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* Guatam, V and Halwai, H.K. (2017) Comparison of Clinical Efficacy of Four Dentifrices In the Management Of Dentine Hypersensitivity. IJSR International Journal of Scientific Research.6(2),239-240.

Hussain, H., Jan, S. M., & Behal, R. (2019). Clinical comparison of 5% fluoro calcium phosphosilicate versus 5% calcium sodium phosphosilicate in the treatment of dentinal hypersensitivity. International Journal of Medical and Biomedical Studies, 3(5).

Patel, V. R., Shettar, L., & Thakur, S, Gillam D, Kamala D.M. (2019). A randomised clinical trial on the efficacy of 5% fluorocalcium phosphosilicate-containing novel bioactive glasstoothpaste. Journal of Oral Rehabilitation 10.1111/joor.12847.

Reddy, G V., Surakanti, J. R., Vemisetty, H., Doranala, S., Hanumanpally, J. R., & Malgikar, S. (2019). Comparative assessment of effectiveness of BioMin, NovaMin, herbal, and potassium nitrate desensitizing agents in the treatment of hypersensitive teeth: A clinical study. Journal of Dr. NTR University of Health Sciences, 8(1), 24.

** Pereira, R., Gillam, D. G., Shaikh, K., & Phad, S. (2018). Comparative Evaluation of Desensitizing Dentifrices containing BioMin™, Novamin® and Fluoride on Dentine Tubule Occlusion before and after a Citric Acid Challenge—A scanning Electron Microscope in-vitro Study. J Odontol, 2(105), 2..

Magda Wojtkiewicz

Managing Editor



Healthy teeth, gingivae and beyond

Preventive dentistry helps maintain good oral health. It is a combination of regular dental check-ups with good habits like twice daily brushing and flossing. Preventive dental care is key to keeping teeth and gingivae healthy—but it goes beyond that. Good oral health can impact general health: more and more studies suggest that there is a link between periodontal disease and systemic diseases like diabetes and cardiovascular disease.

Much of preventive dental care starts with patients. The COVID-19 pandemic has increased awareness and interest in preventive dental care as well as home self-care, which hopefully will remain. But still patients rely on dental professionals to learn about the best available methods and products for maintaining good oral health and physical well-being. Every dental professional should create the opportunity to explain to his or her patients that regular preventive dental examination provides many benefits to oral health, such as:

- It lowers the risk of developing dental caries, periodontal disease and more serious dental problems.
- It helps promote good oral hygiene habits, such as brushing teeth at least twice a day and flossing.

- Early identification of dental problems may help minimise treatment and cost.
- It enables the dental professional to perform a full examination of the mouth, jaw, neck, etc. to identify any related problems.
- It helps reduce dental problems related to some chronic medical conditions. Diabetes, osteoporosis, certain cancers and eating disorders can all have an effect on dental and oral health. For people with chronic conditions, regular preventive dental care is an important part of holistic health.
- It helps in the diagnosis of systemic disease with an oral health association, such as cardiovascular disease, pulmonary disease, diabetes, orthopaedic implant failure and kidney disease.

Preventive dental care is an important part of overall health, and healthy teeth and gingivae can positively impact the morbidity, mortality and healthcare costs associated with systemic disease; therefore, it should never be neglected.

Magda Wojtkiewicz
Managing Editor



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Preventive vs reparative dentistry during COVID-19 and beyond

Dr Hadal C. Kishore, India

The COVID-19 pandemic has turned the world topsy-turvy, and dentistry is no exception. Many dental practices have had to make major changes to their set-ups and adapt to the constantly changing scenario. Many patients were left in the lurch and some deprived of even emergency dental care during the height of the pandemic for the better part of last year.

Such an unprecedented scenario has both frustrated the dental fraternity and forced it to think innovatively as to how to overcome this grim situation. Teledentistry and online consultations are an extension of this innovative process. Dentists have been compelled to use stringent protocols and adapt to a new normal. Many practices have had to cut down on patient intake owing to these new disinfection and social distancing requirements. Some practices succumbed, and stronger ones bounced back with new vigour. A few offices are still trying hard to limp back to normality.

At this juncture, it is worth pondering the impact of all these factors on dental patients. Many patients have had to miss their routine dental check-ups. Many orthodontic patients with fixed appliances have been kept waiting for their next appointment. The stress associated with the pandemic and loss of jobs has not helped patients either with respect to their oral health. A work from home culture for adults and online schooling for children has kept people for long hours at home and encouraged the habit of frequent snacking. All this, coupled with mask mouth syndrome, which includes symptoms like tooth decay, gingivitis, halitosis, angular cheilitis, has played

An old English proverb says, “A stitch in time saves nine”. In a similar vein, I like to tell our patients: “Brush your teeth twice and mind the gaps, and you will be fine.”

“The doctor of the future will give no medicine but will interest his patients in the care of the human frame, in diet and in the cause and prevention of disease.”

— Thomas Edison

havoc with the oral health of the majority of the global population.

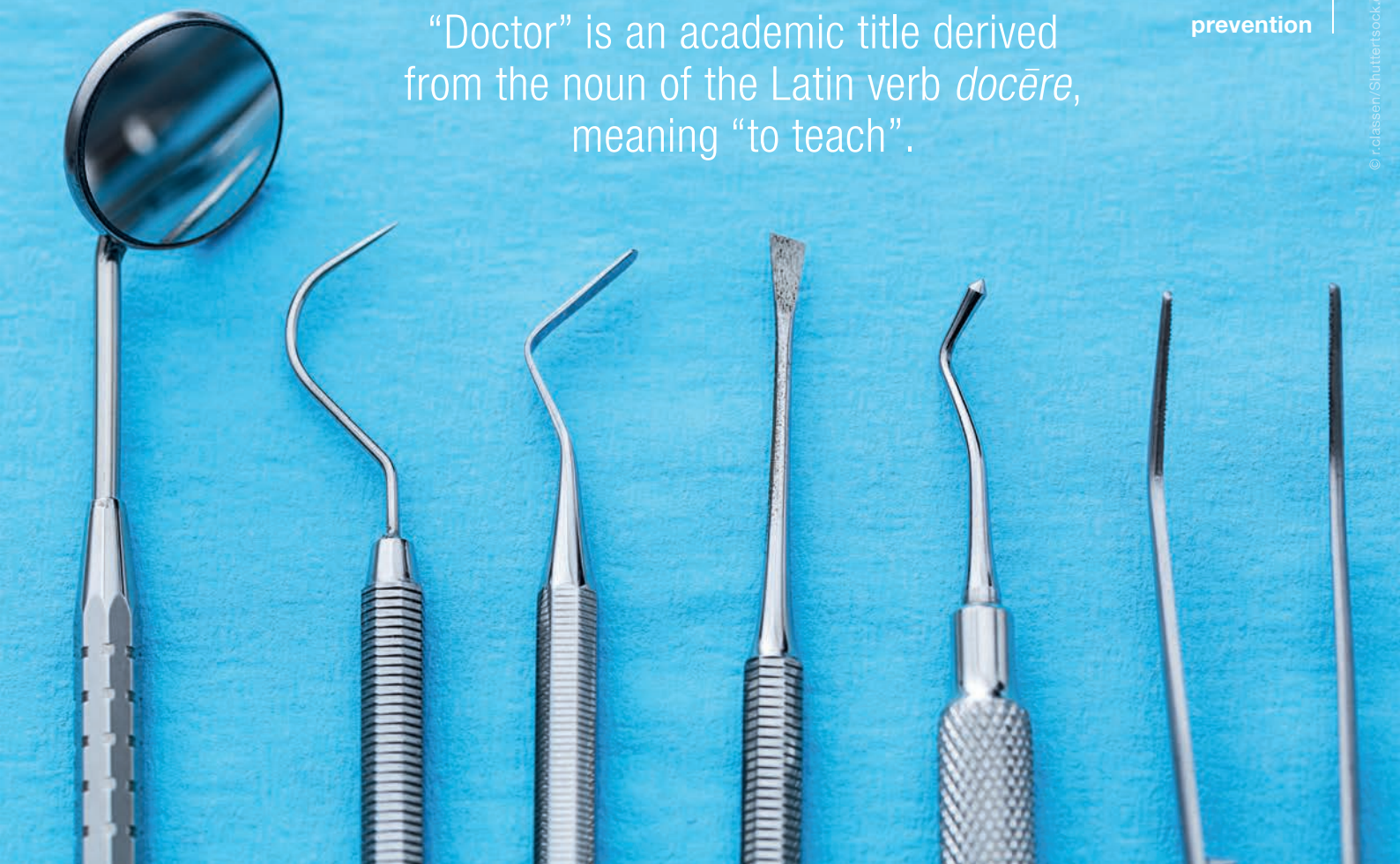
This situation opens up a Pandora's box of questions, the most important of them being, where do we go from here? What is that we as dentists can do to help our patients to cope better? Contemplating these questions, I could not think of a better solution than education and prevention.

The paradigm shift towards immediate solutions and lucrative implant and prosthetically oriented dentistry has not helped the preventive cause either. Even though many patients might accept a prosthetically oriented treatment plan, we dentists have to reflect and ask ourselves whether this is what patients really need. Are patients really satisfied with prosthetic solutions, or do they merely accept them because they feel like they have no choice?

Comparing the different aspects of preventive and reparative dentistry from a patient's perspective, we realise that there is really only one obvious choice and that is prevention.

Education, motivation and prevention all go hand in hand and are all continuous lifelong processes. They can require a great deal of effort and yet are very rewarding. This holds true for both the dentist and the patient.

“Doctor” is an academic title derived from the noun of the Latin verb *docēre*, meaning “to teach”.



The satisfaction that emerges from this endeavour has to be experienced to be believed.

Many dentists might feel that they have been educating their patients ever since they started practising. However, it seems prudent to consider whether we are doing enough and whether there is anything more that patients expect from us and we could deliver in this regard.

Adult behaviour can be modified only by education through highlighting the relevance of the problem and encouraging constant practice until improved habits have formed. Hands-on mentoring and training of patients in the use of the correct techniques for brushing and interdental care will go a long way towards promotion of oral health. Constant reminders, sharing of educational content and interaction through digital communication with patients can establish healthy habits and is an excellent method for dentists to build rapport with patients and their families.

For a start, novel ideas can be employed, such as arranging an education session for patients during which to debunk myths and provide facts regarding oral health and disease. Traditionally, we have educated patients only on matters pertaining to their oral condition. Holistically educating them on all aspects of oral health and disease will better prepare them to handle their dental needs of the future and inculcate healthy habits. Appointments can be scheduled for the entire family, and activities such

as toothbrushing and use of interdental cleaners could be demonstrated.

Every step in the right direction is the start of something amazing. “Prevent or perish” should be the new mantra for success in the current times. Let the revolution of education and prevention begin.

about



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has over a decade's experience as a consultant periodontist and is from Bangalore in India. He holds a BDS and MDS in Periodontics from Krishnadevaraya College of Dental Sciences and Hospital in Bangalore. Dr Kishore places great emphasis on patient education alongside treatment, in order to create a motivated

and educated patient, as he believes this is beneficial to the patient, the dentist and society at large. He is a postgraduate guide and associate professor at Krishnadevaraya College of Dental Sciences and Hospital and is a much sought-after speaker in dental circles. He has over 15 international and national publications to his name. The first iTOP lecturer from India, Dr Kishore completed the iTOP Teacher seminar in Prague in the Czech Republic and is head of education at Curaden India.

Dental fitness: The future concept of sustainable dentistry

Prof. Ivo Krejci, Switzerland

Dental fitness is a concept of modern dentistry focused on tooth preservation and aims to maintain the lifelong clinical health of teeth. To achieve this goal, a highly specialised personal dental coach is proposed to patients who would like to benefit from this concept.

Introduction

Caries and periodontitis are among the most common chronic, incurable, multifactorial diseases in the world, and one of their peculiarities is the infection of the oral biofilm with potentially cario- and periodonto-pathogenic bacteria. Since infection is unavoidable in the social context, the vast majority of the population may harbour these bacteria in the oral cavity for life. Although periodontitis is most likely and caries probably related to medical problems, neither disease, in contrast to several chronic medical conditions, leads to premature death. This may be one of the main reasons why caries as well as periodontitis are perceived by the population as bothersome but not threatening.

The current treatment concept for combating caries and periodontitis is based on imperfect basic prevention and temporary cope with late symptoms represented by cavitated carious lesions and deep periodontal pockets. This concept is complex and extremely expensive. Furthermore, it does not remedy the causes of the diseases, because a causal therapy that would lead to complete healing is currently not available. Once affected by symptoms of periodontitis and/or caries, the patient remains a lifelong nursing case, and the more severe the symptoms become during his life, the more complex and expensive the temporary treatments become. Finally, many teeth have to be extracted because their preservation is no longer possible for technical and/or financial reasons.

It is not difficult to deduce from these statements that further research efforts in the field of treatment of late symptoms will not solve the problem. Much more promising for the future are modern approaches that deal with the causes of caries and periodontitis in order to extirpate both pandemic diseases. They rely on the rapid development of sequencing technologies, epigenetics, big data and machine learning, to name but a few.

Until that time, a paradigm shift is possible for today's clinical routine, aiming to refine symptom control with patients' collaboration using modern diagnosis, personalised prevention and non-invasive treatment of preclinical symptoms to such an extent that complex and cost-intensive

restorative and periodontal treatments, and in particular tooth extraction, become the exception. This paradigm shift has been conceived of as dental fitness by the author, together with Daniela Krejci-Sparr.

Goal of dental fitness

Dental fitness aims to keep people's teeth healthy throughout their entire lives. Within this concept, dental health is defined as the absence of clinical symptoms, but allows for preclinical symptoms which must be arrested at this level. The aim is to keep the natural biological structures clinically healthy in order to avoid having to reconstruct or regenerate them. In patients who are already affected by clinical symptoms, dental fitness is intended to halt or at least to slow their progression as much as possible and to prevent the occurrence of new clinical symptoms.

Prerequisites for dental fitness

In order to successfully implement the concept, several prerequisites must be fulfilled. The most important and difficult one is getting patients interested in the concept. The healthier they feel and the younger they are, the more difficult it is to persuade them of the necessity of the concept for their lifelong oral health. Yet, it is precisely in this group that it makes the most sense to introduce such a concept. The second prerequisite is a precise diagnosis, which entails the recognition of symptoms in their preclinical early stage. The third prerequisite is the adaptation of the organisation, the financial plan as well as the staff of the dental office to the concept. The fourth prerequisite is the specific high-tech infrastructure and expertise necessary for putting dental fitness into practice.

Practical implementation of dental fitness

Dental fitness is based on the concept of medical fitness. At the first appointment, for which the patient should not be in the dental chair, the concept of dental fitness is explained and any questions are answered. In case this appointment cannot be charged to the patient, it might be regarded as a marketing investment. It is crucial to convey the awareness that only the patient himself or herself can keep his or her teeth healthy and that he or she must take responsibility for his or her own dentition. If the patient is really interested and ready to participate in the programme, several basic parameters for the dental fitness concept are determined at the following appointment, during which, based on a precise diagnosis, the individual personal goals of dental fitness

are determined together with the patient. In this first phase, the goals should be realistic and not too ambitious. If clinical symptoms already exist or if there are factors such as calculus or imperfect restorations that could hinder the optimal implementation of dental fitness, these are professionally treated.

The next step is the personalised selection of the dental fitness exercises and tools as well as the definition of the dental fitness programme through which the patient can achieve his or her personal goals. The dental fitness exercises and tools are physically presented to the patient and practically taught. The patient then practises first in the dental office under supervision until he or she has mastered the exercises and then performs them at home once or twice a day. Within two to three months, the patient is recalled in for a control appointment and, if necessary, for the correction of his exercises. It is also possible to adapt or refine the recommended tools and exercises if the patient, who in fact becomes a client, is not able to reach the agreed goals.

The next control and remotivation appointment takes place after another two to three months. If the outcome of this appointment is satisfactory and the patient has not developed any further subclinical symptoms, it is possible to enter the lifelong monitoring phase. Depending on the individual situation, the monitoring intervals are between three and 24 months, and the next monitoring interval is individually determined at each subsequent session based on the actual screening of preclinical symptoms.

If preclinical symptoms are diagnosed in one of the monitoring sessions, the first approach is to try to stop the progress of these symptoms with the patient's help by intensifying his personal dental fitness efforts. A short-term monitoring interval is temporarily set for this purpose. If the measures taken have led to the arresting of the symptoms, it is possible to switch back to a longer monitoring interval. In case of symptom progression, the personal dental coach will use professional non-invasive methods to try to stop it. Minimally invasive professional measures are only required if the patient has not attended monitoring sessions for a lengthy period for whatever reason leading to clinical symptoms which make such procedures necessary. However, this should be the absolute exception.

Implementation feasibility for dental fitness

Owing to the relatively low aggressiveness of caries and periodontitis progression in the vast majority of cases, a rather relaxed fitness programme is sufficient for most patients. Assuming appropriate information, instruction and motivation of the patient, it is postulated that the dental fitness concept can be successfully communicated and applied not only to highly motivated, but also to relatively unmotivated patients. In many cases, a monitoring session scheduled every 12 to 24 months may be sufficient to prevent the appearance of clinical symptoms, especially if the screening for preclinical symptoms is regularly applied so that in case of

progression, these symptoms may be arrested by appropriate non-invasive professional therapeutic measures.

Costs of dental fitness

In a patient with good compliance and a life expectancy of more than 80 years, it is estimated that lifelong dental fitness can be financed at the price of two implant-supported crowns—and this not only for a single tooth, but for the entire dentition.

The role of the dentist in dental fitness

In the dental fitness context, the dentist is no longer a dental technician working on patients as is the case in traditional repair-oriented dentistry. Rather, he or she is a personal dental coach who, thanks to his or her expert knowledge and social skills, enables the patient to maintain his or her own teeth in good health for the rest of his or her life with the least investment of time and money.

Advantages of dental fitness

The dental fitness concept has many advantages for patients: with a minimal investment of time and money, they can preserve their natural teeth until the end of their lives, resulting in the best possible sustainability as of today. But there are also several advantages for dentists. The concept offers the opportunity to lead a team of collaborators who can take care of the major part of the labour needed, thus taking care of a much larger number of patients than the individual dentist alone. As a result, dentists become health managers, focusing mainly on diagnostics and planning, as well as on human resources, business and operational management. When working clinically on patients, they carry out relatively low-risk, micro-invasive and high-quality interventions. This may increase job satisfaction and attractiveness and reduce stress levels for both dental professionals and patients.

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about



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