Staining susceptibility tested

By DTI

BANGKOK, Thailand/TOKYO, Japan: With the development of new materials and technology in dentistry, expectations for durable and aesthetically pleasing restorations are ever increasing. In a recent study, researchers from Thailand and Japan investigated how sensitive various restorative materials were to discoloration from coffee.

Just like natural teeth, restorative materials are susceptible to discoloration from certain foods and beverages with high staining properties, including coffee, tea and red wine. In order to avoid discoloration over time, surface quality is thus essential for the success of restorative treatments.

New CAD/CAM composite resin blocks are industrially polymerised under standardised parameters at high temperature and pressure to achieve optimum properties at the microstructural level and a high degree of conversion. As a result, material characteristics have improved compared with direct restorative composite resin.

In the study, researchers from the Tokyo Medical and Dental University in Japan and the Chulalongkorn University in Bangkok aimed to evaluate how modern composite resin block materials developed for CAD/CAM systems react to coffee exposure compared with conventional resin materials.

The researchers measured the change in colour in eight CAD/CAM blocks, including five composite resin blocks (Block HC, SHOFU; CERASMART; GC; GRADIA Block, GC; K2R-CAD Hybrid Resin Block, Yamamoto Precious Metal; Lava Ultimate, 3M ESPE), one hybrid ceramic block (VITA ENAMIC, VITA Zahnfabrik), one PMMA block (Telio CAD, Ivoclar Vivadent) and one zirconia/ceramic block (VITAROCKS Mark II, VITA Zahnfabrik), and four conventional composite resins.

Coffee is one of the world’s most popular beverages; however, it is known for its tooth staining properties. A study has now tested how various CAD/CAM materials reacted to immersion in coffee.

Higher tooth loss risk

Elderly Japanese residents who were forced out of their homes by the 2011 earthquake and tsunami disaster may be at greater risk of tooth loss, a survey by Tokoh University has found. Factors negatively affecting dental health were stress, financial problems, dietary changes and a lack of opportunities to brush teeth, it found.

Dental care in MS patients

Researchers from Queensland have found that most multiple sclerosis patients perceived dental care in Australia as inflexible and not tailored to individual experiences of the disease. Among other problems, patients reported experiencing difficulties accessing dental care, including transport and financial barriers.

Artificial enamel

Aiming to create a material that is able to withstand repeated stresses, such as unavoidable vibrations like those on airplanes, which cause objects with rigid structures to age and crack, researchers at the University of Michigan in the US have mimicked the structure of tooth enamel. They replicated the material by sequential growth of a polymeric matrix around these. Using computer modelling, the researchers confirmed that the structure of the synthetic enamel acted like natural enamel, diffusing the forces from vibrations through the interaction between the nanowires and polymer. Despite these positive results, automation of the production of the material will be challenging, they said.

Detecting bacteria

LONDON, UK: A new method of detecting bacteria during root canal therapy could eradicate the need for follow-up appointments and prevent treatment failure, according to a new study. The SafeRoot device, created by a team of researchers at King’s College London Dental Institute, enables rapid bacterial detection inside the root canal through fluorescent staining and microspectroscopy, ensuring the procedure has been successful and reducing the need for tooth extraction or surgical intervention. During trials, the research team was able to successfully detect bacterial cells after just 3 minutes of testing.

“SafeRoot will reduce the time for root canal completion and will increase the success rate of treatments by letting the dentist know when it’s safe to proceed with filling the tooth,” said Professor of Biomaterials and Restorative Dentistry Tim Watson from the Dental Institute.
Survey: Misconceptions about oral health practices revealed

By DTI

GENEVA, Switzerland: The results of an online survey, carried out in 12 countries for World Oral Health Day (WOHD) among 12,849 adults, have indicated a significant gap between what people believe to be good dental hygiene habits versus what they actually do and what is recommended by oral health experts.

In eight of the countries surveyed, 50 per cent or more of the respondents said they thought it is important to brush one’s teeth straight after every main meal. This incorrect oral health practice was worst in Brazil, Mexico, Egypt and Poland (64, 62 and 60 per cent, respectively). FDI recommends waiting at least 30 minutes after eating to brush one’s teeth to avoid weakening tooth enamel.

“These survey results highlight an alarming discrepancy between knowledge and actual good oral health practices,” said FDI President Dr Patrick Hescot. “We want everyone to take control of their oral health this World Oral Health Day and understand that by adopting good oral hygiene habits, avoiding risk factors and having a regular dental check-up, they can help protect their mouths. A healthy mouth allows us to speak, smile, smell, taste, chew, swallow and convey a range of emotions with confidence and without pain, discomfort and disease. Good oral health matters and translates to a better quality of life.”

The respondents in the majority of the countries surveyed incorrectly believed that rinsing one’s mouth with water after brushing is important. This myth was found to be the greatest among the participants from Brazil, South Africa, Mexico, India and Canada (77, 75, 73, 67 and 67 per cent, respectively). It is actually recommended not to rinse with water straight after brushing to allow maximum exposure to fluoride, which will optimise the preventative effects.

Nearly half of the respondents surveyed in India, South Africa, Brazil and Poland (52, 49 and 42 per cent, respectively) thought that drinking fruit juice rather than fizzy drinks was better for good oral health. Fruit juice, however, can also be high in sugar, which causes dental caries. FDI recommends keeping consumption of sugary beverages to a minimum as part of a healthy, balanced diet.

Dr Edoardo Cavalle, WOHD Task Team Chair, stated: “Understanding good oral health practices and adopting them early in life will help to maintain optimal oral health into old age and ensure you live a long life free from physical pain and often emotional suffering caused by oral disease.”

Other key findings on oral health practices included the following:
• Seventy-seven per cent of people surveyed agreed that visiting a dentist once per year is a good oral health practice, but only 32 per cent actually did so.
• Only 28 per cent of respondents identified drinking alcohol in moderation as important for good oral health.

The survey was carried out by YouGov on behalf of FDI. It was undertaken between 20 and 31 January 2017. The figures were weighted and are nationally representative of all adults aged 18 and older in Great Britain (3,000), the US (1,245), Australia (1,018), New Zealand (1,053), Japan (1,006) and Canada (1,002), nationally representative, based around areas, of all adults aged 18 and older in Brazil (1,000), Mexico (1,006), Poland (1,004) and South Africa (190), representative of all adults aged 18 and older living in urban areas in India (1,011) and Egypt (1,002).

WOHD is celebrated annually on 20 March. It was initiated in 2015 by FDI to raise worldwide awareness of the prevention and control of oral disease. WOHD is supported by global partners, including the World Health Organization (WHO), National Dental Associations and the World Academy of Restorative Dentistry (WARDA). The study, titled “Discoloration of CAD/CAM blocks and conventional restoration caused by coffee”, was published in the February issue of the Restorative Dentistry and Endodontology journal.
**Australian Child Dental Benefits Schedule remains unchanged**

By DTI

CANBERRA, Australia: Amid fierce criticism from dental groups and the opposition, the Australian government has decided to retain the Child Dental Benefits Schedule (CDBS) at its full rebate amount of A$1,000. Initially, the government planned to terminate the scheme completely according to the 2016–17 budget released last May. In December, it then announced that the scheme was to be saved, but with a watered-down amount of A$700 available per child—both propositions have now been abandoned.

The CDBS, which was introduced by the former Labor Party government and commenced in January 2014, allows low-income families to claim a rebate of up to A$1,000 per child every two years for dental care. However, at about A$312 on average, most families claimed less than a third of the full rebate in the past. “In light of this, the Government had previously set the cap at A$500 per child over a two-year period, which would still allow children to visit a dentist regularly,” Minister for Health Greg Hunt said previously in a statement.

However, after both Labor and the Greens indicated that they would veto the change in the Senate, Hunt announced the reinstatement of the full rebate just hours before the motions were to be voted on in February. According to Hunt, the decision followed consultation with the Australian Dental Association.

Commenting on the move, Australian Dental Association Vice President Dr Carmelo Bonanno said it was a common sense decision by the government. “The reduction of A$700 meant that about 20 per cent of children were going to miss out if they were going to try and utilise the scheme fully,” Bonanno told ABC News.

Regarding the low amount claimed on average in the past, Bonanno reasoned this could be attributed to a lack of awareness of the scheme. “Improving people’s awareness of that means that there’ll be better utilisation of the scheme and the outcomes are going to be far better,” he said, adding that the dental association had already discussed the need for better marketing of the scheme with the government.

Estimating general dental care costs, the Australian Health-care and Hospitals Association calculated that children with the top 10 per cent highest need would be likely to require up to A$2,050 worth of dental work over two years and children at moderate risk would need up to A$1,233 worth of work. Keeping the scheme at A$1,000 would therefore help parents to continue to provide much-needed dental health care for their children, rather than delay treatment because of a lack of money, the association stated.