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Review Article

Recent trends & advances in clinical pediatric dentistry

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ABSTRACT

Successful practice management in pediatric dentistry requires a comprehensive and patient-focused approach that prioritizes efficient operations, effective communication, staff training, financial management, and strategic marketing efforts. Effective patient management in pediatric dentistry begins with establishing a clear practice philosophy that prioritizes the well-being and comfort of young patients. Consistent and effective communication with both patients and their parents is also crucial. This includes providing clear instructions for at-home care, explaining treatment options in an understandable manner, and addressing any concerns or questions promptly. Staff training is also critical to ensure that all team members are well-equipped to provide high-quality care and service to pediatric patients. Financial management involves proper billing procedures, insurance processing, and financial planning. Marketing strategies tailored to reach parents and caregivers are essential for attracting new patients and building a strong reputation in the community. By implementing these key elements, pediatric dental practices can thrive and provide exceptional care to their young patients.

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1. Introduction

It is believed that the success of a dental practice is a combination of effectively managing the dental office as well as providing the best dental treatment. Practitioners today must be clinically astute and informed about newer aspects of dentistry that are rarely covered in the academic setting of a dental school.

The importance of pediatric dentistry cannot be overstated, as it serves as a cornerstone in establishing lifelong oral & general health habits. Early childhood experiences with dental care can significantly impact a child's oral well-being, affecting their overall health and quality of life. Therefore, staying at the forefront of advancements in pediatric dentistry is essential for

dental professionals, researchers, and policymakers alike. Pediatric dentistry has undergone remarkable progress in recent years, fueled by a dynamic interplay of scientific advancements, technological innovations, and a growing understanding of the unique oral health needs of children. The emergence of technological advances, evidence of advanced treatment options and greater patient expectations with regard to standards of dental care and economic factors pose new challenges to the everyday dental professional requiring constant improvement and upgrading.¹ Hence this manuscript, we draw on a wealth of current literature, research studies, and clinical experiences to provide a comprehensive and up-to-date resource for dental professionals, researchers, educators, and policymakers committed to advancing pediatric dentistry. By synthesizing the latest knowledge, this manuscript aims to contribute to the ongoing evolution of pediatric oral healthcare,

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ultimately promoting the well-being of young dental patients.

2. New Trends in Pediatric Practice

Pediatric dentistry as a profession has reformed immensely, largely owing to advances in technology, materials, and disease knowledge. Indeed, pediatric dentistry has come a long way from tried-and-tested behavioural management skills to the more tech-savvy virtual reality management. This specialty encompasses a variety of skills, disciplines, procedures, and techniques that share a common origin with other dental specialties. However, these have been adjusted and restructured to meet the unique demands of young children, teenagers, and those with severe medical needs of the present generation. The introduction and application of new technologies brings about a paradigm shift in the practice of dentistry. Technological advancements affecting dentistry include laser dentistry, restorative techniques, powerful electronics, novel materials, and enhanced imaging instruments.²

3. Revolution in Behaviour Management

3.1. Artificial intelligence (AI)²

Recent advancements in artificial intelligence have enabled real time human action performance, facial behavioural analysis, speech analysis, stereotypical motor movement from sensory data, and many more. AI in combination with emerging technologies such as Virtual Reality (VR) which can be used as a form of digital learning platforms can benefit more children and provide a personalized adoptive learning paradigm.

In recent years, there has been an increase in behavioural research which regard to the virtual world. The term Virtual Reality (VR) describes a human-computer interface that allows the user to dynamically interact with the computer-generated environment. VR requires sophisticated technology, such as head-mounted Wide Field Of View (WFPV) displays; three-dimensional HMDs; and motion sensor systems that track the user's head and hand positions, in contrast to the simpler audiovisual (A/V) distraction. Because the occlusive headsets project the images directly in front of the user's eyes and, depending on the model, block out real-world (visual, auditory, or both) stimuli, this use may be preferable to classic distraction in that it gives more immersive graphics. Even the tactile, visual, and auditory sensory modalities are combined in VR. The degree to which the stimuli are immersive will determine how much of the actual world is "drained" from the person's attention, hence reducing the amount of focus that can be directed toward unpleasant stimuli. Because patients wearing HMDs are unable to observe what is going on in the actual world and are instead focused on what is happening in the virtual world, VR increases patient

immersion. As a result, the child is more interested in what is going on in the virtual world than in the real world.



Figure 1: Virtual reality (Source: <https://prosmiletech.com/category/info/>)

3.2. Revolution in pain management

3.2.1. Nitrous oxide inhalation sedation³

Nitrous oxide/oxygen (N_2O/O_2) inhalation, also referred to as N_2O/O_2 anxiolysis, is a safe and effective technique used to manage pain and dental anxiety. It is preferred by parents over advanced behaviour guidance techniques such as restraint and general anesthesia. When used for analgesia/anxiolysis (i.e., a single agent with nitrous oxide concentration less than 50 percent with or without local anaesthesia), N_2O/O_2 inhalation allows for diminution or elimination of pain and anxiety in a conscious patient, while entailing minimum risk. The patient's response to verbal commands and protective reflexes remain unchanged, and pre-procedural mobility returns after discontinuing the use of N_2O/O_2 . In children, analgesia/anxiolysis may expedite the delivery of procedures that are not particularly uncomfortable, but require that the patient not move. It also may allow the patient to tolerate unpleasant procedures by reducing or relieving anxiety, discomfort, or pain.

3.2.2. Intranasal sprays⁴

These are a mixture of 3% tetracaine hydrochloride and 0.05% oxymetazoline. A metered device is used for infiltrating an anaesthetic solution through the nostrils to anesthetize the maxillary anterior teeth, canines and premolars. It reduces the resultant bleeding by inducing vasoconstriction of the regional blood vessels thus making the operational field favourable for performing the necessary procedure.



Figure 2: Nitrous oxide inhalation sedation

3.3. Revolution in materials/equipment

3.3.1. 3-D printing in pediatric dentistry⁵

In pediatric dentistry, this technology can drastically reduce chair side time thus making the treatment easier for both the clinician and the child. By various clinical approach like:

1. Management of dental trauma in young and adolescent
2. Splint designing
3. Pediatric Surgical approach
4. Reconstruction of fractured mandible
5. Pediatric rehabilitation
6. Space maintainer

Other than its clinical aspects, 3D printing is now used for making real-life models for dental educational purposes, as well as patient awareness.

3.3.2. Bioflx²

The biggest challenge in Pediatric dentistry is managing a child's behaviour and fulfilling parent's expectations. To overcome such challenges, we need faster techniques and natural looking restorations.

Bioflx crowns are world's first flexible durable preformed pediatric crowns which offer properties of both stainless-steel crowns and zirconia crowns. They can be easily placed and are natural looking like primary teeth. There are self-adaptable to the occlusal forces with good abrasion resistance and load bearing capacity. They can be trimmed and adjusted according to the tooth to be crowned. Bioflx crowns are a smart solution for a pediatric dentist for a life like long lasting full coverage restoration.

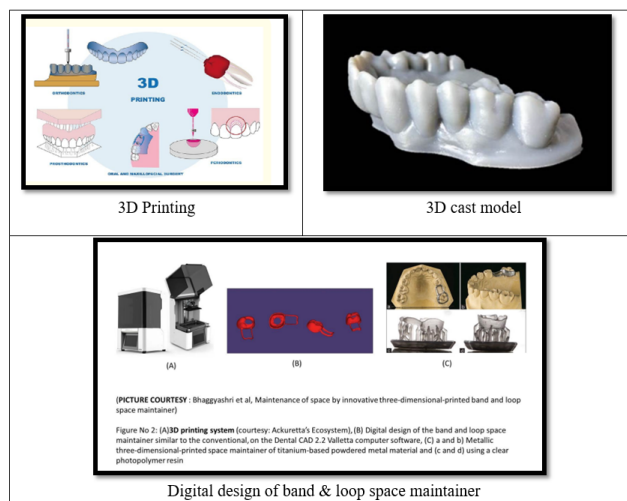


Figure 3: Examples of 3-D printing, 3D printed cast model and Digital design of band & loop space maintainer. ⁶ (Source: https://www.researchgate.net/figure/Schematic-representation-of-possible-applications-of-3D-printing-in-dentistry_fig2_329119043)



Figure 4: Bioflx crowns (Source: <https://www.kidsedental.com/bio-flx/>)

3.3.3. Rainbow crowns⁷

In pediatric dentistry, stainless steel crowns—like Rainbow Crowns—are an essential part of modern restoration processes for primary and early permanent teeth. Rainbow crowns are composed of surgical-grade, corrosion-resistant 316L stainless steel, and are pre-trimmed and pre-contoured to protect healthy tooth structure with little compromise. These crowns are particularly helpful in situations of nursing caries, early childhood caries, and severely damaged primary molars that cannot be properly treated with amalgam. They also assist support the tooth structure against the stresses of mastication and reestablish the vertical relationship. When it comes to replacing posterior teeth in young children who are at a high risk of caries, rainbow crowns are an affordable and long-lasting alternative since they assist prevent the formation of further cavities.



Figure 5: Stainless steel crowns (Source: <https://images.app.goo.gl/btEdw6EQEFYsCbQr6>)

3.3.4. Smart bur²

The development of a technique to remove caries-infected dentin while conserving dentin that has been impacted by caries is one of the objectives of conservative dentistry. The smart prep bur appears to be the instrument to offer straight forward and efficient means of achieving this goal. Smart prep instrument is a medical grade polymer that safely and effectively removes decayed dentin leaving healthy dentin intact.

Polymer bur is a unique rotary instrument which is constructed from a medical-grade Poly-Ether-Ether-Ketone (PEEK), and it selectively removes decayed dentine without cutting the healthy dentine. This property is based on the hardness of the instrument being lower than the hardness of the healthy dentine. In addition, this minimally invasive excavation has the advantage of fewer dentin tubules being cut and thereby, less pain sensations being triggered compared to using conventional burs.



Figure 6: Smart burs (Source: <https://images.app.goo.gl/veC9wyZ5MPVJ9WFa6>)

3.3.5. Silver diamine fluoride⁸

Dental caries can be effectively managed with silver diamine fluoride (SDF), an alkaline, colorless solution

comprising silver and fluoride that combines with ammonia to form a complex. SDF is a relatively novel substance that can be utilized in a straightforward, non-invasive therapeutic method without the need for local anesthetic to decrease and crystallize dental cavities. As a result, youngsters can tolerate it well as a treatment method, and it can be put to the isolated tooth swiftly and effectively without requiring significant excavation. SDF is now categorized as a desensitizing agent in the UK, however at some point it might be reclassified as a caries treatment agent, offering a successful non-invasive treatment for dental decay in youngsters.



Figure 7: SDF applied on anterior teeth (Source: <https://images.app.goo.gl/HUpGkVb689pDFFJZA>)

3.4. Modifications in SDF⁹⁻¹²

The importance of silver diamine fluoride (SDF) application as minimally invasive and non-aerosolizing management has greatly increased especially in cases of active caries.⁹ The available evidence on the use of SDF reports the following advances:

3.4.1. Concentration and application frequency

The recommended SDF concentration for pediatric patients is 38%. This higher concentration has been shown to be more effective for caries arrest compared to lower concentrations. SDF should be applied twice yearly for optimal results in controlling and arresting caries in children.

3.4.2. Patient characteristics

Children with poor oral hygiene may require more frequent SDF applications (e.g. biannual) to achieve the expected caries arrest, as there is an interaction between oral hygiene status and SDF efficacy. For children at high caries risk, as indicated by high baseline dmfs/DMFT scores, the biannual application of 38% SDF is highly beneficial. SDF is

particularly useful for pediatric patients with limited access to dental care, those at high caries risk, and medically compromised children who may have difficulty tolerating traditional restorative treatments.

3.4.3. Application technique

Retentive carious lesions, especially on posterior teeth, may benefit from partial opening or reshaping prior to SDF application to improve plaque removal and fluoride contact. Applying SDF to smooth surface lesions on anterior teeth or buccal/lingual surfaces has a higher chance of successful caries arrest.

3.4.4. Management of stains

Saturated potassium iodide (KI) is one of the solutions introduced to decrease the staining effect caused by SDF application, resulting in a white silver iodide precipitate; it masks the color of SDF (38%) by 100% due to forming a white precipitate.

3.4.5. SMART technique

Restoring a cavitated tooth treated with SDF improves chewing ability and seals the tooth against bacteria, protecting it from further recurrent caries.⁷ This technique is called the Silver Modified Atraumatic Restorative Technique (SMART) if resin composite or resin-modified glass ionomer (RMGI) is used as restorative materials

3.5. Recent updates in early childhood caries (ECC) management^{13,14}

3.5.1. Increased focus on prevention and minimally invasive therapies

There is a growing emphasis on preventing ECC through evidence-based strategies like fluoride application, reducing sugar intake, and improving oral hygiene. Minimally invasive treatments like silver diamine fluoride (SDF) are being used more widely to arrest caries progression and avoid invasive procedures in young children.

3.5.2. Expanded outreach and collaboration

Oral health care is being delivered in more settings beyond traditional dental offices, such as medical offices, early childhood programs, and schools. A broader workforce, including primary care providers, early childhood educators, community health workers, and caregivers, is being engaged to address ECC.

3.5.3. Individualized, risk-based approach

Disease management of ECC is shifting towards an individualized, risk-based model rather than a one-size-fits-all approach. Caries risk assessment tools like CAMBRA are being used to tailor prevention and treatment strategies for each child.

3.5.4. Value-based payment systems

There is a need for public policy changes to support a paradigm shift from surgical treatment to prevention-focused, value-based payment systems for ECC management.

3.5.5. Improved outcomes with comprehensive approach

A comprehensive approach involving multiple stakeholders has demonstrated improved outcomes in reducing new cavitations, pain, and unplanned referrals to the operating room for ECC patients.

In summary, recent updates in ECC management emphasize prevention, minimally invasive therapies, expanded outreach, individualized risk assessment, and value-based payment systems to reduce the burden of this chronic disease in young children.

4. Softwares used in Dentistry¹⁵

When running a dental practice, management software should be chosen that will make practice more efficient and organized. Within the context of dental software, dental management software and patient communication software are key aspects of this change. Replacing old file folder systems with an electronic database keeps information more secure. With dental software apps, that information is available from any approved device. Dental management software can improve work life for dentistry staff in many other ways, including:

1. More immediacy in communicating with patients through text and messaging apps.
2. Attaching important documents to software claims electronically.
3. Streamlining appointment scheduling.

Sending an appointment reminder as a text is an especially great way to retain younger clients and patient communication software keep patients informed, this is particularly useful when sending fasting reminders for an upcoming appointment and this immediacy of information means fewer missed appointments. Patients also come better prepared for appointments than they used to because text-based communication is more accessible to the patient as well. Electronic payment processing and electronic claims can be used to make the payment process more efficient while also being easily accessible for both the dental practice and patient for further reference.

Another way that a dentistry practice can excel in serving its patients is with dental imaging software. Dental imaging is one of the most quickly evolving fields in dental software. An open software system allows integration of innovations into the current software. While X-ray and modern dentistry are about the same age, dental imaging software allows dentists to go deeper. The innovations of dental imaging software include:

1. Being able to give the patient a clearer image – quite literally – of their dental health.
2. Electronically transmitting pertinent x-rays to a dental clearinghouse.
3. It can be integrated with other software that is used at a dental practice.
4. Quick training, allowing the staff to get started on using this software quickly.

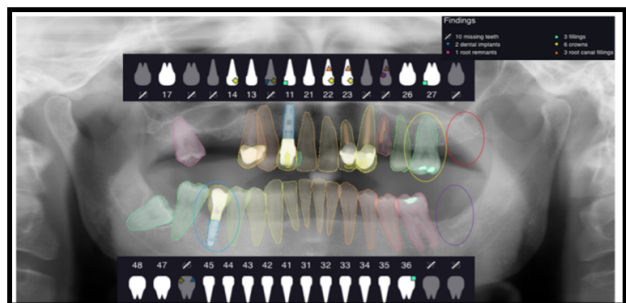


Figure 8: The figure shows an example of analysed OPG and the outcomes given by the software (Source: <https://images.app.goo.gl/2ab6QAcosqPUD9ft9>)

The applications of AI in the field of dentistry can vary according to need, from dental emergencies to prosthetic planning. The application of artificial intelligence can contribute to the automatic identification of missing teeth for the diagnosis and planning of dental implants or prosthetic treatments. In a future scenario, AI will be the potential first screening system, especially for public medicine as well as for dental medicine.¹⁶

4.1. PREASY application¹⁷

A digital tool to write, saves, and send prescriptions can potentially overcome the limitations of handwritten prescriptions. PREscribing children made EASY (PREASY) is an indigenously developed Android app for creating prescriptions for pediatric patients in the field of dentistry. A study conducted by Kamath S et al compared the effectiveness of this app to handwritten prescriptions and the results showed that App-based prescriptions proved to be more instantaneous and detailed than handwritten ones with the majority of dentists satisfied. Valuable feedback pertaining to the limitations of the tool was obtained for improving the app. The mean time taken for handwritten prescriptions was almost four times higher than that for app-based prescriptions ($p < 0.00001$).

5. Digital Marketing¹⁸

Utilizing marketing strategies that highlight dentists and dental clinics is essential given the fierce competition in the dental services sector. Miranda et al. categorize

marketing into internal and external categories. The patient-business interaction, the business's resources, the utilization of contemporary equipment, the workplace logo display, and the caliber of services are all considered internal factors. The goal of the external, which includes digital marketing, is to attract patients, promote services, advertise the brand, and induce purchases outside of the workplace.

Among health professionals, who utilize websites and social networks for communication, advertising, and publicity, digital marketing is one of the tools that is expanding the fastest. Dentists are confronted with social media platforms such as Facebook, Twitter, Groupon, LivingSocial, FourSquare, Instagram, LinkedIn, Angie's List, Pinterest, and Google+ which necessitates the need for a website of the dental practice, Facebook page, email, blogs and YouTube, with more channels and gadgets emerging every day. Fast, low-cost, robust networks of communication and documentation have a lot of potential to assist both doctors and patients, and many patients already expect to find their dentist online.

The internet has been a place for social engagement, content creation and sharing, and user communication and information sharing. "Social media" is the term for this new platform, which works in tandem with digital marketing. Over the past few decades, the service industry has experienced a number of changes that have increased competition among increasingly skilled professional service providers and increased client demand, making relationships essential to generating corporate value. It is relationship marketing operating in the digital sphere outside of the healthcare setting.

The "content marketing" approach is effective because it concentrates content on the reader's actual needs rather than the product or service being marketed. It can be applied to websites, blogs, and social media platforms. By doing this, the business gently engages the customer, who will develop a favorable opinion of the clinic.

6. Time Management in Clinical Practice¹⁵

Planning and organization play very important roles in the completion of any given set of tasks. All human unpredictability can play havoc even with the best laid plans and organization in the clinic. So, it is important to keep a calm mind and concentrate on the things that are under the control of the staff and practitioner such as:

6.1. Time management by the staff

1. Help reduce the child's anxiety by greeting him well; have a brief chat with him and praising him about something.
2. Inform the dentist about the child's mood.
3. Keep all the previous records and required armamentarium for the scheduled procedure at

hand. Keep enough number of instruments sets sterilized and ready to use.

4. Dead time (time taken for anaesthesia to act, time required for the child to rinse, etc) can be used for the chair side preparation, i.e., for taking out materials, instruments, making cotton pellets, etc..
5. Delegate them for time consuming procedures such as filling and filing case paper, taking consent signature and payments, retrieving records.
6. Train the staff to exchange duties if required.
7. Being overstaffed is preferable to being understaffed..
8. All the appointments should be scheduled and confirmed in advance. Constant monitoring of appointments needs to be done to check if things are going on schedule.

6.2. Time management by the dentist

1. It is advisable to keep separate session of pediatric patients in a week for treatment procedures in a busy general dental clinic, to make necessary changes in the planning of appointments, décor of the clinic and functioning.
2. Preferably schedule a new child just after a conditioned child and let them observe the treatment of the cooperative child.
3. Keep the first couple of appointments as brief as possible, limited to a checkup or only minor work of fluoride treatment and at the same time assess the cooperation level of the child.
4. Invest extra time in the initial few sittings to build rapport with the child. This will result in a conditioned child who will take considerably less time later.
5. Distract the child by allowing him to watch a cartoon film on the TV during the dental treatment. The treatment of a distracted child is less time consuming.
6. Use materials which take less time such as resin modified glass ionomers for fillings and prefilled syringes of calcium hydroxide and iodoform paste for pulpectomy. Pressure syringe technique also takes a longer duration to implement. Use mouth props wherever required as it helps in the movement of instruments in and out of the mouth.
7. Find out the average time required to carry out a certain procedure.
8. Practice 6/8 handed dentistry: help can and should be taken in the form of 6/8 handed dentistry to minimize the open mouth time. The open mouth time should be reduced in order to avoid fatigue and also helps to save the time used for rinsing. The assisting staff should be trained to anticipate the needs of the dentist and provide necessary assistance without the need of telling again and again and without being a hindrance in the delivery of the treatment.

9. Practice quadrant dentistry: divide the treatment plan according to the quadrants and schedule the appointment according to the urgency of the treatment time available.

10. While treating a particular tooth, complete major work in the same quadrant at the same time. If the treatment is being done under local anesthesia, it makes the work that much more easily and faster. Combination of fillings, pulpectomies, crowns, extractions in the same quadrant can be done. Pit and fissure sealants of the upper and lower arch can also be done.
11. Avoid unwanted phone calls, medical representatives, dealers on the busy days..
12. Learn and practice child management technique which itself is a time saviour. Take a break: few minutes spent to refreshing one self and the staff helps to avoid fatigue and prevent mistakes..
13. Managed time is always productive, and unmanaged time is often frustrating. Most of the dental procedures in a conditioned child take comparatively less time as compared to the adults, allowing the dentist to see more patients in a day. It is also beneficial to the parents and the child as more work can be accomplished in a smaller number of appointments.

7. Pediatric Dental Practice in the 21st Century²

As said by Weyland Lum and Stephen Wei, success in a dental practice is a subjective measure. To some it means a large practice with a very high gross income. To others it means a small quiet practice in a small town. No matter what one's ideas of what success is, it can be achieved only when one's personal and professional needs are met. Therefore, it is very essential for every pediatric dentist to define what he or she wants. And one should remember that approximately 25% of the population in India is children which accounts for a quarter billion. Hence scope for a pediatric dental practice is in the mind of the pediatric dentist.

8. Conclusion

In summary, there have been many advancements in pediatric dentistry, making this an exciting time to practice. Compared to a generation ago, a lot more tools are available today. The effective use of these tools in providing primary prevention, early intervention, and reparative care is to be known by all pediatric dentists prior to their use. While providing patients with state-of-the-art dental treatment is an opportunity, it also carries a duty that one be knowledgeable on how to employ these more advanced techniques. The best level of pediatric treatment can be provided with the help of these new advancements and ensure that patient satisfaction and long-term effectiveness of treatment is provided.

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None.

10. Conflict of Interest

None.

References


- Nazir MA, Izhar F, Tariq K, Anjum KM, Sohail ZB, Almas K. A cross-sectional study of dentists about the need for a practice management course in undergraduate dental program. *Eur J Dent*. 2018;12(4):508–15.
- Velchamy S, Abinaya S, Moses J, Ravindran S. Recent Advancements in Pediatric Dentistry. *Int J Dent Sci Innov Res*. 2020;3(3):503–14.
- Patini R, Staderini E, Cantiani M, Camodeca A, Guglielmi F, Gallenzi P. Dental anaesthesia for children - effects of a computer-controlled delivery system on pain and heart rate: a randomised clinical trial. *Br J Oral Maxillofac Surg*. 2018;56(8):744–9.
- Saraghi M, Hersh EV. Intranasal tetracaine and oxymetazoline spray for maxillary local anesthesia without injections. *Gen Dent*. 2017;65(2):16–9.
- Goaz PW, White SC. Oral radiology : principles and interpretation. 3rd ed. St. Louis: CV Mosby; 1994. p. 229–313.
- Pawar BA. Maintenance of space by innovative three-dimensional-printed band and loop space maintainer. *J Indian Soc Pedod Prev Dent*. 2019;37:205–8.
- Szttyler K, Wiglusz RJ, Dobrzynski M. Review on Preformed Crowns in Pediatric Dentistry—The Composition and Application. *Materials (Basel)*. 2022;15(6):2081.
- Seifo N, Robertson M, Maclean J, Blain K, Grosse S, Milne R, et al. The use of silver diamine fluoride (SDF) in dental practice. *Br Dent J*. 2020;228(2):75–81.
- Hamdy D, Giraki M, Elaziz AA, Badran A, Allam G, Ruettermann S. Laboratory evaluation of the potential masking of color changes produced by silver diamine fluoride in primary molars. *BMC Oral Health*. 2021;21(1):337.
- Brunet-Llobet L, Auría-Martín B, González-Chópita Y, Cahuana-Bartra P, Mashala EI, Miranda-Rius J. The use of silver diamine fluoride in a children's hospital: Critical analysis and action protocol. *Clin Exp Dent Res*. 2022;8(5):1175–84.
- Abdulrahim R, Splieth CH, Mourad MS, Vielhauer A, Khole MR, Santamaría RM. Silver Diamine Fluoride Renaissance in Paediatric Dentistry: A 24-Month Retrospective and Cross-Sectional Analysis. *Medicina (Kaunas)*. 2024;60(1):16.
- Mohammed NY, Abdel-Ghany DM, Hamadi NB, Özdemir S, Selamoglu Z, Plavan G, et al. The Impact of Silver Diamine Fluoride Only or Simultaneously With Potassium Iodide Treatment on the Bond Durability of Resin Composite Material on Primary Teeth. *Cureus*. 2024;16(3):e57064.
- Ng MW, Ramos-Gomez F, Lieberman M, Lee JY, Scoville R, Hannon C, et al. Disease Management of Early Childhood Caries: ECC Collaborative Project. *Int J Dent*. 2014;2014:327801.
- Zou J, Du Q, Ge L, Wang J, Wang X, Li Y, et al. Expert consensus on early childhood caries management. *Int J Oral Sci*. 2022;14(1):35.
- Coachman C, Sesma N, Blatz MB. The complete digital workflow in interdisciplinary dentistry. *Int J Esthet Dent*. 2021;16(1):34–49.
- Shan T, Tay FR, Gu L. Application of Artificial Intelligence in Dentistry. *J Dent Res*. 2020;100(3):232–44.
- Kamath S, Jawdekar AM. A Comparison of Innovative App-Based Prescriptions With Conventional Prescriptions for Children by General Dentists: A Mixed Methods Study. *Cureus*. 2023;15(1):e33583.
- Júnior ECS, Lopes LPB, Marangoni SM. The application of marketing in the dental area. *J Educ Theories Pract*. 2017;16(1):10–4.

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