

Electronic and Paper Data Capture in the National Dental PBRN

Objectives: Longitudinal studies are often challenging to implement because of financial constraints, time demands on the investigators, and high attrition rates of study participants. Our objective is to describe the approach used to capture Patient-Reported Outcomes (PROs) and minimize study attrition during the Management of Dentin Hypersensitivity study in the National Dental Practice-Based Research Network (<http://nationaldentalpbrn.org/>). **Methods:** This was a prospective, multicenter cohort study of patients with dentin hypersensitivity (DH) conducted in the network. PROs were assessed based on patients' perceptions of pain using Visual Analog Scales and Labeled Magnitude scales at baseline and at 1, 4, and 8 weeks post-baseline. A total of 1,862 patients formed the study population. **Results:** Eighty-five percent of study patients chose to complete follow-up assessments via an electronic mode; the remaining 15% completed them via a paper mode. Certain characteristics (age, education level, network region) of these two patient groups were significantly different. The overall retention rate of study patients was 92% at the 8-week assessment. Based on a mixed-effects logistic regression model, there was no significant difference in the proportion of patients who completed the 8-week assessment, comparing those who completed the study using the electronic mode to those who completed the study using the paper mode (p -value=0.34). **Conclusions:** The electronic mode of data capture was as effective as the traditional paper mode method, while also providing the advantage of eliminating data entry errors, not involving site research coordinators in measuring the PROs, and not incurring cost and potential delays associated with mailing study forms. Support: U19-DE-22516.

Meeting: 2018 AADR/CADR Annual Meeting (Fort Lauderdale, Florida)

Patient-centered Dentinal Hypersensitivity Treatment Outcomes: National Dental PBRN

Objectives: Dentinal hypersensitivity (DH) is a clinical symptom with significant impact on oral health and functioning that is commonly managed by dentists in the routine clinical practice. The study's objectives were to assess patient-oriented outcomes following dental treatment that sought to alleviate patient symptoms. **Methods:** A total of 171 National Dental Practice-Based Research Network (PBRN, www.NationalDentalPBRN.org) dentists recruited 1862 DH subjects from their existing patients in this prospective, multicenter cohort study. The dentists recommended and provided dentist-provided and patient-applied DH treatments, as usual and appropriate. Patients rated their DH pain at baseline, 1, 4 and 8 weeks during their course of treatment (using pain intensity (PI) and unpleasantness (U) visual analog (VAS) and four labeled magnitude (LM) scales) and their satisfaction with treatment at 8 weeks (with a VAS). **Results:** Analyses of 2 VAS and 4 LM pain scale scores were conducted using mixed linear models, in order to account for correlated observations due to clustering within dentists and repeated measurements within patients. DH patients reported pain reduction from (1) dentist-provided treatments (glutaraldehyde/HEMA compounds ($F=3.12$, $p < 0.05$ (PI); $F=4.71$, $p < 0.005$ (U)), oxalates ($F=2.84$, $p < 0.05$ (U)) and bonding agents ($F=6.69$, $p < 0.001$ (PI); $F=5.61$, $p < 0.001$ (U)), (2) dentists' advice and counseling regarding habits and diet ($F=8.60$, $p < 0.001$ (PI); $F=10.30$, $p < 0.001$ (U)) and (3) patient-applied fluoride toothpaste ($F=4.48$, $p < 0.005$ (PI)). Patients also reported a concomitant positive rating of satisfaction with pain relief from DH treatments ($r = -0.21$). Overall, approximately 60% of patients achieved "clinically significant pain reduction" ($\geq 56\%$ reduction, Robinson et al., 2005) **Conclusions:** Patients reported DH pain relief and satisfaction with treatment following the use of glutaraldehyde/HEMA compounds, application of bonding agents, dentists' advice and counseling regarding habits and diet and patients' use of fluoride toothpaste.

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Management of Dentin Hypersensitivity by National Dental PBRN Practitioners

Objectives: Dentin hypersensitivity (DH) is a condition commonly encountered in clinical dental practice. A primary objective of this study was to identify the treatments used to manage DH among United States dentists. **Methods:** A prospective, multicenter cohort study of 1865 patients with DH, diagnosed and treated by 171 National Dental Practice-Based Research Network clinicians (www.NationalDentalPBRN.org) was conducted to determine the scope of treatments in the practice setting. **Results:** The most common treatment recommended by network clinicians was over-the-counter desensitizing (OTC) potassium nitrate toothpaste, alone or in combination with other treatments, to 924 (50%) patients, followed by application of fluoride varnish (FV) to 516 (28%) patients, prescription of fluoride toothpaste to 315 (17%) patients. Restorative treatments were recommended to 151 (8%) of patients. Network clinicians recommended that 300 (16%) patients stop, decrease or increase the product/habit/behavior related to DH. A total of 893 (48%) patients received one, 644 (35%) patients received a combination of two, 251 (13%) patients received three and 65 (3%) patients received four treatment modality recommendations. The most common single treatment recommendation was desensitizing OTC potassium nitrate toothpaste, recommended to 335 (18%) patients. The most frequent combination of two treatment modalities was FV and desensitizing OTC potassium nitrate toothpaste, recommended to 100 (5%) patients. The most commonly recommended product was desensitizing OTC potassium nitrate toothpaste (50%) followed by recommendation of any treatment option that included fluoride application or prescription (47%). A total of 48% (893/1865) of patients with DH received recommendation of one treatment modality and 35% (644/1865) of patients were recommended a combination of two treatment modalities, most frequently (100/1865, 5%) an application of FV along with desensitizing OTC potassium nitrate toothpaste. **Conclusions:** Desensitizing OTC potassium nitrate toothpaste and fluoride products were the most widely recommended products to manage DH in the practice setting. Support: U19-DE-22516. Meeting: 2017 IADR/AADR/CADR General Session (San Francisco, California)

Management of Dentin Hypersensitivity By National Dental PBRN Practitioners

Objectives: Dentin hypersensitivity (DH) is considered a problem commonly encountered in routine clinical practice. The primary objective of this study was to identify the many treatments used to manage DH among United States dentists by characterizing methods of diagnosing DH in the practice setting, characterizing dentists' selected treatment(s) for DH, and characterizing patient-reported pain outcomes at baseline and after treatment. **Methods:** As an initial phase of a prospective, multicenter cohort study of patients with DH, 185 National Dental Practice-Based Research Network clinicians (www.NationalDentalPBRN.org) completed an on-line questionnaire to ascertain their preferred methods to diagnose and manage DH in the practice setting and to determine predisposing factors of DH. **Results:** Most dentists (99%) reported using more than one method to diagnose DH. Most frequently, they reported using spontaneous patient reports coupled with excluding other causes by direct clinical examination (48%); followed by applying an air blast (26%), applying cold water (12%) and obtaining patient reports after dentist's query (6%). When managing DH, the most frequent first choice of products used was desensitizing over-the-counter (OTC) potassium nitrate toothpaste (55%), followed by fluorides (41%) and glutaraldehyde/HEMA (3%). A total of 85% of respondents reported using a combination of products when treating DH, most frequently using fluoride varnish and desensitizing OTC potassium

nitrate toothpaste (72%). The most frequent first choice of predisposing factors leading to DH, as reported by the practitioners, was recessed gingiva (45%), abrasion, erosion, abfraction/attrition lesions (37%) and bruxism (27%). **Conclusions:** Based on the initial questionnaire, the majority of network practitioners use multiple methods to diagnose and manage DH. Desensitizing OTC potassium nitrate toothpaste and fluoride products are the most widely used products to manage DH in the practice setting. Support: U19-DE-22516.

Meeting: 2016 AADR/CADR Annual Meeting (Los Angeles, California)