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2022

### Fast-Food, Sugary Food, High Caffeine Intake and Dental-Related Anxieties

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#### Recommended Citation

Ahmed, Eeshah; Malik, Sana; and Begdache, Lina, "Fast-Food, Sugary Food, High Caffeine Intake and Dental-Related Anxieties" (2022). *Research Days Posters 2022*. 37.

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# Fast-food, Sugary Food, High Caffeine Intake, and Dental-Related Anxieties



E. Ahmed; S Malik., L. Begdache

## Abstract

Existing literature has reported on the relationship between dental anxieties and oral health, yet the relationship between diet and oral health status has not been examined. The purpose of this research study was to assess the relationship between oral health, dental anxiety, and nutrition. Data was collected through an anonymous Google Form survey which was distributed to patients at various dental offices in Binghamton-Vestal, in upstate NY as well among Binghamton University students. The survey was composed of the validated Food-Mood Questionnaire with questions pertaining to demographics, dental health and dental health anxieties. A total of 506 responses were collected and analyzed using Pearson's Correlation Coefficient in SPSS version 25.0. Our results suggest that females are more likely to experience dental anxiety than males. An increase in the consumption of low-quality-energy dense foods, including pre-packaged food, fast food, and sugary foods, a pattern similar to the Western diet, as well as caffeine consumption of 0-3 times per week, were positively correlated ( $P < 0.01$ ) with increased nervousness and anxiety at the dental office. Frequent consumption of low-quality-energy dense foods was also positively correlated with increased feelings of general mental health distress. Our findings provide a proof of concept that dietary patterns are potentially associated with dental anxiety, and modulation of these patterns may diminish dental-related mental distress.

## Introduction

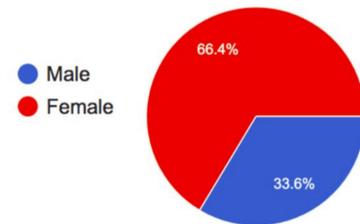
- Current literature has reported that those with mental illnesses are more likely to suffer from poor oral health due to unhealthy behaviors and cognitive difficulties (8)
- In regards to dietary patterns, the Western diet has been positively correlated with increased depression and anxiety (4)
- A nutrient dense diet typically composed of whole grains, fruits, vegetables, unprocessed meat, dairy, and poultry has been correlated with lower risk of mental disorders such as depression (4)
- While caffeine consumption has been associated with increased anxiety, factors such as genetic basis and frequency of caffeine consumption contribute to varying anxiety related responses (1)
- Self perception of oral health status has been negatively correlated with dental-related anxieties and evaluation of dental treatments (6)
- Our research aims to fill the gap in knowledge regarding the relationship between diet, oral health, and dental-related anxieties

## Methods

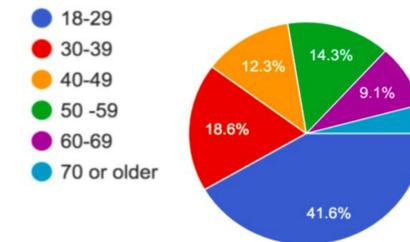
- Data was collected through an anonymous Google Form using the validated Food-Mood Questionnaire
- Distributed to patients at various dental offices in Binghamton-Vestal, NY and among Binghamton University students
- 506 responses collected and analyzed using Pearson's Correlation Coefficient in SPSS version 25.0

## Results

1. What is your gender?  
506 responses



2. What is your age?  
505 responses



Dental Anxiety Level	Female	Consumption of Sugary Foods
If you went to the dentist tomorrow?	-.171**	.178**
If you were sitting in the WAITING ROOM for treatment?	-.195**	.220**
If you were able to have a TOOTH DRILLED?	-.259**	.175**
If you were about to have a TOOTH SCALED AND POLISHED?	-.118**	.175**
If you were about to have a LOCAL ANESTHETIC INJECTION in your gum?	-.239**	.225**
If you were about to have your TOOTH PULLED OUT?	-.257**	.141**

Dental Anxiety Level	Western Diet
Anxiety level if you were able to have a TOOTH DRILLED?	-.146**
Anxiety level if you were about to have a TOOTH SCALED AND POLISHED?	-.111*

Diet Behavior	AND	Symptom	Correlation
How often do you consume sugary foods?		How often do you feel RESTLESS/FIDGETY?	.192**
How often do you consume pre made or fast foods?		How often do you feel RESTLESS/FIDGETY?	.116**
How often do you consume pre made or fast foods?		How often do you feel NERVOUS?	.105**
How often do you eat leafy green vegetables?		Anxiety if you were about to have your TOOTH SCALED AND POLISHED?	-.106*
How often do you consume pre made or fast foods?		How often do you feel HOPELESS?	.167**

Dental Anxiety Level	Caffeine Consumption 0-3 times a week	Caffeine Consumption 4 or more times a week
Anxiety level if you were able to have a TOOTH DRILLED?	.090*	-.090*
Anxiety level if you were about to have a TOOTH SCALED AND POLISHED?	.158**	-.158**
Anxiety level if you were about to have your TOOTH PULLED OUT?	.104*	-.104*

## Discussion

- Higher dental anxiety was noted among females than males most likely due to hormonal fluctuations, unpleasant experiences, and psychosocial epochs (3)
- The negative correlation between caffeine consumption 4+ times a week and dental anxieties is supported by the literature that shows that individuals prone to panic or fear related attacks (Panic Disorder) are more likely to experience anxieties after caffeine consumption (1)
- Susceptibility to Panic Disorder may be explained by its genetic basis, specifically with the  $A_{2a}$  receptor gene (1)
- As expected, there was a positive correlation between feeling restless/fidgety and the consumption of low quality, fast food items. Supported by previous study of low quality food items associated with increased anxiety disorders (10)
- There was a direct correlation between sugary food items with patient anxiety levels felt with various dental procedures
- Previous research supports our findings that patients who are nervous tend to avoid visiting the dental office and preventative dental care (2)
- Dental anxiety may be caused from past traumatic experiences at the dental offices, bad experiences from childhood, learned anxiety from friends and family, or personal fears and phobia of the dental setting (2)
- Patients who consumed a healthy diet felt less anxiety at dental offices and had better self oral health perception
- Previous research supports that anxious patients have poor oral health and prone to oral diseases, compared to non-anxious patients who have a healthier oral health status (2)
- Previous research supports that patients with lower employment status and lower levels of education correlated with increased generalized and dental anxiety (5)
- Confounding factors such as daily exercise and breakfast consumption were not taken into account which could have impacted the data on caffeine consumption. Skipping breakfast and exercise increases anxiety and depressive symptoms in adults (5)
- Similar confounding factors may play a role in the low, yet statistically significant, correlations found between diet, gender, and anxieties

## Conclusions

- Consumption of sugary foods was positively correlated with various dental-related anxieties
- Consumption of pre-made or fast foods was positively correlated with symptoms of anxiety and poor mental health
- Consumption of caffeine 0-3 times days a week was positively correlated with increased dental-related anxiety
- However, caffeine consumption 4 or more times a week was negatively correlated with dental-related anxieties

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