

Assessing Oral Health-Related Quality of Life in Patients Diagnosed with Periodontal Disease

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Background

Oral Health-Related Quality of Life (HRQoL) utilizes biopsychosocial aspects in relation to oral health to identify the degree of an individual's perception of oral health, its relevance, and the impact on an individual's life.

- Research indicates that dental and oral health has a significant impact on self-perception, psychological status, and human social status and can influence self-esteem and overall quality of life
- Survey tools: GOHAI, OIHP, and OHIP (most common)
 - OHIP contains 7 domains, OHIP-14 contains 14 items
- While OHIP-14 is inclusive of various factors, it does not take into consideration of chronic inflammatory oral health problems (i.e., periodontal disease (PD); which is the focus for this investigation)
- PD is a chronic inflammatory disease that is identified by infected gums and the tissue surrounds the teeth and hold them in place caused by poor oral hygiene habits
 - Effects of PD due to gingival bleeding, gum recession, hypermobility, migration, and tooth loss can play an influential role in an individual's life, more specifically, can result in impaired oral function, esthetics, and quality of life
- Previous studies: Degree of PD and association of the number of teeth

Population

Participants were recruited from patients at Richards Frankel Dentistry who have been diagnosed with periodontal disease. To be eligible, patients must have active periodontal disease and must be 18 years or older.

Learning Objectives

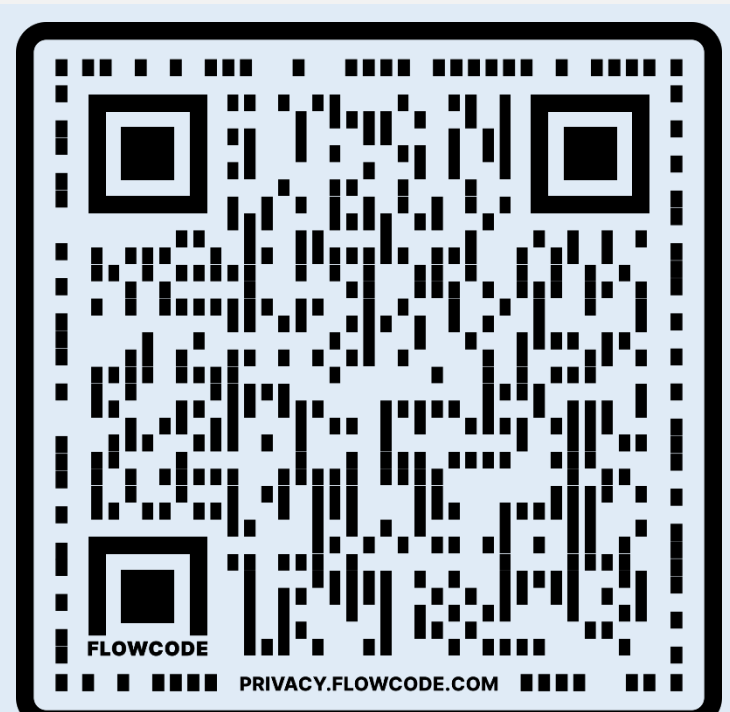
- Create** and adapt an oral health-related quality of life survey to distribute
- Analyze** data that will be collected
- Understand** the data collected and explain findings

Activities

- Data preparation
- Literature searches for periodontal disease, OHRQoL, and current surveys and methods
- Performing data analysis
- Participated in periodontal disease case studies
- Weekly check-ins and meetings for planning
- Observing periodontal disease diagnosis and maintenance techniques

Deliverables

- Written report about findings
- Spreadsheet of dataset collected from survey
- Infographic on periodontal disease
- Adapted Oral Health-Related Quality of Life Survey



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<https://sites.google.com/view/modi-practicum>

Methods

- Literature review and feedback analysis of draft survey
- Explaining the purpose of the study and distributing surveys to patients
- Analyzing data through SPSS v. 18, IBM
 - Adapted OHIP survey; total score ranges from 0 to 80 and domain scores can range from 0 to 16

Functional Limitation	1 Have you had trouble pronouncing any words because of problem with your teeth, mouth, or dentures? 2 Have you felt that your sense of taste has worsened because of problems with your teeth, mouth, or dentures? 3 Have you experienced pain in your mouth?
Physical Pain	4 Have you avoided eating certain foods that may cause pain or sensitivity with your teeth, mouth, or dentures? 5 Have you felt anxious because of problems with teeth, mouth, or dentures? 6 Have you been depressed due to problems that arise from your teeth, mouth, or dentures?
Psychological Discomfort	7 Have you been worried because of problems with teeth, mouth, or dentures? 8 Have you had to interrupt meals because of problems with teeth, mouth, or dentures? 9 Has your oral health impacted the ability to carry out daily activities?
Physical Disability	10 Have dental problems made you miserable? 11 Have you felt embarrassed because of problems with teeth, mouth, or dentures? 12 Have your teeth, mouth, or dentures caused mood changes?
Psychological Disability	13 Do you feel that you avoid smiling with an open mouth in an attempt to hide your teeth? 14 Do you either think or feel that people are staring at your teeth? 15 Do you avoid social settings because of problems that arise from your teeth, mouth, or dentures?
Social Disability	16 Has your oral health status negatively influenced your satisfaction with life or social interactions? 17 I don't like to see my teeth in the mirror or in photographs. 18 Have you felt that your overall health has been impacted by problems that arise from your oral health? 19 Are you concerned about your future oral health? 20 Have you been worried about going to the dentist?
Aesthetic & Oral Concerns	

Figure 1. Survey questions with domain categories.

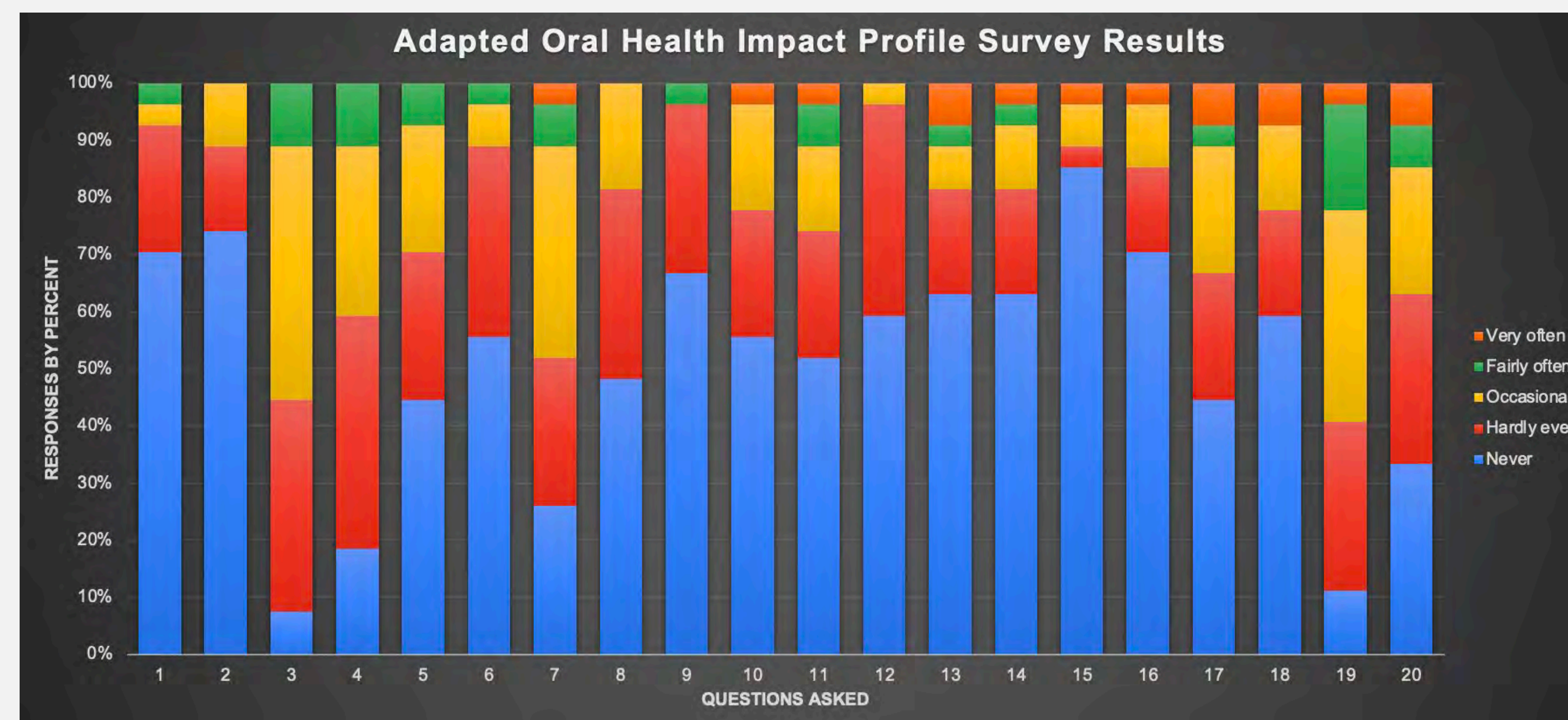


Figure 2. Survey results.

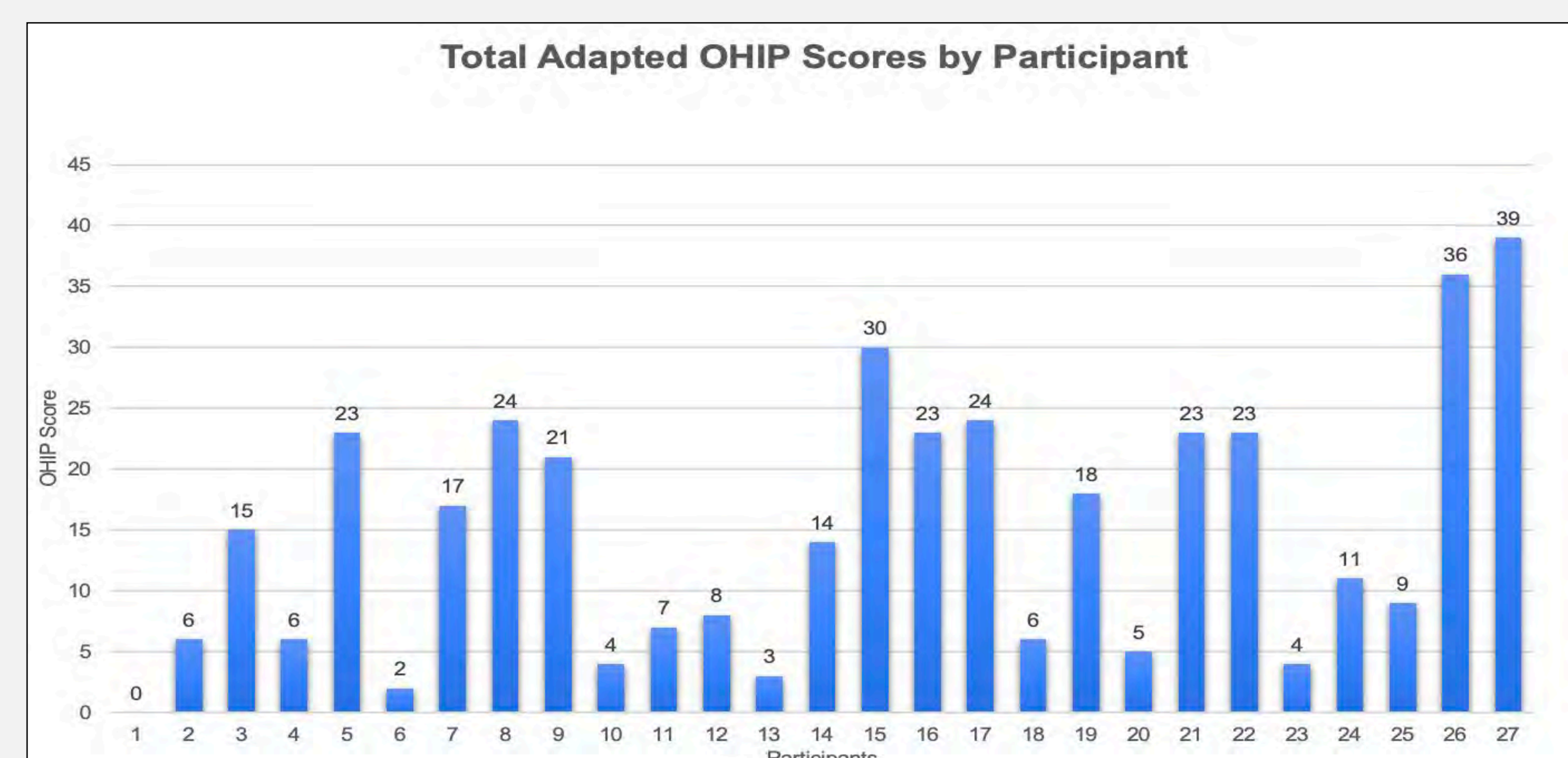


Figure 3. Total adapted OHIP scores of each participant.

		Functional Limitation	Physical Pain	Psychological Discomfort	Physical Disability	Psychological Disability	Social Disability	Aesthetic & Oral Concerns
Spearman's rho	Functional Limitation	1.000	.426*	.492**	.484*	.535**	.659**	.599**
	Physical Pain	.426*	1.000	.676**	.600**	.455*	.390*	.745**
Physical Pain	Psychological Discomfort	.027	.027	1.000	.011	.004	.004	.008
	Physical Disability	.027	.027	<.001	1.000	.017	.044	<.001
Psychological Discomfort	Psychological Disability	.009	<.001	.009	.792**	.642**	.714**	.798**
	Social Disability	.009	<.001	.009	.792**	.642**	.714**	.798**
Physical Disability	Aesthetic & Oral Concerns	.004	.017	<.001	1.000	.737**	.767**	.698**
	Social Disability	.011	<.001	.011	.737**	1.000	.619**	.574**
Psychological Disability	Social Disability	.011	<.001	.011	.737**	.619**	1.000	.574**
	Aesthetic & Oral Concerns	.008	.008	.008	.639**	.639**	.574**	1.000
Social Disability	Aesthetic & Oral Concerns	.008	.008	.008	.639**	.639**	.574**	1.000
	Social Disability	.008	.008	.008	.639**	.639**	.574**	.002
Aesthetic & Oral Concerns	Social Disability	.008	.008	.008	.639**	.639**	.574**	.002
	Aesthetic & Oral Concerns	.008	.008	.008	.639**	.639**	.574**	.002

Figure 4. Spearman's test results.

Results

A total of 27 participants completed the adapted OHIP survey. Results from the survey yielded results that supports current literature indicating an association between periodontal disease and the different domains that influences the OHRQoL.

- A positive correlation was found that indicates that the relationship follows the same direction.
- The highest correlation coefficient was seen with aesthetic and oral health concerns and psychological discomfort domains at a value of 0.798.
- The lowest correlation coefficient was seen with social disability and physical pain domains at a value of 0.390.
- From Figure 4, all of the 7 domains had a statistically significant p-value lower than 0.05 indicating that there is a statistically significant bivariate association between the variables.

Discussion

- The results of this investigation support present literature
- The total adapted OHIP score ranges from 0 to 80
 - A lower score indicates a better OHRQoL while higher indicates worse OHRQoL
- Because Spearman's test indicated a positive correlation, while one value increases the other value also increases
 - i.e., the physical disability domain and the physical pain domain had a correlation coefficient of 0.600 which indicates that while physical pain increases then physical disability also increases

Conclusion & Public Health Implications

- This research investigation was successful as it produced results that supports present literature and show a correlation between PD and OHRQoL
- Future directions should consider varying oral health statuses or levels of PD with a wider participant population and volume
- Future directions should also include diverse variables that influence oral health such as socioeconomic factors, demographics, and high and low caries rate factors
- Public health requires collaboration between professionals of multiple fields and specialties
- Improving education and awareness on how to prevent periodontal disease, how to manage it, and aid individuals in seeking necessary treatment
- Prioritizing prevention rather than cure as a public health intervention

Lessons Learned

- Learned how to collect patient data for analyses
- Improved skills in data reporting
- Developed stronger communication strategies and critical thinking skills working under the guidance of my preceptor
- Learned more about the impacts of PD and oral health overall
- Observed and learned the importance of case studies
- Feedback received garnered different perspectives and support

Acknowledgements

I would like to thank my preceptor, Dr. Margaret Frankel, in guiding me in this process and allowing for me to conduct this project at her practice. I would also like to thank her for being my mentor giving me numerous learning opportunities that I have personally grown from