

Proceedings of **GIOBAL Dental Forum 2018** April 02 - 04, 2018 | DUBAL



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medical technology

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The company has always stood out on the market for its continuous process of development and innovation and the excellent design of its products. Thanks to these qualities and to a sales network covering over eighty countries, Mectron has earned itself a position of great prestige on International markets.

Mectron is responsible for some of the most important innovations in the dental field. Reference is made here to the first ultrasonic titanium handpieces, to the first LED curing lamps for composite materials and, in 2001, to the first ultrasonic surgical unit for piezoelectric bone surgery.

The Mectron range now consists of the following:

PIEZOSURGERY®. The original dedicated piezoelectric surgical devices for many oral surgery indications (PIEZOSURGERY® touch and PIEZOSURGERY® 3).

Surgical Equipment. Special solutions for clinical interventions like sinus lift procedures (Sinus Physiolift® II) or crestal split technique (bone expanders) are offered.

Piezoelectric scalers. mectron produces and distributes both multi-purpose table-top versions with its own water supply (multipiezo pro touch, multipiezo touch, piezo smart) and an extremely compact version for connection to the water supply (micropiezo). Ultrasonic devices for dental units are also available (compact piezo and compact piezo LED).

Bicarbonate jet polishers. mectron offers jet polishers for supra- as well as for subgingival use. The range consists of a conventional table-top unit (turbodent) and quick-fitting polishers for connection to a turbine (easyjet pro and easyjetperio), plus a special device for prophylactic treatment that combines a piezoelectric scaler and a jet polisher (combi).

LED curing lamps. mectron produces different types of lamp, a cordless version (starlight pro) and two versions for dental units (starlight s and starlight sler s). Day after day Mectron continues to pursue the same philosophy of technical innovation and scientific research to which it owes its history.

Global Dental Forum 2018 April 02 - 04, 2018 | DUBAI Keynote -Day 01



Oral Microbiome, Nitric Oxide and Systemic Health

Nathan S. Bryan

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Nitric oxide is a critical signaling molecule responsible for regulating blood pressure, neurotransmission and immune function. Loss of nitric oxide production is the earliest event in the onset and progression of cardiovascular disease and many other age related diseases. The link between oral health and cardiovascular disease is well known. Patients with poor oral hygiene, periodontal disease and gingivitis have increased incidence of cardiovascular disease. Research over the past decade has revealed that oral commensal bacteria are responsible for nitric oxide production. Disruption of oral bacteria through antiseptic mouthwash or overgrowth of pathogenic bacteria leads to a loss of nitric oxide production. This lecture will described pathways of nitric oxide production, revelations of nitric oxide producing bacteria and discussions of how dental medicine professionals can incorporate nitric oxide diagnostics and therapies in their practice.

Biography:

Nathan Bryan is an industrial researcher and adjunct assistant professor at the Baylor College of Medicine. He received an undergraduate degree in biochemistry from the University of Texas at Austin and a Ph.D from Louisiana State University. He studies nitric oxide restoration in humans, and he is co-founder of HumanN, a firm developing products to increase nitric oxide levels.

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Using Atraumatic Surgery, Autologous Grafts And Growth Enhancers in Tissue Regeneration

Robert Horowitz New York University, USA



It is undisputed that tissue regeneration and bone management are some of the key determinants for a success or failure dental surgery. Insufficient soft and hard tissue will diminish the options we can offer our patients for regaining esthetics and function. Confusion exists as far as the optimal ways we have to build and maintain soft tissue and bone over time. Lots of materials, techniques and tools are currently on the market and what of these to use and when is not always clear. Utilizing Piezosurgery to decrease trauma to the bone and gingiva during extraction is one of the key steps in this process.

This lecture will focus on autologous materials utilized for managing and improve the outcomes of soft and hard tissue defects, periodontal disease, ridge preservations, sinus elevation and implant osseointegration. Clinical cases with validation in the scientific literature shows that the autologous solutions in dentistry are becoming widely accepted in many clinical situations.

Biography:

Dr. Robert A. Horowitz graduated from Columbia University School of Dental and Oral Surgery in 1982 having concentrated in periodontics and fixed prosthodontics. After completion of a one-year general practice residency, Dr. Horowitz finished a 2 year specialty training program in periodontics at New York University and the Manhattan VA Hospital. He began placing dental implants after taking implant surgery courses nationally and internationally in 1985. In 1996, Dr. Horowitz completed a 2 year fellowship program in Implant Surgery at New York University concentrating in bone grafting procedures.

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Is coronectomy a viable option for the symptomatic impacted third molars?

Kamis Gaballah Ajman University, UAE



Removal of mandibular third molars has the potential risk of causing neurologic disturbances of the inferior alveolar nerve (IAN). The incidence of IAN injury ranges from 1.3% to 5.3%. This risk depends mainly on the position of the tooth in relation to the inferior alveolar canal. If there is close proximity between the IAN and the roots, the incidence may be raise 4 folds higher.

Coronectomy is the removal of the crown of a tooth, leaving the root "in situ." When applied, it is a measure adopted to avoid damage to the IAN. With enormous growing support, this new technique is advocated although many surgeons have expressed resistance to the adoption of this treatment alternative as it is contrary to the dogma of exodontia. This resistance may be explained by the lack of long term follow up, in particular with regard to the potential risk of an intentionally retained root. many surgeons worry that the roots may become a source of infection. This talk will introduce the technique details and complications along with review of current literatures.

Biography:

Dr. Kamis Gaballah is a Associate Professor in Oral and Maxillofacial Surgery at Ajman University, UAE. He has done his PhD from King's College London, University of London. He has expertise in Dento- alveolar Surgeries, endodontic surgeries, Bone grafting techniques, and Antral-related surgeries.

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Global Dental Forum 2018 April 02 - 04, 2018 | DUBAI Speakers -Day 01



Using physical therapy to treat temporomandibular disorders: A Cohort study

Yasser Khaled

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Aim of Investigation: Primary aim of this study is to evaluate the results after physical therapy (PT) is prescribed for TMD patients.

Methods: In this retrospective cohort study, we screened 1331 patient records from March 2010 to March 2015 at an oral medicine / orofacial pain practice. Eligible patients were those who were prescribed PT and: had follow up visits within 3 months; were greater than 12 years old; had no autoimmune polyarthritis; no history of trauma within 1 month of presentation and; no prior experience with PT for this condition. Comparisons were made between two groups: 1) those who underwent PT (n=44) (PT) and; 2) those who did not (n=44) (non-PT). Data was extracted from patient record review. Primary outcome variables included patient reported pain severity scores on a 0-10 scale, and other clinical findings upon examination.

Results: At baseline, non-PT patients had higher levels of distress (p=0.0094), and less have had oral appliance therapy (p=0.0053). At first patient follow up visit, PT patients had lower "current" (p=0.0030), "average" (p=0.0030), and "worst" levels of pain (p=0.0003), and more subjective improvement of their condition (p=0.0157). There were no differences between the two groups in clinical findings of tenderness to palpation of TMJs, and measurements of jaw opening and lateral movements.

Conclusions: The data from this study supports PT as an effective treatment modality for reducing subjective TMD pain. PT is inexpensive and presents low risk for patient health, making it a cheaper, noninvasive alternative for other modalities such as surgery.

Biography:

Yasser Khaled is a son of a diplomat with dual citizenship. He has visited, worked and studied in 15 different countries in 4 different continents. He is currently working as an Assistant Professor in Marquette University, School of Dentistry and specialized in Oral Pathology, Oral Medicine and Orofacial Pain. He has Master of Dental Sciences and a Master of Medical Sciences.

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The role of inflammation on Temporomandibular Joint disorder (TMJ) Bouchra Edderkaoui

Musculoskeletal Disease Center, Loma Linda, USA

The temporomandibular joint (TMJ) acts like a sliding hinge, connecting the two jawbones to the skull. It can have both rotational and translational movements, the complex movements necessary for eating, swallowing, talking and yawning. The TMJ is formed by the mandibular condyle fitting into the mandibular fossa of the temporal bone, and the articular disc that separates the two bones. Like other joints, synovial fluid within the TMJ facilitates movements within the temporomandibular joint. Temporomandibular joint disorders (TMJD) causes orofacial pain, facial aching, difficulty chewing or pain while chewing, locking of the joint, making it difficult to open or close mouth which can affect daily activities such as chewing and speaking. Synovitis, which is characterized by the infiltration of inflammatory cells, often accompanies progression of TMJD symptoms. Synovial fibroblasts contribute to the inflammatory temporomandibular joint under pathogenic stimuli. Synovial fibroblasts and T cells participate in the perpetuation of joint inflammation in a mutual activation feedback, via secretion of cytokines and chemokines that stimulate each other suggesting a key role of inflammation in the development of TMJD. Several predictors of TMJD development have been proposed. These include general joint hypermobility, orofacial trauma, bacterial infection and systemic inflammation such as rheumatoid arthritis that usually affects multiple joints and TMJ becomes susceptible to the development of changes resulting from rheumatoid arthritis. Recent studies have reported significant increase in the expression of cytokines in TMJ of patients with TMJD compared to controls. Furthermore, the level of MCP-1 was found elevated in synovial fluid of TMJD patients with pain compared to TMJD patients without pain suggesting a complex role of inflammation in TMJD, so this paper will discuss the potential roles of inflammation in temporomandibular joint pathology based on previously published data.

Biography:

Bouchra Edderkaoui is a research scientist (Loma Linda Veterans Association for Research and Education) at the Musculoskeletal Disease Center, JLP VA Medical Center, Loma Linda, CA, USA. She is currently a member of the American Society of Bone and Mineral Research (ASBMR), USA.

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Management of anxious dental patients attending for oral surgery in Dubai: A new approach using conscious sedation.

Abdel Rahman Tawfik

Mohammed Bin Rashid University, UAE

Anxiety is very prevalent among dental patients, especially those attending for Oral Surgery treatment, and this can be a major problem for both the patient and the dentists. It is normal that patients may encounter insignificant degrees of anxiety which can be easily managed by reassurance and establishing good understanding between the dentist and the patient. However, when the anxiety becomes unreasonable (phobia), managing of such patients becomes a challenging task and requires specific skills and procedures. In the UK it's thought that one in every three individuals has moderate degrees of anxiety, and around one in every ten adults has some form of extreme dental anxiety. These phobic patients can be managed efficiently via the use conscious sedation; a procedure that is strongly endorsed by the General Dental Council. This presentation highlight the importance of managing these anxious patients under conscious sedation.

Learning Objectives:

- 1. Define and assess of dental anxiety,
- 2. Shed lights on methods of anxiety management
- 3. Identify safest sedation methods that can be used by dentists
- 4. Understand of sedatives that can be safely used and,
- 5. Categorize the possible associated risks associated with conscious sedation

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Oral biofilms – current problems, strategies for now and the future Bindiya Kumari AIIMS, INDIA

Bacteria is the most primitive organism on this planet. It has been documented 3.8 billion years before the first known evidence of human beings .Their populations outnumber the people, plants and animals by a million fold on this earth. Higher life can't exist without their symbiotic relationships. The oral cavity harbors more than 1011 species of microorganism including bacterias and viruses.The complex interactions between the microorganisms leads to the formation of biofilms. Biofilms are considered ubiquitous in the world. In most environmental niches, bacterias survive and multiply as surface attached biofilms and rarely as cell suspensions in liquids. Microorganisms behave entirely differently in biofilms. The species interact with each other both physically and chemically.The physical interactions between the microorganisms are solely based on their nutritional needs, where as chemical interactions are responsible for their virulence.

Today, resistance has been developed to many antibiotics and this is becoming a global problem. Untraditional antibiotics to block the communication system of bacteria can be developed in future. Synthetic anti-quorum-sensing strategies could be developed in the future as possible alternatives to antibiotics. Additionally, techniques used during surgical and non-surgical procedures including lasers may be beneficial in disrupting biofilms. This talk will detail the current problems caused by and/or linked to biofilms (BRONJ, periodontal and peri-implant lesions), strategies to treat them and directions for future research.

Biography:

Dr. Bindiya K Pahuja is an accomplished clinician and researcher in periodontics and bone grafting. In 2010, she began placing dental implants after taking post graduation in implantology and periodontics. After completing a 3 year MDS program in periodontics Implant Surgery at IGMC Shimla, she presented her work in bone graft at various platforms in India and abroad. She has more than 10 paper publications. She is a member of AO (academy of osseointegration) and AADR(American academy of dental research). Currently she is working at AIIMS as senior resident doctor where she is enrolled as a clinician for oral soft tissue handling and also involved in a research projects related to oral lichen planus.

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Dynamic contact problems in bone neoplasmanalyses and the primal-dual active set (PDAS) method

Jiri Nedoma Czech Academy of Sciences, Czech Repubilc

In the contribution growths of the neoplasms (benign and malignant tumors and cysts), located in a system of loaded bones, will be simulated. The main goal of the contribution is to present the useful methods and efficient algorithms for their solutions. Because the geometry of the system of loaded and possible fractured bones with enlarged neoplasms changes in time, the corresponding mathematical models of tumor's and cyst's evolutions lead to the coupled free boundary problems and the dynamic contact problems with or without friction. The discussed parts of these models will be based on the theory of dynamic contact problems without or with Tresca or Coulomb frictions in the visco-elastic rheology. The numerical solution of the problem with Coulomb friction is based on the semi-implicit scheme in time and the finite element method in space, where the Coulomb law of friction at every time level will be approximated by its value from the previous time level. The algorithm for the corresponding model of friction will be based on the discrete mortar formulation of the saddle point problem and the primal-dual active set algorithm. The algorithm for the Coulomb friction model will be based on the fixpoint algorithm, that will be an extension of the PDAS algorithm for the Tresca friction. In this algorithm the friction bound is iteratively modified using the normal component of the Lagrange multiplier. Thus the friction bound and the active and inactive sets are updated in every step of the iterative algorithm and at every time step corresponding to the semi-implicit scheme.

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GIODAI DENTAI FORUM 2018 April 02 - 04, 2018 | DUBAI Workshop - Day 02



Piezosurgery: Minimally invasive technology for maximal precision and

optimal surgical results

Robert Horowitz

New York University, USA



The number and scope of instruments and pieces of equipment necessary for optimal diagnosis and treatment has grown exponentially in this time frame. One of the most critical instruments in my surgical armamentarium has been, for over 10 years, Piezosurgery. This microvibrating, ultraprecise, ultra-high tech piece of equipment is used in orthopedic, maxillofacial, neurosurgical and other specialties in dentistry and medicine. In my office, this technology is employed in most surgical procedures related to the eventual placement of dental implants. Whether the goal of the initial surgery is atraumatic extraction, ridge split for width augmentation, implant placement, osteotome or lateral approach for sinus augmentation the Piezosurgical unit has a place. A novel use for this unit is performing corticotomies to assist orthodontic tooth movement. Cases will be shown with both clear aligner and fixed appliance therapy. The additions of Piezosurgery to the group of procedures in PAOO (also called POPA, Wilckodontics) are an important addition to orthodontic therapy and are generally performed by periodontists and oral surgeons. Using surgically enhanced orthodontic therapy, tooth intrusions are more predictable, open bites can be closed more easily, and with hard and soft tissue grafting arches can be expanded dicer to get better occlusal schemes and torque roots pala-tally/lingually to keep the facial sufaces inside the alveolar housing.

There are appropriate tips and protocols to make these and other surgical visits (surgical debridement for treatment of peri-implantitis and crown lengthening to name a few) simpler during the procedure and more predictable in outcome. This workshop will demonstrate multiple uses of Piezosurgery. Attendees will be able to use different tips to simulate atraumatic extraction, implant placement, autogenous bone harvesting, ridge splitting and more. At the end, the participant will have seen both still photos and intraoral videos (through an operating microscope for unparalleled visibility) to familiarize him- or herself with clinical tips that will be usable in many patients. You will see why Piezosurgery should be incorporated in your surgical office protocols.



Global Dental Forum 2018 April 02 - 04, 2018 | DUBAI Speakers-Day 02

Oral Health Care in Children: Locus of Control as a new risk/protection factor

Vinicius Humberto Nunes UNESP Brazil

Statement of the Problem: Caries disease presents high prevalence in children, especially those of low economic level, and is considered a public health problem. The pain caused by caries interferes with the act of eating and cagrowth, decrease of body mass, disturbances in sleep, besides impairing the school performance, generaMethodology & Theoretical Orientation: This cross-sectional study aimed to investigate theand the Parental Locus of Control in the prevalence of caries in five-year-old preschool children liviSão Paulo state. It was evaluated the ceo-d index of 426 children, the parents informed about the socithrough the methodology that classifies the subjects in six socioeconomic classes (from the family incthe family, type of habitation and occupation of the person in charge) and answered the Parental Contrthrough the Adapted Multidimensional Scale of Health Control (MHLC). For the analysis of the data a bimodel was applied, having as outcome variable ceo-d> 5 and as explanatory variables the socioeconomic Control.

Conclusion & Significance: The results showed that 52.35% of preschoolers presented caries, with severity at higher levels in thelower socioeconomic strata, E-F classes. Higher socioeconomic status and low externality were shown asthis research concluded that low parental internality appeared as a risk factor for caries in deciduouexpect or delegate action to others, delaying caring. Parental perception of control over the health opreventive care and, consequently, the level of caries of the child.

 Table: Comparison between ceo-d index of children and control locus (parents and children) and parental attitudes regarding oral hygiene of the child.

		Ceo-d							
Variable	Categories	0		1 ≥4		≥5		р	F
Lácus of		média	Dp	média	Dp	média	Dp		
control	ILC	14,43ª	2,99	14,99ª	3,07	14,53ª	2,59	0,2172	1,53
	ALC	20,63ª	3,60	19,53 ^b	3,82	20,12 ^{ab}	4,30	0,0324	3,46
	ELC	16,45ª	3,73	15 , 94ª	3,56	16,11ª	3,39	0,4175	0,88
Parental Locus of control	ILC	15,26ª	2,97	16,21 ^b	2,82	17 , 02 ^b	2,89	<0,0001	11,17
	ALC	20,29ª	3,55	19,57ª	3,99	19,58ª	3,96	0,1495	1,91
	ELC	15,51ª	3,20	14,41 ^b	3,11	14,62 ^{ab}	3,02	0,0032	5,81

Biography:

Vinícius Humberto Nunes is a graduate of the Faculty of Dentistry of Araraquara - UNESP, Master in Dentistry and PhD in Collective Health at the Faculdade de Medicina de Botucatu - Universidade Estadual Paulista - Brazil. Professor of Public Health at the State University of Londrina - Londrina-PR-Brazil and professor at the Dental School of the Sudoeste Paulista School - Avaré-SP-Brasil. Developed the thesis of parental perception in the oral health care of children as a protection factor and risk to caries and oral problems; area in which he develops researches and commands a research project in this area..

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The prevalence of retained primary teeth among patients of Jazan Dental College in Saudi Arabia

Nagah Rashad Jazan University, Saudi Arabia

Panoramic radiographs of 1200 patients (600 female and 600 male) aged 14 and above, who attended to the diagnostic dental clinic, Faculty of Dentistry, University of Jazan in Kingdom of Saudi Arabia were used in this study. The radiographs were evaluated to study the prevalence of retained primary teeth including the type, number, location and whether or not the retained primary teeth showed permanent successors. The results revealed that the female patients have more incidence of retained primary teeth (8%) than male patients (3,60%). The multiple retained teeth were detected among female patients only. Regarding female patients, (35%) of them have retained primary maxillary left canine. The same percentage was detected for the same tooth in the right side. The mandibular left primary canines and mandibular right primary second molar were retained in (19%) for each .The maxilla has more retained teeth versus mandible. From total 77 retained primary teeth,58 teeth have permanent successors (75.3%). Maxillary retained canines showed maximum percentage for impacted permanent successors,33% for each side. The next tooth which showed permanent successors was the primary mandibular left canines by 17%, while the primary mandibular left second molars did not record any permanent successors. For male patients also, the maxillary primary canines were the most frequent retained teeth by (40%) for right side and (49%) for left side. The permanent successors were determined in 17 retained teeth out of 26 teeth, (65.3%). The most retained primary teeth which have permanent successors were the maxillary canines, 19% for right side and 23% for left side. The retained mandibular second molars have no successors in both sides.

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Poster Abstracts



Fracture resistance of roots restored with bioceramic endodontic sealer

Nazik Tawfik Saeed and Hadeer Firas Asheer

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Aim/Objective: This research evaluated and compared the fracture resistance of the roots of teeth restored with bioceramic sealer against AH26 sealer, used in (Elements Free) continuous wave obturation technique.

Methodology: A total of 60 maxillary and mandibular anterior teeth were decoronated and distributed equally among 4 experimental groups, and two control groups. Group 1 samples (n=10) were decoronated only and not prepared, Group 2 (n=10) were prepared and instrumented only, Group 3 (n=10) were prepared by laser and obturated using bioceramic sealer and Elements Free obturation system, Group 4 (n=10) were prepared by laser and obturated using AH26 sealer and Elements Free, Group 5 (n=10) were prepared manually and obturated using AH26 sealer and Elements Free, Group 6 (n=10) were prepared manually and obturated using AH26 sealer and Elements Free.

Results: Statistical analysis of fracture resistance values using the one-way ANOVA test (SPSS Version 20.0) revealed no significant difference between all the experimental groups.

Conclusion: It can be concluded that the BC sealer along with the laser preparation of the roots might have a potential in improving the fracture resistance of the roots although it was statistically non-significant.

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In vitro study of the antimicrobial activity of the Miswak ethanolic extract

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Chemical Irrigants are important adjuncts to instrumentation. It disinfect and eliminate the living bacteria from the canal system. Among all endodontic irrigating solutions, only NaCIO in low concentrations is clinically acceptable as an irrigant for endodontic use. Bacteria of the root canal are mostly anaerobic. Miswak is a chewing stick made from the aromatic root of a small bush known as (Salvadorapersica). The purpose of the present study was to evaluate in vitro the antimicrobial activity of different concentrations of miswak extract and to compare it with the activity of sodium hypochlorite on both S. faecalis and C. albicans using the tube dilution method Result showed that miswak ethanolic extract at 200 mg/ml concentration was effective in destroying both organisms tested within 10 mins, The antimycotic effect of ethanolic extract against C. albicans lasted for up to 1 week at 100% (200 mg/ml) concentration. Reducing this concentration to 50% (mg/ml) resulted in inhibition of the growth of C. albicans for up to 48 h.50% miswak extract failed to exert a fungicidal effect which was demonstrated by the turbidity of the cultures. However, S. faecalis did not resist this diluted concentration of miswak, Both the antibacterial and antimycotic properties of miswak extract were lost when it was diluted to 25% concentration (50 mg/ml). A final conclusion cannot be reached by in vitro studies alone with only two types of micro-organisms However, the in vitro investigation is always the first step for studying effectiveness of antiseptics.

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The Effects a patient's knowledge and socioeconomic status on treatment preference for root canal Versus extraction in Jeddah Saudia Arabia

Nesma Bahrawi

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Aim: To identify the effect of patient knowledge and socioeconomic status on treatment preferences for root canal treatment (RCT) versus extraction in Jeddah, Saudi Arabia.

Methods: 420 participants were recruited from four different malls and assessed using a self-reported questionnaire.

Results: Among participants, 80.70% preferred RCT, but only 47.9% correctly understood RCT. Participants who understood RCT, had higher income levels, were female, were Saudi, were married, and those with higher education levels preferred RCT. Some participants changed the preferred option to extraction after learning the estimated price and time required for RCT.

Conclusion: Many patients prefer extraction, even when unnecessary.

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