Reducing plastic footprint with zero-waste toothpaste

By Monique Mehler, DTI

LEIPZIG, Germany: The climate change caused by human influences—such as littering and over-consumption of non-biodegradable waste products—is a reality that concerns all of us. This is why dental care should not be exempt from environmental awareness. Bamboo toothbrushes, for example, have moved into many bathrooms in the last couple of years, since they are now more easily obtainable in most chain pharmacies. But what about sustainable toothpaste?

Sustainability in demand

The new generation is constantly on the lookout for environmentally friendly alternatives, ideally without, or with more sustainable packaging. That means thoughtfully designed packaging which is compostable or reusable.

Home-made toothpaste probably constitutes the easiest way to achieve a zero-waste oral healthcare routine. For this purpose, the Internet offers various recipes. Understandably, not everyone has the time or energy to experiment with ingredients, consistencies and flavours. This does not mean, though, that convenience and sustainability have to be mutually exclusive.

The environmental impact of disposable plastic

In general, plastic toothpaste tubes contribute to a throwaway society. It is estimated that about one billion toothpaste tubes are sent to landfill sites every year and it can take hundreds of years before they even start to break down. On top of that, the tubes that end up there are filled with ingredients like sodium lauryl sulphate, triclosan, artificial dyes and preservatives that can be harmful to our health and our earth.

According to an article by Ian Johnston, environment correspondent of the Independent, “79 per cent of the plastic produced over the last 70 years has been thrown away, either into landfill sites or into the general environment. Just 9 per cent is recycled with the rest incinerated.” He continued: “With more than 8 million tonnes going into the oceans every year, it is estimated there will be more plastic than fish by 2050 and 99 per cent of all the sealbirds on the planet will have consumed some. It is thought the sea now contains some 51 trillion microplastic particles—500 times more than stars in our galaxy.”

What are the alternatives?

Thinking about the unimaginable amount of waste that is being produced by such a standard routine as toothbrushing alone can be quite daunting. Luckily, many brands from around the world have recognised that plastic packaging is not the way forward and offer more sustainable alternatives. Toothpaste now comes in the form of powder or tablets, for example, without chemical additives and in glass jars with metal lids which are reusable and recyclable.

The list below includes a small range of companies and information on how their products are packaged:

- Georganics (glass jar, UK)
- Bite (glass jar, US)
- Denttabs (paper laminated foil made from corn starch, Germany)
- Davids (metal tube, US)
- Lamantia (cardboard box, France)
- Zero Waste Beauty (glass jar, Australia)

But what about shipping all that glass?

The plastic industry uses the argument that shipping glass is more expensive than shipping plastic to sell itself as eco-friendly. Some companies, like Bite from the US, have thought of a way to provide their customers with a sustainable subscription model. For Bite, this means that the first order will include the product in its original packaging, a glass jar with a metal lid. Then all refill orders are sent in compostable and marine-degradable biomaterials. Orders are sent via already existing mail routes. This may take a little more time but reduces the company’s carbon footprint, which is the ultimate goal of all sustainable oral healthcare companies.

And of course, there is always the possibility of buying toothpaste without packaging in bulk and zero-waste stores. The independent think tank and open knowledge platform Bepakt has created an online index which provides a list of packaging-free grocery stores and supermarkets around the world.

The verdict

Plastic production, consumption and disposal contribute to the earth’s pollution as The Independent article explained. With so many options on the market today, there is really no excuse not to make one or two small but impactful changes.

Vital tooth bleaching has adverse effects on oral health, study concludes

By DTI

DUNEDIN, New Zealand: A newly published systematic review has revealed that, while tooth bleaching treatment yields positive changes for young participants in aesthetic-related areas, such as smiling, laughing and showing teeth without embarrassment, it causes tooth sensitivity and can affect quality of life and thus oral health.

Tooth discoloration is common these days and has resulted in the widespread popularity of tooth bleaching treatment. Hydrogen peroxide and carbamide peroxide are the bleaching agents most often used in the whitening processes.

Despite the benefits of tooth bleaching, its side effects are of concern to dentists and patients. Therefore, scientists carried out a systematic review and meta-analysis of studies that had previously investigated the changes in perceived quality of life after vital tooth bleaching. In total, 313 studies were identified, but only four met the inclusion criteria. Two of them showed a statistically significant improvement, one showed worsening and the last one was inconclusive.

Within the studies, there was a pattern of improvement in aesthetic-related domains, such as smiling and psychological discomfort, and deterioration in function-related domains, such as hygiene and pain.

The authors concluded that tooth bleaching was not associated with improvements in the overall oral health-related quality of life (OHQoL) in these heterogeneous populations. The dental procedure appeared to impact some domains of OHQoL positively and some negatively, indicating the need for clinicians to treat patients receiving whitening treatment with the utmost care in order to obtain the best results in aesthetics with minimal side effects. The researchers also noted that clinicians should be aware of the potential impact caused by tooth sensitivity and either offer instruction to prevent it or recommend the right treatment to reduce its impact.

The study titled “Vital bleaching and oral-health-related quality of life in adults: A systematic review and meta-analysis”, was published in the May 2019 issue of the Journal of Dentistry.
Interview: “For most people, toothbrushing is an unconscious action. iTOP changes this.”

By Kasper Muschke, DTI

Although toothbrushing is the most decisive factor in preventing oral disease, dental professionals know how to brush perfectly. After earlier working as a dental technician and also as a dancer, Dr Fabio Angelini qualified as a dental hygienist and is now teaching internationally as an instructor in CURADEN’s iTOP programme. In particular trained oral prophylaxis (iTOP) is an interactive programme that teaches dental students and professionals perfect oral hygiene habits, so that, if applied, they can train their patients to achieve oral health that will last a lifetime.

Dr Angelini, what is iTOP and what does it individually trained oral prophylaxis mean?

In the iTOP programme, dental professionals become a personal coach to their patients, guiding them and teaching them how to keep their gingiva and teeth clean and perfectly white. From the very start of the course, the correct techniques on their own and with conscious thought. It’s called ‘individual’ because, for most people, toothbrushing is a purely unconscious action. iTOP changes this. The word ‘individual’ is very important to iTOP, as dental professionals become a personal coach to their patients literally taken by the hand and individually instructed on how to brush their teeth perfectly.

Is correct brushing a skill that is often overlooked?

When clinicians start their careers, they already have many years of studying behind them and have been taught the best brush techniques, how to place an implant in the best way and so on. However, what they have never been taught is how to brush correctly, although it is the most fundamental skill of all to prevent oral disease. More often than not, we have been doing it the same way since we were just old enough to hold a toothbrush. It is often just an automatic movement and we have never learnt exactly how to brush. In reality, however, brushing teeth is an art; it’s a science. Brushing teeth properly, efficiently and atraumatically is not easy, nor is it something you should do without thinking.

How can iTOP help patients and dental professionals?

I TOP helps patients because dental professionals can offer them the knowledge which they themselves have gained at a seminar. They can teach patients to centralize their focus on their teeth and gingivae and how to do this in the most effective and atraumatic way. Patients who incorporate the techniques taught at an iTOP seminar into their daily brushing routine can expect to achieve optimal oral health. The tools and techniques used at an iTOP seminar are really a gateway to lifelong oral health, which in turn offers benefits to the whole body. For dental professionals, the acquired iTOP skills can play a key role in their daily practice, for instance, as an essential part of therapy after oral surgery or periodontal treatment. iTOP gives professionals the skills to work to the best of their ability, and it is really personal teaching which allows clinicians to ally with their patients in order to obtain and maintain good oral health.

How strong is iTOP currently in Italy?

In Italy, the interest of dental professionals in iTOP is growing day by day. There are some professionals who have attended a seminar in the past but many are new to the concept and have only just heard about it. Moreover, iTOP is gaining importance at universities too, as there are more and more students participating in the seminars or student camps that take place all around Europe and South America. For dental students these camps are a really good way to get in touch with their peers from other countries, exchange experiences, get to know a new culture or language, network, learn all about prevention and, of course, have fun. It’s a unique opportunity for students and ideal as an addition to the many projects organised by universities.

What is touch to touch?

Touch to teach is the most important aspect of iTOP. In front of an instructor, you take participants by the hand and let them feel or discover a specific movement or sensation. As Dr Jim Sedlak, the dentist who invented the iTOP programme, once said: “It is impossible to understand how to brush your teeth from reading a book.” What this means is that theory is not enough to develop the best skills. You have to do it yourself, practice, have an instructor correct you and try again. Because of touch to teach, participants have the opportunity to truly learn and experience the sensation of having the best tools and techniques used at a CS 5400 working together in the sulcus. For the professionals we teach, it is an exciting tactile experience and they can teach their patients in turn. If one shows them how it is really done, then how can they achieve the best oral hygiene?

What is the main lesson partici- pants take home from an iTOP seminar?

The greatest lesson that students take from the seminar is that on their patients’ long-term oral health and how the iTOP skills can be used right away. From the very next day, patients can put prevention into practice and see how a change in their oral hygiene habits will help to improve their own oral health.

For more info on an iTOP seminar near you, visit: www.iTOP-dental.com/en/seminars.

New evidence confirms long-term benefits of electric toothbrush use

By Oral-B

SCHWALBACH, Germany/GERM- SWALD, Germany: A new study has shown that the long-term use of an electric toothbrush shows progres- sion of periodontal disease and helps to prevent tooth loss. As indicated by an 11-year observational study, electric toothbrush users demonstrate 20 per cent less tooth loss than manual toothbrush users do. For one market leader in electric toothbrushes worldwide, Oral-B, the results confirm the need to improve periodontal health by plaque removal.

Using data on 2,193 subjects from the Study of Health in Pomerania and the type of toothbrush as exposure variable, periodontal status, caries and tooth loss were analysed by researchers from the University of Greifswald in Germany. Overall, the study found that the use of power toothbrushes improves periodontal health by plaque removal, resulting in reduced pocket depth and clinical attachment loss. Subsequently, those users were found to have 20 per cent more teeth present than manual toothbrush users do. Thus, the researchers concluded that widespread usage of powered toothbrushes can be recommended. Besides the oral health benefits of power toothbrushes, their rising popularity is also indicated by the findings. At the start of the 11-year study, 96 per cent of the participants used an electric toothbrush. Towards the end, the figure had grown to 98 per cent. This trend is supported by the fact that the power brush market grew by 6.6 per cent from 2012 to 2018.

Dr Anja Carina Borer, Head of Professional and Scientific Relations for Europe, the Middle East and Africa at Oral-B, said in a statement: “We are very happy that our efforts to promote electric toothbrushing as a way to improve oral and especially gum health are now also scientifically supported in the long term. It proves what over 1,910 clinical studies have already indicated and will further drive the trend among patients to choose superior electric toothbrushes with oscillating-rotating technology.”

As the market leader in this segment, Oral-B links the positive results to its proven oscillating-rotating technology. Its effectiveness stems from movements in 3D and a small, round brush head. This makes it possible to remove up to 100 per cent more plaque in even hard-to-reach areas. For the third time, its superiority over manual toothbrushes was confirmed by the renowned Cochran organisation—an international, independent institute which reviewed 31 clinical studies with 4,614 participants. The results confirmed that oscillating rotating electric toothbrushes reduce plaque more effectively, improving oral and especially gingival health demonstratively, both in the short and in the long term compared with manual toothbrushes.

The study titled “Long-term im- pact of powered toothbrush on oral health: 11-year cohort study”, was published online on 22 May 2019 in the Journal of Clinical Periodontol- ogy: ahead of inclusion in an issue.
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