NEW YORK, U.S.: The question of whether antibiotics positively influence the survival of dental implants in overall healthy patients is still highly discussed. Thus, in a recent study, researchers from the New York University College of Dentistry sought to determine the efficacy of antibiotic prophylaxis and specific antibiotic regimens for the prevention of postoperative infection (POI) in dental implant placement.

Randomized controlled trials (RCTs) comparing antibiotics with no antibiotics or placebo for dental implant placement were considered. The primary outcome was early, late or total POI, and wound dehiscence, pain and adverse events of antibiotic treatment were secondary outcomes.

The researchers screened 1,022 abstracts and ten RCTs, involving a total of 1,934 patients. All ten individual studies reported no statistically significant difference for POI. Meta-analysis found no statistically significant differences in early, late or total POI, wound dehiscence or adverse effects between antibiotic and no-antibiotic groups.

The researchers concluded: “The results of this systematic review suggest that antibiotic prophylaxis may not be indicated for prevention of dental implant infections in healthy patients. These findings and in light of antibiotic-associated risks for individual and public health demand revaluation of routine prescription of antibiotic prophylaxis in dental implant placement procedures.” The study, titled “Antibiotic prophylaxis may not be indicated for prevention of dental implant infections in healthy patients. A systematic review and meta-analysis,” was published in the April 2019 issue of Clinical Oral Investigations.
Project for improved root canal therapy launched

By DTI

ROSTOCK, Germany: In Germany, about 7.5 million root canal therapies are carried out annually. With the help of an innovative system, it may soon be possible to carry out ultrasonic preparation of the root canal and to monitor the condition of the file during treatment. In addition, protection against thermomechanical overloading will prevent the instrument from breaking.

Research teams from Rostock, Dresden, Leipzig and Lemgo in Germany have begun a new project aimed at improving root canal therapy. Sponsored by the German Federal Ministry of Education and Research’s (BMBF’s) funding programme Twenty20—Partnership for Innovation, and the smart3 consortium, members of the medical faculty at the University of Rostock and the Fraunhofer Institute for Ceramic Technologies and Systems are working together on the project.

“We are pleased to have strong partners at our side in this project and are working very closely and in an interdisciplinary way with them. We are counting on great benefits for our patients,” emphasised Prof. Emil Reisinger, dean and scientific director of the medical faculty at the University of Rostock. “The joint project is intended to improve the treatment process and patient safety during root canal therapy in the medium term—at the same time ensuring and increasing the quality of the treatment results achieved,” said Prof. Rainer Bader, head of the FORBIMIT research laboratory for biomechanics and implant technology at Rostock University Medical Center.

The aim of this IPUCLEAN joint research project is the development of a piezoelectric ultrasonic cleaning system to support root canal therapy with rotating super-elastic files made of shape memory alloys.

US dentists prescribe 37 times more opioids than English dentists do, study finds

By DTI

CHICAGO, U.S.: With the overprescription of opioids causing many severe health and addiction problems in the U.S., it is imperative that dental professionals remain aware of the issue and carefully consider their prescription practices. In a recent study, researchers from the University of Illinois at Chicago (UIC) in the U.S. and the University of Sheffield in England, each looked at the number of opioids being prescribed in their respective countries and discovered that dentists practicing in the U.S. wrote 37 times more prescriptions than dentists in England do.

“In order to obtain the data needed, the researchers analyzed nationally representative databases of prescriptions from both countries. These prescriptions were dispensed from retail pharmacies, including community and mail service pharmacies, and outpatient clinic pharmacies in 2016, which is considered to be a peak point in the U.S. opioid crisis. According to the results, U.S. dentists wrote 1.4 million prescriptions, compared to just 28,000 in England. The stark difference remained when the researchers adjusted for differences in population size and number of dentists. In addition to prescribing more, U.S. dentists were prescribing a larger variety of opioids. The most common prescriptions were hydrocodone based, followed by codeine, oxycodone and tramadol, whereas in England, dentists only prescribed one, dihydrocodeine. “This data should be a wake-up call to individual dental practices and collaborative organizations of dental care providers to push the envelope towards greater efforts to reduce opioid prescribing or patients’ potential for abuse,” said co-author Dr. Susan Rowan from the UIC College of Dentistry.

“To see such a difference between two groups of dentists in countries with similar oral health and use of dentists is an indicator that opioid prescribing practices in the U.S. warrant a second look,” said Dr. Katie Suda, Associate Professor of Pharmacy Systems, outcomes and policy at the UIC College of Pharmacy. “This study tells us that efforts to adopt national guidelines for treating dental pain and for promoting conservative opioid prescribing practices among dentists in the U.S. should be a priority and should be included as part of more comprehensive judicious opioid prescribing strategies.”

The project is being funded by a BMBF grant of more than €1 million. The research is being supported by Komet Dental, Werner Industrielle Elektronik and Zahntechnik Leipzig.