“But at the end, I realized I could be a designer and architect of the smile.”

Dr. Christian Coachman
Founder and Chairman of Digital Smile Design
Dear IADS Magazine Readers,

Here it is, the first IADS Magazine Issue of the year 2019. First of all, I want to thank Editorial Board team who did an amazing work during all these months! Only because of them one more IADS Magazine issue has been published! And this issue is special, because it is not only going to come out digitally, but if you are coming to MYM Strasbourg, you will be able to get a printed version as well!

For this issue for IADS Stories section we have invited Dr. Christian Coachman, a creator of Digital Smile Design (DSD). In the interview you can read about his career, why DSD was created, what personal characteristics are needed to be successful and much more! On behalf of whole IADS community, I want to say big thanks to Vivian, John and Christian Coachman who helped a lot with writing and creation of this article. Also, we have a little hidden contest in this issue! Check out a report about Endodontics Masterclass in Italy and find out how you can win a free seat! Last but not least, we have created a new section called "Clinical Cases" where you can find some practical tips that might help in your clinical practise to reach better results. If you have any cases you would like to share, don’t hesitate and contact me by email.

I think I will better just stop spoiling what’s inside this issue and just let you to see by yourself!

Enjoy Reading,
IADS Editor in Chief Greta Kersyte

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Dear IADS Family and Friends,

I hope everyone’s year has started off as happy and well as it has here, in IADS. So what’s been going on these past months and what to look forward to? This magazine number will give an insight to the Mouth Cancer Action month which was amazingly huge this year! Also, you will read about the Executive Committee meeting, where among several important topics also the initial drafting of a 3-year Strategic Plan began. I saw a fascinating insight to Tunisia, where our Annual Congress is taking place in August and much more to read and dive into. Also the Research Section is gaining strength - so send your articles to the Editorial Board and maybe they will be published.

And now some more exciting news about what to look forward to in 2019. This is the year when IADS will finally become an individual non-governmental organization in Switzerland. The whole process has taken quite some time and efforts but after our Mid-Year Meeting in Strasbourg the final paperwork will finalized and an NGO status given to IADS.

Furthermore, March is rapidly approaching with two top events on the list - our 65th Mid-Year Meeting in Strasbourg and the World Oral Health Day. We are all hoping to see lots of activity from our members and friends all over the world in “Saying Aah” and campaigning actively in your countries and regions. Good oral health begins from proper knowledge - let’s keep the flag flying for Oral Health in the world.

Keep tuned for more surprises and news in the next Magazine number!

IADS President, Ave Pold
President

Ave Pold
Country: Estonia
University: University of Tartu
E-mail: president@iads-web.org

General Secretary

Abanob Vosry
Country: Egypt
University: Tanta University
E-mail: secretary@iads-web.org

Editor

Greta Kersyte
Country: Lithuania
University: Lithuanian University Of Health Sciences
E-mail: editor@iads-web.org

Treasurer

Bjorn Bierlich
Country: Germany
University: Dresden University
E-mail: treasurer@iads-web.org

International Exchange Officer

Mustafa Hacilar
Country: Northern Cyprus
University: Near East University
E-mail: ieo@iads-web.org

International Scientific Officer

Wun-Ting Lin
Country: Taiwan
University: Chung Shan Medical University
E-mail: iso@iads-web.org

Immediate Past President

Andrey Baltaev
Country: Russia
University: Saratov State Medical University
E-mail: ipp@iads-web.org
Chairmen Of Standing Committees
2018-2019

Prophylaxis
Russia

Anastasia Dmitrieva
Pavlov First Saint Petersburg State Medical University
prophylaxis@iads-web.org

Sanam Rahimi
Shiraz University of Medical Sciences
recruitment@iads-web.org

CREME
Iran

External Relations
Thailand

Pongkarn Kanjanawattana
Chula University
external.relations@iads-web.org

Viktoria Rethy
University of Gothenburg
iadsfundraising@iads-web.org

Fundraising
Sweden

Training
Turkey

Deniz Yenidunya
Istanbul University
training@iads-web.org

Voluntary Work Abroad
Germany

Marc Tokarski
Dresden University
voluntary@iads-web.org
IADS Regional Directors 2018-2019

Byung Chan Kim
Italy
Regional Director of Europe
Università di Foggia
director.europe@iads-web.org

Protas Msungu
Tanzania
Regional Director of Africa
Muhimbili University of Health and Allied Sciences
director.africa@iads-web.org

Leo Meza Palma
Chile
Regional Director of Americas
Universidad San Sebastián
director.americas@iads-web.org

Movina Wu
Taiwan
Regional Director of Asia
Chung Shan Medical University
director.asia.pacific@iads-web.org

Julien Issa
Lebanon
Regional Director of Middle East
Beirut Arab University
director.middle.east@iads-web.org
IADS Editorial Board
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Greta Kersyte
Editor In Chief
Lithuania
In Bucharest, the end of 2018 was full of joy and celebrations marking the 100 year anniversary of Romania’s Great Union Day.

At the Faculty of Dental Medicine, we had the honor to organize one of the most interesting and memorable students’ projects: Training New Trainers. Training New Trainers (TNT) is a programme designed by students on topics related to soft skills, that are increasingly becoming the hard skills of today's work force.

The project was held from 2nd to 9th of December 2018 and was organized by Bucharest Dental Students’ Association (LSMDB) and International Association of Dental Students’ (IADS), in partnership with the Faculty of Dental Medicine, “Carol Davila” University of Medicine and Pharmacy, Bucharest. We enjoyed the support of International Federation of Medical Students’ Association too and we would like to thank them through this article, for helping us.

The local and international trainees, from Romania, France, Sudan and Jordan, attended ten training sessions with different topics, meant to prepare them for their lives as trainers, such as: Public Speaking, Communication, Leadership or Feedback.

The participants were trained by four dedicated trainers: Gabriel Toma and Adelin Radu (from Romania), Mohamed Ahmed (from Egypt) and Salma Surag (from Sudan).

Throughout the sessions, when the trainers delivered a powerful theoretical base, but also organized games and interactive activities, the participants were really receptive and showed a lot of interest in the discussed subjects. Besides the fact that they developed their personal skills, they built great friendships and were surrounded by a family-like atmosphere.

At the end of the week, each of the trainees held a SRT (subregional training) and received feedbacks concerning their presentation from the other participants and from the trainers, following ten relevant criteria, such as: gesture, posture and proxemics, information delivery, outfit or time management.

The Training Department and the IADS family have now prepared and capable new trainers, who will spread the word regarding the soft skills and the federation's mission.

As we all know, there is no IADS event missing an amazing social program and, since Bucharest is a great choice for social activities, it couldn’t be below anyone’s expectations.

Since the arrival day, we gathered the participants and had dinner at a traditional Romanian restaurant, where dishes like zacusca, ciulama or sarmale stole everyone’s hearts. The first three evenings were about going out for dinner and then a drink and board game. The game changer was on Thursday night, when everybody enjoyed a house party at Salim’s place (one of the volunteers), with shisha and Jordanian food.

For the end of the week, we had prepared a trip to the mountains to relax after a week full of trainings. We visited Peles Castle in Sinaia, a castle built for King Carol I, inaugurated in 1883. One of the most beautifully decorated cities for Christmas, Brasov, offered us a home for the night, and everyone suddenly forgot about their worries and just enjoyed the view and the feeling.

The last night was definitely a sad one since we were about to end a nice experience for all of us, so we spent it at a rooftop restaurant called Linea / Closer to the Moon, where we sat in igloos and felt like on another planet.

As it turned out, this project not only taught us things about soft skills, different cultures and traditions, trainings, friendships and how to be better people, but it was also a ‘first’ for many of us: some travelled alone for the first time, some felt the cold for the first time, some saw and felt the snow for the first time and some saw a fox for the first time.

The TNT Bucharest was definitely the best way to start the last month of 2018. Cheers to a magical December!
Mohamed Ahmed, Egypt, trainer: I used to say that TNT is one of the most successful IADS programs. The idea is about becoming more confident, more skillful as a presenter and communicator, developing leadership skills, creating memories and sharing amazing experiences with different dental students from everywhere. It is an endless process of learning that books won’t offer to you. Furthermore, Bucharest is one of those cities that once you visit, you come back again.

Diala Abualimeh, Jordan, trainee: Bucharest was an amazing experience, I got to meet a lot of great people, try a lot of good food and went to so many beautiful sites. I also got to know the culture a bit more. The course itself was extremely useful, I know that I will use all the skills I learnt, if not for a training, then at least in my everyday life.

Hebah Tamimi, Jordan, trainee: I would like to thank everyone that helped in making this course successful. It was such a great experience from all aspects. The people I met in Bucharest were really kind and very welcoming, we felt as if we were home. The city is amazing especially with the Christmas vibes and decorations. Last but not least, I would highly recommend anyone to travel and get the chance to live this experience of knowing about different cultures, learning different languages, and meeting new people.

Lobna Mostafa, Jordan, trainee: The 10 days I spent in Bucharest were unforgettable. Meeting wonderful people and learning a dozen new things while having tons of fun is not something that happens everyday. I'm very thankful for this amazing experience. I would do it all over again in a heartbeat.

Mamadou Ndoye, France, trainee: The TNT/SRT was a great experience where I learned lot of things about training, about Romania, but also about myself. During this week I’ve been able to improve my soft skills in order to be a better trainer and a better person in my daily life. Furthermore I’ve met amazing people from different countries. I’ve learnt from their culture and from their experience. Also, we’ve been trained by trainers that wanted to share their knowledge with us, that wanted us to achieve our goals. Thanks to all of that, I won’t ever forget this experience.

Diana Baciu, Romania, trainee: TNT was a breath of fresh air for me. I got to defeat my speaking-in-front-of-people fear and learnt ways of getting better at it. I met the best people there. We helped each other a lot by giving and receiving feedback, paying attention to learn the good stuff and correcting mistakes when needed. We also had a lot of fun and visited all kind of places. It was an interactive experience where everybody felt as part of something bigger.

Written by: Alexa Dogaru (Romania) Mihaela Raileanu (Romania) Mohammed Ahmed (Egypt)
Proofreaders: Silvi Domnori (Turkey) Shukri Mohamud Jama (Turkey)
Graphic design by: Živa Antolin (Slovenia)
In order to create stability, continuity of work in IADS, current Executive Committee believes that a certain strategic plan for at least following 3 years should be created. In this way, we believe, we can strengthen the association and assure stability of work. There were years when students had really good and promising plans for IADS, however, they couldn't have been achieved in a few months, so our aim is to create a plan and exact steps for future generations to follow. Also, this year we aim to register IADS as independent association who could control itself completely on its own. That would definitely be a big step for us, as association, however, we still want to keep a close relationship with our partners and biggest supporters FDI who has helped us a lot doing all these years! Last but not least constitution amendments were discussed thoroughly during the meeting. As you know, IADS was created in 1951. Since then a lot of changes has been made in our constitution, however life doesn't stop and it evolves every single day. That's why we want to re-new our constitution, make it more professional, understandable and up to date.

Although the aim of this meeting was to discuss and solve as many issues in IADS as possible, this trip definitely has made us, Executive Committee members, more connected than ever! It's been the first time since Annual Congress Taiwan when we could see each other face to face and spend the weekend together. In order to reach big things and be successful, it is believed that strong, bonded, having same vision people are a must in a team. As Henry Ford has said "Coming together is a beginning. Keeping together is a process. Working together is a success."

On behalf of Executive Committee, I would like to say big thanks to international exchange officer Mustafa Hacilar and Near East University who organized the whole trip and made our stay so pleasant! To all students, I would like to inform that Near East University is planning to accept a few students for research exchange, so just keep yourself updated on our social media because this university has definitely a lot to offer!

On December 8th IADS Executive Committee members president Ave Põld (Estonia), general secretary Abanob Yosry (Egypt), editor Greta Keršytė (Lithuania), treasurer Björn Bierlich (Germany), international exchange officer Mustafa Hacilar (Northern Cyprus) have met in sunny Northern Cyprus. This meeting was held in order to discuss important issues such as planning of strategic plan, constitutional amendments, IADS registration process, General Assembly in MYM.

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Written by Editor in Chief Greta Keršytė (Lithuania)
Designed by Daniela Popescu
This year, for the third time, IADS with the supervision of Oral Health Foundation supported a campaign aimed to raise the global awareness on mouth cancer and to reveal primarily those groups of patients who are most at risk.

What is this “action” in MCAM all about? We encourage dentists and dental students all over the world to educate the public about mouth cancer, highlighting the risks, symptoms and causes of the disease and explaining the importance of regular dental check-ups.

During dental examinations, we should look out for the most common mouth cancer signs, such as: ulcers which do not heal within three weeks, red and white patches in the mouth, and unusual lumps or swellings; to give them a chance to be treated successfully and have an improved quality of life.

November 2018 was incredibly rich in different types of Mouth Cancer Action Month activities. Local campaigns with lectures, dental examinations, interactive games and, of course, plenty of blue lip selfies! This year the “Best mouthaware 2018” competition challenged national associations to organize, in their country, the best MCAM campaign IADS has ever imagined. However, as it always happens, competitions accept only one winner. And here it is! We pass the torch to the Polish Association of Dental Students, our gold medalist, who will let us delve into all the inside scoop on the activities they had.
"Our main goal was to promote oral health and familiarize the public opinion with basic dental problems and their relationship to systemic disorders. Making the participants aware of the essence of the problem; changes in the oral mucosa that can lead to serious disease. Oral self-check will significantly improve the process of patients reporting to the specialist and will enable the implementation of treatment at an early stage, which gives a good prognosis.

To increase the value of event, we cooperated with IFMSA and PTSF, Polish Association of Pharmacy Students.

Our friends, like us, tried to educate and familiarize the society with the most common health problems such as hypertension, diabetes, the principles of healthy eating, a healthy approach to pharmacotherapy. What we achieved would not be possible without the support of partners like Colgate, HappyDental.pl, and Solomedica.pl who help us every time we need it."

Written by Anastasia Dmitriyeva (Russia) (Prophylaxis chairperson) and Michal Trzos (Poland)
Proofread by Silvi Domnori (Turkey) and Aws Salah (Iraq)
Designed by Daniela Popescu (Romania)

This event should be treated in the category of huge organizational and substantive success. The fact that every year we manage to reach an ever-larger group of people makes us look forward to the future with hope. We are very pleased with the growing awareness in society about caring for our own health.

Michal Trzos,
National Prophylaxis Officer of the Polish Association of Dental Students (PTSS)
The Endodontic Masterclass (www.dental-art.education) organizes 3 days full immersion course in Endodontics every year in Florence, Italy.

The students and colleagues will have an experiential learning from A to Z - from opening access to obturation as well as the possibility to see and try all the latest technologies and techniques about the root canal treatment.

The Masterclass is structured into two parts. In mornings there are classes of theory and in the afternoons hands-on classes where students can immediately put in practice everything that they learned under the constant supervision of Dr. Claudio Farnararo and Dr. Francesco Piras. Participants are provided with all instruments: ultrasonic, endo motor, microscope, endo instruments and everything else what's needed.

The Masterclass 2018 edition was a huge success! There were participating doctors from many countries and a great group has been established.

After the 3 days Masterclass Claudio and Francesco invited their friends and Mentor Dr. Stephen Buchanan for a great international conference.
This October I was lucky to attend 3-days Endodontic workshop in Florence conducted by Claudio Farnararo and Francesco Piras. Amazing program and lecturers attracted dentists from different parts of Italy and even from overseas.

To start with, the whole course was well-structured, fully equipped and well-organized. First day we were talking about endodontic access and the aspects of using microscope in daily practice. The main topic of the following day was cleaning and shaping of the root canals. Finally, on the last day all kinds of contemporary obturation methods were observed. Moreover lecturers invited special guest Stephen Buchanan who spoke about modern irrigation and obturation techniques.

I was impressed by the way Claudio and Francesco were giving information and then helping during the hands-on. Although I was the youngest and less experienced then others, I felt absolutely comfortable. Lecturers were explaining every single step with patience and interest. It is obvious that these men are really into their work. After learning theory we were able to try everything from endodontic access to obturation on extracted teeth. To conclude, I discovered during these three days about endodontic probably even more then at my university course.

Of course, I should mention that this course was held in fantastic city of Florence. Short evenings free from studying I spent walking down the streets talking to the new friends from all over the world. Thus, it turned out to be a great opportunity not only to study but also to meet outstanding people from different countries and to see charming Florence.

-Dental-art.education has decided together with IADS to offer a new scholarship for a IADS student that will attend for free the 2019 Masterclass (9-10-11 October 2019) in Florence Italy.

In order to be eligible, you have to do the following:
-Be IADS student of the last year of study
-Like the dental-art page on facebook https://www.facebook.com/EndodonticsExcellence/
-Subscribe Claudio’s YouTube channel https://www.youtube.com/channel/UCKPcM8FNLJ0mRIIDbTxhLQ?view_as=subscriber

-Attend the Endodontic Webinar that will be on JUNE 2019!

In IADS Magazine May 2019 Issue there will be more details about participation and Masterclass.

*1 student will receive a full scholarship that will cover the fee of the course (1500 euro) and 4 nights staying in Florence. (flight not included)
Also there will be 2 more partial scholarships for 2 more students who could participate at a super-special fee: only 750 euro. (staying and flight not included)
Tunisia is located in North Africa bordering the Mediterranean Sea and neighboring countries like Libya and Algeria. Tunisia gets its name from its capital city Tunis. With an area of 163,611 km² and a population estimated to be approximately 10.9 million people by 2014.

Tunisia is a bilingual country where the official languages are Arabic and French, which is also used for day to day activities.

Tunisia has a very rich history and is considered a melting pot of different successive Mediterranean cultures like the Romans, Arabs, the native Amazigh and many more, which contributes to its uniqueness.

From the stunning Tunis bay to the serene landscapes and soothing waters of Djerba. From the El Jem Amphitheatre, La Malga cisterns, the Carthage Roman theatre and dean to the Tozeur oasis in the Sahara. Tunisia is guaranteed to be a holiday destination to remember.
The Tunisian Association of Dental Students (TADS)
The association was created in 2011 and has almost 800 members.

TADS is an independent, non-profit organization. Our mission is to support students in dentistry offering a wide range of activities from health to humanitarian work through professional training and many events during their university life.

IVP Tunisia other than being the International Volunteer Project will be unique opportunity to impact, venture and the most importantly provide endless possibilities.

Taking part in our internationally awarded event «Prophylaxis Days» in its seventh edition, will be an occasion to empower oral health and create smiles on little angels while discovering the hidden beauty of Tunisia. It will include diagnosis, examination and providing care to underserved regions while making new friends.

In this ten day journey you will be living an outstanding intercultural experience, starting from living with other dental students from all over the world to interacting with the local students and kids coming from various regions of the country. You will get to know new cultures and schools of life. But don’t worry, you won’t ever feel like a stranger.

Other than caries screening, seeing new cases and motivational campaigns during the event, we have prepared for you several workshops that you will be attending. Oh don’t worry, we haven’t forgotten about your soft skills, many sessions are on the menu!

Registration deadline for IVP Tunisia:
February, 10th 2019

Fee: 310 €
(There will be a selection process and if you are selected, we will proceed to the payment)

Can’t wait to see you all there :)

Written by: Amina Labidi (Tunisia)
Shukri Mohamud Jama (Turkey)

Proofreaders: Walaa Absi (Palestine)
Aws Salah (Iraq)

Graphic design: Živa Antolin (Slovenia)

Pictures courtesy google and TADS.
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DSD, in another words, Digital Smile Design was created in 2007 and gradually revolutionized modern dentistry worldwide. Its multipurpose conceptual protocol brings out the potential of digital technology. In the core of this concept lays the idea of harmonizing and visualizing the compatibility between facial features and smile design. Digital dentistry helps guide us through smile design and enhance treatment planning. This milestone in dentistry makes team-work more efficient through a better communication medium and also involves the patient into the creation process by discussion, motivation and acceptance. Smile stimulation increases the predictability and precision and it also serves as better patient documentation. Moreover, it improves diagnostic abilities by comparing intra- & extra oral features.

DSD, o Digital Smile Design fue creado en 2007 y gradualmente revolucionó la odontología moderna en todo el mundo. Su protocolo conceptual multipropósito resalta el potencial de la tecnología digital. En la esencia de este concepto se encuentra la idea de armonizar y visualizar la compatibilidad entre los rasgos faciales y el diseño de la sonrisa. La odontología digital ayuda en guiar a través del diseño de la sonrisa y mejorar la planificación del tratamiento. Este hito en odontología hace que el trabajo en equipo sea más eficiente mediante un mejor medio de comunicación y también involucra al paciente en el proceso de creación con discusión, motivación y aceptación. La estimulación de la sonrisa aumenta la previsibilidad y precisión y también sirve como mejor documentación del paciente. Además, mejora las habilidades diagnósticas al comparar características extra e intraorales.

Let us introduce you to the founder of this multi-purpose concept - Brazilian dental technician and dentist, Dr. Christian Coachman!

¡Les presentamos al fundador de este concepto multipropósito – dentista y técnico brasileño Dr. Christian Coachman!
**What was the first thing you did after graduation?**
I didn't have much time to think about anything besides work. When I graduated, I was already married, with one baby and was running my own lab. Pretty busy and tough times. But everything happens for a reason, and this tough beginning was crucial to make me focus and fulfill my own expectations about what kind of professional I wanted to become.

**¿Qué fue la primera cosa que hizo usted después de la graduación?**
No tuve tanto tiempo para pensar en algo más que el trabajo. Al graduarme, ya estaba casado, tenía un hijo y estaba manejando mi propio laboratorio dental. Tiempos muy difíciles y ajetreados. Pero todo pasa por una razón, y este principio tan difícil fue crucial para que yo me enfocara y cumpliera con mis expectativas sobre la clase de profesional que quería ser.

**Did you take any technology related courses to come up with the Digital Smile Design (DSD)? What was the reason behind it all?**
No I didn't, the whole DSD idea came out organically, inspired by my own professional challenges and limitations. I was always very inquisitive about why we do things the way we do. I was always analysing my work not only from the final quality perspective but also trying to understand the intellectual and technical process of doing something well. I rapidly understood that even though I was working with great dentists, we still had limitations and challenges that had room for improvement. My motto was always: How can I be more efficient and how can I be special in the eyes of my customers (the dentist at that time). These are the reasons why I started to develop different ways of doing my work and using technology to improve the process was a natural move.

**Usted atendió algún curso tecnológico para que creer el DSD? ¿Cuál fue la razón detrás de todo esto?**
No, no fui a ningún curso. Toda la idea sobre DSD se reveló orgánicamente; inspirada por mis propios retos y limitaciones profesionales. Siempre fui muy inquisitivo sobre por qué hacemos las cosas tal como las hacemos. Siempre analizaba mi trabajo no solo desde la perspectiva de la calidad final, sino también tratando de comprender el proceso tecnológico e intelectual de hacerlo bien. Rápidamente llegué a entender que a pesar de que estaba trabajando con grandes dentistas, aún teníamos limitaciones y retos que tenían espacio para mejorar. Mi lema siempre fue: ¿Cómo puedo ser más eficiente y especial en los ojos de mis clientes? (En ese tiempo mis clientes eran los dentistas). Por estas razones empecé a desarrollar diversas maneras de hacer mi trabajo y usar la tecnología para mejorar el proceso fue un paso muy natural.

**Considering the fact, you are a legacy in dentistry; if we may say, due to the family history; one can’t help but wonder if dentistry was your dream profession or your decision was based on the family tradition?**
Thank you for considering me a legacy to our profession. I hope to fulfill this statement and, at the end, look back with pride about what I was able to do for dentistry.
Yes, our family has a huge tradition in dentistry that this year completes 170 years and 6 generations devoted to it. But no, dentistry was never my dream profession. I didn't grow up thinking about it and my father never put any kind of pressure or not even stimulated us towards it. I say us because at the end, my brother and I decided, at the last minute, to pursue our family tradition and go to dental school. Maybe our ancestors guided us from above!

** deducted from your professional challenges and limitations.**

**Considering el hecho que usted es un legado en odontología: si así podemos decir tomando en cuenta la historia de su familia; uno no puede evitar preguntarse si la odontología siempre fue su sueño o si su decisión fue basada en la tradición de su familia?**
Gracias por considerarme un legado en nuestra profesión. Espero cumplir con esta declaración y al final, mirar atrás con el orgullo de lo que logré hacer para la odontología. Sí, nuestra familia tiene una tradición grande en odontología, de hecho este año cumple 170 años con 6 generaciones dedicadas a la profesión. Pero no, la odontología nunca fue mi sueño. No crecí pensando en esto, y mi padre ni nos presionó ni nos incentivó hacia esta profesión. Digo “nos” porque al final mi hermano y yo, los dos, decidimos al último momento seguir con la tradición de la familia y estudiar odontología. Quizás nuestros ancestros nos guiaron desde arriba!

**What was your biggest challenge so far and how did you handle it?**
My biggest challenge was definitely to find my passion in dentistry. To find the best way to fit my skills into a profession that initially had nothing to do with me. During the first years of dental school and also first years after graduation, I thought about quitting many times. I was sure dentistry was not for me. I was always passionate about art and creative processes, design and architecture. At one point I stopped working in dentistry and went back to school to study art, but at the end, I realised I could become a designer and architect of the smile. I also fell in love with communication and teaching, and that also became possible through dentistry.

**Mi mayor desafío fue definitivamente encontrar mi pasión en odontología. Encuentrar la mejor manera de encajar mis habilidades en una profesión que inicialmente no tenía nada que ver con mí. Durante los primeros años de la dental school y también los primeros años después de la graduación, pensaba en abandonar muchas veces. Estaba seguro de que la odontología no era para mí. Siempre me he sentido pasionado por el arte y los procesos creativos, diseño y arquitectura. Al final, decidí que podía convertirme en un diseñador y arquitecto de la sonrisa. También caí en amor con la comunicación y el enseñanza, y eso también se convirtió en posible a través de la odontología.**
¿Cuál fue su mayor reto hasta ahora y como lo manejo?
Mi mayor reto fue, definitivamente, encontrar mi pasión en odontología. Descubrir la mejor manera de encajar mis habilidades en una profesión que al principio no tenía nada que ver conmigo. Durante los primeros años de escuela dental y también los primeros años después de la graduación, varias veces pensé en dejar de hacerlo. Estaba seguro de que la odontología no era para mí. Yo siempre fui apasionado por el arte, los procesos creativos, el diseño, la arquitectura. En un cierto punto, dejé de trabajar en odontología y regresé a la escuela a estudiar arte; pero al final me di cuenta de que podía ser un diseñador y arquitecto de la sonrisa. También, me enamore de la comunicación, de la enseñanza y esto también fue posible a través de la odontología.

How has your background as a dental technician influenced your career now as a dentist?
I never considered myself a dentist. I never worked as a traditional clinician. I was always a technician that went to dental school. My background as a technician is the only reason why I developed DSD. DSD is all about communication strategies. Strategies that I developed working with great dentists all over the world. Today, I work as an entrepreneur, businessman and spokesman of my company. DSD company has grown in parallel to the DSD Concept. Today we have offices in 6 different countries and a great team of people. Managing all is definitely a full time job.

¿Cómo el pasado de ser técnico dental ha afectado a tu carrera de dentista?
Nunca me he identificado como dentista. Nunca he trabajado como un doctor tradicional. Siempre fui el técnico que fue a escuela dental. Mi pasado como técnico fue la única razón por la cual desarrollé el DSD. DSD tiene que ver con las estrategias de comunicación. Estrategias que obtuve al trabajar con grandes dentistas por todo el mundo. Hoy, trabajo como empresario y portavoz de mi empresa. La empresa DSD ha crecido en paralelo con el concepto del DSD. Hoy tenemos oficinas en 6 diferentes países y un equipo genial. Manejarlo todo es definitivamente un trabajo de tiempo completo.

What are the things that motivate you to keep expanding DSD?
That’s a great question. Something that goes beyond our personal selfish interests should always drive us forward. The excitement and motivation really comes when you realize you are helping people, making a difference. I strongly believe that through technology and better systems we can help more dentists to do more affordable and better dentistry. Democratizing the rehabilitation of smiles worldwide.

Another thing is that in 2019, one of the DSD company goals is to engage in charity and social projects. The idea is that the more we succeed, the more we give back.

¿Qué es lo que lo motiva para seguir expandiendo al DSD?
¡Estupenda pregunta! Algo que va más allá de nuestros intereses personales y egoístas es lo que siempre debería nos empujar hacia adelante. La emoción y motivación viene cuando te das cuenta de que estas ayudando a la gente, que haces la diferencia. Yo creo firmemente que a través de la tecnología y mejores sistemas podemos ayudar a más dentistas hacer mejor y odontología más económica. Democratizar la rehabilitación de las sonrisas por todo el mundo. Algo más es que en 2019 una de mis metas con la empresa DSD es involucrarme en proyectos sociales y de caridad. La idea detrás esto es que lo más éxito que tenemos, más queremos devolver.
What is that excites you the most about the future of dentistry?
The future in general excites me. I’m an optimist that believes 100% that tomorrow will always be better than yesterday. I always say in my lectures that we live the most exciting moment of dentistry in history. That we are privileged to see the transformations that technology is bringing to our field. Everything is so cool and interesting for me. But again, the most exciting thing of all is allow people to do better through these technologies. Seeing the positive impact of our ideas in people’s life.

¿Qué es lo que más le emociona sobre el futuro de la odontología?
El futuro en general es lo que me emociona. Soy un optimista que cree 100% en lo que mañana será siempre mejor que ayer. Siempre digo en mis conferencias que vivimos el momento más emocionante de la odontología en la historia. Tenemos el privilegio de ver las transformaciones que la tecnología está trayendo en nuestro campo profesional. Todo es tan atractivo e interesante para mí. Sin embargo, lo más emocionante de todos es permitir a la gente hacer mejor a través de esas tecnologías. Ver el impacto positivo de nuestras ideas en las vidas de la gente.

What next technology do you think will revolutionize dentistry the most?
For sure A.I. (artificial intelligence) will bring the next revolution in our field. So many smart companies, including us, investing in tech solutions that will streamline and simplify the use of technology, allowing for better diagnostic and planning procedures.

¿Cómo piensa usted, cuál próxima tecnología revolucionará más la odontología?
Sin duda la A.I. (inteligencia artificial) va a traer la próxima revolución en nuestro campo profesional. Entonces muchas empresas inteligentes, incluyendo la nuestra, están invirtiendo en soluciones tecnológicas para agilizar y simplificar el uso de la tecnología, permitiendo mejor diagnóstico y procedimientos de planificación.

What is your opinion on the role of ethics when it comes to smile design and cosmetic treatments?
Another great question. This is a key point in all my DSD courses. DSD concept became a well known strategy to motivate patient to improve their smiles. That’s why, in the wrong hands and with the wrong intentions it can become dangerous. We always say, ethics above all and the patient in the center of all.

¿Cual es su opinión sobre la ética en el diseño de la sonrisa y los tratamientos cosméticos?
Otra excelente pregunta! Esto es un punto clave en todos mis cursos sobre DSD. El concepto DSD se volvió en una estrategia bien conocida para motivar al paciente para mejorar su sonrisa. Por eso, en las manos equivocadas con intenciones maliciosas puede convertirse en un peligro. Siempre decimos que la ética es sobre todo y el paciente es el centro de todo.

What do you think are the most important characteristics to become successful?
Wow... you only make great questions! I believe the number one thing to become successful is to understand that there is no recipe to become successful. Reading self-help books or books about successful people will not help, in my humble opinion. What works for one, in one certain point in history and place in the world, doesn’t work for others. Another thing is to understand what means success. Being happy, healthy and a good person should be the definition of success, but many times, in our capitalist society, the meaning is distorted unfortunately. Success can be measured by how much money we make and how known we are. People many times work hard for the wrong “success”.

¿Cuales, según usted, son las características más importantes para tener éxito?
Wow... ¡Vosotros hacéis solo estupendas preguntas! Creo que lo primero en tener éxito es entender que no hay una receta para esto. Según mi humilde opinión, leer libros de autoayuda, o libros sobre otras personas exitosas no nos va a ayudar. Lo que funciona para una persona en un cierto punto en la historia y el mundo, no funciona para el otro. Otra cosa es que uno tiene entender qué significa el éxito. Ser feliz, sano y una buena persona debería ser la definición del éxito, pero muchas veces, en nuestra sociedad capitalista, desafortunadamente el significado está torcido. El éxito puede ser medido por la cantidad de dinero que tenemos y lo reconocido que somos. Muchas veces la gente trabaja duro para el éxito equivocado.

We guess after all that’s been said, what is left is that we get to work, find our own passion and hustle towards making it into reality just like Dr. Coachman did. Nothing comes at you if you keep waiting, on the contrary you should be out there looking for it!

Suponemos que después de todo lo que se ha dicho, lo que nos queda es ponernos a trabajar, encontrar nuestra pasión y empujarnos hacia convertirlo en realidad, tal como Dr. Coachman lo hizo. Nadie viene a ti si te quedas esperando, al contrario, deberías salir a buscarlo!
Today’s conservative dentistry primarily involves minimal invasive care. This means that only diseased or lost tooth tissue is replaced by restorative material that is directly bonded to the remaining tooth structure. With adhesive materials, it is no longer necessary to prepare the cavity to provide mechanical retention through such features as dovetails, grooves, undercuts, sharp internal angles in order to retain the filling. Since 1955, with Buonocore’s introduction of the concept of treating enamel to chemically change its surface and hence facilitate the adhesion of filling materials to enamel surfaces, adhesion dentistry has rapidly changed and evolved from no-etch to total-etch (4th and 5th generation) to self-etch (6th, 7th and 8th generation) systems. Currently, bonding to dental substrates is based on three different strategies: 1) etch-and-rinse, 2) self-etch and 3) resin-modified glass-ionomer approach as possessing the unique properties of self-adherence to the tooth tissue. More recently, a new family of dentin adhesives has been introduced (universal or multi-mode adhesives), which may be used either as etch-and-rinse or as self-etch adhesives. [1, 2]

Classification by clinical steps:

1) 3-Step Adhesives
   They require acid etching (enamel and dentin), rinse and dry, use of a priming agent and adhesive as steps to follow before placing the composite. Once the tissues are demineralized, primers must transform the hydrophilic tooth surface into hydrophobic, so that the bonding of adhesive resin is achieved. To do so, agents contain monomers that can be polymerized with hydrophilic properties, dissolved in acetone, water and/or ethanol. These agents carry monomers through the etched tissue. Adhesive systems that have volatile organic compounds such as ethanol and acetone are based on their capacity to remove the remaining water. This makes it possible for the monomers to penetrate the micro porosities caused by the acid etching on the enamel, within the open dentinal tubules and through the nano-spaces in the collagen network of the dentin. Hence full tissue infiltration would be achieved if such tissues have been previously wetted. The priming procedure ends with dispersion, using a light air stream to remove the solvent and leave a shiny and homogeneous layer on the surface. In the third step, the hydrophobic bonding agent is applied, which will chemically bond with the composite resin, applied afterwards. The main advantage of three-step system is their capacity to achieve the necessary bond strength to enamel and dentin. However, there are some drawbacks, for example, the technique is very sensitive given the many clinical steps to follow for their application, and the risk of over-wetting or over-drying the dentin during rinsing and drying after the etching acid has been applied. [3]

2) 2-Step Adhesives
   The primer and the adhesive come together in one package, and the acid etching agent comes separately. The adhesion mechanism of these systems is the same as that of their three-step predecessors but they are more technique-sensitive. These systems require the application of a wet adhesion technique as the priming step does not take place independently. The main drawback is that the acid must be rinsed with water and then dried. The tissue must remain wet in the case of dentin to prevent the demineralized collagen from collapsing. However, it is very difficult for the clinician to reach the optimal degree of moisture. Additionally, the primer now has monomers with acid groups that can act as the acid etching agent, and hence prepare the dental tissue for adhesion. The advantages of these systems are that the rinse stage is eliminated, and that the dentin surface is already prepared to receive the adhesive agent. [4]

3) 1-Step (all-in-one) Adhesives
   These systems combine the three functions: acid etching, priming and adhesion in one stage. Their main advantage is that they are easy to apply and that it is not necessary to rinse the surface: only drying is necessary to uniformly spread the product before photo polymerization. In these adhesive systems, the technique has been simplified, thus making it possible to keep hydrophilic acidic monomers, organic solvents and water in one solution. These components are essential to activate the process of dentin demineralization and the operation of the system. Solvents like acetone or alcohol are kept in the solution, but once dispensed, solvent evaporation begins. This evaporation triggers a separation phase, with the formation of multiple droplets and oxygen inhibition. [5]

Conclusion
Dental adhesives have dramatically changed since their introduction many years ago. Initially, these required a long etching time and were only recommended for etching and bonding of the enamel. Today, dentists have a big variety of aesthetic and functional materials to choose from in restorative dentistry.

References:
24 years old female was complaining about function and aesthetics of her teeth. Before restorative treatment, periodontal, surgical treatments were made. Restorative treatment included removal of caries, change of old restorations, composite veneers on upper anterior teeth. Endodontically treated tooth No. 3 was covered by emax endocrown.

**Materials:**

- GC Essentia Composite Resin (Universal for posterior teeth; Dark enamel and medium dentin shades for anteriors);
- DeTrey Conditioner 36 and Prime&Bond Universal from DentsplySirona;
- Palodent V3 sectional matrix system was efficient in proximal walls providing excellent contact with adjacent teeth.
- SDR (Smart Dentin Replacement) was applied as Dentin Base.
- Enhance finishing discs and Enhance POGO polishing cups with Prisma Gloss polishing paste gave highly pol-
18 year-old male patient complained of dissatisfaction with his smile, especially the spaces between his maxillary anterior teeth.

New tooth positions and restorations were planned with the aid of a waxed dental cast. The palatal silicone index was fabricated from the wax-up model. The restorations were placed with layering technique without any preparations from the natural tooth with the following procedures in order of execution:

- Taking impressions of the upper and lower dental arch.

- Wax-up model was created and the patient was presented with how the final restoration would look.

- Cleaning of the teeth surface with prophylaxis paste.

- Shade selection (for this patient Essentia Light Enamel-LE and Light Dentin-LD shades were used) - Rubber-dam isolation.

- Adhesive procedures (Universal adhesive G-premio Bond was used with etch & rinse mode according to the manufacturer’s recommendation.)

- Building the palatal shells with selected enamel shade

(Light Enamel-LE) using a customized silicone index with assistive equipment (Composite Primer/GC and Sable brush/GC)

- Dentin layering (Light Dentin-LD)

- Final enamel layering and application of Gradia Air Barrier.

- Finishing and polishing

The patient was recalled after one week and again one month later.

Case by: Amir Slezovic. Hacettepe University, Ankara, Turkey.
Tutor: Dr Zeynep Bilge Küttük.
Hacettepe University, Department of Restorative Dentistry. Ankara, Turkey.
Written by: Shukri Mohamud Jama and Amir Slezovic (Turkey).
Proofread by: Silvi Domnori and Shukri Mohamud Jama (Turkey)
Designed by: Abdelrahman Magdy (Egypt)
Pick up lines:

If I told you, you have nice bristles, would you hold them against me?

Baby, if you were a polishing disc, you’d be superfine.

You are so sweet… I am getting a toothache just looking at you.

Are you a dentist?
Cause you are so sweet, I am getting cavities!

Baby, you’re so hot, you denature my proteins...

Somebody call a hygienist! I am lost in your smile, girl!

Hey beautiful, my doctor says I am lacking vitamin U

- Single
- Married
- It’s complicated
- In a Relationship
- In Dentistry

Baby, I’m a dentist! I’m sure to make a good impression.

You’re the candy to my sweet tooth.

Hey I’m a dentist. So maybe this Valentine’s I can fill the cavity in your heart?

As your dentist, I can confirm you’re fit for a crown.

I actually fix smiles for a living, but I’d rather just stare at yours.

Sensitive like the pulp, strong like the enamel. Girl, what more could you want for Valentine’s?

I’d love to get introduced to your lymphocytes T,
so I can forever remain in your memory.

I will love you like caries loves fissures,
Bond with you like metal and porcelain,
Be the adhesive to your resin...
So will you be my Valentine?
Love Letters:

Paris is the city of love! I hope I will romance you there to the NEO of Slovenia
Beloved Abanob, can’t wait to share a croissant with you ;)
Mustafa, Paris is a city of love! I hope you will find me there
My beloved Alexa, can’t wait to finally meet you and take a photo together on the Eiffel Tower!

Dental Song Lyrics

-- My Immortal – Evanescence --

Patient: “Ulcers won’t seem to heal…Tooth pain is just too real.. Plaque’s just so much, toothpaste cannot erase.”

Dentist: “Don’t you cry, I’ll wipe away all the bacteria, Don’t you scream, there’s nothing for you to fear”
See you didn’t brush for all of these years, That’s why you have….CAVITIES”

-- Sexy and I know it – LMFAO –

Patient stops by, He be tellin’ me his pain’s so high, I tell him take a seat, You prolly have some cavity, Gimme dem cotton rolls, This guy’s saliva’s outta control, Acid and adhesive yo, Polimerize n’ drop the Tetric N-Flow, yeah Hand me the body, (composite shade) Lemme shape dat body, Just look at that body, Enamel n’ I’m out! (x2) When I’m done with that tooth, yeah, this is what you’ll see, (tooth vs filling picture) You can’t tell the difference, that’s impeccable me, I got passion in my hands and I ain’t afraid to use it, use it, use it I fill dem teeth solid but don’t abuse it!

So, we gave this a shot, if you have any ideas feel free to send them at loeb@iads
Abstract

Introduction: The aim of this study is to determine the prevalence of oral health satisfaction among students of the university of Khartoum in 2018.

Methods: A cross-sectional study was conducted on 378 students from the university of Khartoum. A structured close ended questionnaire was used to identify the students’ score about the level of satisfaction, cause of this dissatisfaction and the student’s response toward it. The questionnaire contained questions about age, gender, faculty, self-reported tooth appearance, effect of the appearance of the different aspects of life and seeking treatment.

Results: The age of the students varies from 17 to 30 years old. Of the students who answered the questionnaire 31.7% were males and 68.1% were females. 30% of the participants felt embarrassed by the appearance of their teeth while 67.5% did not feel embarrassed by the appearance of their teeth. The most prevalent cause of dissatisfaction was found to be due to discoloration of the teeth/dental caries. Half of the participants did not seek treatment while 44% had previously sought treatment. The result of this study showed that the satisfaction with the dental appearance has no association with the gender.

Conclusion: Through this cross-sectional study conducted on 378 students, we concluded that more than half of the students were satisfied with their dental appearance. However, the rest of them were not satisfied mostly due to dental caries or discoloration; which are considered an aesthetic cause that affects the appearance. More than half of them did not seek treatment for various causes.

Recommendations: Strategies should be formulated based on evidences, to improve the seeking of treatment and the awareness of oral health; by providing campaigns for simple dental knowledge in university of Khartoum.

Keywords: Satisfaction, health, oral.
Introduction
Beauty, especially in this century, is an important issue among many societies. [1,2] and usually what remains constant is the general appearance of a smile. [3]. A good image of the teeth does not only extend towards the appearance but also includes the health of the teeth and the manner one preserves them. [4] The appearance of one’s teeth has invariably been considered vital in shaping one’s temperament and the way one acts. [5,7] The dental appearance, especially in regards to the color of the teeth, influences ones first impression of another person as well as the relationship between them. [12] Unhealthy dental appearance, like having broken teeth, irregular tooth alignments, or apparent caries, has a powerful impact on social judgment as it has an effect on the facial attractiveness. [13,14] The aim of this study is to assess the prevalence of dental oral health satisfaction among students of University of Khartoum, determine the causes of dissatisfaction, explore patient’s responses towards it and to determine the difference across genders.

Material and Methods
This study is a cross sectional university based-research, conducted in the University of Khartoum which has 23,400 students, in Khartoum state (Capital of Sudan) Of the existing 4 campuses and 19 Faculties we chose 4 Faculties: Faculty of biology sciences, Faculty of public and environmental health, from Faculty of forestry and Faculty of education and 7 batches by simple randomization. Written consent was obtained from each participating person.
A close ended questionnaire was developed and tested in University of Khartoum before data collection.

The data was presented in numbers and percentages. The results were analyzed by differences between percentages and simple correlation taking P<0.05 as the limit of significance, using the SPSS (Statistical Package for the Social Sciences) program version 23.

Result
The study was conducted on 378 students from university of Khartoum by means of a questionnaire. The students’ average age was 20.71±2.405 (SD=2.405). 31.7% of the participants were males and 68.1% were females. Twenty nine percent of the participants were from the faculty of public and environmental health, 22.75% from the faculty education, 22.22% from the faculty of science of biology, 14.81% from faculty of forestry and the rest of them from faculty of science biology – chemistry department.
More than half of the participants were from the first class, 19.58% of the participants were from the third class, 14.55% of the participants from the fifth class and the rest of them from the fourth class.

Most of the participants who answered Yes, said this feeling started at school, while 31.15% said that the feeling started at university and 19.67% of the participants said it started at childhood.

Figure (1) shows the prevalence of embarrassment feeling.
This study has investigated the level of satisfaction of the student’s oral health. The percentage of students who were satisfied with their dental appearance found in this study was 67.5% while in a previous study conducted in Saudi Arabia, 50% of the population was satisfied with the appearance of their teeth [16].

Other studies showed that 57.3% of the population was satisfied in Turkey, 47.2% in Malaysia, 65.5% in Jordan, 65% in Palestine and 76% in the United Kingdom [2,7,8,16]. The high percentage in this study may be related to the individual perception of the oral health in Sudan, also affected by the low knowledge of dental information and the hard circumstances, which make the appearance and health of their oral the least important thing to care about.

This could be attributed to the use of different measures to evaluate satisfaction, cultural factors, religion, and racial factors as well as to the fact that dental appearance is affected by individual characteristics, compliance, or unrealistic expectations [17].

The result of this study showed that the satisfaction with the dental appearance has no association with the gender. In contrast to Turkey, where the gender and satisfaction with dental appearance showed significant relation [2]. This may reflect that the demand of satisfaction increases with the increment of life conditions.

The most frequent cause of dissatisfaction in this study is discoloration of the tooth (22.97%). This may be due to students' high consumption of soft drinks, coffee and tea with low awareness regarding the importance of brushing the teeth at night. It may also be due to fluorosis which is considered a significant problem in Sudan due to inadequate fluoride content in drinking water or it could also be due to smoking.

This, followed by protrusion of the lower and upper jaw, spacing and crowding all of which need orthodontic treatment can be prevented by early dental office visit which is not prevalent in Sudan due to low income and poor economic status which makes dental care a sort of luxury. Finally, we found calculus build-up and consequently loss of teeth, probably due to periodontal disease; which may be prevented by oral hygiene instructions and regular periodontal scaling. This intervention is also not prevalent due high prices and low income.

While in a Turkish study (56.2%) were not happy with the color of their teeth, (32.3%), regarded their teeth as poorly aligned, (26.4%), as crowded and (23.4%) protruded. This is considered as an agreement between the two studies [2].

Half of the respondents said that the start of this embarrassment was during school, followed by university and this means that students cannot know the fault in their oral health by herself/himself unless someone points it out to them. This may be due to lack of dental knowledge and it could be considered as child neglect because of its bad influence on the child's self-esteem and how it limits his/her life and thus the productivity in his social and work life.

Moreover, the high percentage of respondents that said (the problem doesn’t affect their life) may also indicate the society’s poor knowledge of dental oral health for not pointing it out.
Some people said it affects their social life and their self-esteem which may decrease the productivity and quality of life of the person.

The percentage of respondents who we were not satisfied with their oral health and didn’t seek treatment the percentage was very high while the percentage of those seeking treatment was relatively low.

Finally, as a consequent of the question about what they will do about their dental problem, twenty nine percent of the respondents answered that they are planning to have treatment followed by financial reasons that prevent them from having the proper treatment, including bad health insurance and bad economic conditions.

Another reason was lack of time which may be attributed to them being students not having time for check-up for “unnecessary situations” as the dental treatment is considered in Sudan. 15% said that they have no desire in receiving the treatment which maybe because of traditional reasons or maybe because of financial reasons that they are ashamed of.

Of the respondents that sought treatment about 89% of them went to the dentist while the rest of them tried other methods to treat their problem such as natural remedies and that is normal because Sudan is a developing country and people believe in natural remedies more than doctors, although that may worsen the situation instead of solving it.

In conclusion, we found that more than half of the students were satisfied with their dental appearance. However, the rest of them are not satisfied, mostly due to dental caries or discoloration which is considered an aesthetic cause and affects the appearance. More than half of them did not seek treatment for various causes.

Strategies should be formulated based on evidences to improve the seeking of treatment and awareness of oral health; by providing campaigns for simple dental knowledge in the university of Khartoum.

Acknowledgements

I thank all my family members and friends for morally and emotionally supporting me through this project. There is no conflict of interest. Written consent was obtained from each participating person.

References

In 2016, an African dentist ‘Rania Younes’ decided to step out of the homeland and go for a journey of life making, carrying her dreams and motivation. Dr. Rania traveled to Malawi and started her work as a volunteer to help the refugees.

“I used to take part in the local campaigns that was powered by my university in Egypt, and I noticed that most people have a background about the medical field and how to look after their health, even those who are uneducated, we can target them by our local campaigns, but there were other countries, in the deepest part of Africa, a man could die without seeing a doctor even once, so I felt that I must do something, and dentistry was my skill, so I decided to subject my skills to help those people.”

Dr. Rania took part in the UNCHR-campaign in Malawi for treating the refugees who escaped their countries because of the civil wars.

“In my journey to Malawi, I was part of a team of 4 people, there were 3 from England, and I was the only one from Africa, people there welcomed us and were too friendly.”

After 2 years, dr. Rania went for another journey to the islands of Uganda, she helped an English doctor who built a medical center to treat those who suffer from the lack of medical care.

“After my journey to Malawi, I felt that I was a new person, I liked that feeling that I couldn’t describe, so when I got another chance to repeat my journey, I didn’t think twice.”

Dr. Rania left her home behind and went to discover new horizons, and for sure when you go for such a journey, you will never be the same person!

“I was shocked but the nature of Africa made me feel as if I was in a Lion King scene, I noticed how the streets were too clean and how people were too organized even though most of them were uneducated.”

“Most of us always look for money, good food, a good movie to watch in the weekend, but I found that there are many things that are much more important!”

And for sure, volunteering is a duty that we all need to get into, regarding our college degree, our skills or our personality, each one of us has something unique to give to humanity.

In the same land we live in, there are people who their only dream is to find a shelter to protect them from the cold nights of winter and a small amount of food to beat their hunger, they didn’t choose to be born, they didn’t choose to be poor, they only ask for what’s said to be their given rights.

Being involved with people, hearing from them and even sharing their food, dr. Rania learned a lot of their habits and their way of living.
Teeth Whitening

Introduction

Being surrounded by pearly white Hollywood smiles everywhere, it’s no wonder the market is flooded by teeth whitening products. As (future) dentists it’s expected of us to be familiar with them. In this article, we go through some of the whitening products.

There is a variety of reasons why our teeth aren’t as white as we would like them to be, though we can categorize them into two main groups. Intrinsic staining can be attributed to factors such as genetics, increasing age (enamel wears off over time and exposes underlying yellower dentin), antibiotics, fluorosis, developmental disorders and dental restorations. Extrinsic staining is mostly due to environmental factors including tobacco smoking, pigments in beverages and foods, antibiotics, and metals such as iron or copper. Before whitening it’s important to identify the reason for staining and to record the shade with a shade guide and take picture so we can keep track. (1)

How does it work?

Tooth whitening is defined as any process that lightens the color of a tooth, which can be accomplished by removing the stain physically or a chemical reaction to lighten the tooth color. In this article, we are focusing on tooth bleaching which is a chemical degradation of the chromogens. The active ingredient in most whitening products is hydrogen peroxide (H2O2), often also in the form of other oxygen-releasing agents such as carbamide peroxide or sodium perborate. They break down in contact with water to release hydrogen peroxide. At-home systems usually contain 3-20% and in-office systems contain 15-43% peroxide. The whitening effect is due to products of breakdown of hydrogen peroxide, which react with the chromogens. Free-radical and redox reactions are responsible for splitting those long-chain organic molecules into smaller molecules which are usually lighter, resulting in lighter color of teeth. The final products of the reaction are carbon and water and are released together with nascent oxygen. Application of heat or light can accelerate the process, but they may also be harmful to the pulp. The longer the bleaching solution is kept on teeth, the stronger the whitening effect is. It also depends on the concentration of the bleaching materials; higher concentration produces a lighter effect. In case of higher concentration, bleach should be applied for a shorter time, otherwise it will dehydrate the tooth and cause sensitivity. (1,3)

Professional teeth whitening

Post endo tooth whitening

A discolored non-vital tooth in the esthetic region is always a challenge for the dentist in terms of deciding how to make it esthetically match the other teeth. Probably the most simple, safe, affordable and effective way is the walking bleach technique. It is indicated in cases when the tooth is discolored due to penetration of blood or products of degradation of the pulp or due to materials for root canal obturation. The first step is clinical and radiographic evaluation of the tooth. After isolating the tooth with a rubber dam, we remove the restoration from the palatal side and the first few millimeters of obturation material, just below the gingival margin. The next important step is to protect the bottom of the cavity and the cervical part of the canal with cement base, to prevent leakage of bleaching agents and to avoid external root resorption. Bleaching agent (35% hydrogen peroxide for example) is packed into the pulp chamber and sealed with temporary filling. After 3-5
Whitening at home

The terms “whitening” and “bleaching” are often used interchangeably, which can lead to confusion when interpreting the literature. According to the US Food and Drug Administration (FDA), whitening restores teeth to their natural tooth color, whereas bleaching makes teeth lighter than their natural color. However, the following products are better recognized by their commercial names as whitening trays/pens/strips instead of bleaching. Therefore, to avoid confusion, now that you know the difference we will proceed with referring to them by their commercial names.

Teeth Whitening Trays:

Home bleaching using trays involves going to the dentist, getting a set of custom-made trays for your teeth, and then applying the bleaching agent into those trays to whiten your teeth at home. It has the advantage of reducing clinical time by the dentist and it also has a relatively low cost. Yet, it also has drawbacks such as the treatment taking weeks, which is longer than some patients would prefer, and the responsibility of wearing the trays at home.

How is it done?

After an examination to make sure if this is a suitable method, pictures are taken and the dentist takes an (alginette) impression. A custom-made tray is made by a dental technician.

A recall visit will be done to try the tray after it has been made and the dentist will show how to apply the bleach into the tray and provide written instructions as the following:

*It is important to brush and floss before starting the home bleaching procedure.*

The Procedure: Open the syringe, and then apply it on the tray. Only a small amount should be applied to minimize the amount of excess bleach used. The bleach should only be placed on the outside surface of the tooth, and only on those teeth that you want to bleach. The tray is seated with the bleach on the inside, and the excess is removed with a wet tissue. Clean your tray well following each application with a brush and warm water.

Revisiting the dentist after 10 days to 2 weeks is very important for the follow up; to evaluate the treatment.

The most common side effects are tooth sensitivity and discomfort in the gums, which are reported by about half the people who completed home bleaching. Some even report improperly fitting bleaching trays. (5,6)

Teeth Whitening Pens:

Whitening pens are the right choice for the patients who are looking for quick and convenient teeth whitening. They are very simple to work with and some products claim to deliver results in just two days. After brushing the teeth thoroughly, gel from the pen is applied as a thin layer to each tooth’s surface, making sure that the entire surface is covered with the whitening gel. It’s important not to rinse, because the product needs to stay on the teeth for a certain amount of time in order for it to work; which depends on the brand, for the most of them it’s 20 to 30 minutes. (8)

Teeth Whitening strips:

Whitening strips are often preferred because of their convenience: they can be taken anywhere and need to be worn for only five to thirty minutes. The strips, which are coated with the bleaching agent, are simply applied over the top of teeth and the results can be seen in about seven days.

Although whitening strips can brighten teeth, in some circumstances it’s not a solution for everyone. Like other bleaching methods, whitening strips will not alter the shade of dental restorations nor will they treat discoloration that is a result of tooth trauma, antibiotic use, tooth decay or imperfections in the enamel. As a normal part of the aging process our teeth can change color over time; surface stains can benefit from these whitening methods but only if the teeth and gums are in a healthy condition to begin with. (7)

Things To Be Aware Of When Using Whitening Strips

- Because strips do not cover the entire tooth surface you may experience uneven whitening.
- Bleaching agents could cause damage to gums; you may experience irritation, inflammation or discoloration of the soft tissue.
- Overuse can result in erosion of the tooth enamel and cause permanent tooth damage. Some will be more sensitive than others.
- Immediately after treatment you may see white spots appear on the surface. This is a result of dehydration of the tooth enamel. It's not harmful and it will go away.
- You may experience excess saliva or foaming while wearing the whitening strips, this is a normal reaction to the peroxide coming in contact with your saliva.
Alternatives to teeth whitening

There are some other ways to achieve a brighter smile for those who don’t find any of the methods mentioned above suitable; useful also for those who already had their teeth whitened and want to keep them this way. First of all, good oral hygiene at home and regular visits to the dentist or dental hygienist for professional teeth cleaning, including removal of calculus and external staining, are a must. Secondly, don’t smoke and avoid food and drinks that cause teeth staining. Some of those are coffee, tea, berries, curry, red wine, beets, balsamic vinegar, tomato sauce and soda. Acidic food and drinks soften the enamel and make it more prone to staining. Using a straw is also a way to keep stain-causing dyes away from teeth. The last advice is mainly for the ladies — wear red lipstick. Opt for cool-toned red lipsticks with blue or purple undertones, which cancel out yellow hues on teeth. On the other hand, a less conservative method to having whiter teeth are veneers or crowns. They are recommended for discoloration caused by metal dental restoration, where bleaching isn’t effective, and for severe discolorations due to trauma, antibiotics and enamel imperfections. (2,3)

Written by: Ziva Antolin, Silvi Domnori, Mohamed A.M. Ahmed
Proofread by: Silvi Domnori, Shukri M. Jama
Designed by: Abdelrahman Magdy

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