Reducing plastic footprint with zero-waste toothpaste

By Monique Mehler, DTI

The environmental impact of disposable toothpastes

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, “97 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 seabirds 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 forms 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)
- Davids (metal tube, US)
- Lamanuza (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, 73 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 (OHRQoL) in these heterogeneous populations. The dental procedure appeared to impact some domains of OHRQoL 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 instructions 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.
New evidence confirms long-term benefits of electric toothbrush use

By Oral-B

SCHWAIBACH, Germany/GEF/SWALD, Germany: A new study has shown that the long-term use of an electric toothbrush slows progression 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 confirmed that it is time to improve periodontal health by plaque removal.

Using data on 2,819 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, 10 per cent of the participants used an electric toothbrush. Towards the end, the figure had risen to 27 per cent. This trend is supported by the fact that the power brush market grew by 6.6 per cent from 2012 to 2016. Dr Anja Carina Boer, Head of ProOrtho Europe, 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 150 clinical studies have already indicated and will further drive the trend among patients to choose superior electric toothbrushes with oscillating-rotating technology.”

At the marketing level in this segment, Oral-B links the positive results to its proven oscillating-rotating technology. Its effectiveness stems from movements in 3 D 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 Cochrane 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 demonstrably, both in the short and in the long term compared with manual toothbrushes.

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