nowak in 1997 stated that the goal of the first oral supervision visit is to assess the risk of dental diseases, initiate a preventive program, provide anticipatory guidance and decide on the periodicity of subsequent visit.

Anticipatory guidance as used in pediatric healthcare is the process of providing practical, developmentally appropriate health information about children to their parents in anticipation of significant physical, emotional, and psychological milestones.

The information provided by anticipatory guidance guides parents by alerting them to impending change and teaching them their role in maximizing their children developmental potential and also helps them identify their children special needs.

In field of pediatrics, this concept of anticipatory guidance has been established through "Well-Child-Care Visits."

The information provided through anticipatory guidance is well received by the parents because the process of questioning by the pediatric provider gives parents the opportunity to talk about their child and also clear their doubts.

Anticipatory guidance In dentistry

It is a new paradigm of enhancing growth and development, caries prevention, and overall oral health.

Anticipatory guidance in Dentistry provides oral health education, professional examinations, preventive procedures, and dietary instructions from approximately at the age of 6 months through 2 years.

It is a step-by-step program taught by the dental professionals in an office to care seekers and is tailored to each specific child.

It is a time-intensive procedure that includes, but is not limited to oral examinations, prophylaxis, diet analysis, home care instructions, supplemental fluoride (both topical and systemic), and general feeding instructions.[3]

Advantages of anticipatory guidance in dentistry

a. Busy dentists and their patients benefit from a program based on anticipatory guidance
b. The inherent nature of this clinical program is easily learned by the clinical staff at all levels
c. Anticipatory guidance establishes a clinician and parent interaction
d. Anticipatory guidance resolves a time-honored motivational problem encountered in traditional disease-based programs – repetition of the same simplistic message
e. Applying anticipatory guidance to dental preventive education is an organized way for all dental providers to enjoy the attention of parents and be more successful in preventive dentistry.

Project Implemented Based on Dental Home Concept "Dental Home for All Texans"

As a part of Frew's agreement, the State of Texas had launched a program for children of under 3 years of age called – The First Dental Home Initiative.

Under this program, pediatrics and general dentists are being trained to conduct infant's oral health screening, risk assessment, fluoride varnish application, and parent education/training.

In 17 states of the USA, Medicaid program provide reimbursement to pediatricians for providing preventive modalities of treatment.

Common Challenges in Establishing Dental Home

During the dental procedures, the use of ultrasonic instruments and high-speed hand-pieces is very common. These instruments aerosolize oral secretions such as saliva and blood into the surroundings. Due to the unique nature of dental procedures, which generates large number of aerosols and droplets, the usual standardized protective measures followed by the dental care workers will not suffice for preventing the spread of COVID-19, especially when the patient is symptom-free, unaware about the disease status, or falsifying infection history. Therefore, the containment of the propagation of the virus would be nearly impossible. In today's scenario, this is the major hurdle in establishing a dental home where children are vulnerable for corona virus infections.[4]

- Finding dentists willing to serve families
- Some dentists are reluctant to see young children
- Paying for needed dental services
- Identifying resources for children who lack coverage
- Cost of care
- Overcoming transportation and other barriers
- Arranging for transportation

- No shows/missed appointments
- Limited services in some rural areas
- Getting parents to understand the importance of oral health and dental care for young children
- Lack of knowledge about modern dental care.

Concept of Dental Home in Indian Scenario

The AAPD concept of a "Dental Home" can be modified to be called as an Indian "Dental Home" which is nothing but a Preventive Dentistry Clinic setup for detecting need for preventing dental disease in an individual or in a family and advocating preventive techniques to them in a specific manner.[5]

The onus is on us to inform people sufficiently and timely as regards the prevention on dental diseases.

A Preventive Dentistry Clinic thus has following objectives to meet, for instance:

a. To begin early in terms of dental care – emphasis on primordial and primary prevention
b. Making dentistry a more responsible profession
c. Promotion of health concept
d. Bridging the communication gap between the dentist and the public.

The *primordial prevention* takes into account the *identification and eradication of risk factors associated with a disease.*

Dental Home Implementation in Developing Countries

1. Coordinated care with the pediatricians and the obstetricians
2. Role of anticipatory guidance
3. Role of dental hygienist, dental assistant, and expanded function dental assistant/auxiliary
4. Prenatal counseling
5. Educating the public
6. Workforce
7. Establishment of dental home at primary health care centers and government hospitals
8. Role of schools
9. Role of day care centers.

Strategy to Implement Dental Home in India (Rajasekharan *et al.*, 2014)

Implementation of Dental Home as a concept that can help identify, rectify, and rehabilitate people suffering from oral diseases at an early stage with the focus on creating awareness of the disease process and active prevention rather than expensive, resource-intensive therapeutic interventions is bound to have a significant impact in how oral diseases are managed in the future.[6]

Our future generations will benefit immensely if we can adapt a multipronged approach that is inclusive in nature.

If we could adapt a three-level strategy to tackle this problem of oral disease prevention and care, we can achieve much for the children.

The three-level strategy consists of utilizing existing networks of healthcare delivery systems in India, such as the Integrated Child Development Services Scheme and National Rural Health Mission, and may include screening, creating awareness about dental diseases processes, and their early active intervention, which may help us mitigate the scrooge of dental diseases for a large extent in the Indian context.

The first level of intervention in prevention of early childhood caries is to create awareness and train the basic workers such as Anganwadi and Accredited Social Health Activist workers about the significance of oral care, the importance of creating awareness in the care givers, child and the general populace about the need for early intervention for oral diseases. It is important to segregate high risk groups for further secondary professional care in a primary health center or district hospital setup where qualified pedodontists and postgraduates pursuing the subject can intervene and give therapeutic care where necessary. This levels of prevention strategy can only be achieved by establishment of dental home.

Further, as common drugs have been subsidized or are given at no cost to the patients at these centers, oral health care aids such as tooth brushes or local alternates such as neem sticks/miswak sticks along with tooth powder/pastes can also be distributed after screening, education, and early preventive measures are implemented. This would motivate the populace to take proper care and ensure follow-up in the long term.

Major rehabilitations can be taken up at teaching hospitals at a tertiary level and such patients can be referred or initially reviewed through the use of technology such as telemedicine (video conferencing).

Since this approach can screen a very large populace and isolate high-risk groups, major malformations, etc., at a *very early stage and also educate the parents and future generations in the need for dental care (prenatal counseling, postnatal check-ups, infant and child screening, and preventive therapeutics)*, the need for expensive care at a tertiary center at a later age is negated for the majority of the people.

Further, since there is a chain of workers monitoring the child throughout their development stages, early identification and intervention becomes possible, especially in cases of clefts, congenital malformations, etc.

Conclusion

The concerned government agencies may take up a more detailed study of this scenario and start pilot projects to assess the sustainability of this idea.

Further, public private partnerships in this area between the governments and the private dental institutions can

also help in taking the concept of Dental Home to the majority of the people without any major fiscal or logistic burdens.

The time for a paradigm shift in our policy toward early holistic approaches to child welfare and care is due and will be welcomed by all.

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Conflicts of interest

There are no conflicts of interest.

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