Annual World Dentists Summit

and

2nd Annual Congress on

Dental Health and Oral Care

October 29-30, 2021 | Webinar

SCIENTIFIC TRACKS & ABSTRACTS

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Nannounced standardized patient: a reliable method for study overtreatment and under-treatment in dental practice

Aim: To suggest adopting the Unannounced Standardized Patient (USP) method as the most reliable way to study overtreatment and under-treatment in dental practice.

Method: The reflection on the concept is based on a review of methods used in the published studies on over- and under-treatment in dentistry. We searched PubMed and Scopus using relevant keywords. The resulted papers were analyzed and filtered in terms of their relevance in three phases: by title, abstract, and full-texts.

Results: Very limited studies have investigated these critical concepts in the field of dental practice. They suggested or adopted each of the following three main methods: qualitative techniques, questionnaire-based surveys, or reviewing registries or insurance documents. Each of these methods, however, have some problems for direct and reliable tracking of the issue in the real practice. The researcher, here, suggests the USP method as an effective alternative for this purpose. This method would need undercover trained and examined patients to attend dental offices and clinics, with or without special dental demands. Having maintained the confidentiality of the dentists, USPs could document the suggested treatment plans, fees, and the way dentists put forward their suggestions.

Conclusion: Considering the importance and policy implications of studying the scope and levels of doing-more (or less)-than-what-is-needed in dental care, the limited role of third party which could help audit dental practice, and methodological issues with surveys, e.g. social desirability bias, developing a more reliable design for studying over- and under-treatment in dentistry is needed. USPs could be adopted to shed light on the obscure reality of these issues. Nevertheless, there are some major ethical issues that should be addressed in advance.

Biography

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The impact of smoking on dental implants and various surgical procedures

Smoking is a prevalent behavior in the population. Although dental implant therapy is considered a predictable treatment modality with reported high survival and success rates, biological complications do occur and a number of risk factors have been involved. Tobacco smoking is related to many health risks affecting general & oral health. In smokers, increased plaque accumulation, higher incidence of gingivitis and periodontitis, higher rate of tooth loss and increased resorption of the alveolar ridge have been found in the oral cavity. Smoking may adversely affect wound healing and thus jeopardize the success of bone graft and dental implants. Bone graft and sinus lift surgery are both common and well-documented procedures in dental implant placement. Toxic by-products of cigarette smoking such as nicotine, carbon monoxide and hydrogen cyanide as well as heat have been implicated as risk factors for impaired healing and thus, may affect the success and complications of the surgical procedures. The carbon monoxide released during cigarette smoking lowers oxygen tension in tissues by displacing oxygen from hemoglobin. Nicotine, which has been found in ample concentrations in saliva and crevicular fluid, has been reported to have a negative impact on the bone regeneration process. Moreover, the viability of polymorphonuclear neutrophils and the phagocytosis of opsonized Candida albicans are reported to be significantly lower in smokers than in non- smokers. A higher degree of complication or implant failure rates were found in smokers with and without bone grafts. The relationship between smoking and implant-related surgical procedures, including the incidence of complications associated with these procedures, will be described and discussed based on relevant literature and results from recent studies.

Biography

Dr. Dhwani Gohil has completed her BDS in 2008 from the Bharti Vidyapeeth University in Pune. She further pursued Masters in dental surgery in Periodontology and Oral Implants from Rajasthan University of Health Sciences, Jaipur in 2013. Her passion for dentistry didn't stop here. In 2017 she completed Fellowship in Aesthetic Dentistry from University of Greifswald, Germany. She has publication in international journal and has been serving her community as Periodontist for over a decade.

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Smoking modifies the genetic risk for early-onset periodontitis

Periodontitis has low-prevalence, highly severe disease manifestations with an early onset and rapid progression. The diagnosis is based on severe destruction of the alveolar bone in adolescents and young adults. Genetic susceptibility variants and smoking are well-established risk factors, but their interactions in modifying disease susceptibility have not been studied. We aimed to identify genetic risk variants of early-onset periodontitis that unmask their effects on tobacco smoke exposure. To this end, we analyzed 79,780,573 common variants in 741 northwest Europeans diagnosed to have >30% bone loss at >2 teeth before 35 y of age, using imputed genotypes of the OmniExpress BeadChip. Never versus ever smokers were compared in a logistic regression analysis via a case-only approach. To explore the effect of tobacco smoke on the expression of the G×S-associated genes, cultures of primary gingival fibroblasts (n = 9) were exposed to cigarette smoke extract, and transcripts were quantified by reverse transcription polymerase chain reaction. We identified 16 loci for which our analysis suggested an association with G×S increased disease risk ($P < 5 \times 10^{-5}$). Nine loci had previously been reported to be associated with spirometric measures of pulmonary function by an earlier G×S genome-wide association study. Genome-wide significant cis expression quantitative trait loci were reported for G×S-associated single-nucleotide polymorphisms at ST8SIA1 and SOST, indicating a causal role of these genes in tobacco-related etiopathology. Notably, SOST is a negative regulator of bone growth, and ST8SIA1 has a role in tissue remodeling. Cigarette smoke extract significantly altered the expression of 2 associated genes: SSH1 ($P = 5 \times 10^{-07}$), which is required for NF-κB activation and innate immune responses to bacterial invasion, and ST8SIA1 ($P = 0.0048$). We conclude that the genetic predisposition to early-onset periodontitis is in part triggered by smoking and that tobacco smoke directly affects the expression of genes involved in bone homeostasis, tissue repair, and immune response.

Biography

Gurmukh Singh is Dental at Baba Farid University of Health Science. He is Research Focus on Bad impacts of Smoking on tooth and can lead to gum disease. His Student Level has a Bachelor of Dental Surgery.

The state of art and properties in digital dentures

Background: Digital technologies offer the opportunity to integrate different scans into the design of digital dentures and provide a 3D preview and tooth arrangement for treatment planning and manufacturing. The conventional fabrication methods have been error-prone, time-consuming, complex, and expensive procedures. Removable partial dentures(RPD), and Complete dentures(CD) fabricated by computer-aided design and computer-aided manufacturing (CAD-CAM) techniques have become popular. Therefore, we reviewed the treatment outcomes of concepts used for implant-supported overdentures, RPDs and CDs.

Method and Materials: An effective search of the literature was done, mainly through PubMed, Scopus, and Google Scholar with (("removable partial denture" OR "RPD" OR "complete dentures" OR "dentures" OR "implant" OR "overdenture") AND ("CAD-CAM" OR "digital impression" OR (digital technology) OR "3D print" OR "milling" OR "rapid prototyping") as keywords from 2001 to 2021. According to the research methods 31 eligible articles were chosen.

Results: Digital dentures can be fabricated by digital or combined analog-digital procedure whit using intraoral scanners or extra-oral scanners. Milling and rapid prototyping (3D printing), have been widely used in the fabrication of dentures. They have been reported to have clinically acceptable results. Digital dentures were evaluated by their accuracy, patient's satisfaction, clinical outcomes and their procedures. CAD/CAM dentures have several advantages such as reducing clinical chair time and the number of visits, digital archiving, significantly higher retention, and more favorable clinical and patient-centered, less denture tooth movement, increased toughness, ideal flexural strength, and higher elastic modulus. CAD/CAM dentures showed at least comparable accuracy. However, disadvantages such as high cost, software errors, and lack of jaw relations in functional state, are still the problem.

Conclusions: CAD/CAM dentures had shown better clinical outcomes compared to conventional dentures. Although, there are some limitation in the manufacturing procedures. Results of studies suggest there is a great potential for further investigations.

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Biography

Rata Rokhshad is Dental student at Faculty of Dentistry, Tehran medical sciences, Islamic Azad University, Tehran, Iran.

The predictability of three implants to support a fixed prosthesis in the edentulous mandible

Introduction: The use of four or more implants to support a fixed prosthesis in the edentulous mandible is well documented with high levels of clinical outcomes recorded. Despite this, the use of a three implant supported fixed prosthesis offers the potential to deliver a more cost-effective method of oral rehabilitation in the lower arch; an important consideration given that edentulism is most prevalent in low-income subpopulations. The purpose of this study aimed to evaluate the implant and prosthetic survival rate, changes in marginal bone level, and patient satisfaction associated with a three-implant supported fixed prosthesis for rehabilitation of the edentulous mandible over a follow up period of at least one year.

Methods: A comprehensive literature search was performed to evaluate studies that met the selection criteria. The information extracted included the study design and population, participant demographics, observation period, loading protocol and the number of implants placed together with the required outcome measures. Mean values and standard deviations (SD) were calculated using SPSS® (IBM Corporation, New York, USA), and the level of statistical significance across all comparative studies described was set at $P < 0.05$.

Results: The eligible studies included a total of 1968 implants that were placed in 652 patients. The subjects ranged in age from 33-89 years with a mean of 63.2 years. The mean cumulative implant and prosthetic survival rates were 95.5% and 96.2% respectively over a mean follow-up period of 3.25 years. The mean marginal bone loss recorded was 1.04 mm and high patient satisfaction rates were reported across the studies.

Conclusion: Current evidence suggests that a three implant-supported fixed prosthesis for the edentulous mandible is a successful treatment strategy presenting high implant and prosthetic survival rates over the short-to-medium term. Further well-designed controlled clinical trials are required to evaluate longer-term outcomes, with supplemental data correlating implant dimensions and prosthetic design.

Biography

Murtaza Hirani is student at King's College Dental Hospital, London, United Kingdom.

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