Researchers develop oral splint to help patients with Tourette’s syndrome

By DTI

OSAKA, Japan: In the dental clinic, practitioners come across any number of issues facing their patients that may exist outside of the mouth but in one way or another impact oral health. Tourette’s syndrome can cause anxiety, depression and low self-esteem, and can even cause destructive oral lesions. Aiming to help patients who suffer from the syndrome, researchers in Japan have developed a removable dental appliance that can reduce tics in both children and adults.

Tourette’s syndrome is characterised by repetitive movements or vocalisations known as tics. The negative impact that these can have on a person’s life is significant. Although there is no cure for the syndrome, there are several treatment options. However, results can take some time.

Speaking about the mouthpiece, one of the first authors of the study, Dr Jumpei Murakami from Osaka University, said, “Biting down on the device immediately improved both motor and vocal tics in ten of the 14 children and six of the eight adults that participated in the study. What’s more, these effects were long lasting. Long-term improvements in motor tics after more than 100 days were especially evident in patients who were younger when their tics first started.”

The researchers developed a custom-made oral splint similar to that used in the treatment of temporomandibular disorders. They applied it to the study participants’ molars, and this then realigned the nose, lips and chin. In the study, the team reported that the positive results from biting down on the splint may be due to something known as sensory tricks. Sensory tricks are voluntary manoeuvres that usually involve touching parts of the face and head, and which can alleviate involuntary movements. “Considering previous findings on sensory tricks in patients with cervical dystonia, it seems possible that the oral splint modulates proprioceptive, or ‘touch’ signals,” explained the other first author of the study, Dr Yoshihisa Tachibana from Kobe University.

Recognising that larger-scale studies are required to test the effectiveness of the oral device, the researchers noted that it has clear therapeutic potential that could improve the quality of life for those suffering from Tourette’s syndrome.

The study, titled “Oral splint ameliorates tic symptoms in patients with Tourette syndrome”, was published online on 23 August 2019 in Movement Disorders, ahead of inclusion in an issue.