

comorbidities being 1.4. Ninety-four percent had at least one physical comorbidity and 70% had at least one mental comorbidity. Those seen most often were hypertension (65%), post-traumatic stress disorder (47%), depression (46%), lower back pain (45%), diabetes mellitus type 2 (36%), cataracts (33%), osteoarthritis (30%), anxiety (20%), cancer (19%), benign prostate hypertrophy (16%), and alcohol dependency (14%). Comorbidity was not related to any difference in caries related dental treatment.

At least 1 prescription drug was being given to 95% of the population for 30 days or more during the study period. The population used a mean of 10.6 prescription drug classes, with the most common being antilipemic agents, antidepressants, gastric medications, nonopioid analgesics, and nonsalicylate nonsteroidal anti-inflammatory drugs/antirheumatics. The ninth most commonly prescribed VA drug class was opioid analgesics. A mean of 0.6 drugs with strong anticholinergic properties was prescribed per person.

Statistical analysis revealed a weak correlation between several pairs of variables, as follows: age and physical comorbidities, drugs with strong anticholinergic properties and mental comorbidity index, and drugs with strong anticholinergic properties and prescription VA drug class. A moderate correlation was found between prescription VA drug class and physical comorbidity index.

## DISCUSSION

Fifty-eight percent of the new patients in this study population had caries, with a mean of 2.17 teeth per dentate person

receiving caries-related treatment. Persons with caries had a mean of 3.75 affected teeth per person. This can be contrasted to the general population, which has a 26.6% prevalence of caries. In addition, taking more drugs and age were associated with caries prevalence. Thus the caries risk is high among these veterans, making caries risk assessment and prevention important concerns for this group of patients.

### Clinical Significance

A stronger relationship was noted between the caries prevalence and polypharmacy than between caries prevalence and drugs with strong anticholinergic properties. However, caries prevalence and drugs with strong anticholinergic properties showed a weak association as well. The information detailed in this study can help to improve the quality of care for US veterans.

Jurasic MM, Gibson G, Wehler CJ, et al: Caries prevalence and associations with medications and medical comorbidities. *J Pub Health Dent* 79:34-43, 2019

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# DENTIN HYPERSENSITIVITY

## Arginine to relieve hypersensitivity pain



### BACKGROUND

Dentin hypersensitivity (DH) is characterized as an acute pain that occurs when the cervical dentin surface is exposed through the loss of enamel or gingival recession and loss of cementum. The prevalence rates among adults range from 3% to 98%, with the differences attributable to inconsistent selection criteria for study populations and variations in diagnostic methods. Two prerequisites are needed for DH pain to be experienced: noncarious dentin exposure and contiguous dentin tubule patency from pulp to oral cavity. Therapy for DH pain should interact with the hydrodynamic sequence at the surface of the patent dentin tubules or in the neural transmission pathway, specifically that at the dentin-pulp border. Arginine plus calcium carbonate are naturally available in human saliva but have recently been proposed as a

breakthrough advancement in DH pain control. The efficacy of prophylactic products containing 8% arginine to alter hypersensitivity pain was tested.

### METHODS

Three European study centers contributed 297 patients with established DH. The patients were randomly assigned to treatment with 8% arginine and calcium carbonate in-office prophylaxis paste and toothpaste (test group) or fluoride-free prophylaxis paste and sodium monofluorophosphate toothpaste (negative control group). Sensitivity was measured using an air blast (Schiff score) and tactile (visual analog scale [VAS]) score at baseline, after a single application of the prophylactic paste, and after 4, 8, and 24 weeks of continuous at-home use of the assigned

toothpaste. The 24-week trial was completed by 273 patients, with 137 in the test group and 136 in the control group.

## RESULTS

### Air Blast Sensitivity Testing

Air blast sensitivity evaluation yielded a mean Schiff score of 2.54 in the test group and 2.51 in the control group at baseline. The difference was not statistically different. After the single prophylaxis paste application, the mean Schiff scores were 1.94 for the test group and 2.29 in the control group, both significant reductions from baseline. The difference between the 2 groups was statistically significant. After 4 weeks, the Schiff score was 2.01 in the test group, which was reduced but did not reach statistical significance. The Schiff score continued to drop until 24 weeks, when it was 1.40 in the test group, which was a significant reduction from the baseline score. The reduction in Schiff score was 23.6% from baseline to prophylaxis application and 44.9% from baseline to 24 weeks.

The Schiff scores in the control group were significantly reduced between baseline and 4, 8, and 24 weeks, with a value at 24 weeks of 1.69. There was an 8.8% reduction from baseline to prophylaxis application and a 32.7% reduction from baseline to 24 weeks.

The difference between the Schiff scores of the 2 groups after 4, 8, and 24 weeks was statistically significant. The test group had a more significant result.

### Tactile Sensitivity Testing

At baseline the test group had a mean VAS of 27.96, whereas the control group had a mean VAS of 25.96. The difference was not statistically significant.

At the prophylaxis paste application, the test group VAS was 17.69 and the control group VAS was 19.59. Both were a significant reduction from the baseline values. A statistically significant difference of 9.7% was shown.

After 4 and 8 weeks, the VAS values for the test group did not differ significantly from those at prophylaxis paste application.

After 24 weeks, VAS value fell to 11.89, which was a statistically significant reduction from the time when the prophylaxis paste was applied and from the values after 4 and 8 weeks. The reduction was 36.7% between baseline and paste application and 57.5% from baseline to 24 weeks.

In the control group, no significant reduction in VAS occurred between paste application and 4 or 8 weeks. After 24 weeks, the VAS was significantly reduced compared to paste application values. The VAS scores of the test and control groups did not differ significantly from each other at any point.

## DISCUSSION

DH pain was significantly reduced after the 8% arginine prophylaxis products were used for 24 weeks compared to the relief obtained in the control group.

### Clinical Significance

Clinicians can offer evidence-based proof that 8% arginine products will provide the relief from DH pain that their patients need. The effects were both immediate and long-lasting. Additional clinical studies should be done that include a larger sample size, a positive control, and the use of either the paste or the toothpaste alone to confirm the results of this study.

Hirsiger C, Schmidlin PR, Michaelis M, et al: Efficacy of 8% arginine on dentin hypersensitivity: A multicenter clinical trial in 273 patients over 24 weeks. *J Dent* 83:1-6, 2019

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# EATING DISORDERS

## Anorexia nervosa and bulimia nervosa



### BACKGROUND

Eating disorders (EDs) are serious conditions related to persistent behaviors having to do with eating. These behaviors have a negative effect on the social, mental, and physical health of the

affected person. The primary EDs are anorexia nervosa (AN) and bulimia nervosa (BN). AN involves the restriction of energy intake, which produces significantly lower body weight; intense fear of gaining weight or becoming fat; and an extreme effect on the individual's self-image produced by a preoccupation